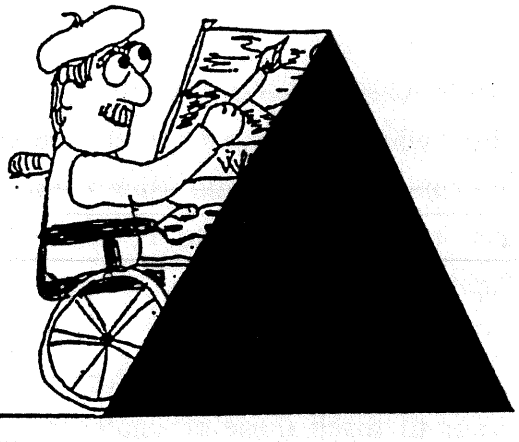

3

Curriculum Guide for Facilitators

INTRODUCTION:

About Facilitation That Promotes Successful Learning And Long-Term Follow-Through

Facilitators of this wellness program are going to play the roles of coach, counselor, therapist and instructor. Coaches encourage and motivate. Counselors listen and help people understand themselves. Therapists offer methods of treatment. And instructors help people learn. Effective facilitators also need to know that the purpose of their role in the program is to promote successful learning among participants and to encourage the long-term follow-through that is required to achieve desired levels of health and fitness. Much of this program's success depends on the commitment and skills of its professional facilitators.

When you are a successful facilitator, participants will feel... happy, more confident and encouraged from within...

When you are a successful facilitator, participants will feel understood, will be eager to attend program meetings, and will feel happy, more confident and encouraged from

within when they leave to go home. It will also be important to show participants how to apply what they have learned in their everyday home and work environment. "Taking the information home" and using it for years to come is what participants should want to do and can learn how to do with the thoughtful guidance of sensitive, well-informed facilitators.

There are three fundamental areas that facilitators must begin to understand in order to reach these attainable goals. First, it is important to understand the **post-polio issue** from a medical and psychosocial point of view. Second, it is helpful to know and be able to apply the principles of **adult learning**, which include knowing how to create a positive program environment. And finally, the concept of **long-term follow-through** is vital to understand in order to help participants incorporate new healthful habits and practices into their lifestyles.

Understanding the Post-Polio Issue

ACUTE POLIO

Acute poliomyelitis is a viral infection which enters the body through the gastrointestinal tract. The central nervous system is the only place where permanent damage to the body results from the infection. Within the central nervous system, polio virus can destroy motor nerve cells located in the spinal cord. Some nerve cells are permanently destroyed, whereas others are only temporarily damaged. After a person has recovered from the acute poliomyelitis infection, the body attempts to repair the damage. Polio survivors usually can regain some strength during the first two years following the polio infection, if proper exercise and therapy are performed. There are three ways in which this recovery occurs. First of all, some nerve cells are only temporarily damaged and as they recover, strength improves. Second, muscle fibers controlled by surviving nerve cells can increase their size and become stronger through traditional strengthening exercises. The third mechanism for improvement is due to sprouting of new nerve twigs from terminal branches of nerve fibers that come from undamaged nerve cells. These new nerve sprouts grow out to reach and control muscle fibers which have lost their nerve supply. Surviving nerve cells thus are connected to more than the normal number of muscle fibers.

This means that surviving nerve cells do two to three times as much metabolic work in order to maintain nerve fibers that are capable of controlling large numbers of muscle fibers.

This means that surviving nerve cells do two to three times as much metabolic work in order to maintain nerve fibers that are capable of controlling large numbers of muscle fibers. The long-term increased metabolic work of these nerve cells may predispose them to overuse exhaustion and early degeneration during later-life. The previously sprouted and enlarged network of nerve fibers may also die back and shrink to its original size. Disintegration of enlarged nerve fiber networks is experienced by polio survivors as new atrophy (shrinking size) of muscles and new weaknesses.

POST-POLIO RE-REHABILITATION

Although residual motor impairment following rehabilitation from paralytic polio was long regarded as resulting in a static disability, study of the life course of people with a history of polio during the 1980's has shown that their disability frequently progresses.

Estimated to number 640,000 in the United States today, these individuals may comprise the country's largest disability group.

Estimated to number 640,000 in the United States today, these individuals may comprise the country's largest disability group.[22] Since the median age at onset of polio in most study samples is under 10 years, the majority of individuals became disabled as children. One population-based study of persons who contracted paralytic polio in Rochester, Minnesota between 1935 and 1955 found 22% had developed new disabling symptoms.[4] In this section the most common secondary conditions seen in the post-polio population will be described, methods for treating them will be outlined and psychological sequelae of the late effects of polio will be described. Strategies for optimal patient management during the re-rehabilitation process will then be reviewed.

TERMINOLOGY

Secondary Condition

Any new health problem that develops in a person with a history of paralytic polio is referred to as a secondary condition...

Any new health problem that develops in a person with a history of paralytic polio is referred to as a secondary condition because it is acquired after the onset of the primary condition (i.e. polio-related impairment). Many secondary conditions result in progression of chronic post-polio impairments and disabilities, even though their occurrence may be unrelated to the history of polio. For example, one might assume that the incidence of coronary artery disease is high in the post-polio population because many people with lower extremity paralysis have needed to adopt relatively sedentary lifestyles. However, an

increased risk of this disorder, which is very common in the non-disabled population, has not been shown. Therefore, coronary artery disease is best considered a secondary condition unrelated to a person's history of polio.

Late Effects of Polio

The late effects of polio...are specific new health and rehabilitative problems...whose occurences are likely to be a result of...polio-related impairments.

The late effects of polio, or its synonym "post-polio sequelae", are specific new health and rehabilitative problems (secondary conditions) whose occurrences are likely to be a result of long-term residual polio-related impairments. An example of a common post-polio sequela is degenerative arthritis of the knee associated with progressive back-knee deformity (genu recurvatum) and residual thigh muscle (quadriceps) weakness. Knee pain and/or gait changes associated with a secondary knee arthritis may lead to new walking disability, another common late effect of polio. The majority of the late effects of polio can be specifically diagnosed and result from a patient's chronic muscle weakness.

Post-Polio Syndrome

..."post-polio syndrome" refers to...new muscle weakness, unaccustomed fatigue and new joint and muscle pain which...result in...greater disability.

The term, "post-polio syndrome", refers to the symptom cluster of new muscle weakness, unaccustomed fatigue and new joint and muscle pain which commonly result in new functional limitations and greater disability. This term does not imply any particular cause for the symptoms. Therefore, the new muscle weakness of post-polio syndrome may result from disuse atrophy that is associated with painful musculoskeletal pain syndromes or that follows unrelated generalized illness associated with decreased activity. Post-polio syndrome may also result from progressive neuromuscular abnormalities.

Post-Polio Progressive Muscular Atrophy

...new weakness and/or atrophy develops in muscles with...previous polio-related nerve cell damage and no other causative secondary conditions can be identified.

The term "post-polio progressive muscular atrophy (PPMA)" describes a relatively uncommon condition among polio survivors in which new weakness and/or atrophy develops in muscles with either clinical or subclinical signs of previous polio-related nerve cell damage and no other causative secondary conditions can be identified.

COMMON SECONDARY CONDITIONS

New Weakness

Patients with a history of polio frequently experience new muscle weakness in both muscles that have always been noticeably weakened from acute polio, as well as in muscles that had apparently been uninvolved. When new weakness in the latter muscles is sufficient to be accompanied by noticeable atrophy, patients are understandably distressed since important functional abilities are often compromised. Diagnostic studies must rule out other diseases of nerve and muscle, including diabetes mellitus and other endocrinologic disorders that may include peripheral neuropathy.[13] Radiculopathies (such as pinched nerves in the neck or back) and entrapment neuropathies (such as carpal tunnel syndrome at the wrist) may also produce new focal weakness. Even after thorough medical diagnostic evaluation, some post-polio patients with new weakness will not be found to have other secondary conditions.

The most likely explanation for the new weakness of PPMA is degenerative changes in the enlarged motor nerve fiber networks that developed during late recovery of strength following acute polio.[27] A disintegration of these networks may develop after many years of high intensity nerve firing and cause progressive weakness and atrophy.[25] Strenuous exercise and stress have been shown to cause similar damage to nerve sprouts in animal studies and repair of the damage is slowed in aged animals.[21,23] Similarly, clinical studies have demonstrated that post-polio patients who are experiencing new weakness contract

their walking muscles at a higher percent of maximum force for longer periods of the gait cycle than do stable post-polio patients.[17]

...chronic overuse of muscles...probably contributes to the development of new post-polio muscle weakness.

Therefore, it is likely that chronic overuse of muscles with only a partial nerve supply probably contributes to the development of new post-polio muscle weakness.

Atrophy

"Normal" aging may also be accompanied by some decline in numbers of motor nerve cells in the spinal cord and this may contribute to new weakness and atrophy. However, age-related loss of these cells does not occur in most people until after age 60 and is not accompanied by weakness.[20] Nevertheless, premature death of motor nerve cells that were previously damaged by the polio virus, but survived, cannot be ruled out.

The effect on a patient's functional capacity can be great for even a small loss of cells supplying a muscle that...lost many of its cells from acute polio.

The effect on a patient's functional capacity can be great for even a small loss of cells supplying a muscle that had previously lost many of its cells from acute polio. Investigations by Beasley and others have shown that over 60% of a muscle's normal nerve cells and maximal force may be lost before clinical weakness can be identified by manual muscle testing.[2] Thus, new muscle weakness experienced by an older post-polio patient may in reality result from an unmasking of major subclinical weakness due to loss of nerve cells that only becomes apparent when age-related declines in muscle and nerve function result in an maximal strength that is insufficient for performing usual functional activities.

Fatigue

Increased ease of fatigue is the most common new symptom among post-polio patients.

Increased ease of fatigue is the most common new symptom among post-polio patients.[11] Unexplained fatigue may follow only modestly strenuous activity and may occur during activities of daily living that previously were not exhausting. Some patients experience a sudden intense fatigue that may be accompanied by headache, weakness, sweating or hot/cold flashes. This phenomenon has been called the "polio wall" and most commonly occurs in mid-to-late afternoon.[11] It can interfere with employment and be quite stressful.

One factor that may account for transient weakness and rapid fatigue is again the metabolic failure of overloaded polio-damaged nerve cells to maintain the health of enlarged nerve fiber networks.[26] Similar electrophysiologic abnormalities are seen in other neuromuscular diseases (e.g. myasthenia gravis) that have characteristic rapid fatigue. In clinical practice there are many possible causes for the complaint of easy fatigue and more than one factor may work together to produce it in the same patient. Regular use of weakened muscles in inefficient ways for many years and abnormal energy metabolism of muscles with long term partial loss of nerve supply are other likely factors that contribute to the fatigue problem of post-polio patients.

Pain Problems

Pain problems are very common among aging post-polio patients and there are many possible causes.

Musculoskeletal pain problems due to the inflammation of muscles, their attachments, tendons, ligaments, and joints are the most frequent source of pain...

Musculoskeletal pain problems due to inflammation of muscles, their attachments, tendons, ligaments and joints are the most frequent source of pain and every effort should

be made to establish a specific diagnosis for them in individual patients. Tendonitis and bursitis of the shoulder commonly develop from sudden sprains or repetitive strain of upper limb muscles. Myofascial pains frequently occur in tense and strained neck, scapular and back muscles. Chronic strain of knee and ankle ligaments may occur from long-term abnormal walking patterns and become worse as a result of subtle further weakening of muscles.

Degenerative (wear and tear) arthritis of the knee is particularly common among ambulatory patients with clinically weak thigh muscles. The ligaments on the back and side of the knee may elongate further after years of chronic strain while walking with the knee completely straight or when weight gain and new muscle weakness lead to greater impact loading. Beneficial results of previous tendon transfer and joint fusion surgeries on the ankle may be lost after many years of wear and tear on supporting structures. Spinal degeneration and pinched nerves in the neck and back may result from long-term limps associated with scoliosis, (spinal curvature), unequal leg length and/or pelvic deformity. Fractures from falls and other accidents may be followed by repetitive strain injuries to weakened muscles which must be used more strenuously to compensate for limbs that are immobilized. Wrist/hand pain has been reported in up to 49% and carpal tunnel syndrome in 22% to 31% of people with previous polio. The risk of developing these conditions is increased almost five-fold among those patients who have walked with canes and crutches or who have used wheelchairs for many years.[14,28] The limitations in functional activities accompanying any of these painful secondary conditions can be exaggerated in post-polio patients because other severe weakeness of other muscles limit their range of compensatory options for activities of daily living while they must rest the painful body part to allow it to heal.

Patients may regularly experience pain in muscles, known as myalgia, particularly in those that are strained during usual daily activities.

Some patients also experience a generalized flu-like aching in all their muscles that is accompanied by exhaustion.

Some patients also experience a generalized flu-like aching in all their muscles that is accompanied by exhaustion. Their symptoms are similar to those reported in other post-

viral syndromes and the causes may be similar.[15] These symptoms in post-polio patients usually respond to rest.

Breathing/Swallowing Problems

New difficulty breathing and swallowing are other common complaints, particularly among patients with a history of bulbar polio. Bulbar polio affected the spinal cord in the upper neck and weakened breathing, speaking or swallowing muscles. Swallowing problems should be investigated with a videofluoroscopic study (moving picture x-ray) of the throat since identifying specific kinds of abnormalities can lead to successful management.[19]

Shortness of breath may result from cardiovascular deconditioning...

Cardiopulmonary Problems

Shortness of breath may result from cardiovascular deconditioning that is age-related or due to greater inactivity. Unrelated conditions of the heart and lung may compound the effects of long-term polio-related breathing muscle weakness and further reduce general fitness. Chronic under-ventilation of the lungs with low levels of blood oxygen or high levels of carbon dioxide may develop very slowly and result in few symptoms except generalized fatigue and weakness.

Sleep Problems

Sleep disorders are another frequent secondary condition among those with a history of bulbar polio.[9] Both obstruction of the upper airways during sleep and frequent long periods when breathing effort stops during sleep (sleep apnea) have been reported.

Loud snoring, nightmares, interrupted sleep or morning headaches are indications for having a monitored sleep study.

Loud snoring, nightmares, interrupted sleep or morning headaches are indications for having a monitored sleep study. Effective management of sleep apnea can usually be

achieved by sleeping with air slowly blowing into the nose through plastic tubing connected to a portable ventilator. Treating sleep apnea can dramatically resolve complaints of daytime fatigue. Patients with sleep apnea who also have severe weakness of breathing muscles may require the use of a ventilator that blows set volumes of air into the lungs through nasal or face masks. Some require tracheostomy and ventilators at night.

Other Problems

Another common problem is increased cold sensitivity. Transient muscle weakness and pain may occur in cold environments and result from polio-damage to nerves that control blood flow to extremities.[3] "Polio feet" of those with severe lower limb paralysis are chronically red, swollen and cold and they may be painful. They are predisposed to soft tissue infections following minor trauma.

TREATMENT OF SECONDARY CONDITIONS

Optimize General Health

Optimal management of post-polio patients must be comprehensive and holistic. A careful evaluation of general medical health is important since secondary conditions unrelated to polio often lead to reduced activity or lowered endurance that can rapidly result in disabling fatigue and weakness. The collaboration of many physicians, such as cardiologists and pulmonologists, may be needed to achieve optimal control of chronic heart and lung conditions, including minimizing medication side effects. Fatigue and muscle pains are commonly reported by post-polio patients taking beta-blockers and theophyllines, two common medications used for high blood pressure, heart problems and/or breathing problems.

Nutritional counseling for optimal vitality and weight control is also important...

Nutritional counseling for optimal vitality and weight control is also important and can make important contributions to controlling symptoms.

Exercise

Clinical evaluation of patients with complaints of new weakness and/or fatigue must include careful assessment of muscle and joint flexibility, muscle strength and gait. If any purely mechanical factors, such as muscle shortening or limitation in normal joint movement, are identified and thought to contribute to weakness, they should be treated first. Rapid fatigue of weak muscles being used at higher than normal loads is to be expected and methods for improving strength will also improve endurance for functional activities. The use of non-fatiguing strengthening exercise protocols have been shown to be effective at improving maximal strength without evidence of harm by several investigators.[7,8] Muscles must have at least antigravity strength to benefit from these programs. However, extraordinary interest and perseverance are required from patient and therapist in order to achieve useful results. The long-term functional benefit from these programs has not yet been demonstrated. They are probably most effective for muscles that have been newly weakened from underuse and are not being overused in activities of daily living.

Conditioning and fitness exercise programs have also been shown to be safe and effective in selected post-polio patients.[12,16] They may be need to be individually prescribed after formal exercise testing with monitoring or heart and/or lung function. Intensity of exercise is usually based on 65-80% of estimated heart rate reserve. Exercise sessions should generally be for 15 to 30 minutes at least three times weekly, although initially sessions may need to be broken down to four minute bouts with one minute rests.

...exercise will depend on overall functional capacity and finding a feasible activity can be challenging.

Modality of exercise will depend on overall functional capacity and finding a feasible activity can be challenging. Arm or leg ergometry and swimming are most commonly employed.

Substitution Strategies

Although exercise programs may be useful for restoring lost nerve and muscle capacity in selected post-polio patients, most patients will require a substitution strategy to restore lost functional abilities.

New use of adaptive aids for walking, including canes, crutches and orthotics, commonly provide the best therapeutic option...

New use of adaptive aids for walking, including canes, crutches and orthotics, commonly provide the best therapeutic option for patients with new lower limb weakness that is limiting walking distance, making walking unsafe and/or leading to pain when walking. Two clinical studies have found that patients with any history of using lower limb braces during initial rehabilitation after acute polio were more likely to have a brace prescribed when seen for evaluation of post-polio sequelae.[5,24] A history of ankle fusion surgery was also shown to be a risk factor for needing new bracing requirement. In a follow-up study of patients previously seen in a post-polio clinic, those for whom a new brace was recommended and who used it daily reported the greatest improvement in symptoms of fatigue and of walking ability and safety.[24] The frequency of recommendations for walking adaptive aids in this group of 104 patients was canes or crutches (39%), braces (30%) and shoe modifications/inserts (23%).

Lifestyle Changes

Another important therapeutic strategy for weakness and fatigue involves lifestyle modifications. For some patients this merely means adopting the tactic of pacing themselves during activities in which weakness and/or fatigue become problematic. Work simplification and activity modification through the use of labor-saving devices or altered body mechanics are other tactics. For example, use of a manual or electric wheelchair/scooter can be useful for reducing fatigue when long distances must be walked daily. Many of these tactics require major changes in a patient's lifestyle and they should be presented by professionals as options for the patient to consider in order to reduce symptoms.

Thorough evaluation of patients by physical and occupational therapists is often necessary...

Thorough evaluation of patients by physical and occupational therapists is often necessary for optimal selection of adaptive equipment or for training in pacing, in activity change or in equipment use.

Pain Management

Treating pain symptoms first requires a diagnosis that identifies the anatomical structures that are responsible for the inflammation or irritation. Secondly, all possible causative factors for the inflammation should be considered. For the most common musculoskeletal pain problems, a combination of anti-inflammatory medication (such as aspirin, Tylenol and Motrin preparations) and traditional modalities of physical therapy such as heat, cold, massage, stretching, traction and manual therapy, joint and soft tissue injections can also be cautiously used by physicians to supplement therapy. However, it is often difficult to control pain and inflammation in muscles, tendons, ligaments and joints that are being strained during routine daily activities. Immobilization and rest must be used as cautiously in post-polio patients as in athletes, since the cost of resulting disuse weakness is so high. A muscle with long-term partial loss of nerve supply can rapidly develop disuse weakness during immobilization that leads to easier strain and recurrent pain again when immobilization ends. Avoiding this downhill spiral can present a major challenge to doctors, therapists and patients. Protection of the inflamed part with judicious intermittent use of slings, splints or orthotics for brief periods is recommended.

In addition to methods for reducing inflammation, treatment of many chronic pain problems requires reduction of the mechanical forces that cause recurrent strain during daily activities. This commonly requires employment of the same adaptive aids and lifestyle modification tactics that are used for treating new weakness and fatigue. Knee pain associated with instability responds well to stabilization with an appropriate orthotic. Back pain management may involve partial correction of a leg length inequality, the use of a cane to reduce a limp, and/or specialized seating at work. Hand and/or wrist pain treatment may involve night splints, altered cane/crutch handles, or adaptive aids for

turning objects. Resolution of shoulder pain may involve less walking with a crutch or a change of job.

Careful communication between patient and health care professional is needed to discover the most satisfactory solution...

Careful communication between patient and health care professional is needed to discover the most satisfactory solution for individual patients. The key to successful resolution of recurrent or chronic pain problems is a broad knowledge of many types of treatment approaches that offer options to individual patients and their unique problems.

PSYCHOLOGICAL SEQUELAE

A Review of the Past

Post-polio patients often experience their new physical symptoms as a recurrence of their original acute illness and many common symptoms are similar.[1] Muscle weakness or the need for adaptive equipment can rekindle old memories of physical helplessness. Because many were young during their acute illness, they may mix age-related dependency issues with those resulting from physical impairments. Additionally, since most cases of acute polio occurred during epidemics, children were often isolated and separated from their families. Intense feelings of fear, rejection and/or guilt often accompanied an experience of abandonment and entrapment in a hospital. Furthermore, expression of these emotions by children in great distress was actively discouraged by the social pressures of hospital staffs, families and other patients. They were told to be good, to stoically accept whatever was being done to them, and especially not to cry.

The reemergence of intense repressed feelings can come as a surprise to both patient and professional during re-rehabilitation but must be acknowledged and managed when they occur. One woman reported with some astonishment that during her initial post-polio clinic visit she began to weep uncontrollably the moment she sat on the physician's examining table. Another gentleman revealed his unresolved fear of

abandonment that immobolized him whenever his business travel required overnight stays away from his home and family.

"Use it or lose it" became a household motto for many of these children.

During their initial polio rehabilitation, patients were encouraged to fight for recovery from residual weakness. "Use it or lose it" became a household motto for many of these children. They were also encouraged to overcome their disability through hard work and to set high goals for themselves. At the 1985 Conference, "The Post-Polio Experience", for Michigan polio survivors and health care professionals, a former director of the University of Michigan Respiratory Polio Rehabilitation Center reported that the children who did not set personal goals often died.

When maximum physical recovery was reached, polio survivors learned to cope in the world with whatever functional capacity was left. Characteristic attitudes and behavior often became part of their personalities as they reached their peak physical capacities by early adulthood. Until the 1980's, few were warned that a loss of functional capacity due to age-related erosion of physical reserves was to be anticipated. The alarm experienced by many post-polio patients who develop new functional limitations can add to their psychological difficulty in adapting again to disability. Since significant change in physical capacity is usually accompanied by strong emotional reaction, it is important that the difficulty of re-rehabilitation for post-polio patients is not underestimated by re-rehabilitation professionals.

Three Coping Styles

In the experience of the Post-Polio Program of the University of Michigan Medical Center, distinct patterns for polio survivors' emotional reactions to the need for re-rehabilitation have been recognized. These patterns appear to result from three characteristic styles of living with a chronic disability. A model for categorizing polio survivors has been developed that is based on these observations. Although it is limited by over-generalization, polio survivors have verbally validated the proposed categories at

many post-polio conferences. A 1963 study of children with polio and their families also describes early coping behaviors that are compatible with this model.[6]

...polio survivors...Passers, Minimizers, and Identifiers...

The model designates polio survivors as Passers, Minimizers and Identifiers. These labels characterize typical attitudes and behaviors that were adopted in order to cope with long-term mild, moderate, or severe disability. Passers had a disability that was so mild it could be easily hidden in the normal course of daily social interactions. They could pass for non-disabled. Minimizers had a moderate disability that was readily recognized by other people. They often used visible adaptive equipment or had to do physical tasks differently in order to optimally function. They typically minimized the importance of their physical differences. Identifiers were severely disabled following acute polio. They generally needed wheelchairs for independent mobility. Some also used respiratory equipment. They needed to incorporate their disability into their identity in order to successfully cope with the major lifestyle adaptations required by their impairments. A close look at each group's coping style will clarify the typical patterns of emotional reaction that occur when polio survivors experience disabling late effects.

Passers

Passers worked diligently to hide their long-term disability. Many of their acquaintances probably did not know they were disabled in any way. Although intimate family members and friends may have known, on the whole, Passers became psychologically invested in hiding their disability from other people. Even today, they may not like to have to explain it or to talk about it. They do not want to think of themselves as having a disability. By using denial, they were able to put their disability out of existence mentally and physically and create an image that completely fooled the casual onlooker.

Passing is a coping style that requires constant vigilance and attention to the non-disabled disguise.

Passers may hide a paralyzed hand by keeping it constantly in a pants pocket or cover slightly imperfect body parts with stylistically camouflaging clothing. Passing is a coping style that requires constant vigilance and attention to the non-disabled disguise. Good Passers believe they cannot "blow their cover" or they might get stigmatized as part of society's disabled minority.

Based on an attitudes survey given to 100 polio survivors, the mildly disabled Passers were the group who was most distressed in having to adjust to the late effects of polio. They were more likely to be emotionally overwhelmed by the physical changes from the late effects than any of their more disabled post-polio counterparts. It is important for helping professionals to know that among people with a history of polio, it is the Passers who have the greatest resistance to making, and the most emotional difficulty in accepting, some of the relatively minor lifestyle adaptations that are needed to cope with the late effects of polio.

Passers who are confronted with post-polio sequelae often have their self-image threatened because they can no longer pass as non-disabled. Their disability has become undeniable and suddenly they must give in to it. They may become frightened because they do not know how far it will progress. Typical thoughts may include: "Wearing a brace could lead to using two crutches, and a year later to a wheelchair, or who knows after that... and now that the disability is obvious, what will other people think...?"

When confronted with polio's late effects, Passers often must alter their self-perceptions and lifestyle in order to continue successful coping. Their former coping style may no longer be effective and new attitudes and behaviors must be learned.

...Passers can often be fully rehabilitated because their new disabilities are less severe.

Clinically, Passers can often be fully rehabilitated because their new disabilities are less severe. They can be reassured that modern orthotics, such as plastic braces, can be nicely worn under clothing and completely hidden inside shoes.

Passers may require an unexpected amount of understanding, patience and empathic support from health care professionals because of strong emotional reactions that are not only triggered by the impending public nature of their new disability, but also by memories of past polio-related experiences.[1] What may appear to be an over-reaction to a minor physical change is founded in years of fearful cover-ups and a longing to be "normal." When their disability progresses from mild to moderate, they become undeniably disabled for the first time. This can be a harsh reality for them to finally face, accept, and adapt to. Using a new cane or crutch will publicly reveal a disability that can no longer be camouflaged. New coping techniques such as re-evaluating priorities, emphasizing the positive, and setting new goals can be invaluable tactics to employ during the process of re-rehabilitation.

Minimizers

Minimizers are post-polio people who have had a moderate disability that was always apparent to themselves and to others. They have coped with polio's first effects by minimizing the negative and accentuating the positive. Minimizers may say, "So what if I use braces and crutches and I can't walk in a normal fashion, look at all the other things I can do." Minimizers have adapted by de-emphasizing physical pain, deformity, and functional shortcomings. Many have pursued intellectual vocations and avocations in place of more physical or athletic activities.

"I was always taught that no one would notice my orthopedic shoes if I wore a pretty smile on my face," reports one Minimizer.

They often have been high achievers who have pushed themselves to their limits. Minimizers have learned how to tune out their bodies in order to ignore physical imperfections, a process called "devaluing physique".[10] "I was always taught that no one would notice my orthopedic shoes if I wore a pretty smile on my face," reports one Minimizer.

This practical approach to living with an obvious physical disability has often been helpful for effective coping in a society which emphasizes physical beauty and prowess. However, Minimizers are often so adept at this form of denial that they recognize polio's late effects only when physical symptoms become unbearable and insurmountable. In

order to survive and function at peak capacity they may have learned to use minimizing as a defense mechanism to such an extent that they became quite insensitive to their own pain, sadness, weakness, and anger. This perception can occasionally generalize to become an insensitivity to similar conditions and feelings in other people, including persons with a more severe disability.

When asked to respond to the attitudes survey statement, "I feel uncomfortable around other disabled people," Minimizers endorsed it more than the other post-polio groups. They often had negative attitudes about severely disabled individuals as a group, particularly wheelchair-users. Therefore, they may feel that to personally begin using a wheelchair signals joining a social group that they have previously devalued and/or that implies defeat, helplessness, and not fighting vigorously enough against polio's disabling effects. Minimizers sometimes admit to difficulty being socially linked with someone in a wheelchair because the very association might somehow generate their own need to use one. It is useful for professionals to recognize these phobic-like reactions to wheelchair use when they occur and employ techniques for helping Minimizers change their perceptions of wheelchairs and wheelchair-users. Indeed, these post-polio patients are the most likely to physically benefit from beginning to use a wheelchair.

Minimizers may have difficulty verbally describing new physical symptoms because they are skilled at ignoring and/or denying such problems.

They need coaching and encouragement to fully focus on their body sensations and reactions and to become what might be called "wise hypochondriacs."

They need coaching and encouragement to fully focus on their body sensations and reactions and to become what might be called "wise hypochondriacs." Health care providers must listen closely to Minimizers for the slightest mention of new medical problems and give them permission to elaborate. Minimizers most commonly feel guilty about causing others, including health care professionals, inconvenience related to their new disabilities. These assumptions can block the progress of thorough and continued re-rehabilitation. Insightful health care professionals can help Minimizers embrace physical and lifestyle changes brought on by polio's late effects by helping the patient re-think and

newly experience these disabilities, transforming them from burdensome affronts into simple facts-of-life.

Additionally, Minimizers are likely to have intense angry feelings about having to deal with new disabilities and re-rehabilitation.[18] The classic question, "do the virtuous fade first?" reflects a justifiable anger at having exercised and strained in daily routines for decades to come back from polio's acute attack only to become more debilitated later from what authorities call "overuse." Returning to rehabilitation can feel like an unfair defeat after a hard-fought struggle to overcome impairments and win the promised, sought-after and permanent exit from medical regimens and institutions.

Health care professionals can acknowledge and validate the Minimizer's anger as logical and can encourage living with that anger in healthy ways. Anger may manifest itself by slowing the re-rehabilitation process temporarily and creating resistance to starting new health care regimes. Alternatively, energy from anger may produce unrealistic expectations and/or impatience with their seemingly slow re-rehabilitation process. Anger can also give Minimizers the energy to make positive changes. However manifested, it is important that the health care professional not misinterpret anger or hostility as being permanent, personal, or irresponsible. It is a natural reaction to an alarming and serious situation which must be patiently dealt with and for which there is no cure.

...Minimizers know how to set goals and achieve them with persistence and determination.

In spite of many negative emotional reactions, Minimizers know how to set goals and achieve them with persistence and determination. The astute health care professional will encourage and help empower the Minimizer to use these qualities to re-focus on what is important in life; to take another look at how to be successful; to set new goals and achieve them in new ways. Health care professionals, family and friends must be patient in helping Minimizers work through understandable resistance, fears, and anger with re-rehabilitation. They must respect, remember, and sometimes remind Minimizers that they are experienced copers who have a well-proven capacity to see the positive in adversity and adapt effectively. As some Minimizers become more disabled, they may want to employ the key coping tactics of post-polio Identifiers.

Identifiers

Identifiers are people who have usually been sufficiently disabled since the onset of their acute polio to require wheelchairs for mobility. They have needed to more fully integrate their disability into their self-image in order to create successful and meaningful lives. Through identifying with others having physical disabilities, they have gained the strength to tolerate social prejudices and architectural barriers. Not surprisingly, many moved beyond their tolerations to become disabled rights activists who inspired environmental change and helped start the independent living movement.

Among the three groups sampled through the attitudes survey, Identifiers most strongly endorsed the statement, "high achievement is a requirement for survival as a disabled person." They also most intensely believed that taking an active role in the disabled rights movement was necessary to their future well-being in society, and that fully acknowledging their disability will help them cope with it more effectively.

With the onset of polio's late effects, many Identifiers confront the loss of their independence.

With the onset of polio's late effects, many Identifiers confront the loss of their independence. The smallest functional forfeiture can be extremely distressing to a person who has been chronically severely disabled. If breathing function becomes significantly impaired, death may be a realistic threat. For Identifiers who have had to work diligently to learn to feed themselves and perform other relatively simple self-care activities, independence in daily living activities may be one of the most important accomplishments of their lives. Therefore, if post-polio sequelae threaten a decline in strength, they can be expected to appear extremely distressed.

Identifiers have needed to develop a heightened concern about physical independence and about personal choice with how required help is given in order to attain high self-esteem and survive...

Effective helping professionals need to anticipate the identifier's concerns and recognize that their intense interest in autonomy and control of their environment is not pathologic. Identifiers have needed to develop a heightened concern about physical independence and about personal choice with how required help is given in order to attain high self-esteem and survive with their severe disability. When their freedom to control personal life activities is threatened by new physical limitation or even by temporary dependency imposed by a hospital setting, Identifiers may experience a threat to their whole life and purpose for living. This reaction often leaves Identifiers vulnerable to other's false perceptions of them as being overly controlling, difficult, and demanding people. In reality, they simply know what they need and are not too timid to ask for it. The informed health care professional will accept this and will do everything possible to let them continue to feel, and actually be, in charge of what happens to them.

Exceptions to the Models

As previously stated, each of these three coping styles is typically clustered around a mild, moderate or severe disability level. Of course, exceptions are not uncommon. Sometimes, those with severe disability demonstrate Minimizer attitudes. For example, an attorney who had exclusively used a wheelchair for mobility for over 30 years experienced sincere and deep-felt shock at a physician's matter-of-fact reference to his severe disability when explaining the wearing out of his upper extremities, his possible need for electric wheelchair use and the advantages of reducing his work day. This man had de-emphasized his obviously severe disability for years, successfully utilizing the coping style of a Minimizer. Some Passers, likewise, have been highly visible leaders in the post-polio movement, and Minimizers may share the Passer's fear of being stigmatized as part of society's "disabled minority."

Emotional distress is common to all survivors who experience a loss of functional abilities and an uncertain future.

Emotional distress is common to all survivors who experience a loss of functional abilities and an uncertain future. However, the greatest distress can be anticipated when a person's current functional capacities cause them to change from being a person with a hidden to a socially obvious disability and from being a walker to a wheelchair user. It must be remembered that each coping style can be successful. Any of them can assist a given individual in maintaining their highest functional level and their optimal social adjustment.

Passers, Minimizers, and Identifiers...some of our generation's most successful and resilient survivors of physically disabling illness.

Successful Re-Rehabilitation

Passers, Minimizers and Identifiers each adopted a characteristic coping style in the past that worked to create some of our generation's most successful and resilient survivors of physically disabling illness. The onset of new post-polio problems can present a challenge to their previously successful methods of coping and create significant emotional distress and pain. Health care professionals need to be aware of polio survivors' typical past coping styles and of their need to employ different tactics for coping during the re-rehabilitation process. Passers can no longer walk without a cane if they are now prone to falls. Minimizers cannot continue to ignore new pain and Identifiers may need respiratory aids in order to breathe more easily.

Helping professionals can point out to polio survivors that it is possible to find opportunity in their time of change.

Helping professionals can point out to polio survivors that it is possible to find opportunity in their time of change. Passers can "come out of the closet" or relax and enjoy a little more freedom with their very acceptable natural physiques and identities. Minimizers can also be empowered to live life with a greater sense of wholeness through

more fully recognizing, accepting, and integrating all aspects of their bodies. By relinquishing their struggle for physical independence and accepting new personal and technological assistance, Identifiers can gain the time and energy to develop new pursuits and cultivate other realms of interest. In this honest and supportive spirit of healthy transition, successful re-rehabilitation for polio survivors can be fostered.

COMPREHENSIVE MANAGEMENT

Specialized Rehabilitation Services

The 80's brought public and professional awareness and recognition of the late effects of polio. Beginning with conferences attended largely by polio survivors in the early 80's, a new field for research, education, and clinical care was brought to the attention of the medical community. Subsequently, specialized post-polio clinics have been established around the United States in order to comprehensively address the new health problems, functional limitations and disabilities that are occurring among people with a history of polio. Critical members of a post-polio assessment team are physicians specializing in rehabilitation, physical therapists, occupational therapists, orthotists, psychologists and other counselors and post-polio peers. Additionally, a network of physician specialists (including pulmonologists, cardiologists, orthopedic surgeons and many others) must be developed in order to address the full range of special medical problems that may occur. Other allied health professionals (including speech/language pathologists, respiratory therapists, nurses, dieticians) with an understanding and expertise about polio-related problems are also needed.

Accurate knowledge, refined skills and well-founded attitudes about the late effects of polio must grow among the full spectrum of professionals...

Accurate knowledge, refined skills and well-founded attitudes about the late effects of polio must grow among the full spectrum of professionals in order to meet the wide variety of unique needs that characterize this patient population.

Consumer Education and Support

The numerous organizations of polio survivors and health professionals that have developed in recent years can be useful resources to assist in patient management. Many of these groups have extensive patient educational materials, including books, pamphlets and videotapes. The International Polio Network (IPN) in St. Louis, Missouri, serves as the worldwide information clearinghouse for polio survivors and health care professionals. This agency publishes a quarterly newsletter, *The Polio Network News* which includes a worldwide directory of post-polio clinics, health care professionals, and post-polio support groups. The IPN also publishes *The Handbook on the Late Effects of Polio for Physicians and Survivors*, a booklet that has been well-received by both polio survivors and their health care professionals.

Several states have created centralized, task-oriented, non-profit organizations or networks to advocate for polio survivors. These groups sponsor conferences, work with state legislators, collect and disseminate post-polio literature, and conduct many other activities in order to promote the quality of life for polio survivors. Most states also have several local support groups which can greatly assist individuals in coping with their physical and psychological sequelae.

Learning practical re-rehabilitation tips from others who are facing similar challenges can be extremely helpful.

Learning practical re-rehabilitation tips from others who are facing similar challenges can be extremely helpful.

Additionally, a variety of established community resources have been, and can continue to be, cultivated to assist in supporting polio survivors and their advocates. Mechanisms that are already in place such as Easter Seal Societies, centers for independent living, state vocational rehabilitation programs, and many more have proven to be quite helpful, operating from within their various spheres of influence and areas of expertise to assist where they can.

Patient-Professional Partnerships

As knowledge and resources about the late effects of polio grow for both professionals and polio survivors, it is important to standardize basic terminology regarding secondary conditions so that clear, precise communication can occur among helping professionals and patients alike.

Although all secondary conditions among polio survivors are not a result of their history of paralytic polio or its residuals, nevertheless the diagnosis and treatment of many of them is complicated by polio residuals. Thus, optimal management of some secondary conditions may require consultation between knowledgeable post-polio specialists and other specialists who are unfamiliar with the late effects. What is more important than a professional's special knowledge and experience with the late effects of polio is good communication. Patients and professionals must work together as partners for optimal treatment of secondary conditions, for re-rehabilitation and for comprehensive management of health and disability.

...polio survivors can continue to live productive and meaningful lives.

By working together, patient and professional can successfully manage the late effects of polio and polio survivors can continue to live productive and meaningful lives.

Wellness/Health Promotion Programs

For polio survivors who have not experienced any significant new health problems or progressive disability, the challenge is to remain well and prevent future development of post-polio sequelae. Similarly, after management of secondary conditions and/or re-rehabilitation for late effects of polio, health maintenance appropriately becomes the focus of attention.

Before a polio survivor enters a wellness program, it is essential that focused professional evaluation and treatment occur for all remediable conditions.

Before a polio survivor enters a wellness program, it is essential that focused professional evaluation and treatment occur for all remediable conditions. Health promotion programs can not be expected to treat or cure most secondary conditions and must be undertaken as activities for prevention of future problems, for amelioration of general health and for maintenance of current functional abilities.

Since some wellness program activities have the potential to cause new problems or make some conditions worse, it is essential that a physician who is familiar with a person's general health and disability give permission and state any precautions for their participation.

One of the most challenging aspects of health promotion programs for polio survivors is the uniqueness of each person's disability.

One of the most challenging aspects of health promotion programs for polio survivors is the uniqueness of each person's disability. One of the hallmarks of paralytic polio was varied severity of residual paralysis in scattered groups of muscles. Truly, no two polio survivors have the same residual weaknesses, in addition to the uniquenesses that genetics, development and 30 or more years of active living have brought them. Therefore individual medical assessment must precede actual evaluation of participants by program facilitators.

Health promotion programs for polio survivors must include at least the following individual appraisal of health issues:

1. General health habits must be honestly and thoroughly examined. This includes nutrition, smoking and alcohol use habits and non-prescription medication use.

2. The amount of problematic new weakness and fatigue must be considered in light of a person's general health and previous lifestyle activity patterns. A realistic appraisal of musculoskeletal flexibility, strength and functional capacity must be done for each participant and understood by them and exercise facilitators (instructors) before appropriate goals and methods for exercise programs can be established.

3. Pain problems that are chronic, recurrent, and/or not severe after professional assessment/treatment can be targeted for improved control or slow improvement through specific exercises and/or other self-management techniques, such as heat, ice or positioning. Assistive device use and lifestyle changes may also need to be addressed in order to reduce causative factors for pain.

4. Lifestyle changes and adaptive device use should be carefully examined from the perspective of choices to reduce or better control problems with weakness, fatigue and pain.

5. Emotional and other psychological or social issues that may be accompanying secondary physical conditions, or that are fears generated by a person's understanding of the late effects of polio, must be addressed. Progressive decline in health and increasing disability are not inevitable for polio survivors and an optimistic, positive attitude must pervade health promotion program staff and participants to be truly effective.

--Frederick M. Maynard and Sunny Roller

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Understanding the Principles of Successful Adult Learning

(Adapted from *Team Leader Training*. Miami, FL, Qualtec, 1989, pp. 38-39.)

Principles of Adult Learning

1. Adults learn best in informal situations with mutual respect between facilitators and participants.

A good learning environment is crucial. An informal, non-evaluative climate will help bring about the high involvement needed for learning. It is required that this program be viewed as a very enjoyable place to be. Facilitators must create a positive, stress-free ambiance for the program. It is important that participants don't feel pushed to meet time deadlines in moving from place to place. They should be allowed flexibility during the program schedule in case they need rest breaks, posture breaks, or bathroom breaks.

...build opportunities for involvement and participation into your sessions.

2. Adults learn best by doing.

Listening and watching are fine, but putting the knowledge to use is the real learning. Therefore, build opportunities for involvement and participation into your sessions. Remember, learning is an active process.

3. Adult learning is a complex process involving the whole person.

Explain why. What's in it for them? Why should they want to improve their skills in stress management, for example?

Adults are interested in learning how to cope with the problems they face NOW...

4. Adults learn best by solving realistic problems.

Adults are interested in learning how to cope with the problems they face NOW. Therefore, learning should be practical. For example, if you lead a session on assertiveness skills, you should role-play a real situation that someone is encountering.

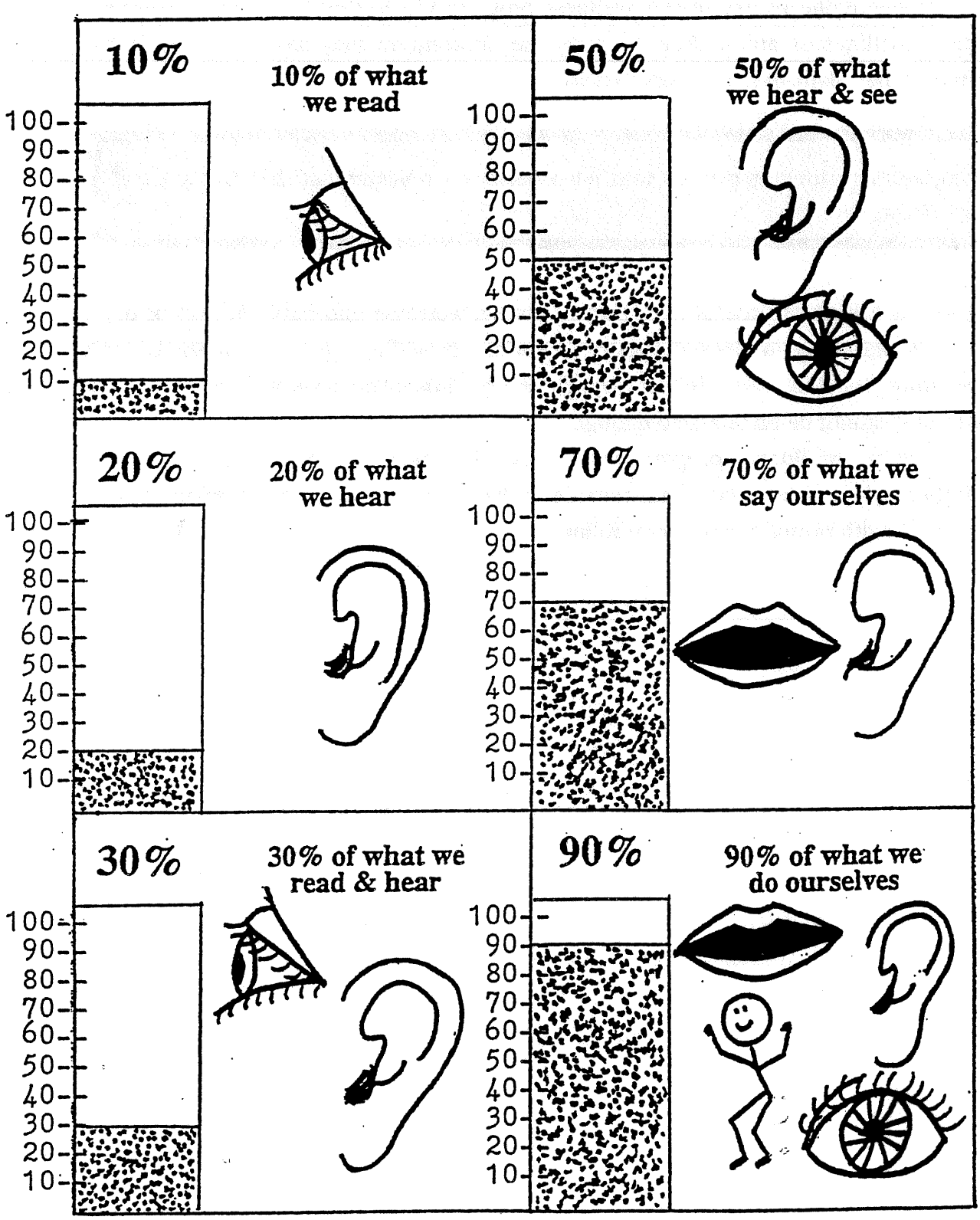
5. Adults learn best when they have a role in planning their own learning.

Make the planning of your participants' training a group decision. The group may also begin to identify other types of educational needs (which can be worked into this program or can be documented for future health promotion programs.)

In the final analysis, all adult learning is self-learning.

You can't really teach a person anything--you can only help that person come to his or her own knowledge.

HOW ADULTS LEARN
WHAT DO WE ABSORB OR RETAIN?



Understanding Long-Term Follow-Through

Throughout the course of this wellness program facilitators must always promote participants' willingness and abilities to carry the information they have acquired in this program into their daily lives for years to come.

Staying well is a lifelong process that must become a welcome and habitual part of one's lifestyle.

Staying well is a lifelong process that must become a welcome and habitual part of one's lifestyle. Reinforcing wellness-oriented behavior, providing reasons, methods, and practical tools for long-term follow-through is the important responsibility of every facilitator and cannot be emphasized enough.

Post-polio wellness programming must complement polio survivors' re-rehabilitation goals. Ideas that can provide a basis for making this happen in any community's health promotion program follow.

Long-Term Implementation of Post-Polio Rehabilitation Goals

Generally, health promotion facilitators encounter polio survivors after they have been evaluated by knowledgeable health care professionals, often at specialized post-polio rehabilitation clinics.

...we advise health promotion specialists to work in partnership with post-polio rehabilitation experts...

Because of the complexity of treating post-polio health problems, we advise health promotion specialists to work in partnership with post-polio rehabilitation experts in planning appropriate health promotion strategies.

For polio survivors turning towards mid-and late-life, the onset of new conditions with disabling effects, often referred to as secondary disabilities, can be life-disruptive.

For polio survivors turning towards mid-and late-life, the onset of new conditions with disabling effects, often referred to as secondary disabilities, can be life-disruptive. Becoming a polio patient "again" can be particularly disturbing, an experience described by some rehabilitation psychologists as a post-traumatic stress provoking incident (Kohl 1987). Most survivors did not anticipate the onset of secondary disabilities, and perceive themselves as having "had polio" and recovered. For many, the onset of new polio-related disabilities has been psychologically devastating, (at least for a time) and a source of emotional pain, confusion and anger. The loss of hard won physical abilities and the onset of pain and fatigue was unanticipated and shocking. Until the late 1980's, there was a general lack of knowledge and understanding by the medical community of the late effects of polio. Medical ignorance contributed to feelings of isolation and abandonment for a group of persons who had learned to manage their primary polio-related disabilities with the support of families, teachers and the March of Dimes.

During post-polio clinic evaluations, patients are given a diagnosis (polio-related disabling condition, or other), a set of interventions and treatment goals to implement, and are offered psychological validation for the objective source of their disabling symptoms.

Therapeutic interventions are designed for lifelong implementation and include some demanding and difficult behavioral modifications.

Therapeutic interventions are designed for lifelong implementation and include some demanding and difficult behavioral modifications. It is at this juncture that health promotion specialists are often called upon to help facilitate behavioral modification and quality of life enhancement. Patients are commonly advised to implement an individualized set of interventions that may include one or more of the following:

* change the pace and pattern of daily activities - take rest periods throughout the day to pace activities and conserve energy, sit more often than walk, avoid stairs, change job type or job schedule, and retire if necessary;

* modify exercise routine (following interpretation of diagnostic studies and medical and physical therapy evaluation) - change duration or type of muscle stretching, low resistance repetition exercises, swimming, bicycling, stationary arm or leg bicycling;

* use additional assistive devices - canes, braces, crutches, wheelchairs, electric scooters, seating and sleeping support pillows, kitchen and bathroom aids, stair glides, adapted car controls;

* limit household responsibilities - hire a housekeeper or personal care attendant full or part-time, or re-allocate household tasks among family, friends or housemates;

* develop new health management strategies - use individual and group techniques to stop smoking and/or lose weight, participate in individual and/or group psychological counseling, psychotherapy, or post-polio support groups, invite family members or friends to attend post-polio support groups, develop a peer support network;

* seek additional professional referral - dietician, internist, gynecologist, pulmonologist, neurologist, neurosurgeon, rheumatologist, swallowing specialist, sleep specialist.

Health promotion programs offer persons with polio's late effects the opportunity to learn new ways to implement treatment goals.

...treatment compliance increases well-being and in some cases prevents further functional loss...

Since in many cases, treatment compliance increases well-being and in some cases, prevents further functional loss, the role of health promotion program facilitators, following appropriate medical evaluation, is critical to long-term rehabilitation outcomes. Treatment non-compliance generally results in further loss of physical function and pain.

In a two-year follow-up study of 40 polio patients at the National Rehabilitation Hospital's outpatient polio clinic, three categories of patients were identified and several motivational themes emerged. The first category of patients were motivated to make changes at the time of their clinic evaluation, and behavioral modification occurred within six months. The priority for compliance-ready patients was to listen to professionals and follow clinic recommendations in a good faith effort to "feel better no matter what it takes."

For polio patients, "feeling better" is defined as feeling less pain, more rested, and with more energy available to be involved in activities identified as important.

For polio patients, "feeling better" is defined as feeling less pain, more rested, and with more energy available to be involved in activities identified as important. Compliance-ready patients had clear agendas of the activities in their lives that were primary and others that fell into a less significant category. Compromises seemed to be resolved within the patients with relatively little internal conflict. These patients were "ready" to learn how to lose weight, use additional assistive devices, and change the pace of their daily activities. About one-half of the compliance ready patients used group techniques to change a habitual behavior (lose weight exercise differently, participate in support groups, peer counseling networks, and psychological counseling).

The second category of patients were those who were not ready to make these changes at the time of their clinic evaluation, and were compliance-delayed. By the end of the two-year study, however, the compliance-delayed group had implemented at least two of the major interventions. For the compliance-delayed group, compliance was eased by using group techniques and becoming aware that the consistent implementation of one rehabilitation goal did produce a change in pain and fatigue levels.

"Feeling better," from the patient's point of view, is the most effective motivator for behavioral change.

"Feeling better," from the patient's point of view, is the most effective motivator for behavioral change. Any strategy for health promotion with the post-polio population should include brief in-class experiences of ways to "feel better."

The third category of patients were overwhelmed by other life problems in addition to the post-polio related functional losses. In some compliance-resistant cases, the polio-related disabilities played a significant role in producing other life problems, such as loss of job, tension on the job, troubled marriages, separation or divorce, difficulties with children, new responsibilities with elderly or frail parents, depression and other psychological disturbances. In other cases, on-going psychological disturbances prevented compliance.

Health promotion facilitators are important providers of health care for persons learning to manage the late effects of polio over the long term.

Health promotion facilitators are important providers of health care for persons learning to manage the late effects of polio over the long term. The life experiences most members of the post-polio population have had with their primary disabilities has led to some shared characteristic strengths which can be maximized. For example, the polio tradition of working hard to meet goals and surmount adversity can be translated to the task of life reorganization demanded by the onset of secondary disabilities. During their initial bouts with polio, patients learned to work hard at exercise routines to strengthen their muscles and to work hard in their lives to compete with their non-disabled peers. Polio survivors can learn that the tasks of accommodation to secondary disabilities require a different kind of hard work. They can learn to put "rest" on their daily list of things "to do," having realized that for the long-term polio-impaired person, resting and setting priorities is not "failure," but instead a route to feeling better and increasing the likelihood of further "success".

...determination, steadfastness, consistency, and problem solving...are essential tools for life-building which can be reinforced and validated in health promotion settings.

The qualities learned and valued by many polio survivors in the course of adaptation to their primary disabilities--determination, steadfastness, consistency, and problem solving--are essential tools for life-building which can be reinforced and validated in health promotion settings.

--Jessica Scheer and Lauro Halstead

UNIT I: NUTRITION

(A curriculum model by Carolyn Hoffman, utilizing *The New American Diet* by Conner SL and Conner WE; New York, Simon & Schuster, 1986; with contributions by Sondra L. Berlin.)

This unit is divided into an introduction and six monthly sections. The sections may be further developed into weekly sessions at the facilitator's discretion. The section outlines provided may be used as the initial session in a section or as a springboard for expanding key points into multiple sessions with activities that are done at home. Two or three additional sessions per section will usually need to be developed based upon the individualized needs of the enrolled participants.

Facilitators are strongly encouraged to individualize the unit material as much as possible. They are urged to use the structured overview and follow the teaching tips as they plan and present weekly sessions. Two-fold communication between facilitator and participant, including questions and discussion, is of utmost importance to meet individual and group needs. Facilitators are also encouraged to have the program organizers purchase a copy of The New American Diet *(1986 edition at $18.95) for use as a reference during this unit's activities. Utilizing a variety of creative audio-visual aids will help in clarifying and emphasizing key points. Filling out evaluation forms at the end of each section will help provide immediate feedback on how the program is progressing. Reminders for the participants and the facilitators to do this are printed at the end of every section.*

It is recommended that the lead facilitator be a registered dietitian. It will be important to present accurate information in a positive, tactful, and respectful manner. It is also critical that the facilitators of this unit learn about the late effects of polio before they instruct participants.

Reminder: Users of the "Stay Well!" manual are advised to consult with their physician or other treating health professional before attempting any of the health assistance programs described in the manual. Described health assistance programs are designed to complement ongoing medical advice and treatment from your physician or other treating health professional. Further, described health assistance programs cannot replace medical advice and treatment.

***Overall Unit Goal:**

Participants will be given an opportunity to identify and adopt a food/nutrient pattern of intake to optimize total well-being and minimize the potential for additional disabilities.

***Admission Criteria:**

1. Participants must have completed the "Participant Information Record" for baseline data.
2. Participants must have completed the "Participant Dietary Intake Record."
3. Optional Blood Tests: Hemoglobin (hematocrit) and lipid profile.
4. Participants must have turned in completed "Physician Consent for Participation" form.

***Structured Overview:**

Through identifying and adopting a food/nutrient pattern of intake, it is possible to optimize total well-being, enhance one's ability to maintain activity, and minimize the potential for additional disabilities.

This can begin to be accomplished by:

1. Discovering the "New American Diet" and its potential benefits.
2. Decreasing fat intake and thereby minimizing cardiovascular disabilities.
3. Achieving optimal weight and learning how to maintain it.
4. Achieving a gradual and moderate increase of dietary fiber and thereby improving intestinal function.
5. Reducing overall sodium intake and thereby minimizing hypertension.
6. Recognizing the importance of adequate intake of calcium-rich foods and their contribution to bone health.

*** Teaching Tips:**

After your introductory statements in the first session, you might consider the following suggestions each time your group meets. These tips can help ensure successful presentations:

1. REVIEW PERSONALIZED CONCEPTS: Review personal applications of previous week's concepts. Encourage group discussion. This allows for application of content learned. Focus on the successes that participants have created and achieved for themselves.

2. STIMULATE INTEREST: Get and stimulate participants' attention to the session's new concepts by giving examples, telling a story, showing a picture, etc., that immediately attaches the information to their life experience and emotions. This will serve as a brief introduction to motivate the learners.

3. COMMUNICATE OBJECTIVES: Communicate and clarify the session's behavioral objectives with the participants. This will give people a sense of direction.

4. PRESENT STRUCTURED OVERVIEW: Show participants where the behavioral objectives (goal) fit into the overall unit topic by reviewing the "Structured Overview."

5. EXPLAIN RELEVANCE: Tell participants what they will need this information for. What will they do with it? How will it be useful and applicable to their real-life situations? This provides relevance and purpose for the session's content.

6. PRESENT CONTENT: Communicate key points (content). Using interest-catching audio-visual aids, such as real-life food models and displays of food, would be an effective way to demonstrate key points.

7. CONDUCT ACTIVITIES: Facilitate group activities that strengthen the learning process.

8. PERSONALIZE CONCEPTS: Give suggestions for planned home activities to help participants personalize and apply presented concepts on their own before the next session.

***Evaluation Measures:**

Pre-and post-Unit Questionnaires:

- Using "Participant Information Record" handout, record participant's age, sex, height, weight and body frame size. In addition, monitor weight once a week.

- Record food intake for three days and assess total fat and calories, dietary cholesterol, fiber, calcium and sodium intake using check quiz on pages 41-51 of text (if the dietitian has computer software for nutrient analysis, this can also be utilized). See handout: "Participant Dietary Intake Record."

***Suggested Section and Session Content and Activities:**

INTRODUCTION

***Goal:** To introduce participants to the entire Nutrition Unit.

***Key Points and Activities:** Refer to Teaching Tips 2-5.

Points:

1. Often, people with the late effects of polio are faced with having to conserve energy ("conserve it to preserve it!") in order to be most healthy. This necessary change in lifestyle can create new weight problems.

2. Since many people with polio have limited physical activity, their caloric needs often do not exceed 1200 calories per day. This goal can easily be attained.

3. It is important to eat a wide variety of foods from the traditional Four Food Groups. Vitamins C, D, and E may be especially valuable for good health.

4. It is important to understand the overall goal of this unit in order to be able to achieve it.

5. A familiarity with the Structured Overview will help participants achieve their individual dietary goals.

6. Each participant is encouraged to begin a sound nutritional intake program at the beginning of this unit. Every person should keep a log of dietary intake and self-monitor their eating habits. Participants should weigh in every time the group meets and chart their progress.

> *Note: The facilitator can spot-check participants' nutritional activities and lead discussions that include topics such as problem-solving techniques, individualization of eating tactics, and recipe ideas. Time should also be provided for group supportive discussion and comments.*

7. Long-term follow-through is critical in obtaining and maintaining optimal nutritional health.

8. To determine whether there is a need for dietary change, it is important to take the unit pre-test.

Activities:

1. Present Overall Unit Goal.
2. Present Structured Overview.
3. Review "Guide to Good Eating".
4. Discuss participants' plans for beginning a sound nutritional program at home from the starting point of this unit.
5. Discuss the importance of long-term follow-through.
6. Administer pre-test (pp. 41-51 in *The New American Diet*, 1986 edition).
7. Administer "Participant Information Record."
8. Administer "Participant Dietary Intake Record."

***Materials/Equipment Needed:** Pencils, pre-test, "Participant Information Record," "Participant Dietary Intake Record," and "STAY WELL! Weight Record" handouts.

***Suggested Readings:**

1. "Guide to Good Eating" Up to 100 free copies of this handout are available from:

   The Dairy Council of Michigan
   telephone: 1-800-548-8097

2. (In press:) Hoffman CJ and Maynard FM: A pilot program of nutrition education and exercise for polio survivors: a community-based model for secondary disability prevention. *Topics in Clinical Nutrition*, 1992.

HANDOUT

Participant Information Record

Name:

Age:

Sex:

Height:

Weight:

Note: Some participants who use a wheelchair will need to be weighed on a platform scale. Those who wear braces will need to subtract the weight of their braces from their weigh-in pounds in order to accurately record their actual weight.

Body Frame:

Are you taking any medications? If yes, what?

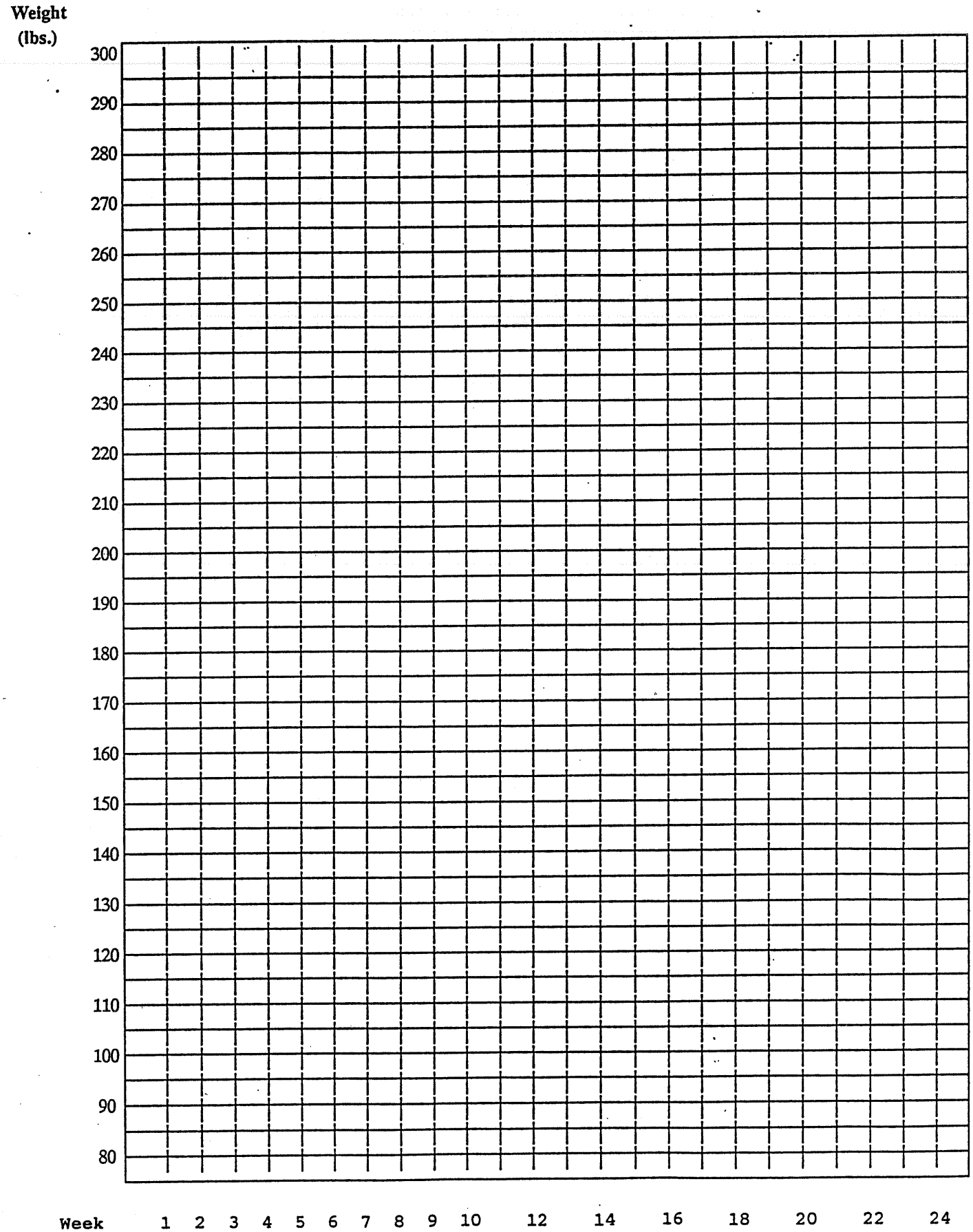
Are you on a special diet? If yes, please describe.

Do you have any key concerns or questions?

HANDOUT

STAY WELL! Weight Record

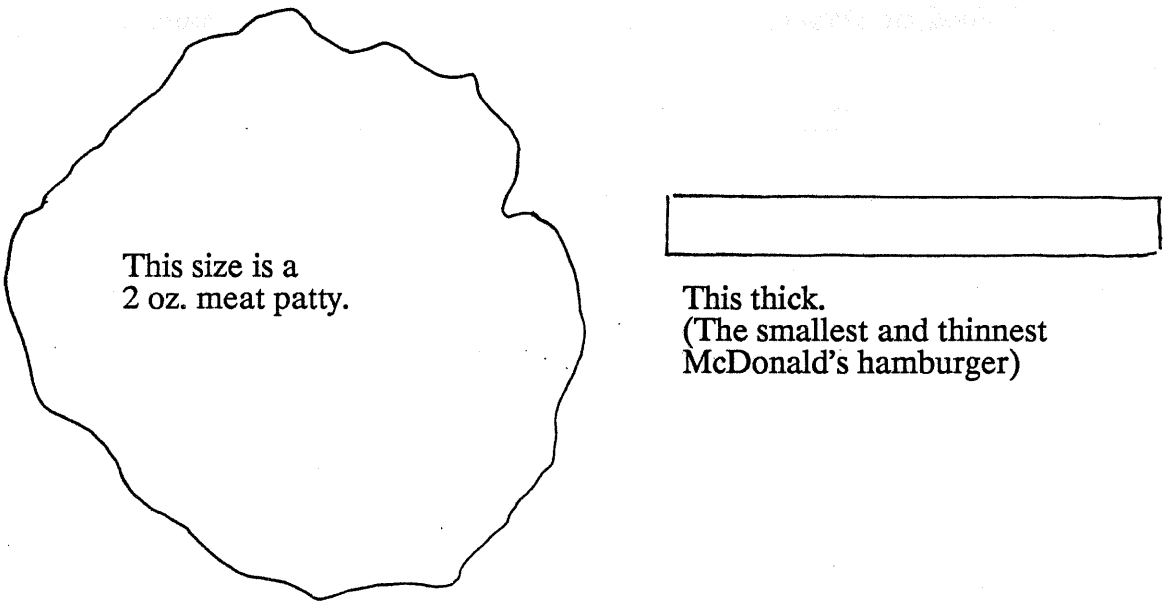
Here is an opportunity to graph your weight each week!



HANDOUT

Participant Dietary Intake Record

Please use this form and simply list everything you've had to eat or drink (except water) for three days (if possible, two weekdays and one weekend day). Name the specific food (for example, write "whole milk" instead of just milk) and state how much: one or two cups, etc. Instead of saying "some green beans" say 1/2 cup, etc. Also, instead of saying a "piece of meat" try to estimate the amount. There's an illustration of a 2 oz. meat patty below to help you estimate:



It's important to be honest. It is not the facilitator's purpose to be judgmental. We need to know your starting point. It would also be helpful if you would attach a note to each day's intake and describe how you felt that day...pain?...discomfort? If so, where? Fatigue level?...when? We need to evaluate our starting point for each person carefully. After seeing where you are now, we will then strive to make appropriate changes if and where needed for each individual. Lab test (optional) results will also be returned to you at the first session for your own records.

Participant Dietary Intake Record (page four)

DAY #3: DATE_____

Food Description	Amount

VITAMIN C

(Ascorbic Acid)

This is one in a series of fact sheets containing information to help you select foods that provide adequate daily amounts of vitamins, minerals, and dietary fiber as you follow the Dietary Guidelines for Americans. The Guidelines are -

- Eat a Variety of Foods
- Maintain Desirable Weight
- Avoid Too Much Fat, Saturated Fat, and Cholesterol
- Eat Foods with Adequate Starch and Fiber
- Avoid Too Much Sugar
- Avoid Too Much Sodium
- If You Drink Alcoholic Beverages, Do So in Moderation

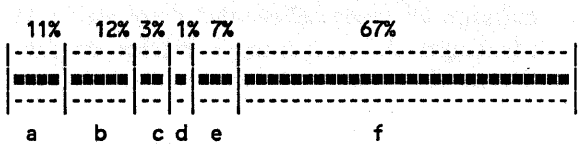
What Is Meant By a Good Food Source?

A good food source of vitamin C contains a substantial amount of vitamin C in relation to its calorie content and contributes at least 10 percent of the U.S. Recommended Daily Allowance (U.S. RDA) for vitamin C in a selected serving size. The U.S. RDA for vitamin C is 60 milligrams per day.[1]

The U.S. RDA for vitamin C is the amount of the vitamin used as a standard in nutrition labeling of foods. This allowance is based on the 1968 Recommended Dietary Allowances (RDA) for 24 sex-age categories set by the Food and Nutrition Board of the National Academy of Sciences. The 1989 RDA has been set at 60 milligrams per day for women and men 19 to 50 years of age.

[1]The U.S. RDA given is for adults (except pregnant or lactating women) and children over 4 years of age.

Where Do Women Get Vitamin C?



a= Grain products (Includes breads and other baked products, pasta, rice, and other cereals)
b= Meat, poultry, fish
c= Milk, milk products
d= Eggs, legumes, nuts, seeds
e= Fats, sweets, beverages
f= Fruit, vegetables

Source: U.S. Department of Agriculture. Human Nutrition Information Service. Unpublished data from 1985 and 1986. Continuing Survey of Food Intakes by Individuals. 4 days

'Women 19-50 years of age. The percentages provided by the various food groups may not add up to 100 because of rounding.

As you can see, in 1985 and 1986, 67 percent of the vitamin C in the diets of women came from fruits and vegetables. Citrus fruits and tomatoes contributed almost half of the vitamin C provided by the fruits and vegetable group. Almost all of the vitamin C supplied by the fats, sweets, and beverages group came from beverages. Foods that contain small amounts of vitamin C but are not considered good sources can contribute significant amounts of vitamin C to an individual's diet if these foods are eaten often or in large amounts.

Why Do We Need Vitamin C?

Vitamin C, a water-soluble vitamin, is important in forming collagen, a protein that gives structure to bones, cartilage, muscle, and blood vessels. It also helps to maintain capillaries, bones, and teeth and aids in the absorption of iron.

Do We Get Enough Vitamin C?

According to recent USDA surveys, average intake of vitamin C by women 19 to 50 years of age was over the RDA for vitamin C. Women tended to consume less than men of the same age. Most nutrition scientists believe that there are no known advantages in consuming excessive amounts of vitamin C.

How Can We Get Enough Vitamin C?

Eating a variety of foods that contain vitamin C is the best way to get an adequate amount. Healthy individuals who eat a balanced diet rarely need supplements. The list of foods will help you select those that are good sources of vitamin C as you follow the Dietary Guidelines. The list of food sources was derived from the same nutritive value of foods tables used to analyze information for recent food consumption surveys of the U.S. Department of Agriculture, Human Nutrition Information Service.

How to Prepare Foods To Retain Vitamin C

Vitamin C can be readily lost from foods during preparation, cooking, or storage. To retain vitamin C:

- Serve fruits and vegetables raw whenever possible.
- Steam, boil, or simmer foods in a minimal amount of water, or microwave them for the shortest time possible.
- Cook potatoes in their skins.
- Refrigerate prepared juices, and store them for no more than 2 to 3 days.
- Store cut raw fruits and vegetables in an airtight container and refrigerate - do not soak or store in water. Vitamin C will be dissolved in the water.

What About Fortified Foods?

Some juices not normally a source of vitamin C, such as grape and apple, have vitamin C added. A 3/4 cup (juice glass) serving of these fortified juices may provide 40 percent or more of the U.S. RDA for vitamin C. Check the label for the exact amount. Vitamin C (ascorbic acid) is added to frozen peaches to prevent discoloration.

Most ready-to-eat cereals are fortified with vitamin C. Fortified ready-to-eat cereals usually contain at least 25 percent of the U.S. RDA for vitamin C. Since cereals vary, check the label on the package for the percentage of the U.S. RDA for a specific cereal.

What Is a Serving?

The serving sizes used on the list of good sources are only estimates of the amounts of food you might eat. The amount of nutrient in a serving depends on the weight of the serving. For example, 1/2 cup of a cooked vegetable contains more vitamin C than 1/2 cup of the same vegetable served raw, because a serving of the cooked vegetable weighs more. Therefore, the cooked vegetable may appear on the list while the raw form does not. The raw vegetable provides the nutrient - but just not enough in a 1/2-cup serving to be considered a good source.

What Are Good Sources of Vitamin C?

Food	Selected Serving Size	Percentage of U.S. RDA[1]
BREADS, CEREALS, AND OTHER GRAIN PRODUCTS		
Ready-to-eat cereals, fortified[2]	1 ounce	+ +
FRUITS		
Apples:		
Baked, unsweetened	1 medium	+
Raw	1 medium	+
Apple juice[3]	3/4 cup	+ + +
Banana, raw	1 medium	+
Blackberries, raw	1/2 cup	+ +
Blueberries, raw	1/2 cup	+
Cantaloup:		
Frozen balls, unsweetened	1/2 cup	+ + +
Raw	About 1/2 cup diced	+ + +
Cranberry juice cocktail[3]	1 cup	+ + +
Grapefruit, raw	1/2 medium	+ + +
Grapefruit juice: fresh, canned or reconstituted frozen; unsweetened	3/4 cup	+ + +
Grapefruit and orange sections, canned, unsweetened	1/2 cup	+ + +
Grapefruit and orange juice, unsweetened	3/4 cup	+ + +
Grape juice, unsweetened[3]	3/4 cup	+ + +
Honeydew melon, raw	About 3/4 cup diced	+ + +
Kiwifruit, raw	1 medium	+ + +
Mandarin orange sections, canned or frozen, juice-pack	1/2 cup	+ + +
Mango, raw	1/2 medium	+ + +
Nectarine, raw	1 medium	+
Orange, raw	1 medium	+ + +
Orange juice, fresh, canned, or reconstituted frozen; unsweetened	3/4 cup	+ + +
Papaya, raw	1/4 medium	+ + +
Peaches:		
Frozen, unsweetened[3]	1/2 cup	+ + +
Raw	1 medium	+
Pear, raw	1 medium	+
Pineapple:		
Canned, chunks, juice-pack	1/2 cup	+
Raw	1/2 cup	+
Pineapple juice, canned unsweetened	3/4 cup	+ +
Pineapple-grapefruit juice; canned or reconstituted frozen; unsweetened	3/4 cup	+ + +
Pineapple-orange juice canned or reconstituted frozen, unsweetened	3/4 cup	+ + +
Plum, raw	1 medium	+
Pomegranate, raw	1 medium	+
Raspberries:		
Frozen, unsweetened	1/2 cup	+ +
Raw	1/2 cup	+ +
Strawberries; raw, frozen, or canned; unsweetened	1/2 cup	+ + +
Tangelo, raw	1 medium	+ + +
Tangerine, raw	1 medium	+ + +
Watermelon, raw	About 1 3/4 cups diced	+ + +
VEGETABLES		
Artichoke, globe (french), cooked	1 medium	+
Asparagus, cooked	1/2 cup	+ + +
Beans, green or yellow, cooked	1/2 cup	+
Beans, lima, cooked	1/2 cup	+
Bean sprouts, raw or cooked	1/2 cup	+
Broccoli, raw or cooked	1/2 cup	+ + +
Brussels sprouts, cooked	1/2 cup	+ + +
Cabbage:		
Chinese, cooked	1/2 cup	+ +
Green, raw or cooked	1/2 cup	+ +
Red, raw or cooked	1/2 cup	+ + +
Cauliflower, raw or cooked	1/2 cup	+ + +
Chard, cooked	1/2 cup	+
Collards, cooked	1/2 cup	+
Endive, chicory, escarole, or romaine; raw	1 cup	+
Dandelion greens, raw	1/2 cup	+
Kale, cooked	1/2 cup	+ + +
Kohlrabi, cooked	1/2 cup	+ + +
Mustard greens, cooked	1/2 cup	+ +
Okra, cooked	1/2 cup	+
Onion, spring:		
Cooked	1 large	+
Raw	1 medium	+

Continued

- choose commercial food products lower in cholesterol and fat (low-fat cheeses, egg substitutes, soy meat substitutes, frozen yogurt, etc.)
- modify favorite recipes by using less fat or sugar and by using vegetable oils instead of butter or lard
- decrease use of table salt and use lower-sodium salt (Lite Salt)

Phase II: New Recipes:

- reduce amounts of meat (beef and pork) and cheese eaten and replace them with chicken and fish
- eat meat, chicken or fish only once a day
- cut down on fat as spreads, in salads, cooking and baking
- make more grains, beans, fruits and vegetables
- choose low-fat, low-cholesterol dishes when eating out
- find new recipes to replace those which cannot be altered
- use few products containing salt

Phase III: A New Way of Eating:

- eat meat, cheese, poultry, and shellfish as "condiments," rather than as main courses (refer to page 157, *New American Diet*, 1986)
- eat more beans and grain products as protein sources
- use no more than 4-7 teaspoons of fat per day in spreads, salad dressings, and in cooking and baking
- drink 4-6 glasses of water per day
- use extra meat, regular cheese, chocolate, candy, coconut, and richer home-baked or commercially prepared food only for special occasions (once a month or less)
- enjoy a wide variety of new food and repertoire of totally new and savory recipes
- decrease the amount of salt used for cooking

5. Summary: A Diet for Disease Prevention: "The New American Diet" is really akin to defensive dining. The goal is to minimize the occurrence and /or development of chronic diseases.

Activities:

1. Present Key Points.
2. Review, discuss and evaluate participants' pre-test answers.
3. Review "Dietary Guidelines and Your Diet" (HG-232-1 through HG-232-7).
4. Distribute "A Special Message on Good Nutrition" and "Ideal Body Weight" handouts.
5. Distribute Participants' Section Evaluation forms found in Chapter 4. Have group members complete and return them to the facilitator, who will pass them along to the program organizers.

***Materials/Equipment Needed:**

1. Notebook for notetaking, overhead projector and transparencies, video cassette player (1/2") and participant handouts as described below.
2. Each facilitator needs to order a packet (**at no charge**), Dietary Guidelines and Your Diet" HG-232-1 thru HG-232-7. These are camera-ready handouts. Order from:

U.S. Department of Agriculture
Human Nutrition Information Service
6505 Belcrest Road
Hyattsville, MD 20782

Note: Facilitators are requested to complete a Facilitator's Section Evaluation form (found in Chapter 4) upon completion of this section. Please return this evaluation to the program organizers.

***Suggested Resources:**

1. Connor S and Connor W: *The New American Diet*. New York, NY, Simon and Schuster, 1986.

2. Connor S and Connor W: *The New American Diet*. New York, NY, Simon and Schuster, 1989.

3. Connor S and Connor W: *The New American System*. New York, NY, Simon and Schuster, 1991.

4. O'Neil C: *Eating Healthy for Kids, Eating Healthy for Weight Control, Eating Healthy for Heart Health, Eating Healthy When Dining Out, Eating Healthy for Life.* These five educational videos can be purchased from Turner Educational Services, Inc. at $19.95 each. Call 1-800-344-6219 to order. Allow 6-8 weeks for delivery.

HANDOUT

IDEAL BODY WEIGHT

ACCORDING TO THE 1959 METROPOLITAN LIFE WEIGHT TABLES

MEN:

FRAME →	Small	Medium	Large
HEIGHT (inches)	<<< **WEIGHT** (pounds)		>>> (pounds)
61	112-120	118-129	126-141
62	115-123	121-133	129-144
63	118-126	124-136	132-148
64	121-129	127-139	135-152
65	124-133	130-143	138-156
66	128-137	134-147	142-161
67	132-141	138-152	147-161
68	136-145	142-156	151-170
69	140-150	146-160	155-174
70	144-154	150-165	159-179
71	148-158	154-170	164-184
72	152-162	158-175	168-189
73	156-167	162-180	173-194
74	160-171	167-185	178-199
75	164-175	172-190	182-204

IDEAL BODY WEIGHT (page 2)

WOMEN:

FRAME -	Small	Medium	Large
HEIGHT (inches)	<<< (pounds)	**WEIGHT** (pounds)	>>> (pounds)
56	92- 98	96-107	104-119
57	94-101	98-110	106-122
58	96-104	101-113	109-125
59	99-107	104-116	112-128
60	102-110	107-119	115-131
61	105-113	110-122	118-134
62	108-116	113-126	121-138
63	111-119	116-130	125-142
64	114-123	120-135	129-146
65	118-127	124-139	133-150
66	122-131	128-143	137-154
67	126-135	132-147	141-158
68	130-140	136-151	145-163
69	134-144	140-155	149-168
70	138-148	144-159	153-173

HANDOUT

A Special Message On Good Nutrition...

"I have been living with the after-effects of polio for 40 years, but haven't let that hold me back, mentally or physically. This year my sister, Florine Mark, and I celebrate the 25th anniversary of our Weight Watcher franchise, The WW Group, Inc. And it is to the Weight Watchers program that I attribute my good health. Twenty-five years ago, I could barely lift myself out of my wheelchair. I was 65 pounds overweight and had very little energy.

Now, through my association with Weight Watchers, I have learned the value of good nutrition combined with regular exercise. I find that I have more energy than ever. I also credit my positive state of mind to the group support the program offers. I strongly believe that eating properly and exercising has been the main reason I have not experienced post-polio pain or weakness."

--Sondra L. Berlin
Secretary-Treasurer, The WW Group, Inc.

SECTION B: Are You Eating to Your Heart's Content?

This section should be divided into weekly sessions at the discretion of the facilitator. Reading the entire section at once will help in gaining a general understanding of its content. With an overview of this section in mind, the facilitator will be able to create multiple sessions. Facilitators are encouraged to be creative in developing session activities.

***Goals:**

1. To decrease fat intake and contribute toward minimizing the cardiovascular disabilities of polio survivors.
2. To identify sources of fat in one's usual patterns of intake and visible/invisible sources of fat which contribute toward an excess of needed calories for many people with limited physical activities.
3. To differentiate the kinds of fats consumed daily.
4. To adopt the "new American lifestyle" of low-fat eating by utilizing portion control and attaining modification, thereby reducing total fat, saturated fat, and dietary cholesterol.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. Sources of hidden fat:

- whole milk
- cream
- cheese
- ice cream
- sour cream
- nuts
- olives
- avocados
- cold cuts
- biscuits
- doughnuts

2. Sources of visible fat:

- butter
- margarine

- shortening
- oil
- salad dressing
- fried food
- lard
- salt pork
- fatty meats

3. How Much Fat Should You Eat?
   Decrease total fat intake so it is less than 25% of one's total calories or follow guide below:

Total Daily Calories	Maximum Amount of Fat (in grams)
1200	35
1500	44
2000	57

4. What are the Kinds of Fat?
   - Monounsaturated (appears to be a good choice): i.e., olive oil, canola oil

   - Polyunsaturated: i.e., corn oil, sunflower oil, soybean oil, cotton seed oil.

   - Saturated (important to decrease/minimize intake of this kind of fat):i.e., butter, lard, animal fats, tropical oils, such as palm and coconut oils. This kind of fat is **most** detrimental to heart health, especially for polio survivors who have restricted physical activity.

Activities:

1. Present Key Points.
2. Distribute and have participants complete and discuss section handouts.
3. Discuss/share with group ways that persons with a history of polio have successfully found to reduce fat content of everyday meals. Examples include using butter-flavored sprinkles on a hot baked potato instead of using butter, or using fat-free salad dressings.

4. Distribute Participants' Section Evaluation Forms found in Chapter 4. Have group members complete and return them to the facilitator, who will pass them along to the program organizers.

***Materials/Equipment Needed:** Pencils, handouts, and publications noted below:

Individual copies for each participant of:

- "Eating to Lower Your High Blood Cholesterol," NIH Publication No. 87-2920. US Dept. of Health and Human Services, Public Health Service, National Institute of Health.

Also, have available for those in need:

- "So You Have High Blood Cholesterol," NIH Publication No. 87-2922 (same source as above).
- "About Cholesterol," a scriptographic booklet, 1990 edition. To order, phone 800-628-7733.

For low saturated fat, low cholesterol recipes, request:

- "Diet for a Healthy Heart"; each dietitian can receive up to 24 Fleischmann's recipe books.
  Write to:
  Fleischmann's Recipe Books
  P.O. Box 7493
  Clinton, IA 52736
- "Eat Healthy America" - Heart Healthy Recipes from Mazola Corn Oil. Quantities of up to 100 are available to health professionals free of charge.
  Write to:
  Mazola F.A.C.T.S.
  Box 307
  Coventry, CT 06238

- "Small Steps Can Help Make a Big Fat Difference" (25 copies without charge). Write to:

  The Proctor and Gamble Co.
  Professional Affairs Division
  P.O. Box 5544
  Cincinnati, OH 45201-5544

Friendly Reminder: Facilitators are requested to complete a Facilitator's Section Evaluation form (found in Chapter 4) upon completion of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. American Medical Association: Concensus conference: Lowering blood cholesterol to prevent heart disease. *Journal of the American Medical Association* 253: 2080-2086, 1985.

2. Cooper KH: *Controlling Cholesterol.* New York, NY, Bantam Books, 1988.

3. Griffin G and Castelli W P: *Good Fat, Bad Fat.* Tucson, AZ, Fisher Books, 1989.

4. Is it the olive oil? Cardiovascular benefits of the Mediterranean diet. *Nutrition and the M.D.*: p.4, September 1987.

5. Mattson FH: A changing role for dietary monounsaturated fatty acids. *Journal of the American Dietetic Association* 89: 387-391, 1989.

6. McBean LD: Nutritional and health effects of unsaturated fatty acids. *Dairy Council Digest* 59: 1-6, 1988.

7. McBean LD: Fat/cholesterol: an update. *Dairy Council Digest* 60:7-12, 1989.

8. Ulene A: *Count Out Cholesterol.* American Medical Association Campaign Against Cholesterol Feeling Fine, 1989.

HANDOUT

Food Sources of Fats

Food Group	Amount	Grams of Fat
Grains:		
bread	1 slice	0
starchy vegetable	1/2 cup	
biscuit	1 small	5
muffin	1 small	
french fries	10	
pancake	1	
french toast	1 slice	
taco shell, 6"	2	
Meats:		
lean beef		3
fish	1 oz.	
poultry w/o skin		
beef, pork, lamb		5
poultry w/ skin	1 oz.	
liver		
egg		
prime beef		8
ribs		
fried fish	1 oz.	
cheese		
coldcuts, luncheon meats		
peanut butter	1 tbsp.	
Vegetables		0
Fruits		0
Milk		
skim milk		0
evaporated skim milk		
low fat milk		5
plain, low fat yogurt		
whole milk	1 cup	8
whole milk yogurt	1 cup	
evaporated whole milk	1/2 cup	
Fats		5
butter		
margarine	1 tsp.	
oil		
mayonnaise		
bacon	1 slice	
cream cheese	1 tbsp.	
heavy cream	1 tbsp.	
salad dressing	1 tbsp.	
coconut	2 tbsp.	
sour cream	2 tbsp.	
nuts	1 tsp.	
ice cream	1/2 cup	10

HANDOUT

Cholesterol Is Found Only In Animal Foods

(Reprinted from: "Facts About Blood Cholesterol," U.S. Department of Health and Human Services, Public Health Service, National Institute of Health Publication No. 85-2696.)

	Cholesterol (mg)	
Fruits, grains, vegetables	0	Low
Oysters (cooked, about 3-1/2 oz.)	45	
Scallops (cooked, about 3-1/2 oz.)	53	
Clams (cooked, about 3-1/2 oz.)	65	
Fish, lean (cooked, about 3-1/2 oz.)	65	
Chicken and turkey, light meat (skinned and cooked, about-3 1/2 oz.)	80	
Lobster (cooked, about 3-1/2 oz.)	85	
Beef, lean (cooked, about 3-1/2 oz.)	90	
Chicken and turkey, dark meat (skinned and cooked, about 3-1/2 oz.)	95	
Crab (cooked, about 3-1/2 oz.)	100	
Shrimp (cooked, about 3-1/2 oz.)	150	
Egg yolk, one	270	
Beef liver (cooked about 3-1/2 oz.)	440	
Beef kidney (cooked, about 3-1/2 oz.)	700	High

HANDOUT

Your Weight and Heart Disease Self-Check Quiz

(Prepared by the National Heart, Lung, and Blood Institute)

The following statements are either true or false. The statements test your knowledge of overweight and heart disease. The correct answers can be found on the answer sheet.

1. Being overweight puts you at risk for heart disease.
2. If you are overweight, losing weight helps lower your high blood cholesterol and high blood pressure.
3. Quitting smoking leads to excessive weight gain which increases your risk for heart disease.
4. A low-sodium diet is more important than weight reduction to lower high blood pressure.
5. A reduced intake of sodium and salt does not always lower high blood pressure to normal.
6. The best way to lose weight is to eat fewer calories and exercise.
7. Skipping meals is a good way to cut down on calories.
8. Foods high in complex carbohydrates (starch and fiber) are good choices when you are trying to lose weight.
9. The single most important change you make to lose weight is to avoid sugar.
10. Polyunsaturated fat has the same number of calories as saturated fat.
11. Overweight children are very likely to become overweight adults.

Your Score: How many correct answers did you make?

10-11 correct = Congratulations! You know a lot about weight and heart disease. Share this information with your family and friends.
8-9 correct = Very good.
Fewer than 8 = Go over the answers and try to learn more about weight and heart disease.

Answers to Your Weight and Heart Disease Self-Test

1 True. Being overweight increases your risk for high blood cholesterol and high blood pressure, two of the major risk factors for coronary heart disease. Even if you do not have high blood cholesterol or high blood pressure, being overweight may increase your risk for heart disease. Where you carry your extra weight may affect your risk, too. Weight carried at your waist or above seems to be associated with an increased risk for heart disease in many people. In addition, being overweight increases your risk for diabetes, gall bladder disease, and some types of cancer.

2 True. IF you are overweight, even moderate reductions in weight, such as 5 to 10 percent, can produce substantial reductions in blood pressure. You may also be able to reduce your LDL-cholesterol ("bad" cholesterol) and triglycerides and increase your HDL-cholesterol ("good" cholesterol).

3 False. The average weight gain after quitting smoking is 5 pounds. The proportion of ex-smokers who gain large amounts of weight (greater than 20 pounds) is relatively small. Even if you gain weight when you stop smoking, change your eating and exercise habits to lose weight rather than starting to smoke again. Smokers who quit smoking decrease their risk for heart disease by about 50 percent compared to those people who do not quit.

4 False. Weight loss, if you are overweight, may reduce your blood pressure even if you don't reduce the amount of sodium you eat. Weight loss is recommended for all overweight people who have high blood pressure. Even if weight loss does not reduce your blood pressure to normal, it may help you cut back on your blood pressure medications. Also, losing weight if you are overweight may help you reduce your risk for or control other health problems.

5 True. Even though a high sodium and salt intake plays a key role in maintaining high blood pressure in some people, there is no easy way to determine who will benefit from eating less sodium and salt. Also, a high intake may limit how well certain high blood pressure medications work. Eating a diet with less sodium may help some people reduce their risk of developing high blood pressure. Most Americans eat more salt and other sources of sodium than they need. Therefore, it is prudent for most people to reduce their sodium intake.

Answers to Self-Test --(page two)

6 True. Eating fewer calories and exercising more is the best way to lose weight and keep it off. Weight control is a question of balance. You get calories from the food you eat. Your burn off calories by exercising. Cutting down on calories, especially calories from fat, is key to losing weight. Combining this with a regular exercise program, like walking, bicycling, jogging, or swimming, not only can help in losing weight but also in maintaining the weight loss. A steady weight loss of 1-2 pounds a week is safe for most adults, and the weight is more likely to stay off over the long run. Losing weight, if you are overweight, may also help reduce your blood pressure and raise your HDL-cholesterol, the "good" cholesterol.

7 False. To cut calories, some people regularly skip meals and have no snacks or caloric drinks in between. If you do this, your body thinks that it is starving even if your intake of calories is not reduced to a very low amount. Your body will try to save energy by slowing its metabolism, that is, decreasing the rate at which it burns calories. This makes losing weight even harder and may even add body fat. Try to avoid long periods without eating. Five or six small meals are often preferred to the usual three meals a day for some individuals trying to lose weight.

8 True. Contrary to popular belief, foods high in complex carbohydrates (such as pasta, rice, potatoes, breads, cereals, grains, dried beans and peas) are lower in calories than foods high in fat. In addition, they are good sources of vitamins, minerals, and fiber. What adds calories to these foods is the addition of butter, rich sauces, whole milk, cheese, or cream, which are high in fat.

9 False. Sugar has not been found to cause obesity; however, many foods high in sugar are also high in fat. Fat has more than twice the calories as the same amount of protein or carbohydrate (sugar and starch). Thus, foods that are high in fat are high in calories. High-sugar foods, like cakes, cookies, candies, and ice cream, are high in fat and calories and low in vitamins, minerals, and protein.

Answers to Self-Test--(page three)

10 True. All fats - polyunsaturated, monounsaturated, and saturated - have the same number of calories. All calories count whether they come from saturated or unsaturated fats. Because fats are the richest sources of calories, eating less total fat will help reduce the number of calories you eat every day. It will also help you reduce your intake of saturated fat. Particular attention to reducing saturated fat is important in lowering your blood cholesterol level.

11 False. Obesity in childhood does increase the likelihood of adult obesity, but most overweight children will not become obese. Several facts influence whether or not an overweight child becomes an overweight adult: (1) the age the child becomes overweight; (2) how overweight the child is; (3) the family history of overweight; and (4) dietary and activity habits. Getting to the right weight is desirable, but children's needs for calories and other nutrients are different from the needs of adults. Dietary plans for weight control must allow for this. Eating habits, like so many other habits, are often formed during childhood, so it is important to develop good ones.

SECTION C: The Secret to Weight Control

This section should be divided into weekly sessions at the discretion of the facilitator. Reading the entire section at once will help in gaining a general understanding of its content. With an overview of this section in mind, the facilitator will be able to create multiple sessions. Facilitators are encouraged to be creative in developing session activities.

***Goal:** To encourage participants to achieve optimal weight and maintain it in order to enhance total well-being and ambulation, through describing at least six health risks associated with obesity and explaining the dangers of the "yo-yo" approach to weight control.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. Why Does It Matter?
   - One's functional independence is decreased with extra pounds, especially for polio survivors.
   - Excess weight places a burden on the respiratory system and heart.
   - Too many pounds contribute to high blood pressure in many people.
   - Some types of cancers and tumors are more prevalent in obese people.

2. How Can One Determine If He or She Is Obese or Not?: Have a dietitian determine personal results of a Body Mass Index and a Waist/Hip Ratio and share the results.
   - The Body Mass Index (BMI) is an index of a person's weight in relation to height, determined by dividing the weight (in kilograms) by the square of the height (in meters): BMI= weight divided by height-squared. Note: a BMI greater than 27.8 for men or 27.3 for women indicates overweight.
   - Waist/Hip Ratio (WHR) is calculated by dividing the waist circumference by the hip circumference. Waist is defined as the smallest waist circumference below the rib cage and above the umbilicus while standing. Hip is defined as the largest circumference of the buttocks-hip area while

the person is standing. Note: at present, the risks for diabetes, hypertension, and gall bladder disease increases steeply when the WHR of men rises above 0.9 and of women above 0.8.

3. Why Some "Diets" Can Be Dangerous - and Even Fattening
   - Repeated weight loss and gain causes an increased tendency for gallstones to form.
   - "Yo-yo" dieting may have adverse effects on the cardiovascular system, and may speed the development of atherosclerosis and the formation of blood clots.
   - In most individuals, weight, when it is regained, comes back as 65-70% fat. The higher the fat-to-muscle ratio, the *fewer* calories it takes to maintain weight.
   - **More** important than getting the weight off is *keeping it off.*

Activities:

1. Present Key Points.
2. Distribute and discuss "Behavioral Techniques for Weight Control." handout.
3. Show a pound of scrap fat (previously obtained from a butcher). This can be an effective, low-cost visual aid.
4. Stress that one pound is equal to 3,500 calories. Ask how many calories less a polio survivor would need to eat per day to lose one pound per week.
5. Distribute "Important Thoughts on Staying Well..." handout.
6. Distribute Participants' Section Evaluation Forms, found in Chapter 4. Have group members complete and return them to the facilitator, who will pass them along to the program organizers.

***Materials/Equipment Needed:**

"Advice for Losing Weight," up to 25 copies available free from:

Campbell Soup Co.
Consumer Nutrition Center
P.O. Box 964
Bensalem, PA 19020

Note: Facilitators are requested to complete a Facilitator's Section Evaluation form (found in Chapter 4) upon completion of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. Bray GA and Gray DS: Obesity: part one pathogenesis. *Western Journal of Medicine* 149: 429-444, 1988.

2. Colletti G, Supnick JA, and Payne TJ, as cited in Brownell KD, et al: Understanding and preventing relapse. *American Psychologist* 41: 765-782, 1986.

3. Geissler CA, et al: The daily metabolic rate of the post-obese and the lean. *American Journal of Clinical Nutrition* 45: 914-920, 1987.

4. Kolata G: Obesity declared a disease. *Science* 227: 1019-1020, 1985.

5. Manson JE, et al: A prospective study of obesity and risk of coronary heart disease in women. *New England Journal of Medicine* 322: 882-889, 1990.

6. Roch CL and Coulster A: Effects of weight cycling. *Nutrition and the M.D.* 15: 7, 1989.

7. Roch CL and Coulster A: Preventing relapse in dieters. *Nutrition and the MD* 15: 7, 1989.

8. Rowland MI: A nomogram for computing body mass index. *Dietetic Currents* 16:8, 1989

9. Turner LW: Weight maintenance and relapse prevention. *Nutrition Clinics* 5: Jan./Feb. 1990.

HANDOUT

Behavioral Techniques for Weight Control

Eliminating Cues (External signals that "tell us to eat")

1. Sit down to eat all meals.
2. Limit all eating at home to one place (i.e., the kitchen table).
3. When you eat, eat only. Don't watch T.V., read, etc.
4. Try to enter food areas (grocery store, kitchen) less frequently.
5. Don't have food sitting out on counter-tops.
6. Don't have food anywhere in the house other than appropriate storage areas.
7. Have low-calorie foods in the house to replace high-calorie, empty-calorie, or convenience foods. If possible, don't buy any foods that tempt you.
8. Don't keep serving containers on the table when you eat. Serve directly onto your plate.
9. Don't linger at the table when you are finished with a meal.
10. If you cook for yourself, prepare only what you will eat at that specific time.
11. Don't skip meals. Eat breakfast, lunch, and dinner. Don't do any unplanned munching between meals.
12. Pre-plan all meals and snacks (all eating events).
13. If you have a friend who you can't seem to be with without eating, firmly explain that you are seriously working on reducing your weight so you would appreciate his/her support. (A real friend will happily give it!)
14. When clearing the table, clean plates directly into the garbage.

Speed of Eating:

1. Sip a glass of water slowly before a meal.
2. Swallow food before adding more to your utensil.
3. Lay your food or utensil down between each bite.
4. Plan a short delay during eating.
5. Chew thoroughly and slowly. Really taste the food!
6. Consider mealtime as a time for relaxation.
7. Eat what you planned. "Cheating" is often done very fast.

Behavioral Techniques--(page two)

Controlling Amounts of Food

1. Plan daily or weekly menus ahead of time.
2. Plan shopping lists.
3. Go grocery shopping on a full stomach. Don't buy anything not on your list.
4. Measure all food exchanges.
5. Leave some food on your plate.
6. Have someone else clear up foods.
7. Ask yourself and answer, before eating, the questions..."How much will I eat? Exactly what will I eat?"

At Parties and in Restaurants

1. Use a teaspoon to dish foods at a buffet.
2. Sit a distance away from snack foods.
3. Substitute coffee, tea, club soda, or low-cal beverages for alcoholic drinks.
4. Cut snacks into very small pieces.
5. Ask family and friends not to use foods as gifts or rewards.
6. Decide ahead exactly what you will order.
7. Order all food at one time. Don't leave room for a change of mind.
8. Make special requests for cooking methods and omission of certain items.
9. Record your food intake BEFORE you eat out, and stick by it!
10. Tell another person exactly what your food plans are.
11. Don't omit foods you'd normally eat, before going out, so you can have a "little more." Don't even plan on eating anything out of the regular food exchange plan you've been following.
12. Ask the hostess ahead of time what the menu will be.

Increase Exercise and Caloric Expenditures

1. Sit less often (if possible).
2. Plan activities.
3. Walk more frequently (if possible).
4. Exercise with someone else.
5. Schedule a specific time for exercise.
6. Join a group for an activity.
7. Park the car further away and walk (if this is a prudent choice).

Behavioral Techniques--(page three)

8. Take stairs instead of elevators or escalators (only if this is a healthful option for you).
9. Include activities with family events.
10. Go for a walk, bikeride, swim, etc., for FUN! Think to yourself: "I think I'll treat myself and go for a swim...!!!"
11. Join a health club, gym, or your neighborhood YMCA.

Instead of Eating

1. Use activities that don't relate to eating; exercise, read, knit, sew, etc. DO SOMETHING YOU ENJOY, AND THAT YOU WILL FEEL GOOD ABOUT! You owe it to yourself.
2. Go out and buy a gift (not food) for someone (or for yourself). Take it home and wrap it. Then deliver it!

Other Ideas

1. Keep a food inventory record.
2. Concentrate on behavior change, be aware, learn.
3. Rearrange foods in cupboards.
4. Set a schedule for meals and snacks.
5. Use a deliberate behavior task each day.
6. Give yourself a realistic goal. Carry around a mental picture of a thinner you.
7. Don't let the pounds creep up. Weigh yourself only once a week, at the same time, on the same scale.
8. Develop a new hobby or interest. Work with your hands.
9. Make eating a pure experience.
10. Enlist your family's and friends' support.
11. Cope with your emotions.
12. Use smaller plates and forks.
13. Serve what would actually be one-half of a portion so you can go back for seconds and still be eating a whole portion.

THINK ABOUT THIS... True pleasure is that which we pay for beforehand; false pleasure is that which we pay for afterward.

HANDOUT

Important Thoughts On Staying Well...

"I strongly support the information that is in this wellness program. It is very similar to the Weight Watchers' philosophy. For this reason, I encourage you to embrace the *Stay Well!* program ideas and activities. Just as Weight Watchers has made my life easier in terms of everyday activity and helped me feel good about myself, the support offered in this program can lift you back up and give you the confidence you need to succeed. I would encourage you to consider joining Weight Watchers as part of your long-term follow-through plan for staying well, letting them help you continue to feel the difference good nutrition and exercise can make in your life. And of course, many Weight Watchers facilities are accessible."

--Sondra L. Berlin

SECTION D: Fiber - Nature's Toothbrush

This section could be divided into weekly sessions at the discretion of the facilitator. Reading the entire section at once will help in gaining a general understanding of its content. With an overview of this section in mind, the facilitator will be able to create multiple sessions. Facilitators are encouraged to be creative in developing session activities.

***Goal:**

To achieve a gradual/moderate increase of dietary fiber until 25-30 grams per day are consumed; through identifying at least three key benefits of an adequate fiber intake and learning two major kinds of fiber and examples of food sources for each.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. What Is Fiber and Where Does It Come From?
   Fiber is indigestible plant material. The toughest piece of meat contains no fiber and is dissolved by stomach acids. Plants provide the only natural source of fiber, which is contained primarily within the plant cell wall. Whole grains, legumes, fruits and vegetables are all good sources of fiber.

2. Do We Need More Fiber?
   Consumption of fiber-rich food has decreased since the early 1900s, while the consumption of animal products has increased. Today the average fiber intake in the U.S. is 10-20 grams per day. Many people need to double their intake. Diseases that may be related to low fiber consumption or for which fiber consumption is beneficial include:
   - constipation
   - diabetes
   - diverticular disease
   - cancer of the colon
   - high blood cholesterol
   - appendicitis
   - hiatal hernia

- hemorrhoids
- irritable bowel syndrome

Note: According to the "Jo Strauss Post-Polio Program" pilot study and other surveys, constipation and high blood cholesterol appear to be frequently found in polio survivors.

3. <u>What Kinds of Fiber Are There?</u>

Water Soluble Fiber

- Major Food Sources:
  - fruits
  - vegetables
  - oats
  - barley
  - legumes
  - seeds
  - rye
- Possible Health Effects:
  - lowered blood cholesterol
  - slowed glucose absorption

Water-Insoluble Fiber

- Major Food Sources:
  - fruits
  - vegetables
  - whole grains (e.g., wheat)
  - seeds
  - legumes
  - brown rice
- Possible Health Effects:
  - softened stools
  - regulation of bowel movements

<u>Activities:</u>

1. Present Key Points.
2. Discuss material in booklets (see *Materials/Equipment Needed).

3. Contrast and clarify the two kinds of fiber by setting up the following display:
   - Fill a custard cup 2/3 full of water. Add small amount of bran. (It floats on top and doesn't dissolve in water.) This illustrates an example of water-insoluable fiber.
   - Fill a custard cup 2/3 full of hot water. Add a small amount of quick oatmeal. (It dissolves and becomes "gummy.") This illustrates an example of water-soluable fiber.
4. Read labels of grocery store products and fiber content.
5. Distribute Participants' Section Evaluation Forms, found in Chapter 4. Have group members complete and return them to the facilitator, who will pass them along to the program organizers.

***Materials/Equipment Needed:** Custard cups, bran, quick oatmeal, and the following publications:

- Fiber-Counter and booklets "Fiber for a Healthy Life"
  from:
  Donna J. Kiverant, M.S., R.D.
  Kellogg Kitchens
  Kellogg Company
  One Kellogg Square P.O. Box 3599
  Battle Creek, MI 49106-3599

- "Dietary Fiber and Your Health"
  (also from above)

- Surgeon General's Report on Health and Nutrition
  USDAHHS (PHS) Pub# 88-50211

- Nutritional pamphlets on beans (100 free), available from:
  American Dry Bean Board
  4502 Avenue I
  Scottsbluff, NE 69361

- "Live Well, The Low-Fat/High-Fiber Way" booklet available from:
  The American Health Foundation
  320 East 43rd St.
  New York, NY 10017
  Ph. (914) 592-2600

Friendly Reminder: Facilitators are requested to complete a Facilitator's Section Evaluation form (found in Chapter 4) upon completion of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. Anderson JW: Dietary fiber in n ıtrition management of diabetes. *Dietary Fiber* 343-360, 1986.

2. Chen WJL and Anderson JW: H pocholesterolemic effects of soluble fiber. *Dietary Fiber* 275-286, 1986.

3. Food and Nutrition Board: *Reco ımended Dietary Allowances* (10th ed.). Washington, D C, National Acad emy of Sciences, 1989; p. 42.

4. Position of the American Dieteti Association: Health implications of dietary fiber. *Journal of the Ame ican Dietetic Association* 88: 216, 1988.

5. Swain JF, et al: Comparison of t e effects of oat bran and low-fiber wheat on serum lipo-protein levels and blood pressure. *The New England Journal of Medicine* 322: 147-152, 1990.

DIETARY FIBER

This is one in a series of fact sheets containing information to help you select foods that provide adequate daily amounts of vitamins, minerals, and dietary fiber as you follow the Dietary Guidelines for Americans. The Guidelines are -

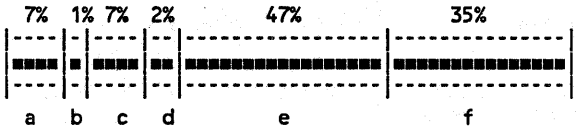
- Eat a Variety of Foods
- Maintain Desirable Weight
- Avoid Too Much Fat, Saturated Fat, and Cholesterol
- Eat Foods with Adequate Starch and Fiber
- Avoid Too Much Sugar
- Avoid Too Much Sodium
- If You Drink Alcoholic Beverages, Do So in Moderation

What Is Meant By a Food Source of Dietary Fiber?

In this fact sheet, a significant source of dietary fiber is defined as a food that contains a substantial amount of dietary fiber in relation to its calorie content and contributes at least 2 grams of dietary fiber in a selected service size.

The Food and Nutrition Board of the National Academy of Sciences has not set a Recommended Dietary Allowance (RDA) for dietary fiber. However, the importance of dietary fiber has been stressed by several health organizations and the Federal Government. The Dietary Guidelines for Americans published jointly by the U.S. Departments of Agriculture and Health and Human Services recommends eating foods that have adequate amounts of fiber, and one organization, the National Cancer Institute, recommends 20 to 30 grams of fiber per day with an upper limit of 35 grams. For this list of fiber sources, the Human Nutrition Information Service, along with the Food and Drug Administration, decided to use a level of at least 2 grams of dietary fiber per serving.

Where Do Women Get Dietary Fiber?



a = Meat, poultry, fish
b = Milk, milk products
c = Eggs, legumes, nuts, seeds
d = Fats, sweets, beverages
e = Fruits, vegetables
f = Grain products

As you can see, in 1985 and 1986, almost one-half of dietary fiber in the diets of women was supplied by fruits and vegetables and another 35 percent by grain products. Dietary fiber is not found in animal products, such as milk and meats. The fiber shown in the chart as coming from these groups was contributed by grain products or vegetables added to them. Even foods that contain small amounts of dietary fiber can make an important contribution to an individual's diet if these foods are eaten often or in large amounts.

What is Dietary Fiber?

Dietary fiber is a complex mixture of plant materials that are resistant to breakdown (digestion) by the human digestive system. There are two major kinds of dietary fiber - insoluble (cellulose, hemicellulose, lignin) and soluble (gums, mucilages, pectins). Insoluble fiber is most frequently found in whole-grain products such as whole-wheat bread. Foods containing soluble fibers are fruits, vegetables, dry beans and peas, and some cereals such as oats.

Why do We Need Dietary Fiber?

Insoluble fiber promotes normal elimination by providing bulk for stool formation and thus hastening the passage of the stool through the

colon. Insoluble fiber also helps to satisfy appetite by creating a full feeling. Some studies indicate that soluble fibers may play a role in reducing the level of cholesterol in the blood.

How Much Dietary Fiber Do Americans Eat?

According to recent USDA surveys, the average intake of dietary fiber by women 19 to 50 years of age is about 12 grams. Intake by men of the same age is about 17 grams.

How To Prepare Foods To Retain Dietary Fiber

Dietary fiber can be reduced in foods during preparation and cooking. To retain dietary fiber:

- Serve fruits and vegetables with edible skins and seeds
- Use whole-grain flours.

What Is a Serving?

The serving sizes used on the list of sources of dietary fiber are only estimates of the amounts of food you might eat. The amount of nutrient in a serving depends on the weight of the serving. For example, 1/2 cup of a cooked vegetable contains more fiber that 1/2 cup of the same vegetable served raw, because a serving of cooked vegetables weighs more. Therefore, the cooked vegetable may appear on the list while the raw form does not. The raw vegetable provides dietary fiber - but just not enough in a 1/2-cup serving to be significant source of dietary fiber.

How Can We Get Enough Dietary Fiber?

Eating a variety of foods that contain dietary fiber is the best way to get an adequate amount. Healthy individuals who eat a balanced diet rarely need supplements. The list of foods will help you select those that are significant sources of dietary fiber as you follow the Dietary Guidelines. The list of sources was derived from the same nutritive value of foods tables used to analyze information for recent food consumption surveys of the U.S. Department of Agriculture, Human Nutrition Information Service.

What Are Sources of Dietary Fiber?

Food	Selected Serving Size [1]
BREADS, CEREALS, AND OTHER GRAIN PRODUCTS	
Bagel, whole wheat	1 medium
Biscuit, whole-wheat	1 medium
Breads, multigrain, pumpernickel, rye, white and whole-wheat blend, whole-wheat or whole-wheat with raisins	2 regular slices
bulgur, cooked or canned	2/3 cup
English muffin, whole-wheat	1
Muffins, bran or whole-wheat	1 medium
Oatmeal:	
Instant, fortified, prepared	2/3 cup
Regular or quick, cooked	2/3 cup
Pita bread, whole-wheat	1 small
Ready-to-eat bran cereals	1 ounce
Rolls:	
Multigrain	1 large
Whole-Wheat	1 medium
FRUITS	
Apples:	
Dried, cooked, unsweetened	1/2 cup
Raw	1 medium
Applesauce, unsweetened	1/2 cup
Apricots, dried:	
Cooked, unsweetened	1/2 cup
Uncooked	1/4 cup
Banana, raw	1 medium
Blackberries, raw or frozen, unsweetened	1/2 cup
Blueberries, frozen, unsweetened	1/2 cup
Dates, chopped	1/4 cup
Fruit mixture, dried	1/4 cup
Guava, raw	1
Kiwifruit, raw	1 medium
Mango, raw	1/2 medium
Nectarine, raw	1 medium
Orange raw	1 medium
Peaches, dried:	
Cooked, unsweetened	1/2 cup
Uncooked	1/4 cup
Pears:	
Canned, juice-pack	1/2 cup
Dried, cooked, unsweetened	1/2 cup
Dried, uncooked	1/4 cup
Raw	1 medium
Prunes, dried:	
Cooked, unsweetened	1/2 cup
Uncooked	1/2 cup
Raisins	1/4 cup
Raspberries, raw or frozen, unsweetened	1/2 cup
Strawberries, frozen, unsweetened	1/2 cup
Tangelo, raw	1 medium
VEGETABLES	
Artichoke, globe (french), cooked	1 medium
Beans, green or lima, cooked	1/2 cup
Beets, cooked	1/2 cup
Broccoli, cooked	1/2 cup
Brussels sprouts, cooked	1/2 cup
Cabbage, cooked	1/2 cup
Carrots, cooked	1/2 cup
Okra, cooked	1/2 cup
Parsnips, cooked	1/2 cup
Peas, green, cooked	1/2 cup
Potato, boiled, with skin	1 medium
Snow peas, raw or cooked	1/2 cup
Spinach, cooked	1/2 cup
Squash, winter, cooked, mashed	1/2 cup
Sweetpotato, baked or boiled	1 medium
Tomatoes, stewed	1/2 cup
MEAT, POULTRY, FISH, AND ALTERNATES	
Dry Beans, Peas, and Lentils	
Beans; black-eyed peas (cowpeas), calico, chickpeas (garbanzo beans), lima, Mexican, pinto red kidney, or white; cooked	1/2 cup
Nuts and Seeds	
Almonds or chestnuts, roasted	2 tablespoons
Peanut butter	2 tablespoons
Pine nuts (pignolias)	2 tablespoons
Pumpkin or squash seeds, hulled, roasted	2 tablespoons
Sesame Seeds	2 tablespoons
Sunflower Seeds, hulled, unroasted	2 tablespoons

[1] A selected serving size contains at least 2 grams of dietary fiber.

SECTION E: Sodium and You

This section could be divided into weekly sessions at the discretion of the facilitator. Reading the entire section at once will help in gaining a general understanding of its content. With an overview of this section in mind, the facilitator will be able to create multiple sessions. Facilitators are encouraged to be creative in developing session activities.

***Goal:** To reduce overall sodium intake by comparing sodium intake for the typical American with the actual amount of sodium needed for bodily functions; and by identifying and minimizing intake of food sources contributing much sodium to diet.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. Why Is It Wise To Control Salt Intake?

   The role of diet in the prevention of high blood pressure is unclear at this time; however, the value of a low-sodium diet for those with established hypertension is unquestioned. There are many "sodium-sensitive people." Excess sodium raises the blood pressure of many, thereby increasing one's risk for heart disease, stroke and kidney problems. Experts urge adults to limit intake of sodium to 2.4 to 3 grams per day. A teaspoon of salt contains about 2 grams of sodium. Some polio survivors have a tendency to develop edema and retain body water. Low sodium intake is helpful for these individuals and for anyone challenged with congestive heart problems also.

2. What Foods Are High In Salt or Sodium?

   Generally, processed foods are higher in sodium than unprocessed foods. Intake of the following foods should be minimized:

   - foods prepared in brine, such as pickles, olives, sauerkraut
   - salty or smoked meat, such as luncheon meats, ham, and sausage
   - snack items such as potato chips, salted popcorn, crackers
   - bouillon cubes, soy, worcestershire and barbecue sauces
   - canned and instant soups
   - cheeses, especially processed types
   - prepared horseradish, catsup and mustard

Activities:

1. Present Key Points.
2. Discuss personal applications of this section's topic.
3. Obtain two small vials from a pharmacist. Fill one with 3/5 teaspoon salt and the other with 2 teaspoons salt. Contrast the 3/5 teaspoon (which is the estimated amount needed by the body each day) with the 2 teaspoons amount, which is the usual daily intake of Americans.
4. Distribute Participants' Section Evaluation Forms, found in Chapter 4.

   Have group members complete and return them to the facilitator, who will pass them along to the program organizers.

***Materials/Equipment Needed:** Two small vials, a small box of salt, measuring spoons, and the following free leaflets:

Sodium: 88-7220D
Calories: 88-7220B
Nutrition labeling: 88-7220F

These are available from:
Kraft Nutrition Information Center
Kraft Inc. Technology Center
801 Waukegan Rd.
Glenview, IL 60025

Note: Facilitators are requested to complete a Facilitator's Section Evaluation form (found in Chapter 4) upon completion of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. Hoffman CJ: Does the sodium level in drinking water affect blood pressure levels? *Journal of the American Dietetic Association* 88: 1432, 1988.

2. Houston MC: Sodium and hypertension. *Archives of Internal Medicine* 146:139, 1986.

3. Khaw K and Barrett-Conner E: The association between blood pressure, age, and dietary sodium and potassium: A population study. *Circulation* 77: 53, 1988.

Osteoporosis--page two

What may happen?

If there is no treatment, bone loss continues and fractures may result. In addition, height may markedly decrease with compression of the spine, known as "dowager's hump."

Can one treat this?

Treatment varies with physicians, but generally calcium and vitamin D intake are increased. An exercise program is often recommended. When appropriate, hormone replacement therapy is prescribed.

What can be done for prevention?

Although there are some factors one cannot control, one can control lifestyle. Both diet and exercise play an important role in the prevention of osteoporosis.

Exercise tips: Regular exercise, such as a brisk walk, helps to keep the bones strong. It is wise to check with your doctor first. Weight-bearing exercise is best. Learning and participating in the *Stay Well!* program's exercise unit will be helpful.

Dietary tips: Many vitamins and minerals are needed for a strong bone structure. Since calcium is one of the key elements of bone, it is very important to have adequate intake. Select low-fat choices. The amount of calcium needed depends on your age. The current Recommended Dietary Allowance for young adults is 1200 milligrams of calcium a day. A glass of skim milk contains 300 mg of calcium, so three glasses per day would contribute much to an adequate intake. Other foods which contain the same amount of calcium as a cup of milk are:

- 1 cup non-fat yogurt
- 1/3 cup non-fat milk powder
- 3-1/2 ounces of sardines with bones
- 2/3 cup salmon with bones
- 1-1/2 ounces of low-fat cheese (e.g., mozzarella)
- 3 cups dried beans
- 1-1/2 cups tofu (soybean curd)

Osteoporosis--page three

Remember:

- Your body cannot manufacture its own calcium; you must supply what it needs.
- Studies have shown that Americans do not consume enough calcium.
- Bone loss occurs as early as age 35 and often accelerates after menopause.
- Include appropriate exercise on the weight-bearing joints as part of your daily routine.

CALCIUM

This is one in a series of fact sheets containing information to help you select foods that provide adequate daily amounts of vitamins, minerals, and dietary fiber as you follow the Dietary Guidelines for Americans. The Guidelines are -

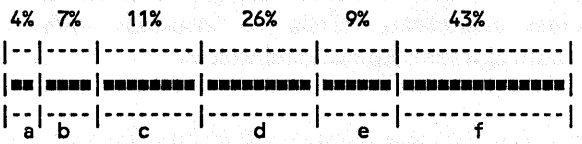
- Eat a Variety of Foods
- Maintain Desirable Weight
- Avoid Too Much Fat, Saturated Fat, and Cholesterol
- Eat Foods with Adequate Starch and Fiber
- Avoid Too Much Sugar
- Avoid Too Much Sodium
- If You Drink Alcoholic Beverages, Do So in Moderation

What Is Meant By a Food Source of Dietary Fiber?

A good food source of calcium contains a substantial amount of calcium in relation to its calorie content and contributes at least 10 percent of the U.S. Recommended Dietary Allowance (U.S. RDA) for calcium in a selected serving size. The U.S. RDA for calcium is 1,000 milligrams per day.[1]

The U.S. RDA for calcium is the amount of the mineral used as a standard in nutrition labeling of foods. This allowance is based on the 1968 Recommended Dietary Allowances (RDA) for 24 sex-age categories set by the Food and Nutrition Board of the National Academy of Sciences. The 1989 RDA has been set at 1,200 milligrams per day for women and men 19 to 24 years of age and 800 milligrams for women and men 25 to 50 years of age.

Where Do Women Get Calcium?



a = Eggs, legumes, nuts, seeds
b = Fats, Sweets, beverages
c = Fruits, vegetables
d = Grain products (includes breads and other baked products, pasta, rice, and other cereals)
e = Meat, poultry, fish
f = Milk, milk products

As you can see, in 1985 and 1986, almost one-half of calcium in the diets of women was provided by milk and milk products and 26 percent of the calcium was supplied by grain products. Foods that contain small amounts of calcium but are not considered good sources can contribute significant amounts of calcium to an individual's diet if these foods are eaten often or in large amounts.

Why Do We Need Calcium?

Calcium, a mineral, is used for building bones and teeth and in maintaining bone strength. Calcium is also used in muscle contraction, blood clotting, and maintenance of cell membranes.

Do We Get Enough Calcium?

According to recent USDA surveys, average calcium intakes for women and younger men are below their RDA. The average calcium intake by women 19 to 34 years of age was about 665 milligrams per day, and the intake by women 35 to 50 years of age was about 565 milligrams. Average calcium intake by men 19 to 34 years of age was 975 milligrams.

[1] The U.S. RDA given is for adults (except pregnant or lactating women) and children over 4 years of age.

Calcium absorption is dependent upon the calcium needs of the body, the foods eaten, and the amount of calcium in the foods eaten. Vitamin D, whether from diet or exposure to the ultraviolet light of the sun, increases calcium absorption. Calcium absorption tends to decrease with increased age for both men and women.

How Can We Get Enough Calcium?

Eating a variety of foods that contain calcium is the best way to get an adequate amount. Healthy individuals who eat a balanced diet rarely need supplements. The list of foods will help you select those that are good sources of calcium as you follow the Dietary Guidelines. The list of good sources was derived from the same nutritive value of foods tables used to analyze information for recent food consumption surveys of the U.S. Department of Agriculture, Human Nutrition Information Service.

How to Prepare Foods To Retain Calcium

Calcium is lost in cooking some foods even under the best conditions. To retain calcium:

- Cook foods in a minimal amount of water.
- Cook for the shortest possible time.

What About Fortified Foods?

Some foods, such as orange juice, bread, and ready-to-eat cereals, are not normally good sources of calcium but may have had calcium added. Most instant-prepared cereals are fortified with calcium. Since these products vary in the amount of calcium provided, check the label on the carton or package for the percentage of the U.S. RDA for a specific product.

What Is A Serving?

The serving sizes used on the list of good sources are only estimates of the amounts of food you might eat. The amount of nutrient in a serving depends on the weight of the serving. For example, 1/2 cup of cooked vegetable contains more calcium than 1/2 cup of the same vegetable served raw, because a serving of cooked vegetable weighs more. Therefore, the cooked vegetable may appear on the list while the raw form does not. The raw vegetable provides the nutrient - but just not enough in a 1/2-cup serving to be considered a good source.

What Are Good Sources of Calcium?

Food	Selected Serving Size	Percentage of U.S. RDA[1]
BREADS, CEREALS, AND OTHER GRAIN PRODUCTS		
English muffin, plain		
with raisins	1	+
Muffin, bran	1 medium	+
Oatmeal, instant, fortified, prepared[2]	2/3 cup	+
Pancakes, plain, fruit, buckwheat, or whole-wheat	2 4-inch pancakes	+
Waffles:		
Bran, cornmeal, or fruit	2 4-inch squares	+
Plain	2 4-inch squares	+ +
VEGETABLES		
Broccoli, cooked	1/2 cup	+
Spinach, cooked	1/2 cup	+
Turnip greens, cooked	1/2 cup	+
MEAT, POULTRY, FISH, AND ALTERNATES		
Fish and Seafood		
Mackerel, canned drained	3 ounces	+
Ocean perch, baked or broiled	3 ounces	+
Salmon, canned, drained	3 ounces	+
Dry Beans, Peas, and Lentils		
Tofu (bean curd)[3]	1/2 cup cubed	+ +
MILK, CHEESE AND YOGURT		
Cheese, natural:		
Blue, brick, camembert, feta, Gouda, Monterey, mozzarella, Muenster, provolone, or Roquefort	1 ounce	+
Cheese, natural (continued):		
Gruyere or Swiss	1 ounce	+ +
Parmesan (hard) or Romano	1 ounce	+ +
Cheese, process, cheddar or Swiss	3/4 ounce	+
Cheese, ricotta	1/2 cup	+ +
Ice cream or ice milk, soft-serve	1/2 cup	+
Milk:		
Buttermilk	1 cup	+ +
Chocolate	1 cup	+ +
Dry, nonfat, reconstituted	1 cup	+ +
Evaporated, whole or skim diluted	1 cup	+ +
Lowfat or skim	1 cup	+ +
Whole	1 cup	+ +
Yogurt:		
Flavored or fruit, made with whole or lowfat milk	8 ounces	+ +
Frozen	8 ounces	+ +
Plain:		
Made with whole milk	8 ounces	+ +
Made with lowfat or nonfat milk	8 ounces	+ + +

[1] A selected serving size contains -

- \+ 10-24 percent of the U.S. RDA for adults and children over 4 years of age
- + + 25-29 percent of the U.S. RDA for adults and children 4 years of age
- + + + 40 percent or more of the U.S. RDA for adults and children over 4 years of age

[2] See section on fortified foods.

[3] If made with calcium sulfate.

HANDOUT

VITAMIN D

Vitamin D Function	Effect of Diet lacking the Vitamin	Effect of Diet Excess	Food Valued as A Source	Stability
VITAMIN D Fat-soluble Facilitates proper absorption of calcium and phosphorus. Important factor in normal bone formation	Can be synthesized in the body by sunlight Lack of vitamin D and sunlight will produce rickets.	Loss of appetite Vomiting Diarrhea Growth failure Drowsiness Fatigue	Codliver oil Egg yolk Irradiated foods Irradiated ergosterol	Stable to heat

Foods	Vitamin D per Cup (mg)
Margarine corn (oil)	18.00
Cereal-Pruduct 19 (fortified)	5.90
Cereal-Grape Nuts (fortified)	5.03
Egg white	3.5
Milk, 2% fat (low-fat)	2.55
Milk, 4% fat (whole)	2.55
Mayonnaise (low calorie)	2.25
Butter (regular)	1.68
Cereal-Raisin Bran	1.68
Ham (extra lean)	1.68
Cereal-Rice Krispies	1.25
Sour cream	.48
Oysters	.30

The adult RDA is 5-10 mg.

UNIT II: EXERCISE

(A curriculum model by Glenda Davidson and Penny Sanders,
with contributions by Sandra Payne, James Agre, and Lynette Jenkins.)

This unit is divided into an introduction and six monthly sections. The sections may be further developed into weekly sessions at the facilitator's discretion. The section outlines provided may be used as the initial session or as a springboard for expanding key points into multiple sessions with growing numbers of physical exercises that are learned in the program and done at home. Two or three additional sessions per section will usually need to be developed based upon the individualized needs of the participants. Facilitators are strongly encouraged to individualize the unit material as much as possible. They are also encouraged to use the structured overview and follow the teaching tips as they plan and present weekly sessions. Filling out and reviewing evaluation forms at the end of each section will help provide immediate feedback on how the program is progressing. Reminders for the participants and facilitators to do this are printed at the end of every section.

It is recommended that the facilitators have an exercise/fitness/aquatics background and be registered physical therapists or have access to them as consultants when needed. Facilitators should also know principles of stretching and strengthening and be able to administer CPR. It is also critical that facilitators learn about the late effects of polio before they instruct participants.

Reminder: Users of the "Stay Well!" manual are advised to consult with their physician or other treating health professional before attempting any of the health assistance programs described in the manual. Described health assistance programs are designed to complement ongoing medical advice and treatment from your physician or other treating health professional. Further, described health assistance programs cannot replace medical advice and treatment.

***Overall Unit Goals:**

Participants will be given an opportunity to:

1. Learn the principles of fitness and exercise, relaxation, pacing and utilization of community resources.

2. Individualize these principles in order to stay optimally healthy with the muscle impairments caused by polio and its late effects.

***Admission Criteria:**

1. Medical clearance from a physician, including a cardiovascular screen: electrocardiogram and blood pressure results. (The form can be found in Chapter 2.)

2. All adaptive equipment needs have been addressed.

*** Structured Overview:**

By practicing the principles of fitness, exercise, relaxation, pacing, and utilization of community resources for exercise equipment, it is possible to stay optimally healthy with a post-polio disability.

This can begin to be accomplished by:

1. Defining and practicing the principles of a stretching program.
2. Defining and practicing the principles of a strengthening program.
3. Defining and practicing the principles of a cardiovascular training program.
4. Outlining the properties of an aquatic environment, and defining and practicing the principles of aquatic exercise.
5. Learning and applying the principles of proper posture, body mechanics, and joint protection.
6. Becoming familiar with guidelines for utilization of community resources and exercise equipment.

*** Teaching Tips:**

After your introductory statements in the first session, you might consider the following suggestions each time your group meets. These tips can help ensure successful presentations:

1. REVIEW PERSONALIZED CONCEPTS: Review personal applications of the previous week's concepts. Encourage group discussion--this allows for application of content learned. Focus on the weekly *successes* that participants create.

2. STIMULATE INTEREST: Get and stimulate participants' attention to the session's new concepts by giving examples, telling a story, showing a picture, etc., that immediately attaches the information to their life experience and emotions. This will serve as a brief introduction to motivate the learners.

3. COMMUNICATE OBJECTIVES: Communicate and clarify the session's behavioral objectives ("goals") with the participants. This will give people a sense of direction.

4. PRESENT STRUCTURED OVERVIEW: Show participants where the objectives fit into the overall unit topic by reviewing the "Structured Overview."

5. EXPLAIN RELEVANCE: Tell participants what they will need this information for. What will they do with it? How will it be useful and applicable to their real-life situations? This provides relevance and purpose for the session's content.

6. PRESENT CONTENT: Communicate key points (content).

7. CONDUCT ACTIVITIES: Lead group activities that facilitate individual learning through practice and coaching. Playing pleasant music during exercise time might be well-received by participants. Invite participants' companions to join in on the physical exercise routines. Companions may want to coach or physically assist as part of the long-term follow-through process, also.

8. PERSONALIZE CONCEPTS: Give suggestions for planned home activities (as appropriate) to help participants personalize and apply presented concepts on their own before the next session.

***Evaluation Measures:**

1. Pre-/Post Assessment of Flexibility and Strength. ("Baseline Self-Assessment")
2. Pre-/Post Test (written "Pre-Questionnaire").
3. Pre-/Post-Observed Demonstrations (Optional Objective Observations).
4. One Year Post-Program Survey (see Chapter 4).

***Suggested Section and Session Content and Activities:**

INTRODUCTION

***Goal:** To introduce participants to the entire exercise unit.

***Key Points and Activities:** Refer to Teaching Tips 2-5.

Points:

1. The benefits of individualized exercise include:

   - Improvement in or maintenance of muscle strength, work capacity, and endurance.

   - Improvement in flexibility.

   - Reduction or prevention of muscle/joint pains.

   - Reduction in resting heart rate and blood pressure.

   - Possible improvement in cholesterol concentration in the blood and increase in the "good guy" HDL-cholesterol, which aids in the removal of cholesterol from the walls of blood vessels.

   - Relief of muscle tension.

   - Make oneself feel and sleep better.

   - May provide the impetus to improve other health-related habits (such as weight reduction, cessation of cigarette smoking, or dietary changes to reduce saturated fat intake.)

2. It is essential that participants understand the principles of *pacing* as applied to exercise for people with polio. These principles include: (also see Unit 3, Section F)

   - Learn your *limits* for physical exertion/activity so that you can stop before they are reached.

   - Learn to read your body's signals for too much activity and how to respond to them.

   - Muscle/joint pain, increased weakness in an individual muscle, generalized aching or feelings of exhaustion should always be avoided--they are signals that you have gone too far.

   - Short rest periods between repetitions of exercises do not diminish their value.

- Vary or rotate the order of exercises in order to best pace yourself.

- Try to keep body parts not involved in an exercise relaxed and keep your mind peaceful.

- Remember to pace your performance of routine daily activities that require exertion and tax your capacity in the same way as you pace exercises.

3. An overview of the exercise unit will help participants better prepare for the individualized section activities.

4. The participants' health and safety is of utmost importance. It is critical, therefore, that all participants have met the stated admission criteria (see the first page of this exercise unit for specifics). Because the key points in this unit are for general reference, it is imperative that participants with disabilities meet all medical screening requirements before they exercise.

5. Having participants complete the pre-unit questionnaires will help unit facilitators individualize the program content and activities with participants.

Activities:

1. Present the benefits of individualized exercise for people with polio.
2. Present the overall unit goals.
3. Present the structured overview.
4. Discuss pertinent safety guidelines.
5. Discuss the importance of long-term follow-through.
6. Administer the "Participant Information" handout.
7. Administer the "Pre-Questionnaire" handout.*
8. Administer the "Baseline Self-Assessment" handout.*

**Note: these self-assessment tools may be used as post-program evaluation instruments also.*

The Flexibility Self-Assessment portion of the Baseline Self-Assessment is designed for the participant to discover his/her own flexibility. Have each participant assume the positions indicated and perform the movements to check for tightness. The participant should make comments on the form about **how much** tightness is felt and **where** the stretch is felt.

The facilitator should talk participants through this section, demonstrating positions and allowing time for participants to write their comments about tightness and flexibility on their assessment forms. Give suggestions for descriptions that participants could write down about flexibility and where they are feeling the stretch.

During the Strength Self-Assessment section, describe and demonstrate manual muscle test positions to participants and have each write down how far he/she can move against gravity or with gravity eliminated. Assess quadriceps, hip extensors, hip abductors, abdominals, shoulder flexors, and ankle plantarflexors and dorsiflexors.

During the Ambulatory Status Self-Assessment, have each participant walk 30 to 40 feet (if possible) on both level surfaces and stairs to document limp, difficulty breathing, fast or slow walking rate, and painful areas. The facilitator should note which people are having difficulty with ambulation, those who may need assistance getting on and off equipment, or those who may need individual physical therapy. If the participant is unable to walk, he or she should simply describe his or her mode of mobility.

9. Administer further Objective Observed Demonstrations (optional).

Note: The facilitator may want to include objective measurements for flexibility, such as muscle or joint range of motion; or for strength assessments, such as measured resistive forces; or for ambulatory status, such as timed walking of fixed distances. These may be done both before and after the unit activities.

***Materials/Equipment Needed:** Pencils, handouts, towels, linens, flip chart or overhead projector (optional), and exercise mats; measuring tools if objective data are collected during Objective Observed Demonstrations.

HANDOUT

Participant Information

Participant Name:

Home Address:

Phone (work): (home):

Date of Birth:

1. Have you ever received physical therapy services? Yes____ No____
   If yes, please explain when and for what...(please use back, if necessary)

2. Please check assistive devices you use **currently** and indicate the number of years you have been using them.

ITEM	CHECK IF USING	NUMBER OF YEARS
Right KAFO (long leg brace)		
Left KAFO		
Right AFO (below-the-knee brace)		
Left AFO		
Right Arm Splint		
Left Arm Splint		
Right axillary (under-the-armpit) crutch		
Left axillary crutch		
Right lofstrand (forearm) crutch		
Left lofstrand crutch		
Cane		
3- or 4-legged cane		
Walker		
Manual wheelchair		
Electric cart		
Electric wheelchair		
Other (specify):		

Please check the answer which is most appropriate for you.

3. At the present time, how well can you climb stairs?

_____1) I cannot climb stairs at all.

_____2) I can only climb stairs with some difficulty and/or with a railing.

_____3) I can climb stairs without difficulty.

4. How weakened was your:

A. Right arm at the time of your **physical best*** (see definition on next page) after polio?

_____1) Not weakened at all

_____2) Mildly weakened

_____3) Moderately weakened

_____4) Severely weakened

_____5) Completely paralyzed

B. Left arm at the time of your **physical best*** after polio?

_____1) Not weakened

_____2) Mildly weakened

_____3) Moderately weakened

_____4) Severely weakened

_____5) Completely paralyzed

5. During the period of your **physical best*** after polio, which phrase below best describes the extent of your disability?

_____1) None, no significant disability

_____2) Mild disability

_____3) Moderate disability

_____4) Severe disability

6. Do you presently exercise on a regular basis? Yes ____ No ____.
If yes, please explain (include frequency, duration and type of exercise).

7. List any surgeries you have had since the onset of polio.

   1.

   2.

   3.

   4.

8. List any areas that you have pain with exercise or activity.

   1.

   2.

   3.

   4.

*** How to Estimate Your Physical Best:**

"Initial rehabilitation" immediately followed your polio onset and is the entire time period thereafter of therapies, surgeries, doctors' check-ups, etc., until you reached a plateau of relative physical stability. *"Physical Best" is defined as the time period after your initial rehabilitation when you had the greatest strength and endurance and were in the best condition to carry on your various activities of daily living.* It is that period of stability before the start of any new symptoms or a decline in functional ability.

If your polio began in childhood, you probably reached your physical best when you were in your late teens. If your polio began in adulthood, your physical peak probably began two to five years after the onset of the polio. If you haven't experienced any new problems or any decline in capacity, you may still be in the stable phase and your abilities may currently be in the "physical best" category.

Participant Information:

Notes to the Facilitators

1. In reference to question #3:

   A research study at the University of Michigan (see Suggested Reading reference below) showed that polio survivors who answered 1 or 2 to this question have an 83% chance of having a reduced exercise capacity. Persons with a history of polio who answered 3 have a 22% chance of having a reduced exercise capacity. This suggests that persons with polio who are unable to climb stairs are almost certain to have reduced exercise capacity. In the absence of difficulty climbing stairs, participants may need exercise testing to determine the presence of this condition and its possible contribution to the common post-polio symptom of fatigue.

2. In reference to question #4:

   The same University of Michigan study reports that persons who answered 1 to either part A or part B of this question have a 17% chance of currently having moderate upper limb weakness. Those who answered 2 or 3 have a 70% chance of having moderate upper limb weakness; and those who answered 4 or 5 have a 98% chance of having moderate upper limb weakness at the present time.

3. Based on the above findings, facilitators of this unit can become more quickly aware of participants who display a reduced exercise capacity and moderate arm weakness. Individualized exercise routines will need to be developed for these participants based on these pre-test results.

4. In reference to question #5:

   Participants who answer 1 or 2 to this question may display the coping characteristics of a post-polio "Passer" as described at the beginning of Chapter 3 of this manual. Participants who answer 2 may display characteristics of the "Passer" or the "Minimizer." Those who answer 3 usually show signs of coping in the manner characteristic of a post-polio "Minimizer"; and those who answer 4 may be similar to the "Identifier" in behavior and outlook, or may retain the attitudes of a "Minimizer".

   These insights may assist with understanding typical reactions of participants during program activities.

***Suggested Reading:**

Maynard FM, et al: *The Late Effects of Polio: A Model for the Identification and Assessment of Preventable Secondary Disabilities Final Report.* Ann Arbor, Michigan, University of Michigan, 1991. (Copies are available through The Disabilities Prevention Program, Centers for Disease Control, Mailstop F-41, Atlanta, GA 30333, telephone: 404-488-4905.)

HANDOUT

Pre-Questionnaire

Please circle all correct answers.

1. When stretching, it is important to:
   a) bounce to get a good stretch
   b) hold the position for 20-60 seconds
   c) be in the specific position
   d) repeat the stretch one time

2. The concept of pacing includes:
   a) sleeping the day away
   b) built-in rest periods
   c) working without breaks all day
   d) making a list and getting everything done (planning ahead)

3. While in a pool, one can increase the resistance to exercise by:
   a) using small movements
   b) decreasing the speed of movements
   c) using larger movements
   d) shortening the extremity

4. Which of the following would be an indicator that you have over-exercised?
   a) exercising within the target heart rate range
   b) no fatigue with exercise
   c) muscle achiness that lasts greater than two days
   d) the activity feels hard and exhausting

5. What is the temperature of water in a therapeutic pool?
   a) 80 degrees Fahrenheit
   b) 89 degrees Fahrenheit
   c) 96 degrees Fahrenheit
   d) 100 degrees Fahrenheit

6. One should exercise until all the muscles feel sore.
   True ___ False____

7. When strengthening, you need to:
   a) use heavy weight
   b) include rest periods after 10 repetitions
   c) repeat two sets of 10 repetitions
   d) be in the water

NAME:_____

HANDOUT

Pre-Questionnaire: Correct Answers

1. a, b.
2. b.
3. a, b.
4. c, d.
5. c.
6. false
7. b.

HANDOUT

BASELINE SELF-ASSESSMENT

(This self-assessment can be completed at the beginning of the unit to determine baseline capabilities and at the end of the unit to check for improvements and changes. You could also take this self-assessment again in one year after the program has ended as part of your long-term follow-through activities.)

1) Flexibility Assessment

The first section of this assessment is to help you discover your own flexibility level. Please assume the positions and perform the movements indicated to check for tightness. Please comment on this form about **how much** tightness you have and **where** you feel the stretch.

- Hamstring: Lay supine on your back, place one hand behind your knee as you bring the knee toward your chest; straighten your knee with hip bent at right angle. How straight will the knee go? Where do you feel a pulling sensation? (Example: I feel the stretch in the back of the thigh and in the calf muscle. I can straighten the knee to a slight bend.)

  _____

  _____

- Gastroc: Standing and facing the wall, place right leg in back of left, with right foot kept flat on the floor. Keep the right knee straight and lean forward to stretch. Where do you feel a pulling sensation? Will the ankle bend beyond a right angle?

  _____

  _____

- Low Back: Lay on your back and pull both knees to your chest. When do you feel a pull?

  _____

  _____

- Hip Flexors: Pull one knee all the way toward your chest and keep the other leg relaxed and straight. How far up from the table surface is the leg that is straight? How straight is it? (i.e. how much is the knee bent?)

_____

_____

- Quadriceps: Lay prone (on your stomach) and bend the knee (or have someone gently bend it for you). Can the knee be bent to a right angle or beyond? When and where do you feel tightness?

_____

_____

- Neck Sidebending: Look in a mirror and gently try to touch your ear to your shoulder; see how close your ear comes to the shoulder. (Do this for both sides of your neck.)

_____

_____

2) Strength Assessment

Write down how far you can move against gravity or with gravity eliminated for each of the following:

- Quadriceps:

_____

_____

- Hip Extensors:

_____

_____

- Hip abductors:

_____

_____

- Abdominals:

_____

_____

- Shoulder flexors and abductors:

_____

_____

- Plantarflexors:

_____

_____

3) Ambulatory (Walking) Status:

Please walk 30 to 40 feet and note whether you limp or have difficulty breathing, how long it takes, and what areas of your body are painful. Do this on:

- Level Surfaces:

Limp? Yes_____ No_____

Breathing difficulty? Yes_____ No_____

How long does it take? _____

If there is pain, where do you feel it? _____

- Stairs

One step at a time? Yes _____ No_____

Must use handrail? Yes _____ No_____

Breathing difficulty? Yes _____ No_____

How long does it take? _____

If there is pain, where do you feel it? _____

NAME:_____

HANDOUT

STAY WELL! EXERCISE RECORD

Example of how to record:

date → D 10/22/92

number of repetitions (or time) → R 7

EXERCISE

DATE and REPETITIONS

EXERCISE	D	D	D	D	D	D	D	D	D	D	D	D
	R	R	R	R	R	R	R	R	R	R	R	R
	D	D	D	D	D	D	D	D	D	D	D	D
	R	R	R	R	R	R	R	R	R	R	R	R
	D	D	D	D	D	D	D	D	D	D	D	D
	R	R	R	R	R	R	R	R	R	R	R	R
	D	D	D	D	D	D	D	D	D	D	D	D
	R	R	R	R	R	R	R	R	R	R	R	R
	D	D	D	D	D	D	D	D	D	D	D	D
	R	R	R	R	R	R	R	R	R	R	R	R
	D	D	D	D	D	D	D	D	D	D	D	D
	R	R	R	R	R	R	R	R	R	R	R	R

_____ Signature of Participant

SECTION A: Flexibility

This section should be divided into weekly segments at the discretion of the facilitator. Reading the entire section at once will help in gaining a general understanding of its content. With an overview of this section in mind, the facilitator will be able to create multiple sessions. The first 15 minutes of each session could be spent presenting the key points, with a review of past key points, time for problem solving and a question and answer period. In the first week, it will be important to cover the baseline flexibility assessment, the pre-questionnaire, and the demonstration of stretches. Some gentle stretches for tight muscles should be given as a home activity for that week. It is recommended that no new information be introduced during the last week of this section. Facilitators are encouraged to be creative in developing session activities.

***Goals:**

1. Participants will have an increased knowledge about muscle flexibility and the principles of muscle stretching.

2. Participants will be able to independently assess tightness of their specific muscle groups and perform appropriate stretching exercises.

***Key Points and Activities:** Refer to Teaching Tips 2-8.

Points:

1. Stretching is important for many reasons. We can use stretching to relieve muscle cramping, to improve flexibility for the fitting of braces and walking, or to relieve (manage) muscle and joint soreness. It is important to maintain a balance between muscle strength and flexibility.

2. With stretching exercises, it is easy to overdo. It is important that stretching exercises be done in a very gentle manner. As participants are stretching, they can include some deep breathing, turn the lights down, and go to a quiet room to make the stretching more relaxing.

3. When stretching, the goal is to lengthen the muscle by separating the points of attachment of the muscle to the bone. Muscle tissue has an elastic property similar to a rubber band. If a muscle is stretched for a short time it will return to its shortened position. This is the position that feels normal to a muscle because it is the position a muscle is usually in throughout the day. This is why it is important to hold the stretches for at least 10 seconds. We can hold stretches for up to 60 seconds, and longer times are more effective for improving flexibility of tightened muscles.

This would be a good place to start the "key points" presentation during the second week session of the flexibility section. The second week session would include review of stretches and the educational material which follows:

4. Warming the muscle up prior to stretching makes the muscle tissue more elastic and allows a person to stretch easier and farther. To warm up muscles, use a hot pack, take a warm shower, get into warm water (i.e., a therapeutic pool), or do some repetitive movements to generate body heat.

5. When stretching, you should move slowly and gently; do not bounce. Muscles have a built-in protective mechanism to prevent a quick stretch from injuring the muscle. Frequently, the muscles will react to bouncing by tightening up or spasming. The spasms can be controlled or ended by slow stretching and rest.

Activities:

1. Facilitator presents key points to participants.

2. Facilitator describes and demonstrates flexibility exercises. During this activity, participants can refer to the handouts. Emphasize specific positions and principles under key points.

   Give examples of when and how each muscle may get tight. Walk around the room as participants do the exercises and check the areas that participants marked on their baseline assessments. Do they have pain in areas where muscles are usually tight or in areas where joints are likely to be stressed?

3. Do exercises:

   During the instruction of exercise, have participants follow the appropriate handouts and give the verbal explanation/demonstration on how to do the exercises. Emphasize how to be specific--careful that correct positions are assumed and that targeted specific muscles are stretched. Ask the participants where they feel the stretch. Then explain where they should feel the stretch. Review what muscle the exercise is stretching and how important it is/is not for them to improve or maintain that muscle's flexibility.

   Give examples of when that muscle might get tight. Walk around the room as participants do the exercise and check the areas that the participant marked on their baseline assessments. Do they have pain in areas where muscles are usually tight or in areas where joints are likely to be stressed?

   Explain to participants that "We are going to do these exercises in a very specific way so that we can obtain a stretch and still protect the joints. You will be given individual guidelines for repetitions and increasing the number of repetitions. It will be important to follow these guidelines to prevent flare-ups of pain problems or other complications. If we do more repetitions than planned, we could over-stretch and injure the muscles or overstress the joints and ligaments."

A. Heel cord stretch: stretches the gastrocnemius and soleus muscles that form the calf or lower back part of the leg. These muscles will get tight when walking or standing for short periods of time. You should feel the stretch in the calf area, back of the heel and behind the knee of the leg in back. The back foot should be pointed toward the wall and not outward.

B. Hamstring stretch

C. Quadriceps stretch

D. Hip Flexor stretch

E. Low back stretch (double knees to chest)

F. Low back stretch (trunk rotation)

G. Cervical stretch (chin tuck)

H. Posture break (slump, then sit tall with extension)

For the exercises above, describe the exercise position, demonstrate the exercise, and describe where the participant should feel the stretch. Communicate with the participants and help them modify the position if they're not feeling the stretch in the proper place. Refer to Flexibility Exercises handout for detailed descriptions of these physical activities.

4. As participants are doing the exercises, discuss how they can individualize them in their home setting and work them into their life schedules. For example, how can people who use wheelchairs adapt these exercises in order to do them from their chairs? Can they be done in bed in the morning or evening? Discussing personal application is an imperative part of this activity.

5. Distribute participant Section Evaluation Forms. Have group members complete and return them to the facilitator, who will pass them on to the program organizers.

***Materials/Equipment Needed:** Exercise mats, towels, linen, pillows, overhead projector or flip charts for presenting key points, handouts, and pencils.

Note: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. Anderson B: *Stretching.* Bolinas, CA, Shelter Publications, 1980.
(Note: This book is recommended for participants to purchase and use as a home reference.)

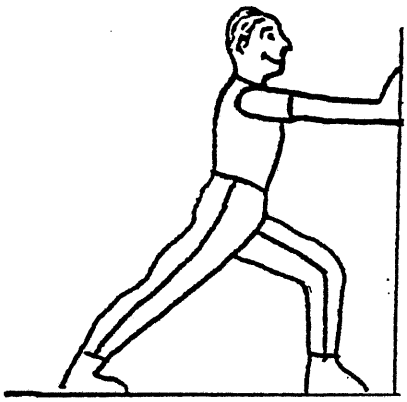
2. Kelley J and Frieden L (eds.): *Go For It! A Book on Sport and Recreation for Persons with Disabilities*. Orlando, FL, Harcourt Brace Janaovich Publishers, 1989; pp. 217-232.

HANDOUT

Flexibility Exercises

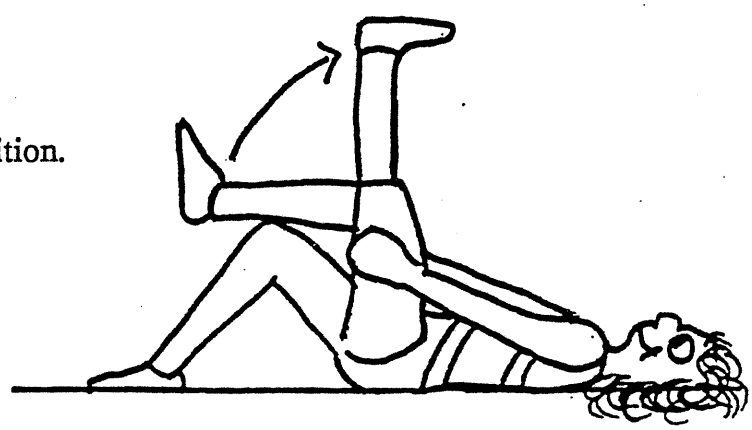
Heel Cord Stretch

1. Lean on the wall as pictured.
2. Keep your _____ foot behind you and your heel flat on the floor.
3. Keep your toes slightly turned in.
4. Keep your _____ foot in front.
5. Keep your head up and lean into the wall. You should feel a stretch in your _____ calf.
6. Do not bounce.
7. Hold for a count of _____.
8. Relax.



Hamstring Stretch (also for quadriceps strengthening)

1. Lie on your back on a firm surface.
2. Bend your knees and keep your low back flat.
3. Bring your _____ knee toward your chest.
4. Slowly straighten your _____ leg toward the ceiling, attempting to straighten your _____ knee.
5. Hold for a count of _____.
6. Do not bounce.
7. Lower your leg slowly to the starting position.
8. Relax.



Quadriceps Stretch

1. Lie on your stomach.

2. Bend one knee backward as far as it will go.

3. Grasp your ankle/leg with a hand and gently bend the knee further. You should feel a pull in the front of your thigh.

4. If you are unable to reach your ankle/leg while on your stomach, have another person gently bend your knee back as far as it will go and stretch it until you feel tightness in the front of the thigh.

5. Hold the stretch position for 5-10 seconds.

6. Repeat steps with the other leg.

7. Repeat each _____ times.

Hip Flexor Stretch

1. Lie on your back with legs straight.

2. Pull one knee up all the way toward your chest as far as it will go.

3. If your opposite leg bends at the hip and knee, you will feel a stretching in the front of that hip (around the groin).

4. Relax and continue to hold the knee toward the chest allowing the other hip to stretch for 5 to 10 seconds.

5. Straighten the legs out again and relax.

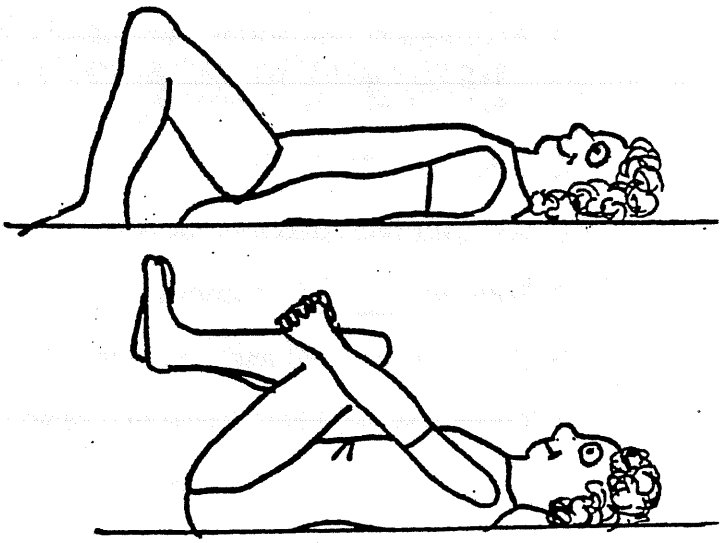
6. Repeat the steps with the opposite leg.

7. Repeat the entire sequence _____ times.

Flexibility Exercises (page three)

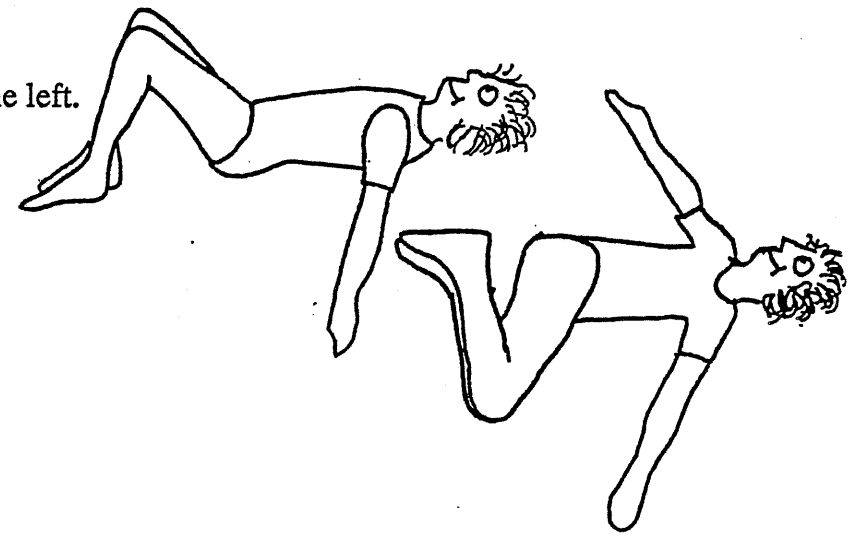
Low Back Stretch (Double Knees to Chest)

1. Lie on your back.
2. Bend your knees.
3. Keep your low back flat (touching the floor).
4. Slowly bring both knees toward your chest.
5. Use your hands to help.
6. Do not bounce.
7. Hold for a count of _____.
8. Return to the starting position.
9. Repeat _____ times.



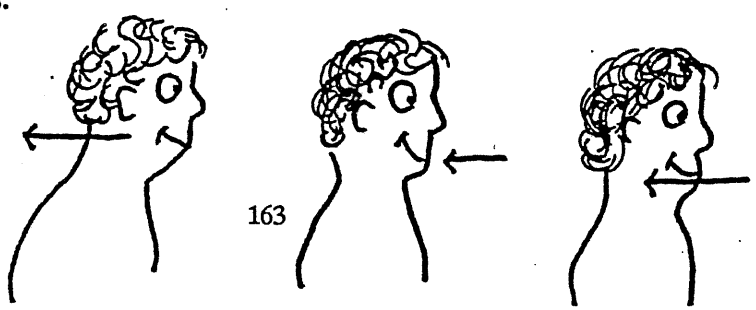
Low Back Stretch (Trunk Rotation)

1. Lie on your back with your knees bent and your feet flat on a firm surface.
2. Slowly take both of your knees to the right.
3. Hold for a count of _____.
4. Return to the starting position.
5. Slowly take both of your knees to the left.
6. Hold for a count of _____.
7. Return to the starting position.
8. Repeat _____ times.



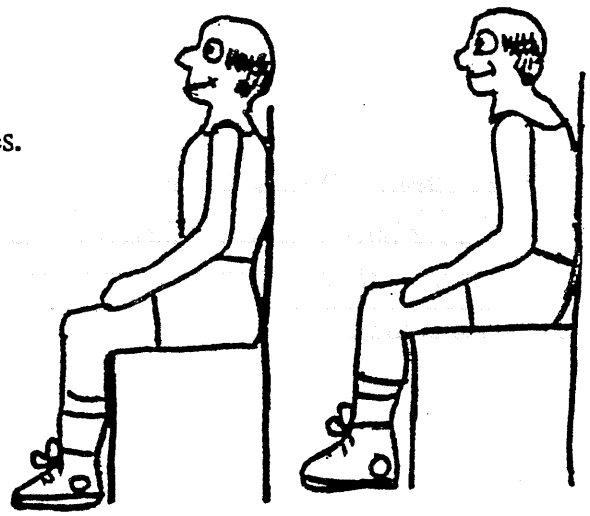
Cervical Stretch (Chin Tuck)

1. Sitting in a relaxed position, with your back erect, make a double chin as you look straight ahead.
2. Hold for five seconds.
3. Relax.
4. Repeat.



Posture Break (Slump, Sit Tall with Extension)

1. Assume a sitting position in a chair which will allow you to sit with your hips slightly higher than your knees. Your feet should be resting on the floor; let your hands rest on your lap.
2. Allow your back to slump.
3. Let your head and shoulders slump forward and down.
4. Hold for _____ seconds.
5. Return your head and shoulders to an erect position.
6. Straighten your back, making sure your pelvis is erect and your head is straight.
7. Hold for _____ seconds.
8. Return to position #2.
9. Repeat the entire sequence _____ times.



Cervical Stretch (Sidebending)

1. Sit in a relaxed position with your back erect.
2. Let your neck drop slowly toward the right, so that your ear comes as close as possible to the shoulder.
3. Hold for five seconds.
4. Relax.
5. Repeat the movement toward the left.
6. Hold for five seconds.
7. Relax.
8. Repeat the sequence _____ times.

SECTION B: Strengthening

***Goals:**

1. Participants will be independent or able to direct others in assisting them with a home program of strengthening exercises.

2. Participants will demonstrate the appropriate pacing techniques when performing strengthening exercises.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Key points will include information on strengthening as well as information on relaxation. Both are important. Strengthening should be covered the first week of the section. The second week could include key point #4, a review of strengthening and a time to practice both strengthening and stretching exercises. Discuss relaxation and the need to stretch after the strengthening exercise. The third week is important for review and encouraging the participants to work through their entire exercise program. It would be appropriate to review relaxation during the third week also. The fourth week could be used to review all key points for this section.

Points:

1. "Muscles are vulnerable to injury by overuse, underuse, underoxygenation, and an inefficient use of weakened musculature." (Richard R. Owen, M.D.)

2. There needs to be a balance between exercise, rest, activity, support, and intelligent accommodation to disability. If an attempt is made to strengthen weak muscles and new muscle pain and/or new weakness develop, then it is clear that the weakened muscle is susceptible to overuse injury and further exercise of that muscle should be discontinued.

3. It is important to avoid over-fatigue, so frequent rest periods should be built into the exercise program. Muscle fatigue is considered a self-protective mechanism against damage to the contractile machinery of the muscle.

   Do not ignore the signs of over-fatigue. If you do, participants can do damage to the muscle or could fall and possibly break or injure something. Some common signs of over-fatigue are inability to control a movement, shortness of breath, muscle cramps, muscle aching, muscle weakness, and decreased coordination.

The following points could be covered during a separate session, for example, at week two:

4. It is best to intermix rest and relaxation during strengthening exercises. It is important to include stretching exercises in between the strengthening exercises in order to prevent muscles from staying in a shortened position. If a participant is walking or doing an activity that tightens muscles, such as cleaning the house, then he/she should stretch afterward.

5. Overall Body Relaxation

   Relaxation Techniques allow the heart rate to go down to its resting rate.

- "time out" (30-60 minutes per day)
- diaphragmatic breathing
- thinking about pleasant places
- praying
- daydreaming
- assume supportive positions for spine and limbs

6. Positioning Principles for Relaxation

- sitting with good posture
- having proper support
- lying down
- standing with arms supported and bending forward at the waist

7. Suggested Techniques for Muscle Relaxation

- stretching
- contract-relax

8. Planning to Start and Continue a Strengthening Exercise Home Program

   It is important to continue the exercises daily and not stop doing them. If the participant does stop them, there will be a need to go back to the previous level of exercising so he/she does not have problems, and then build back up to that exercise level. Educate the participants regarding the reason for doing the exercises and how to do them properly, including appropriate individual adaptations/modifications. This will give each person control of the exercises and hopefully prevent pain or complications that would cause the participant to stop exercising.

Activities:

1. Present Key Points.

2. Demonstrate and have participants attempt each strengthening exercise. Distribute handouts. Exercises that participants can perform and that have potential benefit should become part of each participant's home exercise program.

Strengthening Exercises

- Back extensors: Prone leg extension or slump/sit tall.
- Abdominals: Pelvic tilt or partial sit-up or lower abdominal strengthening. Try to do 10 repetitions each and rest between the sets.
- Quadriceps: Straight leg raise or short arc quad. Try to do 10 repetitions with a 10-second hold, then rest.
- Hamstring: Heel slide or knee flexion in prone. Try to do 10 repetitions with a 10-second hold, then rest.
- Hip abductors: Standing or side-lying hip abduction. Try to do 10 repetitions with a 10-second hold, then rest.
- Hip extensors: Bridging. Try to do 10 repetitions with a 10-second hold, then rest.
- Shoulder: abduction to 90 degrees. Try to do 10 repetitions with a 10 second hold, then rest.
- Triceps: Chair push-ups or triceps curls. Try to do 10 repetitions with a 10-second hold, then rest.

During week three of this section, participants could go into a pool to see demonstrations and practice some of these exercises and how to modify them in the water. Participants would have an opportunity to try them through the week and return with any questions. Alternately, strengthening exercises in the water could be tried as part of Section D: Aquatic Exercise. Please refer to aquatic exercise references for modifications of strengthening exercises for the pool.

3. Lead a discussion with participants on how each will personally apply what he/she has learned about strengthening exercises in order to continue doing them at home, at work and in recreational environments.
4. Discuss participants' questions or difficulties encountered with the exercise program at home. Use discussion to demonstrate problem solving, individual modifications, and the importance of stretching and/or relaxation interspersed with strengthening exercises.
5. Distribute participant Section Evaluation Forms. Have group members complete and return them to the facilitator, who will pass them on to the program organizers.

***Materials/Equipment Needed:** Floor mats, comfortable chairs for optimal posture, a variety of resistive weights, pillows or bolsters to support knees for short arc quad, overhead projector, blackboard or flip chart, handouts, pencils, Life Plus bicycle, wheelchair roller (to wheel wheelchairs in place), arm ergometer, and cuff weights .

Note: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. Agre JC and Rodriquez AA: Neuromuscular function in polio survivors at one-year follow-up. *Archives of Physical Medicine and Rehabilitation* 72: 7-10, 1991.

*2. Edlich RF, Abidin MR, Becker DG, Pavlovich LJ Jr, and Dang MT: Design of hydrotherapy exercise pools. *Journal of Burn Care Rehabilitation* 9: 505-509, 1988.

3. Einarsson G and Grimby G: Strengthening exercise program in post-polio subjects. In Halstead LS and Weichers DO (eds.): *Research and Clinical Aspects of the Late Effects of Poliomyelitis*. White Plains, NY, March of Dimes Birth Defects Foundation, 1987; pp. 275-283.

4. Feldman RM: The use of nonfatiguing strengthening exercises in post-polio syndrome. In Halstead LS and Weichers DO (eds.): *Research and Clinical Aspects of the Late Effects of Poliomyelitis*. White Plains, New York, March of Dimes Birth Defects Foundation, 1987; pp. 335-341.

5. Feldman RM: The use of strengthening exercises in post-polio sequelae. *Orthopedics* 8: 889-890, 1985.

6. Gross MT and Schuch CP: Exercise programs for patients with post-polio syndrome: a case report. *Physical Therapy Journal* 69: 72-76, 1989.

7. Kohl SJ: Emotional responses to the late effects of poliomyelitis. In Halstead LS and Wiechers DO (eds.): *Research and Clinical Aspects of the Late Effects of Poliomyelitis.* White Plains, NY, March of Dimes Birth Defects Foundation, 1987; pp. 135-143.

*8. McNeal RL: *Aquatic Therapy: Various Uses and Techniques*. Aquatic Therapy Services, Inc., 1988.

9. Owen RR: Post-polio syndrome and cardiopulmonary conditioning. *Western Journal of Medicine* 154: 557-558, 1991.

10. Perry J, Barnes G, and Gronley J: Post-polio muscle function. In Halstead LS and Weichers DO (eds.): *Research and Clinical Aspects of the Late Effects of Poliomyelitis*. White Plains, NY, March of Dimes Birth Defects Foundation, 1987; pp. 315-329.

*11. Pollock M and Wilmore JH: *Exercise in Health and Disease*. Philadelphia, PA, W.B. Saunders, 1990.

*12. Rehabilitation Institute of Chicago: *Aquatics for the Disabled*. Course Notes, February 1987.

13. Seekins T: *Preventing and Managing Secondary Disabilities: A Self-Help Problems Solving Guide.* Research and Training Center on Rural Rehabilitation, Disability Prevention Project, 1990.
(For a copy, write to: Tom Seekins, Ph.D., Research and Training Center on Rural Rehabilitation Services, 33 Corbin Hall, University of Montana, Missoula, MT 59812.)

14. Twist DJ: Physical therapy management of the patient with post-polio syndrome: a case report. *Physical Therapy* 66: 1403-1406, 1987.

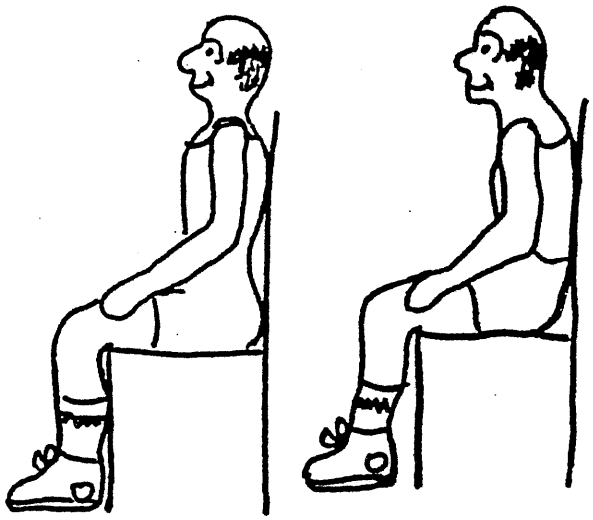
* These readings specifically address aquatic exercise.

HANDOUT

Strengthening Exercises

Posture Break (Slump, Sit Tall with Extension)--for back extensors

1. Assume a sitting position in a chair which will allow you to sit with your hips slightly higher than your knees. Your feet should be resting on the floor; let your hands rest on your lap.
2. Allow your back to slump.
3. Let your head and shoulders slump forward and down.
4. Hold for _____ seconds.
5. Return your head and shoulders to an erect position.
6. Straighten your back, making sure your pelvis is erect and your head is straight.
7. Hold for _____ seconds.
8. Return to position #2.
9. Repeat the entire sequence _____ times.



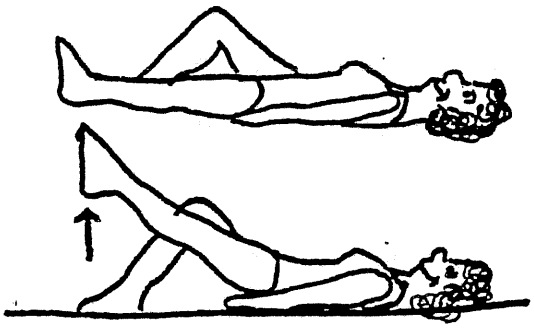
Standing Pelvic Tilt--for abdominals

1. Stand with your back and shoulders against the wall, your knees slightly bent and your feet about eight inches from the wall.
2. Tilt your pelvis until the small of your back is flat against the wall.
3. Hold for a count of _____ and repeat _____ times.

Strengthening Exercises (page two)

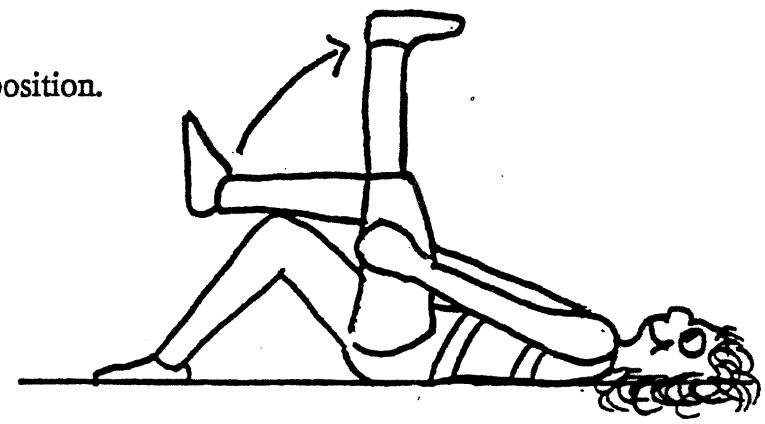
Straight Leg Raise--for quadriceps

1. Lie on your back on a firm surface.
2. Bend your _____ leg with your foot flat on the surface.
3. Keep your _____ straight, and slowly raise your _____ leg up toward the ceiling about 12 inches.
4. Hold for a count of _____.
5. Lower your leg slowly to the starting position.
6. Relax.
7. Use a _____ weight around your _____.



Hamstring Stretch--for quadriceps

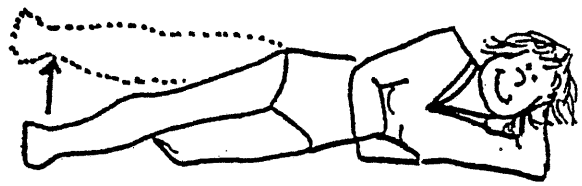
1. Lie on your back on a firm surface.
2. Bend your knees and keep your low back flat.
3. Bring your _____ knee toward your chest.
4. Slowly straighten your _____ leg toward the ceiling, attempting to straighten your _____ knee.
5. Hold for a count of _____.
6. Do not bounce.
7. Lower your leg slowly to the starting position.
8. Relax.



Strengthening Exercises (page three)

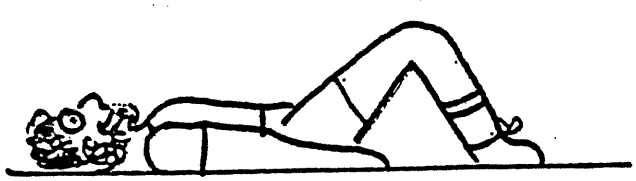
Side-lying Hip Abduction--for hip abductors

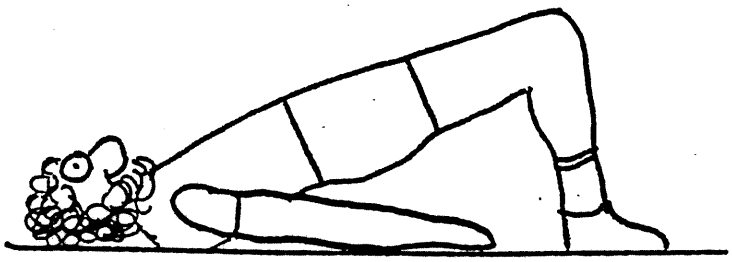
1. Lie on your _____ side with your *bottom knee* bent.
2. Keep your *top leg* straight and lift that leg up toward the ceiling about 12 inches.
3. Hold for a count of _____.
4. Lower your leg slowly to the starting position.
5. Relax.
6. Use a _____ weight around your _____.



Bridging--for hip extensors

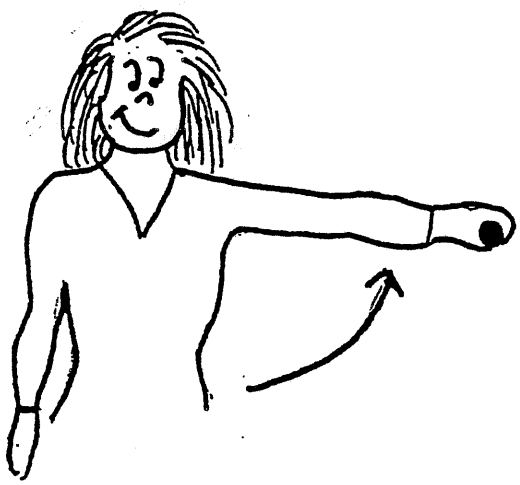
1. Lie on your back with your knees bent and your feet flat on a firm surface.
2. Push down on your feet and raise your hips off the floor as high as possible.
3. Hold this position for a count of _____.
4. Lower yourself slowly to the starting position.
5. Repeat _____ times.





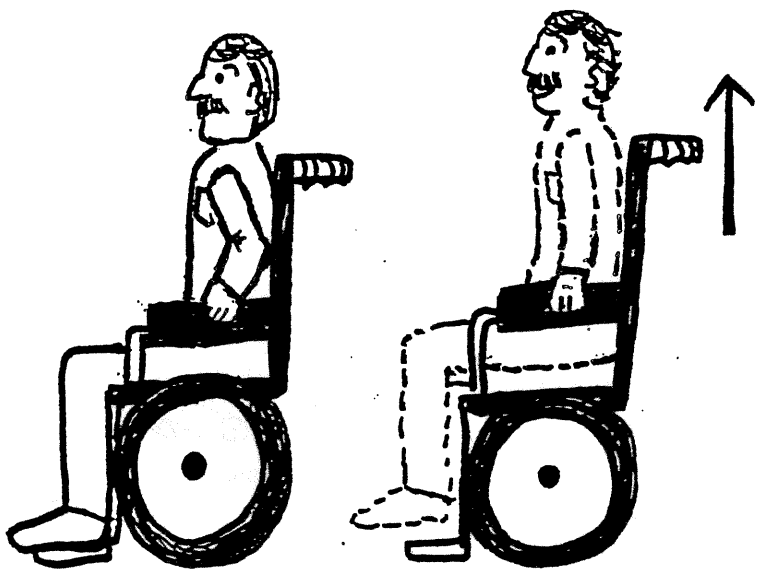
Shoulder Abduction to 90 Degrees--for shoulder abductors (deltoids)

1. Stand with a _____ lb. weight in your _____ hand.
2. Keeping the arm turned slightly inward and the elbow slightly bent, raise the arm to shoulder level.
3. Repeat _____ times.
4. Repeat with _____ lb. weight in your _____ hand.



Tricep Strengthening (From a Chair)

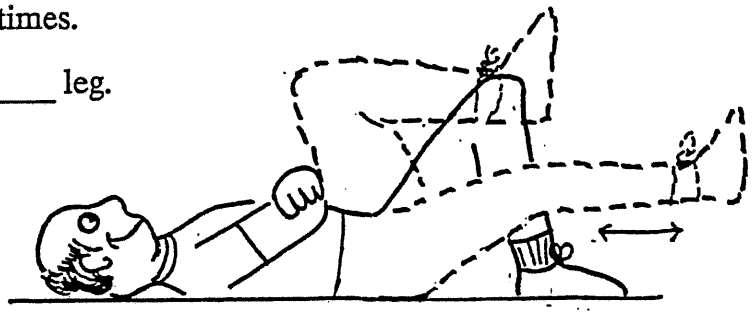
1. Sit in a chair.
2. Place your hands on respective armrests with elbows slightly bent.
3. Straighten your elbows out, lifting yourself up and out of the chair.
4. Repeat _____ times.



Strengthening Exercises (page five)

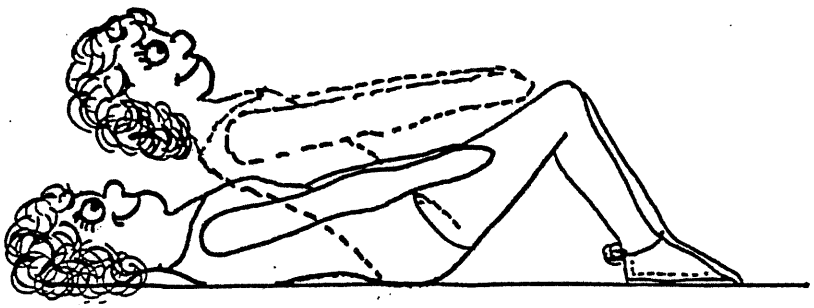
Lower Abdominal Strengthening

1. Assume position lying on back, both knees bent, feet flat on ground.
2. Do pelvic tilt, tightening stomach muscles, keeping back flat on bed.
3. Slowly perform bicycle type movement with _____ leg, straightening and bending it while keeping back flat.
4. Repeat _____ times.
5. Repeat with _____ leg.



Abdominal Curl-Up

1. Lie on your back with knees flat and low back flat.
2. Inhale.
3. As you blow the air out, slowly tuck your chin and raise your head, neck, and shoulders off the floor.
4. Extend your arm towards your knees and/or fold them across your chest.
5. Repeat _____ times. DO NOT HOLD YOUR BREATH!



NAME:_____

SECTION C: Cardiovascular Training

This section should be divided into weekly segments at the discretion of the facilitator. Reading the entire section will facilitate gaining a general understanding of its content. With an overview of this section in mind, the facilitator will be able to create multiple sessions. The first 15 minutes of each session could be spent presenting some of the key points, with review of past key points, time for problem solving and a question and answer period. Activities that follow should correspond with the educational material presented. Each new skill that is presented can be practiced and perfected. Participants will be establishing their own cardiovascular training program. Each individualized program should be one that the participant enjoys, is easy to do, and requires equipment that is easily accessible. The facilitator should be sure that the cardiovascular program flows as follows:

WARM UP --> STRETCH --> FULL EXERCISE --> COOL DOWN -->FINAL STRETCH.

It is also important that participants drink plenty of water during their exercise time.

***Goals:**

1. To individually identify appropriate target heart rates for cardiovascular training.
2. To demonstrate ability to monitor heart rate or respiration rate.
3. To define principles of cardiovascular training and progression guidelines.
4. To identify practical options for a personalized cardiovascular training program or activity.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. How to Identify Target Heart Rates

   - Resting heart rate is the heart rate after a minimum of 30 minutes rest and no intake of caffeine or nicotine for two hours. (It is best to take the resting heart rate upon waking).
   - Target heart range for modest/moderate cardiovascular training = (220 - age) x 60%
   - Maximum heart rate reserve = target heart rate range - resting heart rate
   - Training heart rate range: Heart rate range for training to obtain aerobic benefit (minimum and maximum heart rates).

- Low end training heart rate range = Maximum heart rate reserve (60%) + resting heart rate

- High end training heart rate range = Maximum heart rate reserve (90%) + resting heart rate

2. Defining Principles of Cardiovascular Training

A. Low intensity/high frequency

- We will have increased benefits by increasing the amount of exercise time, not by increasing the intensity of the exercise.

- The intensity should bring the heart rate into the training heart rate range.

B. Exercising 3-5 times per week for 30-45 minutes each session is optimal.

- Start by exercising daily and gradually increase the amount of exercise time. Try to progress to at least 20-30 minutes of aerobic activity 3 times a week.

- If the frequency of exercise is less than 3 times per week, there will be minimal if any loss of body weight, fat, or improved cardiovascular fitness.

C. Use Interval Training as necessary.

- Breaking up a continual time of exercise with short rest periods of 30 to 60 seconds can enable a person to reach the targeted therapeutic time (20 minutes) without symptoms of overuse.

- Short rest periods only allow the heart to slow down a little and give muscles time to replenish their energy supplies.

- Taking intermittent (every 3 to 5 minute) rest periods does not eliminate the training benefits of exercise.

D. Warm-up/cool-down

- Warm-up prepares the muscles for exercise and will help to prevent injury. Good warm-up activities are stretching, low-level strengthening exercises, and walking. You should warm up for 10 minutes.

- Cool-down is completed after the aerobic exercise. The cool-down keeps the muscles active and prevents post-exercise hypotension, and muscle soreness. Good cool-down activities are walking and stretching. You should cool down for 5-10 minutes.

E. Start slow and progressively increase exercise time, then intensity. Gradually decrease the frequency and duration of rest periods as possible.

F. Exercise options:

- arm ergometers,
- recumbent and/or upright-seated stationary bicycles
- treadmills
- wheelchair rollers
- walking
- swimming
- other sports

3. Guidelines for Performing Cardiovascular Training (Fitness) Exercise

A. Avoid exercise that causes an increase in weakness, severe fatigue, and muscle soreness during or after exercise.

B. Decrease the intensity and the duration of exercise if any muscle weakness and fatigue last 1-2 days.

C. **Listen to your body; do not exercise to over-fatigue.**

D. Exercise should be comfortable, pain-free and FUN.

E. The goal is to increase endurance, not fatigue.

F. With exercise, one will loose fat, not muscle.

G. Exercise should feel light and easy when you begin. This will keep you in the right training zone.

H. Maintain good posture and apply joint protection principles.

Activities:

1. Present key points.
2. Monitoring
   A. Teach pulse-taking
      - radial
      - carotid
   B. Teach respiration rate counting
      - count number of breaths in counting mentally to 15
      - multiply by four to obtain breaths-per-minute

3. Determine Present Activity Level
   - Choose an activity that you enjoy. Determine the present frequency, intensity and duration at which you participate in this activity. The "MET Level Activity Listing" handout can be used as a reference.
4. Design a Personal Cardiovascular Training Program
   - Have participants try out as many options for training exercise as possible/feasible for them.
   - Help them set a target heart rate to achieve during the activity and a target duration of the activity.
   - Arrange for exercise to be performed in groups as possible during the week or at home.
   - Review their activity logs with them at each weekly session, once they begin a training exercise activity.

5. Distribute participant Section Evaluation Forms. Have group members complete and return them to the facilitator, who will pass them on to the program organizers.

***Materials/Equipment Needed:** Watches with second hands.

Note: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. Alba A: Exercise testing as a useful tool in the physiatric management of the post-polio survivor. In Halstead LS and Weichers DO (eds.): *Research and Clinical Aspects of the Late Effects of Poliomyelitis*. White Plains, NY, March of Dimes Birth Defects Foundation, 1987; pp. 301-313.

2. Florence SM and Haberg SM: Effects of training on the exercise response of neuromuscular disease patients. *Medicine and Science in Sports and Exercise* 16: 460-465, 1984.

3. Jones DR, Speier J, Canine K, Owen R, Stull GA: Cardiorespiratory responses to aerobic training by patients with postpoliomyelitis sequelae. *Journal of the American Medical Association* 261:22, 3255-3258, 1989.

4. Lewis SF, Holler RG, and Blomquist CO: Neuromuscular diseases as models of cardiovascular regulation during exercise. *Medicine and Science in Sports and Exercise* 16: 466-471, 1984.

5. Owen R: Postpolio syndrome and cardiopulmonary conditioning, rehabilitation medicine-adding life to years. *Western Journal of Medicine* 154(5): 557-558. 1991.

HANDOUT

MET LEVEL ACTIVITY LISTING:
Energy Cost of Various Activities

(provided by the Division of Physical Therapy, University of Michigan Medical Center)

Metabolic Equivalent (MET) levels are a way to measure energy expenditure. Specifically, MET levels are determined by the amount of oxygen you are using per kilogram of body weight for each minute you are performing the exercise or activity (ml 0_2/kg/min). The number of METs assigned to an activity is only an approximation. Precise MET levels cannot be assigned because not everyone bowls, golfs, skis, or perform household tasks exactly the same. Weather and other conditions can also affect the energy required to perform an activity.

 # 1

1 MET Level Activities

Activity	METs
Walking (1 mph)	1-2
Stationary biking (60 RPM, free wheeling)	1.5
Sleeping	1.0
Eating	1.5
Shaving	1.5
Combing Hair	1.5
Reading	1.5
Sewing (by hand)	1.5

 # 2

2 MET Level Activities

Activity	METs
Walking (1.5-2 mph)	2.0
Walking (2.5 mph)	2.5
Stationary biking (60 RPM, 0.4 load indicator level)	2.0
Dressing and undressing	2.0
Bathing in a bathtub	2.4
Typing	2.2
Playing piano	2.0
Riding in a car	2.0

3

3 MET Level Activities

Activity	METs
Walking (3 mph)	3.0
Stationary biking (60 RPM, 0.8 load indicator level)	3.2
Showering	3.5
Ascending stairs slowly (11 steps/min.)	3.3
Washing dishes	3.5
Cooking a meal	3.5
Bowling	3.8
Shuffleboard	3.3
Golfing (riding in a power cart)	3.7

4

4 MET Level Activities

Activity	METs
Walking (3.5 mph)	4.0
Stationary biking (60 RPM, 1.2 load indicator level)	4.0
Sexual activity (foreplay)	4.2
Vacuuming	4.3
Changing a bed	4.5
Pushing a power mover	4.0
Driving a car	4.0
Grocery shopping	4.3
Fishing	4.0
Playing ping-pong	4.5
Golfing (pulling a golf cart)	4.0

 # 5

5 MET Level Activities

Activity	METs
Walking (4 mph)	5.0
Stationary biking (75 RPM, 1.6 load indicator level)	5.2
Descending stairs	5.0
Ascending stairs (22 steps/min.)	5.5
Walking up a slight incline	5.0
Sexual activity (orgasmic)	5.5
Carrying groceries	5.5
Raking leaves	5.5
Swimming	5.5
Playing softball	5.5
Golfing (carrying golf bag)	5.0
Playing tennis (doubles)	5.0

 # 6

6 MET Level Activities

Activities	METs
Walking (4.5 mph)	6.0
Stationary biking (75 RPM, 2.0 load indicator level)	6.0
Carpentry	6.0
Playing tennis (singles)	6.0
Square dancing	6.0
Horseback riding (trot)	6.0
Downhill skiing (light)	6.5

7

7 MET Level Activities

Activity	METs
Walking (5 mph)	7.0
Stationary biking (75 RPM, 2.4 load indicator level)	7.0
Walking up an average incline	7.5
Playing basketball	7.0
Canoeing	7.0
Water skiing	7.6
Jogging (5 mph)	7.5

8

8 MET Level Activities

Activity	METs
Walking (5.5 mph)	8.3
Stationary biking (75 RPM, 2.8 load indicator level)	8.1
Ascending stairs (33 steps/min.)	8.0
Walking up a steep incline	8.5
Downhill skiing (vigorous)	8.0
Performing calisthenics	8.5

9-10

9-10 MET Level Activities

Activity
Running (6.5 mph)
Performing construction work
Mountain climbing
Playing soccer

 # 11-12

11-12 MET Level Activities

Activity

Running (7 mph)
Cross-country skiing

 # 13-14

13-14 MET Level Activities

Activity

Running (7.5 mph)
Shoveling wet snow

SECTION D: Aquatic Exercise

This section should be divided into weekly segments at the discretion of the facilitator. Reading the entire section all at once will facilitate gaining a general understanding of its content. With an overview of this section in mind, the facilitator will be able to create multiple sessions. Facilitators are encouraged to be creative in developing session activities. The first 15 minutes of each session could be spent presenting the key points, with review of past key points, time for problem solving and a question and answer period. The remaining time in each session could be for pool exercise. Each week, the emphasis can be new and different. For example: week one could include strengthening exercises; week two, stretching exercises; week three, cardiovascular exercise; week four, integration of all exercise modes.

***Goals:**

1. To outline the optimal characteristics of an aquatic environment.
2. To define the physical properties of water and discuss how to utilize those properties for exercise.
3. To experience aquatic exercise and learn how to integrate aquatic exercise into a total exercise regime.

The "Jo Strauss Post-Polio Program" was a pilot health promotion program for persons with the late effects of polio that was held in Mt. Pleasant, Michigan in the fall of 1989. It was sponsored by the Easter Seals Society of Michigan and took place on the campus of Central Michigan University. The program curriculum focused on nutrition, swimming, and group support; and was considered to be successful by many of its participants and facilitators.

Sandra Payne served as the aquatics instructor and shares the following insights which came from that experience. It is hoped that this information will be helpful to facilitators of this section as they plan activities for Stay Well! *participants.*

"Jo Strauss Post-Polio Program" participants met one day a week for an hour from September through December 1989. The purposes of the aquatics segment of the program were to:

--provide mild water exercises, focusing on strengthening and conditioning of the post-polio muscles and joints.

--help relieve stress that often accompanies post-polio participants, and build a confidence in each participant's aquatic abilities.

--develop a series of exercises for each participant that would enable them to continue after the Program concluded.

I had my own personal objectives for these participants:

--to instill in each participant a basic understanding of the important benefits of water exercises for the post-polio joints and muscles.

--to recognize that each participant was capable of developing those aquatic skills to continue on their own behalf when the Program concluded.

We started each lesson with a rap session.

The following focuses on the basic routine I developed for this program. Each participant had a volunteer to help them in the pool. This is extremely important for the success of the program, and the well-being of each student. We started each lesson with a rap session. It is very important to evaluate each person's experiences physically, as well as mentally, from the previous week's class. I needed to evaluate how each person was affected--positively or

negatively. This information was important in determining what I would have them do during the coming sessions. I had a regular routine of exercises and skills that we did each week. We started out of the pool, getting used to the water, survival skills for being in the water, etc. Each week we added to these, until I had a complete routine for each person.

I found that those with limited abilities could do the easier portions of each routine. The importance of this type of workout is to keep moving, and to work those joints and muscles to the best of each person's ability. There has to be continual movement in the water to stimulate energy and maintain body warmth. I allowed some free time for swimming skill development for those who wished, and during this time I would work with the participants individually, evaluating how they were doing, listening to their concerns.

I incorporated various water equipment into the program to help the participants with exercises and to have fun, such as kickballs, beach balls, floats, dumbbells, and diving rings.

If you envision a pool closely guarded by wheelchairs, Amigos, crutches, and braces, and in that pool, a group of dedicated and happy swimmers enjoying one hour without disabilities, you more closely understand our rewards.

This type of water exercise is so beneficial for the post-polio participant. The rewards, for each one who took part in this program, were outstanding and were not only physical, but mental as well. I found that in the short amount of time this pilot program was conducted, the mental benefit became as important as the physical part. If you envision a pool closely guarded by wheelchairs, Amigos, crutches, and braces, and in that pool, a group of dedicated and happy swimmers enjoying one hour without disabilities, you more closely understand our rewards.

Some of the participants had never been in a pool before...

The type of exercises I developed were pretty simple, but one important component of this program was the caring and compassionate efforts of those who were volunteering to help. Without this type of volunteer, the program would not succeed. Some of the participants had never been in a pool before, but by the end of the program each one became a capable aquatic person!

Each participant expressed a beneficial change in their physical condition due primarily to the exercises we did in the program. One woman developed a significant change in her ability to get around. Another woman made such an improvement in her posture from the water therapy that the stiffness which often accompanies post-polio muscles and joints seemed to be lessened. The list just goes on and on. This just reinforces my conviction that for this type of disability, water exercise in a wellness program can help participants make a significant improvement.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. Characteristics of a Pool Impacting Suitability for Exercise

   A. Accessibility/Mode of Entry
      - ramp with railing
      - stairs
      - ladder
      - Hoyer lift
      - lowering over side
      - hydraulic lifts

   B. Temperature
      - optimal therapeutic temperature is 96-98 degrees Fahrenheit
      - non-therapeutic is 80-85 degrees
      - In non-therapeutic temperatures, the heart rate may decrease and then proportionally increase with exercise.

   C. Logistics
      - hours of operation
      - availability
      - distance from home and work

   D. Cost
      - flat membership
      - charge per session
      - cost for linen or other special commodities

   E. Rules/guidelines
      - bowel/bladder appliances/continence
      - mobility aides, flotation device use
      - personal assistance: special charges, availability

   F. Safety
      - nonslip floors
      - lifeguards or availability of trained personnel

   G. Size
      - dimensions
      - depth

H. Chlorination
- chlorine levels should be 1.0-3.00 ppm
- Ph (alkalinity) should be 7.5-8.0

2. Physical Properties of Water

A. Specific gravity (or relative density)
- The specific gravity of a substance is the ratio of the mass of a given volume of that substance to the mass of the same volume of water.
- The specific gravity of distilled water = 1.0 (sea water is 1.024).
- A body with a specific gravity less than 1.0 will float in water, and more than 1.0 will sink in water.

B. Buoyancy
- Buoyancy is a force which provides an upward thrust acting in a direction opposite to gravity.
- Buoyancy may be used to provide flotation or resistance.
- A person with a very muscular body will have a more difficult time floating than a person with a less muscular body.
- The chest is the center of gravity in the water; with weakened or paralyzed lower extremities, the center of gravity may change.

C. Archimedes principle
- The buoyant force exerted on a body wholly or partially immersed in a fluid at rest is equal to the weight of the fluid displaced.
- The body in water is subject to two opposing forces: gravity and buoyancy. A stable equilibrium is achieved when the forces are in a vertical line. Otherwise, a force couple (vector) is created and the object rotates.

D. Hydrostatic pressure
- The pressure exerted by the weight of a fluid on each part of the surface area of an immersed body is called the hydrostatic pressure.
- The hydrostatic pressure increases with the depth of submersion and the density of the fluid.

E. Streamline flow
- A continuous steady movement of fluid; the rate of movement at any fixed point remains constant.

- It can be pictured as very thin layers of fluid molecules sliding over one another. The inner layers move quickly, the outer ones move slowly and the outermost ones remain stationary.
- Principles:
  - Unstreamlined: a broad-ended object will form waves as it moves through the water; unstreamlined flow results in greater wave formation and so greater resistance to motion.
  - Streamlined: as a narrow object moves through water, there is little or no breakaway of the fluid flow and little disturbance of water.

** - Practical applications:

- An exercise may be made more difficult by changing a body part (limb) from a streamlined object to an unstreamlined body (e.g., add various sized and shaped floats to the limb, therefore increasing its surface area).
- An exercise may be made more difficult by changing the surface area of the body part (e.g., palm of hand closed and moving parallel to the water surface compared to palm of hand open and moving at right angles to the water surface).
- An exercise will be made easier by shortening the body part moving.

F. Turbulent Flow

- Turbulent flow is an irregular (unstreamlined and unsteady) movement of fluid.
- The movement creates:
  - eddies: rotary movement (rapid, random movement of fluid)
  - wakes: a resultant flow of water in the area of reduced pressures caused by increased pressure in front of a moving object and decreases pressure at the rear of it.

** - Practical applications:

  - Move your arm through the water, then reverse direction. The turbulence previously created will provide resistance to the movement.
  - Turbulence demands co-contraction of the abdominal and back muscles in order for you to remain stationary before continuing with reversed distal movement.

G. Summary

Resistance may be increased by:

- increasing the speed of the movement
- using larger movements
- increasing the surface area of the body presented to the water by the addition of more rings and floats (streamlined effect)
- adding weight to the extremity distally
- using a sudden reversal of movement to create additional turbulence

Resistance may be decreased by:

- decreasing the speed of movement
- decreasing the size of movement
- shortening the part of the body moving
- streamlining the surfaces of the body part moving through the water
- using slow, gentle changes in movement to minimize turbulence
- Percentage of body weight with immersed
  - neck height: 10% body weight
  - chest height: 25% body weight
  - waist height: 50% body weight

3. <u>Physiologic Effects of Aquatic Exercise</u>

A. Increased superficial circulation

B. Increased blood flow to muscles

C. Increased heart rate

D. Increased general metabolic rate

E. Increased sensitivity of sensory nerve endings

F. General muscle relaxation

4. <u>Indications/Contraindications to Aquatic Exercise</u>

** A. Indications

- decrease pain
- increase mobility
- increase strength
- improve coordination

- control weight bearing
- increase muscle endurance
- increase relaxation
- increase flexibility
- improve posture
- improve cardiovascular endurance
- improve recreation and enjoyment in a social environment

B. Contraindications
- open sores/some skin rashes
- urinary tract infection
- bowel/bladder incontinence
- respiratory tract infection
- blood infection
- uncontrolled seizure disorder
- tracheotomy
- menstruation without internal protection

C. Precautions
- seizure disorder which is medically controlled
- cardiac history
- lung capacity of 1.5 liters or less (decreased endurance)
- autonomic dysreflexia
- orthostatic hypotension
- fear of water (hydrophobia)
- hypersensitivity
- acute orthopedic injury

5. <u>Equipment</u>

1. Exercise equipment
- hand paddles, water mitts, water ball, water dumbbells, water barbells, fins, flippers, water wings, flipper boards, flotation devices, etc.

2. Vendors
- The Finals
  21 Minink Ave.
  Port Jarvis, NY 12771
  (800) 4331-9111

- Hydro-tone, Inc.
  3535 58th St., N.W., Suite 1000
  Oklahoma City, OK 73112
  (800) 537-4671

- J&B Foam Fabricators, Inc.
  P.O. Box 144
  Ludington, MI 49431
  (616) 843-2445

6. ** Common Community Pool Resources

   1. YMCA
   2. Public schools
   3. Hotels
      - Days Inn: (800) 325-2525
      - Hilton: (800) 445-8667
      - Hyatt Hotel: (800) 233-1234
      - Radisson Hotel: (800) 333-3333
      - Sheraton: (800) 325-3535
   4. Community education buildings
   5. City or county pools
   6. Private pool clubs, including health spas
   7. Rehabilitation centers

** Of particular interest to participants

Facilitators, "if you have any doubts as to what your participants need--ask them. You'll get your ideas...!"

--Lynette Jenkins
Facilitator, Post-Polio Hydrotherapy Programme
Toronto Rehabilitation Centre

Activities:

1. Present key points.
2. Have participants do appropriate adapted exercises in a warm water pool. (See handout.)
3. Have participants make a list of pools available in the community.
4. Visit pools in the community to determine their suitability for routine exercise.
5. Distribute participant Section Evaluation Forms. Have group members complete and return them to the facilitator, who will pass them on to the program organizers.

***Materials/Equipment Needed:**

1. Accessible pool, preferably with a temperature between 86 and 96 degrees F.
2. Aluminum chairs and parallel bars in the water.
3. Cloth webbing to act as "seat belts" to prevent people from floating.
4. Shower chairs or wheelchairs to transfer participants to and from the shower room.
5. Safety and play equipment.

Note: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. Anderson B: *Stretching*. Bolinas, CA, Shelter Publications, 1980.

2. Edlich RF, Abidin MR, Becker DG, Pavlovich LJ Jr, and Dang MT: Design of hydrotherapy exercise pools. *Journal of Burn Care Rehabilitation* 9: 505-509, 1988.

3. McNeal RL: *Aquatic Therapy: Various Uses and Techniques*. Aquatic Therapy Services, Inc., 1988.

4. Pollock M and Wilmore JH: *Exercise in Health and Disease*. Philadelphia, PA, W.B. Saunders, 1990.

5. Rehabilitation Institute of Chicago: *Aquatics for the Disabled*. Course Notes, February 1987.

HANDOUT

A Message to Participants from Sandra Payne, Swimming Instructor for the "Jo Strauss Post-Polio Program"

There are no limits to the workouts you can do in the pool. Taking a simple arm movement in the water and reversing the action, speeding up or slowing down the movement creates another exercise. I liked to think of some of our exercises as ballet. Participants lined up along the wall of the pool holding on to the edge, and spacing themselves out to allow enough room for movements, we would then begin the routine. We always did a few warm-up activities in the water. The following are examples of the types of things you can do in the water, and believe me, they're just a few. You are only limited by your imagination.

1. **Knee press: bring the right knee to the chest, give it a gentle squeeze. Press it on the bottom of the pool. Start out 5 times each. Repeat with left. You can increase or decrease these.**
2. **Knee lifts: raise the right leg out to the side and press to the bottom of the pool. Always repeat on the left side with all exercises (if you can).**
3. **Stretch leg out to the back while holding on to the side of the pool.**
4. **Leg squeeze: place both feet on the side of the pool. Holding on to the edge, in a position that is comfortable, gently bring body toward the wall and give a little squeeze in the pressed position. Then straighten out body, keeping feet on the wall and legs straight. This is a good exercise for back muscles.**
5. **You might do circle of the arms, or any number of activities using kick boards, such as: press board into water, using both hands, hold the board down while stretching the muscles.**
6. **Shoulders: shrugs, circles, or pressing both forward and back.**
7. **Circle of the hips: while holding on to the edge of the pool, circle hips first to the right and then to the left.**
8. **Wall walk: holding on to the edge, placing feet on wall, walk along the edge in a spider fashion.**
9. **Walking in the water is another excellent routine. Walk forward, sideways, backwards, hop on one foot, then the other, or hop on both feet. Jog in place.**
10. **Just swim...do a few laps.**
11. **There are many exercises you might do while floating on the back. Participants who use a wheelchair or have crutches found this to be a wonderful experience. Participants with limited leg function were often surprised by the movements they could do while in the water. In the back floating position, work on leg and arm movements such as: bringing both knees to the chest (with the help of an aide), press legs straight out and flex the muscles. Hold for a few seconds, then relax.**

If you start at the head and work down, there is some type of stretching or flexing you can do with every part of your body. Be creative and you will find an endless number of things to do.

SECTION E: Posture, Back Care, and Joint Protection

It is recommended that this section be divided and developed into several sessions at the facilitator's discretion. Doing so will depend upon individual needs of the group participants and the Stay Well! *Program's given schedule. Reading the entire section at once will help in gaining a general understanding of its content. With an overview of this section in mind, the facilitator will be able to create multiple sessions. The first 15 minutes of each session could be spent presenting the key points, doing a review of formerly presented key points, and having a time for problem solving and a question and answer period. The facilitator is encouraged to be creative in developing session activities.*

***Goals:**

1. Participants will demonstrate correct posture and posture breaks.
2. Participants will demonstrate proper lifting and pushing/pulling techniques.
3. Participants will be able to protect joints with principles learned.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

Posture:

1) Sitting: ergonomically correct positions; proper/optimal lordosis (curvature of the spine); and proper position of the head with earlobe above shoulder.

There are many types of back supports that could be demonstrated at this time, for example, rolling a towel for back support.

2) Standing: four normal curves of the spine; equal weight on both legs; weight shift maneuver in a diagonal stance.

3) Sleeping: attempt to maintain four normal curves of the spine
   - Use a firm mattress that will support the curves
   - Use cervical pillows, feather pillows, pillow with towel rolled lengthwise in the pillow case.
   - Side-lying in a soft mattress, the spine is in a side-bent position.
   - Lying in a prone position will place the neck in a rotated and extended position and can compromise the flow of blood through the vertebral artery. Pillows can be placed under the chest or abdomen.
   - Waterbeds need to be kept full to maintain firmness and can be difficult to get in and out of.

Body Mechanics:

1) Plan for the lift
2) Wide base of support
3) Use legs to lift; bend knees
4) Keep weight close
5) Pivot; do not twist
6) Ask for help

Joint Protection:

1) Part of protecting our joints is maintaining good posture for the joints. This is the position where the least amount of stress is placed on the joints and the ligaments and muscles surrounding the joints. We will be going through each joint and practice the resting position and demonstrate some of the stressful positions for the joint.

2) Neck--Review good neck posture and posture break principles. In order to understand the principles of good posture, bend your elbow so that the palm faces upward, like a waiter would use to carry a tray. Then place a weight on end of the fingertips. You can feel the strain across the wrist and the hand. If you compare this activity to the position of the head when it is forward on the neck or to the position you may use when propelling yourself on crutches, you can begin to understand the stress on supporting muscles and/or joints when they are poorly positioned.

   Next, with your arm held in the same position, place the weight on the heel of the hand. You can feel much less strain on the muscles and the ligaments. This illustrates the principle of using short, rather than long lever arms and maintaining straight and balanced alignment of the spine during prolonged activity in order to avoid strain on postural support muscles.

   Some suggestions about how to apply this principle are to read with a book stand, pull the head back into a chin tuck, and position a computer or television directly in front of you and at eye level. Also remember to take posture breaks!

3) Hand/Wrist--The principle in the example above also illustrates the potential stress on the wrists when using crutches or canes. The neutral or mid position of the wrist is optimal for minimizing stress to this joint and the gripping muscles. There are hand grips for crutches and canes that are made specifically for people with carpal tunnel syndrome in order to maintain the neutral wrist position and distribute weight broadly over the palm of the hand.

4) Shoulder--The optimal shoulder position is retracted slightly and not elevated. There are also specific positions that allow individual shoulder muscles to function optimally. Since all muscles are able to shorten and lengthen, there is a position in the middle of their range of movement in which the muscle is the strongest and does not have to work as hard to maintain the same force.

Consider the following example. When the biceps muscle is shortened by placing the elbow in the extreme bent position or it is elongated with the elbow nearly straight, it will be easier to overpower it and you can feel the muscle straining more when someone is pulling against it (demonstrate this with a couple of people). This principle also applies to the shoulder muscles. When the shoulders are forward, the scapular support muscles are stretched or lengthened and they will be straining more during heavy arm muscle use.

5) Hips--The sacroiliac joint connects the sacrum and the iliac bone of the pelvis. This joint is stressed when standing for long periods of time, particularly with more weight on one leg than the other.

Other stressful positions are sitting with legs crossed or in a slouched position, since these positions put stress on the ligaments across the back of the sacroiliac joint. It is important to shift weight frequently when sitting or standing for long periods.

6) Knees--The knees can also be easily stressed in many positions. The extreme flexed (bent) position of the knee puts stress on the side ligaments and the cartilage surfaces of the joint itself. The backward ligaments and the joint surface are also strained when the knee is hyperextended.

Wearing a shoe with a slight heel will shorten the calf muscles and decrease strain on the knee. Too much of a heel may cause the knee to hyperextend. Squatting and "w" sitting will put stress on the ligaments at the outside of the knee joint. It is best to avoid these positions or to only be in them for short periods of time.

Demonstrate the standing and sitting positions that put stress on the knee; sitting with knees crossed, sitting on knees, and standing with knees in locked position.

7) Strengthening muscles around joints will add to their stability and decrease strain and injury. Maintaining good posture and avoiding stressful positions will protect the joints. It is best to plan rests and not become fatigued during activities because when you are tired, it is easy to begin using poor body mechanics and poor coordination of muscles which can lead to injury.

Activities:

1. Present key points.
2. Demonstrate and have participants practice the following exercises:

   For Posture:

   Posture Break
   - chin tuck
   - shoulder shrug
   - shoulder circles
   - shoulder retraction
   - slump/sit tall
   - neck sidebending
   - back extension (sitting or standing)
   - forward bending (sitting or standing)
   - opposite position to what you are in

   For Body Mechanics:
   - practice lifting from a high surface
   - practice lifting from waist height
   - practice lifting from the floor
   - practice the above in a chair
   - practice moving a box from one table to a table 90 degrees to it
   - practice pushing a cart, baby stroller, or a lawn mower
   - practice sweeping and vacuuming
   - practice standing up from a chair
   - practice transferring and sliding sideways while sitting

3. Distribute participant Section Evaluation Forms. Have group members complete and return them to the facilitator, who will pass them on to the program organizers.

***Materials/Equipment Needed:** Floor mats, comfortable chairs for optimal posture, overhead projector or flip chart for presenting key points, handouts, and pencils.

Friendly Reminder: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. Saunders D: *Evaluation, Treatment and Prevention of Musculoskeletal Disorders* Edina, MN, Educational Opportunities, 1985.

2. Waring W and Werner R: Clinical management of carpal tunnel syndrome in patients with long-term sequelae of poliomyelitis. *Journal of Hand Surgery* 14:5, 865-868, 1989.

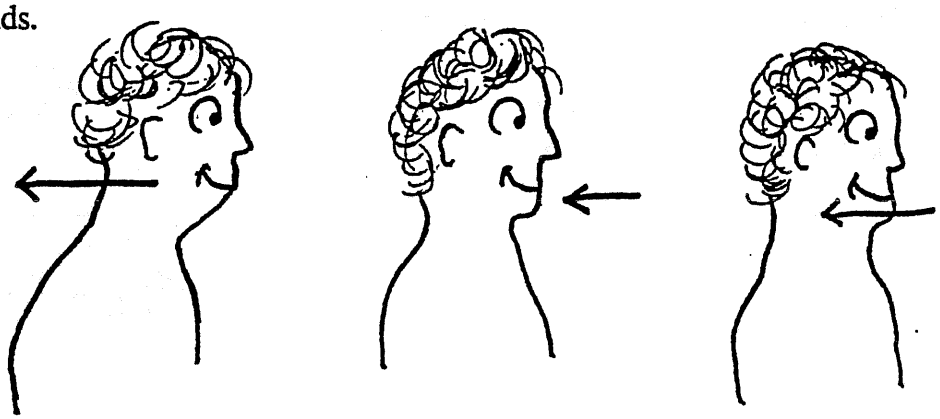
3. Werner R and Waring W: Risk factors for median mononeuropathy of the wrist in postpoliomyelitis patients. *Archives of Physical Medicine and Rehabilitation* 70, 464-467, 1989.

HANDOUT

Posture Exercises

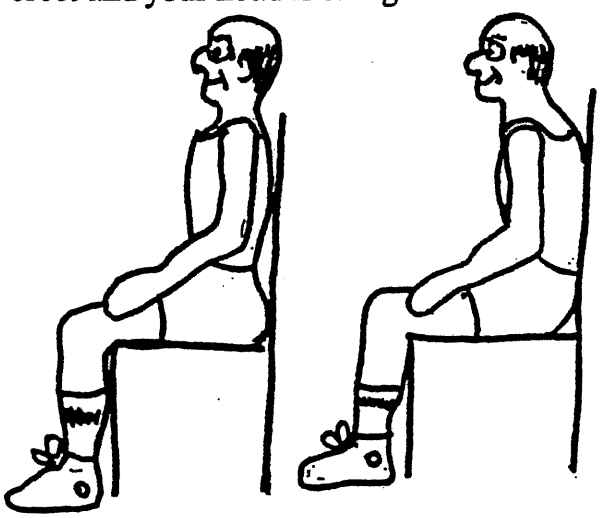
Cervical Stretch (Chin Tuck)

1. Sitting in a relaxed position, back erect, make a double chin as you look straight ahead.
2. Hold for five seconds.
3. Relax.
4. Repeat.



Posture Break (Slump, Sit Tall with Extension)

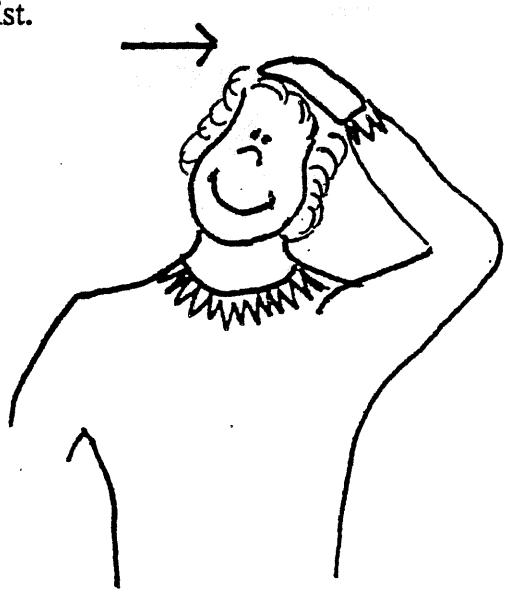
1. Assume a sitting position in a chair which allows your hips to be slightly higher than your knees. Your feet should be resting on floor; let your hands rest on your lap.
2. Allow your back to slump.
3. Let your head and shoulders slump forward and down.
4. Hold for _____ seconds.
5. Return your head and shoulders to the erect position.
6. Straighten your back, making sure your pelvis is erect and your head is straight.
7. Hold for _____ seconds.
8. Return to position #2.
9. Repeat the entire sequence _____ times.



<u>Posture Exercises</u> **(page two)**

Neck Sidebend

1. Assume an upright sitting posture.
2. Maintain your head in the chin tuck position.
3. Sidebend your head toward your _____ side. (Keep your face straight ahead.)
4. You may use your _____ hand to assist.
5. Gently stretch for _____ seconds.
6. Return to the starting position.
7. Repeat _____ times.
8. Repeat to the _____ side.



SECTION F: Community Resources

This section can be divided into weekly segments at the discretion of the facilitator. Reading the entire section will help in gaining a general understanding of its content. With an overview of this section in mind, the facilitator will be able to create multiple sessions. The first 15 to 30 minutes of each session could be spent presenting the key points, with review of past key points, time for problem solving and a question and answer period. The facilitator is encouraged to be creative in developing session activities. The remaining time in each session can be for participants to exercise as if in an exercise club. Each week, the emphasis could be new and different. For example: week one could include strengthening exercises; week two, stretching exercises; week three, cardiovascular exercise; week four, integration of all exercise modes.

***Goals**

1. To define community resources for exercise facilities and classes.
2. To be familiar with exercise equipment.
3. To learn how to find and select exercise support groups.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. Community Resources for Exercising
   - A. Hotels with Pools
     - Days Inn: (800) 325-2525
     - Hilton: (800) 445-8667
     - Holiday Inn: (800) 445-8667
     - Hyatt Hotel: (800) 233-1234
     - Marriott: (800) 228-9290
     - Radisson Hotel: (800) 333-3333
     - Sheraton: (800) 325-3535
   - B. Rainbow Club: (313) 482-1200
   - C. YMCA/YWCA
   - D. Public schools
   - E. Community education program
   - F. Recreation clubs
   - G. Mall exercise classes
   - H. City pools
   - I. Exercise clubs
   - J. Hospitals/rehabilitation centers

2. Equipment

A. Arm ergometers

- Monark
  Rehab Trainer
  (800) 762-32799 (east)
  (800) 841-9019 (west)

- Pro Sport Arm Ergometer
  825 Second Street N., Building A
  Safety Harbor, FL 34695
  (900) 762-3279

- Pedex
  Cleo, Inc.
  3957 Mayfield Rd.
  Cleveland, OH 44121
  (800) 321-0595
  #13-1186 @ $39.95

B. Treadmills

C. Wheelchair rollers

D. Pools

- Twirl Jet Spa
  37030 Industrial Ave.
  Hemet, CA 92343-9558
  (800) 854-4890

E. Rowing machines

F. Abdominal exercisers

G. Lumbar and cervical supports

H. Stationary bicycles

- Schwinn Airodyne
  Schwinn Bicycle Company
  217 North Jefferson Company
  Chicago, IL 60606

- Life Plus Recumbent Bike
  LifePlus, Inc.
  3770 Plaza Drive, Suite 1
  Ann Arbor, MI 48108-1654
  (313) 769-3939

I. Pool equipment

- Hydrotone
  Hydrotone International
  3535 Northwest 58th St., Suite 1000
  Oklahoma City, OK 73112

- Water Power Workout
  AEP Aquatic Exercise Products Inc.
  3070 Kerner Blvd., Units S.
  San Rafael, CA 94901

- The Finals
  21 Minink Ave.
  Port Jarvis, NY 12771
  (800) 431-9111

- Speedo Warnaco America, Inc.
  7915 Haskell Ave.
  Van Nuys, CA 91409

- J&B Foam Fabricators, Inc.
  P.O. Box 144
  Ludington, MI 49431
  (616) 843-2448

Activities:

1. Present key points.
2. Using the local telephone book, research and record a pertinent list of community resources for exercise activities. Make this a group activity with participants sharing information based on their own experience with such resources.
3. Organize a visit to an exercise club or to an equipment supply store.
4. Participants should do exercises as individually determined.
5. Distribute participant Section Evaluation Forms. Have group members complete and return them to the facilitator, who will pass them on to the program organizers.

***Materials Needed:** Paper, pencils, and copies of the local telephone book and various medical supply catalogues.

Friendly Reminder: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. An Assortment of Medical Supply Catalogues
2. Your Local Telephone Book

UNIT III: LIFESTYLE ENHANCEMENT

This unit is divided into six monthly sections. Each section is further developed into four weekly sessions. Facilitators are encouraged to modify the session outlines as they choose. The structure that has been laid out is meant to provide a concrete springboard for individually developing program curriculum presentations based on participant needs, facilitators' areas of expertise, and available resources. Facilitators are encouraged to refer to the Teaching Tips as they plan and present sessions. Filling out evaluation forms at the end of each section will help provide immediate feedback on how the program is progressing. Reminders for the participants and the facilitators to do this are printed at the end of every section.

It is recommended that facilitators have a knowledge base in the areas they are going to teach. It is also recommended that each facilitator of this unit, depending upon the specific content, be a professional social worker, psychologist, occupational therapist, or counselor, or have access to them as consultants when needed. It is also critical that all facilitators learn about the late effects of polio before they instruct participants.

Reminder: Users of the "Stay Well" manual are advised to consult with their physician or other treating health professional before attempting any of the health assistance programs described in the manual. Described health assistance programs are designed to complement ongoing medical advice and treatment from your physician or other treating health professional. Further, described health assistance programs cannot replace medical advice and treatment.

***Overall Unit Goals:**

Participants will be given an opportunity to enhance their styles of daily living by:

1. Learning how to increase their levels of self-acceptance.
2. Learning how to identify and cope more effectively with personal stress.
3. Learning how to apply the principles of assertive behavior.
4. Increasing awareness of community resources and their roles or functions.
5. Understanding more about the development of satisfying leisure-time activities.
6. Increasing awareness of available personal (internal and external) resources and the successful management of those resources.

SECTION A: Ego-Fitness

(A curriculum model by Sunny Roller, utilizing *Reaching Out--Interpersonal Effectiveness and Self-Actualization*, Johnson DW: New Jersey: Prentice-Hall Inc., 1972; with contributions by Denise Tate.)

*** Overall Goal:** To increase participants' self-acceptance levels.

Special Note: *This section is perhaps the foundation for this entire wellness program. Without positive self-esteem and a high "ego-fitness" (a term coined by Lena Ricks) level, participants will not be able to follow through on many of the learned activities that are health-promoting. Facilitators and participants must believe that we are all worth the effort--that we are valuable and lovable. The ideas presented in this section should permeate the entire program--be reiterated, built upon and reinforced often.*

*** Structured Overview:**

Increasing self-acceptance can lead to higher levels of "ego-fitness" or self-confidence.

This can begin to be accomplished by:

1. Identifying one's positive accomplishments and strengths.
2. Practicing receiving acceptance from others and communicating acceptance to others.
3. Becoming more aware of the role that one's disability plays and does not play as part of a self-accepting point of view.
4. Setting new weekly goals for accomplishment and strength building, which --once attained--can help create higher levels of "ego-fitness."

*** Teaching Tips:**

After your introductory statements in the first session, you might consider using the following suggestions each time your group meets. These tips can help ensure successful presentations:

1. REVIEW PERSONALIZED CONCEPTS: Review personal applications of the previous week's concepts. Encourage group discussion--this allows for application of content learned.

2. STIMULATE INTEREST: Get and stimulate participants' attention to the session's new concepts by giving examples, telling a story, showing a picture, etc., that immediately attaches the information to their life experience and emotions. This will serve as a brief introduction to motivate the learners.

3. COMMUNICATE OBJECTIVES: Communicate and clarify the session's behavioral objectives ("goal") with the participants. This will give people a sense of direction.

4. PRESENT STRUCTURED OVERVIEW: Show participants where the objectives fit into the overall unit topic by reviewing the "Structured Overview."

5. EXPLAIN RELEVANCE: Tell participants what they will need this information for. What will they do with it? How will it be useful and applicable to their real life situations? This provides relevance and purpose for the session's content.

6. PRESENT CONTENT: Communicate key points (content).

7. CONDUCT ACTIVITIES: Facilitate group activities that strengthen the learning process.

8. PERSONALIZE CONCEPTS: Give planned home exercises (if desired) to help participants personalize and apply presented concepts when they go home and before the next session.

*** Evaluation Measures:** Pre-/Post-Test

*** Suggested Session Content and Activities:**

SESSION ONE: Section Introduction and I Am Lovable, Capable, and Empowered

Introduction

1. Introduce entire Ego-Fitness Section.
2. Refer to Teaching Tips 2, 4, and 5.
3. Administer Ego-Fitness Pre-/Post-Test. Discuss.

HANDOUT

SECTION A: Ego-Fitness

Pre-/Post-Test

A QUICK INVENTORY:
HOW DO YOU FEEL?

Respondents are asked to strongly agree (SA), agree (A), disagree (D), strongly disagree (SD), with the following items:

(1)	On the whole, I am satisfied with myself.	SA	A	D	SD
(2)	I feel that I have a number of good qualities.	SA	A	D	SD
(3)	I am able to do things as well as most other people.	SA	A	D	SD
(4)	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
(5)	I have a positive attitude about myself.	SA	A	D	SD

I Am Lovable, Capable, and Empowered

*Goal: To identify and communicate positive personal accomplishments and strengths.

*Key Points and Activities: Refer to Teaching Tips 2-8.

Points:

1. Self-acceptance is having a high regard for ourselves. It is the ability to embrace all of our strengths and weaknesses and still see ourselves as likable, wanted, acceptable to others, capable and worthy. Self-acceptance leads to self-confidence, which is the calm knowledge that our personal strengths can and will help us attain greater accomplishments and success.

2. Self-acceptance involves accepting ourselves as a total person, with human frailties, too. It is important to have a balanced view of ourselves. We do not always feel good and that is okay. Not everyone is going to love and nurture us all the time and that is just part of life. We cannot please others all the time and we will be rejected at times. It is okay to struggle, to have fears, to feel angry, sad, or inadequate, and it is important to acknowledge all those feelings.

3. Self-accepting individuals display certain characteristics. (See "Characteristics of Self-Accepting Individuals" handout and "Maturity..." handout.)

4. One way to build self-acceptance is to acknowledge our weaknesses and increase our awareness of accomplishments and personal strengths (skills, talents, abilities, or personal traits that help us function more productively). If we are then able to connect with other people and know that we are not alone and are able to self-disclose, then ego-fitness levels can be improved. Often, we become stronger and more effective people when we depend upon others for help and togetherness when we need it.

Activities:

1. Have participants complete part A of the handout "I Am Lovable, Capable, and Empowered."

2. Divide group into pairs to share their positive accomplishments.

3. Then, with their partner's help, participants are to examine their past successes, and to identify the strengths they used to achieve them, completing part B of the same handout.

4. An alternate activity is to have participants complete the "Coat of Arms" handout individually but with some help from a partner, and then share the results with the rest of the group. Ask group participants to pair themselves with another member of the group. Participants are encouraged to be

partners with someone they don't know very well to help each other brainstorm. Instruct group members to make a personal coat of arms on a large piece of newsprint designed to represent the items listed on the Coat of Arms handout. Participants are asked to share their coat of arms with the entire group. It is important that group members listen with respect and full attention as each person explains his/her coat of arms. The facilitator is encouraged to stimulate discussion and respond to information as each person shares his/her shield.

5. Give planned home exercises:

Group members are to...

A. Post handout "I Am Lovable, Capable, and Empowered" prominently in their home. They should read and think about their past successes and strengths every day for the next week.

B. Write down ways that they communicate acceptance to themselves and to others. Include both verbal and non-verbal methods.

***Materials Needed:** Pencils, newsprint, colored markers, and handouts for each participant.

HANDOUT

SELF-ACCEPTING PEOPLE...

(Adapted from Hamachek D E: *Encounters with the Self.*
New York, Holt, Rinehart, and Winston, 1971,
and Wright, B: *Physical Disability--A Psychosocial Approach.*
New York, Harper and Row, 1983.)

1. Believe strongly in certain internalized values and principles as a guide for behavior rather than on external pressure, but feel personally secure enough to modify those standards if new experience and evidence suggest that change is appropriate.

2. Are capable of acting on their own best judgment without feeling excessively guilty or regretting their actions if others disapprove of what they have done. Assumes responsibility for their own actions and the consequences of that behavior.

3. Do not spend undue time worrying about what is coming tomorrow, what has happened in the past, or what is taking place in the present. Does not expect rejection from other people.

4. Have confidence and faith in their ability to cope, even in the face of failure and setbacks.

5. Consider themselves to be persons of worth on a equal plane with others as a persons, not superior or inferior, irrespective of the differences in specific abilities, family backgrounds, or attitudes of others toward them.

6. Are able to take for granted that they are people of interest and value to others, at least to those with whom they choose to associate. Are not shy or self-conscious.

7. Can accept praise and criticism from others objectively.

8. Are inclined to resist the efforts of others to dominate them.

9. Are able to accept the idea and admit to others that they are capable of feeling a wide range of impulses and desires, ranging from being angry to being loving, from being sad to being happy, from feeling deep resentment to feeling deep acceptance.

10. Are able to genuinely enjoy a wide variety of activities involving work, play, creative self-expression, companionship, or loafing.

11. Are sensitive to the needs of others, to accepted social customs, and particularly to the idea that they cannot enjoy life at the expense of others.

HANDOUT

MATURITY...

Maturity is the growing awareness that you are neither wonderful nor helpless. It could be said to be the knowledge of what is, what might be, and what cannot be. It is not a destination; it is a road. It is the moment when you wake up after some grief or staggering blow and think "I'm going to live after all." It is the moment when you find that something you have long believed is not so, and parting with old convictions you find that you are still you; the moment you discover that someone else can do your job as well as you--but you go on doing it anyway; the moment you do the thing you have always been afraid of; the moment you realize that you are forever alone, but so is everyone else, and the hundred moments when you see yourself as you are.

It is letting life happen in its own good order and making the most of what there is.
It is "letting go and letting God."

--Author Unknown

HANDOUT

I AM LOVABLE, CAPABLE AND EMPOWERED.

A. Think of all the things you do well, all the things which you are proud of having done, all the things for which you feel a sense of accomplishment. List all your positive accomplishments, your successes, of the past. Be specific...consider occupational, social, family, educational, health and personal growth successes as example categories.

My positive accomplishments are:_____

B. With the help of someone else, examine your past successes to identify the strengths (such as persistence, intelligence, integrity, creativity) you utilized to achieve them.

My personal strengths are:_____

HANDOUT

PERSONAL COAT OF ARMS

The following activity will help you get to know the members of this group better and will help you focus on your positive personal accomplishments and strengths.

On a piece of newsprint or large paper, design and draw a personal coat of arms with different sections to represent the following items:

1. **The three people most important to you.**
2. **The place where you feel the most at home.**
3. **The part of your personality you are the proudest of.**
4. **Three of your finest personal accomplishments.**
5. **Three strengths you admire in others and wish you had even more of yourself.**
6. **What "ego-fitness" means to you.**

SESSION TWO: I'm Okay and Everyone Else Is Alright, Too

*Goal: To practice receiving acceptance from others and communicating acceptance to others.

*Key Points and Activities: Refer to Teaching Tips 1-8.

Points:

1. When we can say "I'm okay and everyone else is alright, too," we have decided that we are worthwhile and valuable and that other people are also worthwhile and valuable. We accept ourselves with our strengths and weaknesses and respond appropriately and with self-assurance to acceptance and rejection from others. We can give acceptance and receive acceptance. We are free to get involved in meaningful relationships. We communicate to others that we appreciate our own strengths and appreciate their strengths.

   This is the position that everyone should strive to be in. This is the position of positive self-acceptance which facilitates the development of close, meaningful relationships, and our growing movement toward greater health, functioning, and overall well-being. It is important to realize that we "cannot please all of the people all of the time" and that if we feel too much rejection from the people around us it is important to maximize our opportunities to be with people who accept and like us. Families are so important to each of us, but sometimes they may not be the best place to experience nurturing and positive affirmation. Seeking and finding balance is critical if we are to "stay well."

2. To increase our self-acceptance, we must self-disclose in order to let other people know who we are and to experience acceptance by others. People are not unaccepting of individuals they do not know--most often they are neutral or indifferent. The relationship among self-acceptance, self-disclosure, and being accepted by other people is important. If we do not self-disclose, we cannot be accepted by others and our self-acceptance will not be increased.

   Paradoxically, not only is our self-acceptance increased by self-disclosing (and subsequently being accepted by others), but how easy it is for us to self-disclose is related to our level of self-acceptance.

3. Self-disclosure must be honest. Being accepted for a "lie" only leads to self-rejection. It is only as we discover that we are loved for what we are, not for what we pretend to be or for the masks that we hide behind, that we can begin to feel we are actually people worthy of respect and love.

Activities:

1. Have group members share planned home exercise from the last session. How do group members usually communicate acceptance?

2. Using the handout "I Am Lovable, Capable, and Empowered" in the group as a whole, each person should share the full list of his/her strengths. The participant should then ask the group, "What additional strengths do you see in my life?" The group responds by adding to each participant's list other qualities, skills, characteristics that the individual overlooked or undervalued. The feedback should be specific; that is, if one member tells another he has a strength, he must back his feedback up with some evidence of behavior which demonstrates the strength.

3. After every group member has shared his/her strengths and received feedback on what further strengths others see in his/her life, each member should then ask the group, "What might be keeping me from utilizing all my strengths?" The group then explores ways in which we can free ourselves from factors which limit the utilization of our strengths.

4. End with each member displaying a verbal or nonverbal form of acceptance toward other members.

5. Give planned home exercise:

   Between now and the next session, do two new things that will build upon your accomplishments and increase your strengths. For ideas, refer to the handout "Ten Tips to Lift Your Spirits."

***Materials Needed:** Pencils and handouts for each participant.

HANDOUT

TEN TIPS TO LIFT YOUR SPIRITS

(From Schuller RE: *Self-Love*. New York, Jove Publications, 1984.)

1. **Join a status-building club that commands respect in the community.** We discover ourselves in involvement with others.

2. **Tackle a creative project.** Bake a pie. Take a class. Plant a garden. Creativity of all sorts builds self-worth.

3. **Buy new clothes.** Give yourself a treat. Get something new. Enjoy yourself.

4. **Pick a major challenge and go after it.** Try something you've always wanted to do--but never thought you could. Make certain the challenge is creative and uplifting.

5. **Become a good receiver.** We grow in self-esteem when we learn how to accept suggestions, constructive criticism, and sincere compliments.

6. **Get to know important people.** It will do wonders for your self-respect if you earn the friendship of an important person.

7. **Climb the ladder.** You promote your self-respect when you are promoted to a higher position. Through honest labor and sincere dedication, you can rise higher on the social or economic scale than you are now.

8. **Stand and sit up straight and tall.** Imagine yourself as upstanding and your posture will become erect. You will find yourself becoming more self-confident as a result.

9. **Be a constructive nonconformist.** A popular person stands out from the crowd. He/she is distinctive, an inspiring leader of the group. You will respect yourself... if you are true to your own convictions. Be a constructive, kind, and creative nonconformist...

10. **Open up or blow up.** Look upon every conflict as an opportunity. Open up. To speak your mind in a frank and friendly manner will be helpful. Then think and talk about the positive qualities in the situation and build upon them.

SESSION THREE: Embracing Ability

***Goal:** To become more aware of the role that our disability does and does not play as part of our self-accepting point of view.

Key Points and Activities: Refer to Teaching Tips 1-8.

Points:

1. If you can reject all the bad things believed about being disabled, you are then freeing yourself to explore what Dr. Carolyn Vash (author of *The Psychology of Disability*; New York, Springer, 1981) calls this unique aspect of yourself that can offer new personal growth--your disability. Dr. Vash, a rehabilitation professional who is disabled as a result of polio says that by embracing your new differences and transcending them (getting above them to see the more important things in life), you may not only successfully handle your differences, but actually benefit, grow, and excel because of these differences. You could even become someone more unique in your own right, someone who goes far beyond where you might have gone had you not been disabled.

   (Seekins T, et al: *Preventing and Managing Secondary Disabilities: A Self-Help Problems Solving Guide*, Montana, Research and Training Center on Rural Rehabilitation, 1990.)

2. It is interesting and useful to see how much of a role disability plays and does not play as part of our total self-acceptance.

Activities:

1. Do "A Quick Inventory" (handout).

2. Discuss answers from handout to begin awareness building. Additional questions could include:
   - How can we free ourselves from negative perceptions of disability?
   - How can we build positive and realistic perceptions of people with disabilities?
   - How do we "embrace" our disability fully?

3. Have everyone exchange a verbal or non-verbal form of acceptance.

***Materials Needed:** Pencils and handouts.

HANDOUT

A QUICK INVENTORY

(a questionnaire by Susan Krantz and Sunny Roller)

A. Please describe any ways in which you think more of yourself now as compared to before you became disabled, either by the late effects of polio or by your original polio. (If you have no memory of life before your disability or you are not now disabled, please indicate that.)

The above answer refers to:___After original polio___After late effects of polio___No memory of polio or not now disabled.

B. Please describe any ways in which you think less of yourself now as compared to before you became disabled, either by the effects of polio or by your original polio. (If you have no memory of life before your disability or you are not now disabled, please indicate that.)

The above answer refers to :___After original polio___After late effects of polio___No memory of polio or not now disabled.

C. Since becoming disabled, what--if anything--have you learned about yourself and other people that you weren't aware of before you became disabled either by the late effects of polio or by your original polio? (Again, if you have no memory of life before your disability or you are not now disabled, please indicate that.)

The above answer refers to:___After original polio___After late effects of polio___No memory of polio or not now disabled.

D. Do you feel that you've gained any good qualities now that you're disabled that most able-bodied people don't have? If yes, what are they?

E. How much of your sense of self-worth is based on your disability and how much has to do with other factors? (in other words, if your disability disappeared overnight, would you feel better, worse or the same way about yourself as a worthwhile person?)

SESSION FOUR: Rx For Ego-Fitness

***Goal:** To set new weekly goals for accomplishment and strength-building.

***Key Points and Activities:** Refer to Teaching Tips 2-8.

Points:

1. In order to grow in our self-acceptance levels, we must explore and develop potential strengths and intensify our current strengths by practicing them. To increase our ego-fitness levels, we can use our strengths to accomplish new goals, which can lead to new strengths.

2. A "strength" refers to any skill, talent, ability, or personal trait which helps us function more fully and productively.

Activities:

1. Complete "Rx for Ego-Fitness" (handout) and share information with the rest of the group.

2. Complete the Pre-/post-test. Discuss.

3. Have everyone exchange a verbal or non-verbal form of acceptance.

4. Distribute Participants' Section Evaluation forms found in Chapter 4. Have group members complete and return them. These will need to be passed along to the program organizers.

***Materials Needed:** Pencils and handouts.

Note: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

HANDOUT

Rx For Ego-Fitness

Think about your past achievements and talents, skills, and good personal characteristics. Based on these, set a new goal for the next week, or few weeks ...

My goal is:

_____

My strengths to be used will be:

I will use my strengths to accomplish my goal in the following ways:

I will know my goal is accomplished when:

Do as many of these Rxs as you please!

HANDOUT

SECTION A: Ego-Fitness

Pre-/Post-Test

A QUICK INVENTORY:
HOW DO YOU FEEL?

Respondents are asked to strongly agree (SA), agree (A), disagree (D), strongly disagree (SD), with the following items:

(1)	On the whole, I am satisfied with myself.	SA	A	D	SD
(2)	I feel that I have a number of good qualities.	SA	A	D	SD
(3)	I am able to do things as well as most other people.	SA	A	D	SD
(4)	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
(5)	I have a positive attitude about myself.	SA	A	D	SD

***Suggested Resources:**

1. Beisser A: *Flying Without Wings*. New York, Doubleday and Co., Inc., 1989.

2. Johnson D: *Reaching Out: Interpersonal Effectiveness and Self-Actualization*. New Jersey, Prentice Hall, 1972.

3. Roller S and Maynard FM: "Coping Successfully With Polio's Late Effects." Ann Arbor, MI, University of Michigan, 1989. (A videotape available for purchase through the Department of Physical Medicine and Rehabilitation, University of Michigan Medical Center, 1D204B University Hospital, 1500 E. Medical Center Drive, Ann Arbor, MI 48109-0042, phone: 313-936-7210.)

4. Schuller R: *You Can Become the Person You Want to Be*. New York, Jove Publications, Inc., 1973.

5. Schuller R: *Self-Love*. New York, Jove Publications, 1979.

6. Wright B: *Physical Disability--A Psychosocial Approach*, New York, Harper and Row, 1983.

SECTION B: Stress Management

(Based on the Stress Annihilation Workbook, by Richard Bruno, with contributions by Albert Heldt and Debra Neff)

***Overall Goal:** To learn to identify and cope more effectively with personal stress in order to stay optimally healthy with a functional impairment caused by polio.

*** Structured Overview:**

Identifying and managing personal stress can help persons with a functional impairment caused by polio to stay optimally healthy.

This can begin to be accomplished by:

1. Defining the different types of stress and describing stress signs and how stress aggravates physical illnesses, such as post-polio sequelae.
2. Identifying external events, patterns of behavior and internal events that trigger stress.
3. Applying the "laws of stress annihilation" to erase mentally caused stressors.
4. Applying the "laws of stress annihilation" to erase physically caused stressors.

*** Teaching Tips:**

After your introductory statements in the first session, you might consider using the following suggestions each time your group meets. These tips can help ensure successful presentations:

1. REVIEW PERSONALIZED CONCEPTS: Review personal applications of the previous week's concepts. Encourage group discussion--this allows for application of content learned.

2. STIMULATE INTEREST: Get and stimulate participants' attention to the session's new concepts by giving examples, telling a story, showing a picture, etc., that immediately attaches the information to their life experience and emotions. This will serve as a brief introduction to motivate the learners.

3. COMMUNICATE OBJECTIVES: Communicate and clarify the session's behavioral objectives ("goal") with the participants. This will give people a sense of direction.

4. PRESENT STRUCTURED OVERVIEW: Show participants where the objectives fit into the overall unit topic by reviewing the "Structured Overview."

5. EXPLAIN RELEVANCE: Tell participants what they will need this information for. What will they do with it? How will it be useful and applicable to their real life situations? This provides relevance and purpose for the session's content.

6. PRESENT CONTENT: Communicate key points (content).

7. CONDUCT ACTIVITIES: Facilitate group activities that strengthen the learning process.

8. PERSONALIZE CONCEPTS: Give planned home exercises (if desired) to help participants personalize and apply presented concepts when they go home and before the next session.

*** Evaluation Measures:** Pre-section stress inventory.

***Suggested Session Content and Activities:**

SESSION ONE: Section Introduction and What Is Stress and How Is It Killing Me?

***Goal:** To introduce the entire section and to define the different types of stress, describe our stress signs and how stress causes psychophysiological illnesses, such as post-polio sequelae.

***Key Points and Activities:** Refer to Teaching Tips 2-8.

Points:

1. Our Body's Responses to Danger

   * *Anxiety* occurs when we *think* something dangerous is about to happen.
   * *Fear* occurs when we *know* something dangerous is about to happen.
   * *Stress* occurs when something dangerous *is* happening.

2. Definition of Stress

   Stress is the body's physical and emotional response when it thinks we're in danger.

   It is the body's reaction to demands made upon it and can come from anxiety over work, marriage, or social relationships. It can arise when we have a poor self-concept and engage in day-to-day living or when we try to be perfect.

3. Some of Our Body's Stress Signs

   Our body activates many systems to prepare us to "fight or flee" the thing that is endangering us or make demands of us. It...

   ...increases blood pressure, heart rate and blood flow to the muscles, and decreases blood flow to the skin;
   ...increases sweating on the palms of the hands and over the body;
   ...increases muscle tension so that muscles can contract more quickly and strongly.

4. The Brain's Stress Signs:

   * feeling jumpy, shaky, distracted, tired, tearful, irritable;
   * decreased ability to focus attention;

* decreased ability to think of alternatives to actions.
* depression may result from chronic stress.

5. Four Types of Stress

* External stress happens from outside...
  like when your boss yells at you.

* Perceived stress happens from the inside...
  like when you're constantly worried that people won't like you.

* Acute stress happens for a short time...
  like when your wallet gets stolen but is quickly recovered.

* Chronic stress happens for a long time...
  like after a loved one dies or when you don't like your job.

6. Can Stress Really Hurt Us?

* Chronic stress is a killer and causes psychophysiological (chronic stress-related) illness--such as hypertension, heart attack and stroke--because the body just can't function continuously with all of its activating mechanisms turned on.

* Stress causes the release of cortisol, the body's stress hormone, which interferes with the ability of the nerve cells to use their only fuel, glucose;

* Stress turns down the immune system, and chronic stress may make you vulnerable to diseases such as cancer.

* Stress can aggravate post-polio sequelae:
  - polio survivors report frequent feelings of anxiety;
  - polio survivors report high rates of hard-driving, time-conscious, overachieving, pressured and perfectionistic, chronically stressed type A behaviors;
  - both increased anxiety and frequent type A behaviors are related to the frequency and severity of post-polio sequelae.

Activities

1. Present the section's overall goal and structured overview.

2. Present points in order and have group members complete corresponding handouts; discuss.

3. Have participants fill out the Pre-Test; discuss.

4. Planned Home Activity:

Try to become aware of and able to name the emotions you feel and the thoughts and physical sensations that go with them regarding five specific parts of your life. Examples include: your disability, your job, your marriage, your children, your finances, and your health. Watch out for stress, anxiety and type A behavior. Take notes.

***Materials Needed:** Pencils and handouts.

HANDOUT

Some of Our Body's Stress Signs

Our body activates many systems to prepare us to "fight or flee" the thing that is endangering us or making demands of us. It...

...increases blood pressure, heart rate and blood flow to the muscles, and decreases blood flow to the skin;
...increases sweating on the palms of the hands and over the body:
...increases muscle tension so that muscles can contract more quickly and strongly.

How do these physiological changes help you to survive?
What bodily signs do you experience with stress?

The Brain's Stress Signs:

* feeling jumpy, shaky, distracted, tired, tearful, or irritable;
* decreased ability to focus attention;
* decreased ability to think of alternatives to actions;
* depression may result from chronic stress.

What mental signs do you experience with stress?

HANDOUT

Four Types of Stress

* External stress happens from outside...
  like when your boss yells at you.
* Perceived stress happens from the inside...
  like when you're constantly worried that people won't like you.
* Acute stress happens for a short time...
  like your wallet gets stolen but is quickly recovered.
* Chronic stress happens for a long time...
  like after a loved one dies or when you don't like your job.

List the types of stress you've experienced.

External Stress	Perceived Stress
Acute Stress	
Chronic Stress	

HANDOUT

STRESS MANAGEMENT PRE-TEST

Please complete this type A behavior questionnaire. Mark a check on the right if the answer is true...

Do you or have you...	**TRUE**
frequently have trouble falling asleep because your mind is racing?	
have frequent feelings of anxiety?	
enjoy competition?	
consider yourself to be hard-driving?	
set at least one deadline per day for yourself?	
have a temper that's hard to control, or fiery?	
set at least one deadline per week for yourself?	
usually wake up in the morning not feeling well-rested?	
usually spend less than five days on an average vacation?	
spend more than eight hours per week working overtime?	
taken less than one vacation per year during the past five years?	
find it very important for you personally to get ahead in life?	

If you answered true to five or more questions, you may have a type A personality that is prone to increased anxiety and chronic stress.

SESSION TWO: Stress Triggers

*Goal: To identify external events, patterns of behavior and internal events that trigger stress.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. What Triggers Stress?

External events...are things that happen to you from the outside as part of life, like talking to your boss, a job loss, or loss of a loved one.

Patterns of behavior... are the ways you act habitually or as a matter of course, like commuting or always working through lunch or having too much to do.

Internal events...are things that are happening to you on the inside. They are things that you think, or things that you say to yourself, like "should-ing" yourself.

"Should-ing" is the number one cause of perceived stress! Do you hear yourself thinking "I should always...

...be in control of myself and everything else...
...be perfect in everything I do...
...do whatever anyone wants whenever they want it...
...be doing something and should never rest..."?

We can change those "shoulds" to "want to's" or "would like to's." (For example, not "I should eat better," but "I want to eat better."

2. Having a disability may be a stress trigger.

Does having a disability cause external stress?
Does having a disability trigger perceived stress?
These are questions we must each answer for ourselves.

Activities:

1. As a group, have participants complete handouts #1 and #2; discuss.

2. Planned home activity:

Between now and the next session, participants are asked to try to become aware of and keep notes on their external stress triggers, stress patterns and "should" thinking.

***Materials Needed:** Handouts and pencils.

HANDOUT

What Triggers Stress?

External events...like talking to your boss or your mother-in-law.

What are a few of your own?

Patterns of Behavior...like commuting or always working through lunch or having too much to do.

What are some others?

Internal events, like...

"Should-ing" yourself.

"Should-ing" is the number one cause of perceived stress! Do you hear yourself thinking "I should always...

...be in control of myself and everything else...
...be perfect in everything I do...
...do whatever anyone wants whenever they want it...
"...be doing something and should never rest"?

List your own "shoulds:"

HANDOUT

Is Having a Disability a Stress Trigger?

Does disability trigger external stress for you? If so, how?

Does disability trigger perceived stress for you? If yes, how? This is a question each of us must answer for ourselves.

SESSION THREE: Your Stress Program

*Goal: To apply the laws of stress annihilation to erase the mental portion of your stress program.

*Key Points and Activities: Refer to Teaching Tips 1-8.

Points:

1. Our Stress Program

* Our unique stress signs, stress triggers and stress response patterns form our "personal stress program."
* Our "stress program" can only be erased if we stop our automatic mental and physical response to stress triggers and interrupt our stress response pattern by applying the laws of stress annihilation.

2. Laws of Stress Annihilation

Law #1: Listen to yourself! Be on the lookout for...

stress signs from your body and your brain.

stress triggers which are external or internal, and patterns of behavior.

Law #2: "The 13th Amendment to the Constitution."

* Abe Lincoln freed the slaves. Will you free yourself from stress?
* Ask the three "whats":
    1. "What gives you the right to ask this of me?"
    2. "What am I really afraid of?"
    3. "What's the worst thing that could happen if I say 'no'?"

Law #3: "There's always an alternative!"

* Ask the three "whys":
    1. "Why does it have to be done?"
    2. "Why does it have to be me?"
    3. "Why does it have to be now?"
* When in doubt, do the opposite of what you think you "should!"
* Expect to feel very guilty! Use guilt as your own biofeedback.

Law #4: "Mind Over Matter: If you don't mind, it doesn't matter!"

* Stop thinking! When you hear the "shoulds," just say "STOP!" to yourself.
* Be ready to substitute the "shoulds" with helpful thoughts, beautiful images or wonderful fantasies.
* Try meditation (repeat "one" or a peaceful word or prayer).

Activities

1. Discuss key points and have the group complete the handout. Share their results.

2. Planned home activity:

   Ask participants to try to apply these laws of mental stress annihilation between now and the next session and then every minute of every day and to please keep notes on what they've been doing...

***Materials Needed:** Pencils and handout.

HANDOUT

Listen to yourself! Be on the lookout for...

Stress Signs:
Body:
Brain:
Stress Triggers:
External:
Internal:
Patterns of behavior:

SESSION FOUR: Erasing the Physical Portion of the Stress Program

***Goal:** To apply the laws of stress annihilation to erase the physical portion of "the stress program."

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. Law #5: When in doubt, don't.

   * Stop yourself from doing things because you feel anxious, uncomfortable, or frightened when you're not doing something (see Law #3).

2. Law #6: "It's my body; I can do what I want to!"

   * Anything that relaxes your muscles turns off your stress signs:
     ...stretching
     ...a massage
     ...a hot bath or shower
     ...you are only limited by your imagination on this one!
   * Take a "two minute vacation" every hour:
     ...start with the "Two Breath Time Out"
     ...add a minute of meditation, imagery or stretching
     ...finish with another "Two Breath Time Out."
   * Do something for yourself that feels good once a day.

3. There are additional ways to deal with stress, including:
   ...developing friendships, improving relationships with active listening, getting involved in helping others, and using the power of a good sense of humor. Laughter has great physical benefits and learning not to take oneself not so seriously is a good way to counter stress.

Activities:

1. Present and discuss key points.

2. LIFEWORK: Try to apply all the laws of stress annihilation every minute of every day.

3. Distribute Participants' Section Evaluation forms found in Chapter 4. Have group members complete and return them. These will need to be passed along to the program organizers.

***Materials Needed:** Pencils and evaluation forms.

Note: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

1. Benson H: *Beyond the Relaxation Response*, New York, NY, Times Books, 1984.

2. Bruno RL and Frick NM: The psychology of polio as prelude to post-polio sequelae: behavior modification and psychotherapy. *Orthopedics*, 14 (11): 1185-1193, 1991.

3. Bruno RL and Frick NM: The origins of "type A" behavior and stress-induced symptoms in adults disabled by polio: Family pressure or physiological predisposition? *Proceedings of the Society of Behavioral Medicine*, 10:85, 1989.

4. Bruno RL and Frick NM: Stress and "type A" behavior and precipitants of post-polio sequelae. In Halstead LS and Wiechers DO (eds.): *Research and Clinical Aspects of the Late Effects of Poliomyelitis*. White Plains, NY, March of Dimes, 1987.

5. Cousins N: *Anatomy of An Illness As Perceived by the Patient: Reflections on Healing and Regeneration*. NY, W. W. Norton, 1979.

6. Cousins N: *Head First: The Biology of Hope*. New York, E. P. Dutton, 1989.

7. Frick NM and Bruno RL: Post-polio sequelae: physiological and psychological overview. *Rehabilitation Literature* 47 (5-6): 106-111, 1986.

8. Frick NM: Post-polio sequelae and the psychology of second disability. *Orthopedics* 8 (7) 851-853, 1985.

9. Greenberg JS: *Comprehensive Stress Management* (3rd edition). Dubuque, IA, W. C. Brown, 1990.

10. Lair J: *Ain't I A Wonder... And Ain't You A Wonder, Too.* New York, Fawcett Crest, 1977.

11. Olsen K: *Hanging Loose In An Uptight World*. Greenwich, CT, Fawcett, 1975.

12. Pelletier K: *Mind A Healer, Mind As Slayer*. New York, Dell, 1977.

13. Siegel BS: *Love, Medicine and Miracles*. New York, Harper and Row, 1986.

14. Siegel BS: *Peace, Love and Healing*. New York, Harper and Row, 1989.

SECTION C: Assertiveness Skills

(A curriculum model by Sunny Roller and Mara Julius
with contributions by Lena Ricks.)

***Overall Goal:** To increase participants' awareness of assertiveness skills and behaviors that will allow individuals to communicate more directly, honestly and appropriately.

*** Structured Overview:**

Increasing one's awareness of assertiveness skills and behaviors can lead to interpersonal communication that is more direct, honest, and appropriate.

This can be accomplished by:

1. Introducing participants to the fundamental principles of assertive communication.

2. Assessing personal assertiveness skills.

3. Exploring the relationship between anger-coping styles and assertive behavior.

4. Practicing assertive communication skills with people who play important roles in participants' lives.

*** Teaching Tips:**

After your introductory statements in the first session, you might consider using the following suggestions each time your group meets. These tips can help ensure successful presentations:

1. REVIEW PERSONALIZED CONCEPTS: Review personal applications of the previous week's concepts. Encourage group discussion--this allows for application of content learned.

2. STIMULATE INTEREST: Get and stimulate participants' attention to the session's new concepts by giving examples, telling a story, showing a picture, etc., that immediately attaches the information to their life experience and emotions. This will serve as a brief introduction to motivate the learners.

3. COMMUNICATE OBJECTIVES: Communicate and clarify the session's behavioral objectives ("goal") with the participants. This will give people a sense of direction.

4. PRESENT STRUCTURED OVERVIEW: Show participants where the objectives fit into the overall unit topic by reviewing the "Structured Overview."

5. EXPLAIN RELEVANCE: Tell participants what they will need this information for. What will they do with it? How will it be useful and applicable to their real life situations? This provides relevance and purpose for the session's content.

6. PRESENT CONTENT: Communicate key points (content).

7. CONDUCT ACTIVITIES: Facilitate group activities that strengthen the learning process.

8. PERSONALIZE CONCEPTS: Give planned home exercises (if desired) to help participants personalize and apply presented concepts when they go home and before the next session.

*** Suggested Session Content and Activities:**

Session One: Introduction to Entire Section and "Are You on the 'Right' Track?"

***Goal:** To define assertiveness and become more aware of personal rights.

***Key Points and Activities:** Refer to Teaching Tips 2-8.

Points:

1. A definition of **assertiveness:**

   According to Alberti and Emmons (*Your Perfect Right*. San Luis Obispo, CA, Impact Publishers, 1986.)...

   "assertive behavior promotes equality in human relationships, enabling us to act in our own best interests, to stand up for ourselves without undue anxiety, to express honest feelings comfortably, to exercise personal rights without denying the rights of others."

2. There is a difference between "non-assertiveness," "aggressiveness," and "assertiveness."

   Non-assertiveness is getting one's needs met indirectly through manipulation. Or it can result in not getting one's needs met because one simply does not express his or her rights, needs, or desires. The consequences of non-assertive behavior is feelings of anxiety and frustration, which may culminate in a later aggressive outburst.

   Aggressiveness is getting one's needs met without taking into consideration the rights and needs of others. Such behavior can involve an inappropriate outburst or hostile overreaction. The consequences of aggressive behavior can include feelings of guilt by the person who displays aggression and feelings of resentment and alienation by others.

   Assertiveness involves expressing one's rights and needs while taking into consideration the rights and needs of others. The outcomes of assertive behavior are confidence and self-respect. One's relationships can become freer and more honest. (Rasmussen, et al: *Hospital to Community: A Collaborative Program for Independent Living and Medical Rehabilitation.* Ann Arbor, MI, University of Michigan Medical Center, 1989.)

3. Assertiveness reflects sincere concern for every person's rights, including our own. It is important to fully understand and embrace what those rights are. In 1948, the General Assembly of the United Nations adopted the *Universal Declaration of Human Rights*. A copy of those rights is recorded in the second handout for this session. The assertive person knows and respects these rights for him/herself and others and will communicate in a manner that upholds those rights.

Activities:

1. Present this section's overall goal and structured overview.
2. Present key points. Distribute handouts.
3. As a group, clarify and discuss information on handouts by using participants' real-life examples.

***Materials/Equipment Needed:** Pencils, copies of handouts.

HANDOUT

COMMUNICATION STYLES

(Adapted from: Rasmussen L, et al: *Hospital To Community: A Collaborative Program for Independent Living and Medical Rehabilitation.* Ann Arbor, MI, University of Michigan Medical Center, 1989.)

1. **Non-Assertiveness is not standing up for your feelings and rights in an effective way.**

   Examples and characteristics of non-assertive behaviors include:

   - Not actively and directly making needs known to others.
   - Viewing the rights of others as superior to your own.
   - Allowing others to take advantage of you.
   - Expecting that others will guess your needs, thoughts, and feelings.
   - Stuffing feelings and thoughts inside (which can produce anger and resentment.)
   - Allowing others to make your decisions for you.
   - Not showing self-confidence.
   - Avoidance in dealing with problems.

2. **Aggressiveness is standing up for what you want without considering the rights or feelings of others.**

   Examples and characteristics of aggressive behaviors include:

   - **Directly Aggressive Behaviors**, such as threatening, being nasty, giving orders, name-calling, swearing, yelling, interrupting, blaming or accusing someone, writing a person off by saying "I hate you," instead of saying exactly what he or she is doing that you don't like, physically striking someone, throwing things, making demands instead of asking, viewing your rights as superior to others' rights, being disrespectful.

   - **Passively Aggressive Behaviors**, such as trying to make someone feel guilty, talking behind someones's back instead of dealing directly with that person,

eye-rolling, sighing, mumbling, slouching instead of saying how you feel, refusing to respond to another person (the "silent treatment"), being stubborn, not listening by tuning people out, taking feelings like anger out on those around you instead of dealing with the issue directly.

3. **Assertiveness is standing up for your rights and expressing your feelings without purposefully hurting others.**

Examples and characteristics of assertive behavior include:

- Speaking up while the problem situation is in progress--don't wait until it's too late.
- Objecting to specific behavior that infringes on your rights--avoid over-generalizing.
- Being brief and to the point.
- Avoiding stories from the past--deal with the present problem situation.
- Never apologizing for asserting your rights--you have the right to at least ask for what you want.
- Being assertive with your body, your voice, your eyes, and your facial expression.
- When someone infringes upon your rights, using your freedom to tell the individual how his/her behavior affects you--it may help to tell the person how you feel.
- Being initially friendly and firm--if necessary, increase your intensity (e.g., voice volume) or seek assistance from someone with more power of authority (e.g., a supervisor or lawyer).
- Making your needs known to the other in a direct and non-threatening way.
- Talking to another with respect for that person and yourself.

HANDOUT

UNIVERSAL DECLARATION OF HUMAN RIGHTS

WHEREAS recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world,

WHEREAS disregard and contempt for human rights have resulted in barbarous acts which have outraged the conscience of mankind, and the advent of a world in which human beings shall enjoy freedom of speech and belief and freedom from fear and want has been proclaimed as the highest aspiration of the common people,

WHEREAS, it is essential, if man is not to be compelled to have recourse, as a last resort, to rebellion against tyranny and oppression, that human rights should be protected by the rule of law,

WHEREAS it is essential to promote the development of friendly relations between nations,

WHEREAS the peoples of the United Nations have in their Charter reaffirmed their faith in fundamental human rights, in the dignity and worth of the human person and in the equal rights of men and women and have determined to promote social progress and better standards of life in larger freedom,

WHEREAS Member States have pledged themselves to achieve, in cooperation with the United Nations, the promotion of universal respect for and observance of human rights and fundamental freedoms,

WHEREAS a common understanding of these rights and freedoms is of the greatest importance for the full realization of this pledge,

NOW, THEREFORE, THE GENERAL ASSEMBLY PROCLAIMS this Universal Declaration of Human Rights as a common standard of achievement for all peoples and all nations, to the end that every individual and every organ of society, keeping this Declaration constantly in mind, shall strive by teaching and education to promote respect for these rights and freedoms and by progressive measures, national and international, to secure their universal and effective recognition and observance, both among the peoples of Member States themselves and among the peoples of territories under their jurisdiction.

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Article 1. All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.

Article 2. Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing or under any other limitation of sovereignty.

Article 3. Everyone has the right to life, liberty and security of person,

Article 4. No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms.

Article 5. No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment.

Article 6. Everyone has the right to recognition everywhere as a person before the law.

Article 7. All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination.
~~~~~~

Article 8. Everyone has the right to an effective remedy by the competent national tribunals for acts violating the fundamental rights granted him by the constitution of by law.

Article 9. No one shall be subjected to arbitrary arrest, detention of exile.

Article 10. Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him.

Article 11. (1) Everyone charged with a penal offence has the right to be presumed innocent until proved guilty according to law in a public trial at which he has had all the guarantees necessary for his defence.
(2) No one shall be held guilty of any penal offence on account of any act or omission which did not constitute a penal offence, under national or international law, at the time when it was committed. Nor shall a heavier penalty be imposed that the one that was applicable at the time the penal offence was committed.

Article 12. No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks.

Article 13. (1) Everyone has the right to freedom of movement and residence within the borders of each state.
(2) Everyone has the right to leave any country, including his own, and to return to his country.

Article 14. (1) Everyone has the right to seek and to enjoy in other countries asylum from persecution.
(2) This right may not be invoked in the case of prosecutions genuinely arising from non-political crimes or from acts contrary to the purposes and principles of the United Nations.

Article 15. (1) Everyone has the right to a nationality.
(2) No one shall be arbitrarily deprived of his nationality nor denied the right to change his nationality.

Article 16. (1) Men and women of full age, without any limitation due to race, nationality or religion, have the right to marry and to found a family. They are entitled to equal rights as to marriage, during marriage and at its dissolution.
(2) Marriage shall be entered into only with the free and full consent of the intending spouses.
(3) The family is the natural and fundamental group unit of society and is entitled to protection by society and the State.

Article 17. (1) Everyone has the right to own property alone as well as in association with others.
(2) No one shall be arbitrarily deprived of his property.

Article 18. Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and observance.

Article 19. Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.

Article 20. (1) Everyone has the right to freedom of peaceful assembly and association.
(2) No one may be compelled to belong to an association.

Article 21. (1) Everyone has the right to take part in the government of his country, directly or through freely chosen representative.
(2) Everyone has the right of equal access to public service in his country.
(3) The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures.

Article 22. Everyone, as a member of society, has the right to social security and is entitled to realization, through national effort and international cooperation and in accordance with the organization and resources of each State, of the economic, social and cultural rights indispensable for his dignity and the free development of his personality.

Article 23. (1) Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment.
(2) Everyone, without any discrimination, has the right to equal pay for equal work.
(3) Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection.
(4) Everyone has the right to form and to join trade unions for the protection of his interests.

Article 24. Everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay.

Article 25. (1) Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.
(2) Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection.

Article 26. (1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.
(2) Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.
(3) Parents have a prior right to choose the kind of education that shall be given to their children.

Article 27. (1) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.
(2) Everyone has the right to protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

Article 28. Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized.

Article 29. (1) Everyone has duties to the community in which alone the free and full development of his personalty is possible.
(2) In the exercise of his rights and freedoms, everyone shall be subject only to such limitations as are determined by law solely for the purpose of securing due recognition and respect for the rights and freedoms of others and of meeting the just requirements of morality, public order and the general welfare in a democratic society.
(3) These rights and freedoms may in no case be exercised contrary to the purposes and principles of the United Nations.

Article 30. Nothing in the Declaration may be interpreted as implying for any State, group or person any right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms set forth herein.

Session Two: "Let Me Tell You What I Want"

***Goal:** To assess personal assertiveness levels.

***** **Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. It is important to assess one's personal assertiveness levels. An individual can be assertive in some situations and non-assertive or aggressive in other situations.

2. Once areas for improvement are discovered, participants can practice and learn how to act more assertively.

Activities:

1. Introductions: have participants describe to the group one area in life in which they feel assertive.

2. Distribute handouts.

3. Personal inventory: have participants locate areas in which they feel they lack assertiveness or feel they "come on too strong," share these areas with the group and discuss. See "Assertiveness Inventory" handout.

4. In small groups of four or five, have participants role-play situations that are problematic. The group can offer solutions and then re-role-play the situation demonstrating appropriately assertive behavior. Remember: "Practice makes perfect!"

***Materials/Equipment Needed:** Pencils and handouts.

HANDOUT

Assertive Behavior Is Empowering...

"We are all controlled by the world in which we live...

The question is this:

are we to be controlled by accidents, by tyrants, or by ourselves?"

--B. F. Skinner

Basically, we must do three things if we are angry:

A. Define the problem.
B. Figure out how to solve the problem.
C. Take action to create solutions.

8. It is important to discover what anger-coping style we have and to improve our methods of dealing with anger, translating that coping style into assertive behavior.

Activities:

1. Present key points.

2. Have participants take "Feelings Survey Self-Assessment" and score it.

3. Discuss typical anger-inducing situations and Reflective ways of dealing with the situation. Role-play and brainstorm as a group using the three principles of dealing effectively with anger-provoking situations.

***Materials/Equipment Needed:** Pencils and handout.

HANDOUT

FEELINGS SURVEY SELF-ASSESSMENT

Score yourself to determine which anger coping style you are using, how healthy it is and how it compares with others (e.g., relatives, friends, co-workers).

ANGER-COPING STYLE SCALE

There are a number of different scales that are in use to determine how people cope with and express feelings of anger. Presented here is a scale that we developed as a variation of Dr. Ernest Harburg's original Anger-Coping Scale and used on a sample of Michigan Post-polio survivors. Once you complete the scoring, you will know to which of the three types of anger-coping style categories you belong. *Do not stop there.*

If you are the *Anger-Reflective type,* enforce it, act upon it, and teach your friends, spouse, relatives, or boss how to be the same. Research has shown that this is the healthiest style of coping with anger.

There is evidence to support that *Anger-In* and *Anger-Out* styles of coping with anger are unhealthy and are related to higher mortality (early death) risks from high blood pressure, depression, cardiovascular disease and cancer. If your scoring on the questionnaire indicated that you use an Anger-In or Anger-Out style, try to change your method of coping with anger.

The questionnaire and instructions for self-scoring can be found on the next few pages.

Feelings Survey--page two

Imagine that your boss has suddenly yelled at you for no good reason.

You feel angry.

How would you respond at the time?

Please circle one number for each statement.

	ALMOST ALWAYS	SOMEWHAT LIKELY	SOMEWHAT UNLIKELY	ALMOST NEVER
1. I'd raise my voice or yell back at him/her.	4	3	2	1
2. I'd try to control my temper so I can handle the problem.	4	3	2	1
3. I'd stay silent.	4	3	2	1
4. I'd feel hurt or mad and pout or sulk about it later.	4	3	2	1
5. I'd strongly protest to him/her.	4	3	2	1
6. I'd try to calm myself down and think about what angered me to try and settle the problem.	4	3	2	1
7. I'd lash out right back, be sarcastic or nasty or yell.	4	3	2	1
8. I'd withdraw or leave.	4	3	2	1
9. I'd try to keep my cool so I can handle the problem.	4	3	2	1
10. I'd argue with him/her.	4	3	2	1
11. I'd feel afraid or guilty to show him/her how hurt or angry I felt.	4	3	2	1
12. I'd try to stay calm and reason with him/her at the time or later.	4	3	2	1

Feelings Survey--page three

Imagine that your spouse/sweetheart has suddenly yelled at you for no good reason.

You feel angry.

How would you respond at the time?

Please circle one number for each statement.

	ALMOST ALWAYS	SOMEWHAT LIKELY	SOMEWHAT UNLIKELY	ALMOST NEVER
1. I'd raise my voice or yell back at him/her.	4	3	2	1
2. I'd try to control my temper so I can handle the problem.	4	3	2	1
3. I'd stay silent.	4	3	2	1
4. I'd feel hurt or mad and pout or sulk about it later.	4	3	2	1
5. I'd strongly protest to him/her.	4	3	2	1
6. I'd try to calm myself down and think about what angered me to try and settle the problem.	4	3	2	1
7. I'd lash out right back, be sarcastic or nasty or yell.	4	3	2	1
8. I'd withdraw or leave.	4	3	2	1
9. I'd try to keep my cool so I can handle the problem.	4	3	2	1
10. I'd argue with him/her.	4	3	2	1
11. I'd feel afraid or guilty to show him/her how hurt or angry I felt.	4	3	2	1
12. I'd try to stay calm and reason with him/her at the time or later.	4	3	2	1

Feelings Survey--page four

Imagine that your parents/relatives have suddenly yelled at you for no good reason.

You feel angry.

Please circle one number for each statement.

	ALMOST ALWAYS	SOMEWHAT LIKELY	SOMEWHAT UNLIKELY	ALMOST NEVER
1. I'd raise my voice or yell back at him/her.	4	3	2	1
2. I'd try to control my temper so I can handle the problem.	4	3	2	1
3. I'd stay silent.	4	3	2	1
4. I'd feel hurt or mad and pout or sulk about it later.	4	3	2	1
5. I'd strongly protest to him/her.	4	3	2	1
6. I'd try to calm myself down and think about what angered me to try and settle the problem.	4	3	2	1
7. I'd lash out right back, be sarcastic or nasty or yell.	4	3	2	1
8. I'd withdraw or leave.	4	3	2	1
9. I'd try to keep my cool so I can handle the problem.	4	3	2	1
10. I'd argue with him/her.	4	3	2	1
11. I'd feel afraid or guilty to show him/her how hurt or angry I felt.	4	3	2	1
12. I'd try to stay calm and reason with him/her at the time or later.	4	3	2	1

Feelings Survey--page five

Score Yourself:

Anger-In Score:

If adding the numbers corresponding to your responses to categories 1, 5, 7 and 10 yields a score between 10-16 points, your Anger-In score is high and you are more likely to suppress feelings of anger. Findings from the Life Change Event Study in Tecumseh, Michigan show that **people who suppress anger have two times greater a mortality risk than those who express their anger.**

Anger-Out Score:

If the total of your responses to categories 3, 4, 8 and 11 ranges between 10-16 points, you are more likely to express your feelings of anger. Your Anger-Out score is high, This is also an unhealthy coping style. You are just mad and are not diagnosing the **source** of anger or devising a strategy to solve the problem.

Anger-Reflective Score:

If your responses to categories 2, 6, 9, and 12 yield a total score between 10-16 points, you are more likely to deal with angry feelings reflectively; you do not deny your anger when unjustifiably attacked by your spouse, friend or boss but you try to: cool off, assess the problem (that brought about the attack) and then try to solve it by some reasoning or negotiating strategy. This is by far the healthiest way of dealing with anger.

If you use the Anger-Reflective style, you need only to remember and follow up using all the steps of the process:

1) Cool off from the attack
2) Define the underlying problem and
3) **Always try to solve it** (take action).

If you use either the Anger-In or Anger-Out style, you first have to change your style of dealing with anger (by self-training strategies) into the Anger-Reflective style. Remember, after you acknowledge the fact that you are angry you:

1) Cool off from the attack
2) Define the underlying problem and
3) **Always try to solve it** (take action).

An example of this process follows: Some people are irritable when hungry and are prone to attack others unreasonably. If you diagnose this as the source of the attack, the solution is to get the attacker to eat some food, remove yourself during the feeding period, and confront the person with his/her problem (i.e., of being unreasonably aggressive while hungry--a biochemical imbalance.)

Distancing oneself from one's own feelings of anger (cooling off), then diagnosing--finding out what the real reason of the attack is--is half the battle. Assessing the appropriate action on one's part and then executing it--whether it means feeding your husband a meal, telling your boss to discipline his son for failing school rather than ranting at you, or in the case of a truly imbalanced person (neurotic/psychopathic), advising professional help--is the next step. If your advice is not accepted, other coping tactics include simply not taking the attacks seriously or removing oneself from the person's company.

Remember the steps for healthy dealing with one's angry feelings if provoked by unjustified attacks of an authority figure or somebody dear and close to you are:

1) Acknowledging (not denying) justifiable feelings of anger (resentment, indignation) if attacked for no reason at all;

2) Cooling off, setting the feelings aside (some people can do it on the spot, some need to distance themselves from the attack situation both in space and time);

3) Assessing the underlying problem that causes the person (boss, spouse, parent) to attack you;

4) Then formulating all options for solving the problem. There are usually only a limited number of solutions that are in your realm of control; and finally

5) Acting upon the solution you choose. If it doesn't work, try another, but you have to carry the steps of the process to that last step--action--in order to be classified as using the reflective type of coping with angry feelings.

Session Four: Assertiveness and the Late Effects of Polio

***Goal:** To practice assertive communication skills with people who play important roles in participants' lives, especially those who can help participants manage polio's late effects.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. Managing the late effects of polio can present new challenges in assertive communication. Often, we need to communicate facts about our situation to family members, physicians and other health professionals, and "systems" (such as health care, government, private service agencies) personnel.

2. Seeking and obtaining effective assistance from these groups requires excellent assertive communication skills on our parts. Often, we need to teach these people who are our personal resource network members, about polio's late effects before we can obtain appropriate help from them. Sometimes, we need to **become** the helping person (such as a support group leader) to help meet the need. Whatever the case, we must build or refine our assertive skills and be willing to meet the communication challenges if we are going to live well with polio's unexpected late effects.

3. It important to identify and think about each member of our potential support network. Who are our most important resource/support network members? What are they like? What is their job? Where are they "coming from" personally and/or professionally?

4. Once we have identified who our support network is made up of, then we can think about effective communication practices with its members.

5. We can brainstorm and learn from each other about what works and what doesn't work concerning effective communication with different resource/support network members as we decide to communicate in an appropriately assertive manner with these very important people.

Activities:

1. Present key points.

2. Have participants complete handout.

3. Select several key example members of participants' support network and brainstorm about communicating effectively with people in these particular roles.

4. Role-play typical situations that emerge when one is managing the late effects of polio that demonstrate to the group examples of effectively assertive behaviors.

5. Distribute Participants' Section Evaluation forms found in Chapter 4. Have group members complete and return them. These will need to be passed along to the program organizers.

***Materials/Equipment Needed:** Pencils and handouts.

Note: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

HANDOUT

MY RESOURCE/SUPPORT NETWORK MEMBERSHIP LIST!

Name	Relationship to Me	Important Characteristics

***Suggested Readings:**

1. Alberti RE and Emmons ML: *Your Perfect Right*. San Luis Obispo, California, Impact, 1970.

2. Burns DD: *The Feeling Good Handbook*. New York, Penguin Books, 1990.

3. Chesney MA, Rosenman RH (eds.): *Anger and Hostility in Cardiovascular and Behavioral Disorders*. Washington, D C, Hemisphere Publishing Corp.; pp. 107-147.

4. Elgin SH: *More on the Gentle Art of Verbal Self Defense*. Englewood Cliffs, NJ, Prentice-Hall, Inc., 1983.

5. Fensterheim H: *Don't Say Yes When You Want To Say No*. New York, Dell Publishing Co., 1975.

6. Harburg E, Blakelock EH, and Roeper PJ: Resentful and reflective coping with arbitrary authority and blood pressure. *Psychosomatic Medicine* 41: 189-202, 1979.

7. Julius M, Harburg E, Cottington EM, and Johnson EH: Anger-coping types, blood pressure, and all-cause mortality: a follow-up in Tecumseh, Michigan (1971-1983). *American Journal of Epidemiology* 124:2, 220-233, 1986.

8. Julius M, Harburg E, Maynard F, et al: Relationship of suppressed anger and depression in a sample of post-polio survivors. Presentation at the 119th Annual Meeting of the American Public Health Association, Atlanta, GA, November 10-14, 1991. (Paper available upon request through Dr. Mara Julius, Department of Epidemiology, School of Public Health, University of Michigan, 50 Observatory Lodge, Ann Arbor, MI 48109.)

9. Julius M, Harburg E, Schork AM, et al: Sex differences in cause-specific mortality as a function of anger-coping styles (1971-1988). *American Journal of Epidemiology* 134:762-776, 1991.

10. Rasmussen L, et al: *Hospital To Community: A Collaborative Program for Independent Living and Medical Rehabilitation*. Ann Arbor, MI, University of Michigan Medical Center, 1989.

11. Smith MJ: *When I Say No, I Feel Guilty*. New York, The Dial Press, 1975.

12. Tavris C: *Anger: The Misunderstood Emotion*. New York, Simon and Schuster, 1982.

SECTION D: Community Resource Utilization

(A curriculum model by Sunny Roller and Ruth Lamphiear.)

***Overall Goal:** To increase participants' awareness of the community resources available to them and to promote greater utilization of these resources.

***Structured Overview:**

Health and well-being can be enhanced by broadening our use of community resources.

This can be accomplished by:

1. Introducing participants to the importance of community resources and the skills needed to utilize them.
2. Introducing participants to resources directly related to post-polio issues.
3. Introducing participants to helpful government agencies.
4. Introducing participants to resources for health, fitness, and community service.

*** Teaching Tips:**

After your introductory statements in the first session, you might consider using the following suggestions each time your group meets. These tips can help ensure successful presentations:

1. REVIEW PERSONALIZED CONCEPTS: Review personal applications of previous week's concepts. Encourage group discussion. This allows for application of content learned.

2. STIMULATE INTEREST: Get and stimulate participants' attention to the session's new concepts by giving examples, telling a story, showing a picture, etc. that immediately attaches the information to their life experience and emotions. This will serve as a brief introduction to motivate the learners.

3. COMMUNICATE OBJECTIVES: Communicate and clarify the session's behavioral objectives ("goal") with the participants. This will give people a sense of direction.

4. PRESENT STRUCTURED OVERVIEW: Show participants where the objectives fit into the overall unit topic by reviewing the "Structured Overview."

5. EXPLAIN RELEVANCE: Tell participants what they will need this information for. What will they do with it? How will it be useful and applicable to their real life situations? This provides relevance and purpose for the session's content.

6. PRESENT CONTENT: Communicate key points (content).

7. CONDUCT ACTIVITIES: Facilitate group activities that strengthen the learning process.

8. PERSONALIZE CONCEPTS: Give planned home exercises (if desired) to help participants personalize and apply presented concepts when they go home and before the next session.

***Evaluation Measures:** Pre-Test--community resource inventory, use of resources following section meetings (discovered through program follow-up activities).

***Suggested Session Content and Activities:**

Session One: "No Man Or Woman Is An Island"

***Goal:** To introduce participants to the importance of community resources and the skills needed to utilize them.

***Key Points and Activities:** Refer to teaching tips 2-8.

Points:

1. At some time in our lives all of us need to ask for help. In other words, "no man or woman is an island." (See handout.)

2. Every community (or extended community) has a wealth of built-in resources. These are agencies or organizations that are in place to provide a human service. Often, they do not advertise their services, so we must take the initiative to find them. Many of these resources are listed in the local telephone book.

3. The participants in the group will have used a variety of different resources according to their life experiences.

4. The usefulness of any specific resource varies and often depends upon our utilization skills.

5. Some helpful utilization skills are assertiveness, patience, willingness to endure the bureaucracy, realistic expectations (i.e. knowing what the resource can and cannot do), resourcefulness in uncovering information, and effective communication skills (speaking and writing).

6. Agency personnel are often willing to listen and willing to individualize programs.

7. We can help each other by sharing our past experiences with particular community resources. We can also help each other by sharing ideas about developing and cultivating new community resources.

Activities:

1. Participants should complete the "Community Resource Inventory" handout.

2. The facilitator leads discussion and participants add new items to their inventories.

   Key questions for discussion:
   - What resources have been most useful?
   - What approaches have been most cost-effective?
   - What resources are missing in our community that might be developed?

***Materials Needed:** Pencils, handout, telephone book.

HANDOUT

"No man is an island, entire of itself;
every man is a piece of the continent, a part of the main:
if a clod be washed away by the sea, Europe is the less,
as well as if a promontory were,
as well as if a manor of thy friends or of thine own were;
any man's death diminishes me,
because I am involved in mankind:
and therefore never send to know for whom the bell tolls;
it tolls for thee."

--John Donne, 1624

HANDOUT

Using Our Community Resources: An Inventory		
Resource We Have Used	Was It Useful?	How & Why?

Session Two: Resources Especially for Polio Survivors

***Goal:** To introduce participants to resources directly related to post-polio issues.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. It is helpful not only to identify resources, but to learn as much as possible about them from people who have worked with them or in them.

2. There are many organizations which can be of specific benefit to persons who have had polio.

Activities:

1. Using the International Polio Network Directory and a local phone book, complete the "Post-Polio Resources" handout. Fill in the addresses, phone numbers, and possible contact person.

2. Listen to presentations by outside speakers or participants which provide firsthand in-depth information about any specific medical facility or services, polio groups, polio centers for research, training and clinical care, or personal counselors.

***Materials Needed:** Handout and pencils; possibly, audiovisual equipment for guest speakers.

HANDOUT

POST-POLIO RESOURCES

Medical Facilities/Services

Hospitals

Rehabilitation centers

Post-Polio clinics

Self-identified post-polio physicians

Consumer-Based Post-Polio Groups

International Polio Network

5100 Oakland Avenue
St. Louis, Missouri 63110
314-534-0475

Local support groups

State organizations

National Centers for Post-Polio Research, Training and Clinical Care

University of Michigan Post-Polio Program

National Rehabilitation Hospital

Sister Kenny Institute

Rancho Los Amigos Medical Center

Personal Counselors (Private or Agency)

Psychologists

Social workers

Family counselors

Psychiatrists

Session Three: Helpful Government Agencies

***Goal:** To introduce participants to helpful government agencies.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. It is helpful not only to identify resources, but to learn as much as possible about them from people who have worked with them or in them.

2. Governmental agencies are in existence for the use of the citizen. It is helpful to learn as much as possible about their regulations so that we can successfully benefit from these tax-supported institutions.

Activities:

1. Using the local phone book, complete the "Helpful Government Agencies" handout. Fill in the addresses and phone numbers.

2. Listen to presentations by outside speakers or participants which provide firsthand, in-depth information about a selected government agency.

***Materials Needed:** Handout and pencils; possibly, audiovisual equipment for guest speakers.

HANDOUT

HELPFUL GOVERNMENT AGENCIES

Social Security Administration

Toll free telephone: 1-800-772-1213

State and county departments of public health

State vocational rehabilitation agency

Other

Session Four: Many More Resources

***Goal:** To introduce participants to resources for health, fitness, and community service.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. It is helpful not only to identify resources, but to learn as much as possible about them from people who are involved in them.

2. There are a wide variety of private agencies and local groups in place. It is helpful to learn as much as possible about them so that we can selectively choose those of greatest interest.

Activities:

1 Using the local phone book, complete the "Organizations for Health, Fitness, and Community Service" handout. Fill in the addresses and phone numbers.

2. Listen to presentations by outside speakers or participants which provide firsthand, in-depth information about a selected group.

3. Participants should share ideas about cultivating and developing new resources.

4. Participants should discuss material from all four sessions and their plans for follow-up. Key questions include:

   -- What resources were you most pleased to find out about?
   -- What resources do you plan to utilize during the course of the next six months?

5. Distribute Participants' Section Evaluation forms found in Chapter 4. Have group members complete and return them. These will need to be passed along to the program organizers.

***Materials Needed:** Handout and pencils; possibly, audiovisual equipment for guest speakers.

Note: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

HANDOUT

ORGANIZATIONS FOR HEALTH, FITNESS, AND COMMUNITY SERVICE

Non-Profit Agencies

Easter Seal Society

March of Dimes Birth Defects Foundation

Private rehabilitation foundations (such as Kenny R.E.H.A.B. in Michigan)

Consumer-Based Groups and Agencies

Centers for independent living

Senior citizens' groups

Physical Fitness Centers

Local community education programs

Local college programs

Community centers (such as YMCAs)

Community centers (city or county)

Health clubs

Weight-Loss Centers

Community Service Clubs and Interest Groups

Rotary

Kiwanis

Toastmasters

Other

***Suggested Readings:**

1. Bozarth C and Roller S: "A Polio Survivors's Guide: Selecting a Personal Counselor," 1989. (A brochure available through the Post-Polio Collection, Brandon Township Public Library, 476 Mill Street, PO Box 489, Ortonville, MI 48462)

2. Post-Polio Directory. (Joan Headley, compiler). (Annual booklet with semi-annual supplement; @ $8.00 with membership in International Polio Network. Write to International Polio Network, 5100 Oakland #206, St. Louis, MO 63110.)

3. Roller S and Maynard FM: "A Polio Survivor's Guide: Selecting A Physician." 1987. (A brochure available through the Post-Polio Collection, Brandon Township Public Library, 476 Mill Street, PO Box 489, Ortonville, MI 48462.)

4. Your local telephone book.

SECTION E: Planning Leisure-Time Activities

(A curriculum model by Ruth Lamphiear and Sunny Roller.)

***Overall Goal:** To enable participants to embrace the fact that they can continue or develop satisfying leisure-time activities in order to promote their health and overall sense of well-being.

*** Structured Overview:**
Developing satisfying leisure-time activities can lead to a greater sense of health and overall well-being. **This can begin to be accomplished by:** 1. Identifying interest in and participation levels in a variety of activities. 2. Learning from others about their current methods of participation in leisure activities. 3. Learning about barriers which prevent participation in leisure activities, and then, ways to overcome those barriers. 4. Writing a personal plan for future leisure activities.

*** Teaching Tips:**

After your introductory statements in the first session, you might consider using the following suggestions each time your group meets. These tips can help ensure successful presentations:

1. REVIEW PERSONALIZED CONCEPTS: Review personal applications of previous week's concepts. Encourage group discussion. This allows for application of content learned.

2. STIMULATE INTEREST: Get and stimulate participants' attention to the session's new concepts by giving examples, telling a story, showing a picture, etc. that immediately attaches the information to their life experience and emotions. This will serve as a brief introduction to motivate the learners.

3. COMMUNICATE OBJECTIVES: Communicate and clarify the session's behavioral objectives ("goal") with the participants. This will give people a sense of direction.

4. PRESENT STRUCTURED OVERVIEW: Show participants where the objectives fit into the overall unit topic by reviewing the "Structured Overview."

5. EXPLAIN RELEVANCE: Tell participants what they will need this information for. What will they do with it? How will it be useful and applicable to their real life situations? This provides relevance and purpose for the session's content.

6. PRESENT CONTENT: Communicate key points (content).

7. CONDUCT ACTIVITIES: Facilitate group activities that strengthen the learning process.

8. PERSONALIZE CONCEPTS: Give planned home exercises (if desired) to help participants personalize and apply presented concepts when they go home and before the next session.

***Evaluation Measures:** Pre-section participant leisure activities inventory. List all current leisure activities. Post-section participant leisure activities inventory, list plans for future leisure activities.

***Suggested Session Content and Activities:**

SESSION ONE: What Do You Do For Fun?

***Goal:** To increase awareness by identifying interest and participation levels in a variety of activities.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. The relevance/importance of leisure activities must be examined seriously. A well-rounded lifestyle keeps us healthy and happy. We need to balance the things we have to do and things we want to do. We need the right proportions of work, leisure and rest in order to stay well.

2. Polio survivors tend to exclude leisure activities first, if they are losing energy. They are often very hard workers, who want to "get the work done" first, but may have no time left for recreational pursuits.

3. It is good to make an inventory of what we are currently doing and not doing - to give some organized thought and time to this issue.

Activity:

1. Complete the "Leisure Interest Inventory" handout.

2. Group share inventory results.

3. Planned home activity:

   The main question to answer is: What do we currently do for recreational purposes and how do we do it?

   At the next session, participants will be asked to present information about their individual leisure pursuits. They are encouraged to bring in audiovisual aids and planned mini-demonstrations to illustrate their interests. The facilitator must emphasize that the next week's session will be solely dependent on participants' contributions.

***Materials Needed:** Pencils and handout.

HANDOUT

Leisure Interests Inventory

(obtained from the Division of Occupational Therapy, Department of Physical Medicine and Rehabilitation, University of Michigan Medical Center.)

	Not Interested	Currently Participate/ Involved In	Would Like To Participate/ Learn More About
Dining Out	_____	_____	_____
Cooking/Baking	_____	_____	_____
Entertaining	_____	_____	_____
Mechanics			
Cars	_____	_____	_____
Cycles	_____	_____	_____
Home Improvement	_____	_____	_____
Home Decorating	_____	_____	_____
Woodcraft/Woodcarving	_____	_____	_____
Reading:			
Books	_____	_____	_____
Magazines	_____	_____	_____
Newspapers	_____	_____	_____
Writing:			
Letters	_____	_____	_____
Songs	_____	_____	_____
Poems	_____	_____	_____
Stories	_____	_____	_____
Diary/Journal	_____	_____	_____
Self-Improvement:			
Stress management	_____	_____	_____
Assertiveness	_____	_____	_____
Health and fitness	_____	_____	_____
Listening to/Watching:			
Television	_____	_____	_____
Radio	_____	_____	_____
Educational/Adult Education	_____	_____	_____
Travel	_____	_____	_____
Clubs/Organizations	_____	_____	_____
Organized/Community Recreation			
Church recreation	_____	_____	_____
Community parks and recreation	_____	_____	_____
Other _____	_____	_____	_____
Dance:			
Observe	_____	_____	_____
Participate	_____	_____	_____
Horticulture:			
Indoor plants	_____	_____	_____
Gardening	_____	_____	_____

Page 2--Leisure Interests Inventory

Games:			
Word games	_____	_____	_____
Table games	_____	_____	_____
Card games	_____	_____	_____
Video games	_____	_____	_____
Arts and Crafts	_____	_____	_____
Needle Crafts	_____	_____	_____
Music:			
Listening	_____	_____	_____
Singing	_____	_____	_____
Playing instrument	_____	_____	_____
Outdoor/Nature Activities:			
Camping	_____	_____	_____
Hunting	_____	_____	_____
Fishing	_____	_____	_____
Hiking	_____	_____	_____
Bird watching	_____	_____	_____
Other _____	_____	_____	_____
Sports/Exercise:			
Watch on TV	_____	_____	_____
Attend	_____	_____	_____
Participate	_____	_____	_____
Specify:_____	_____	_____	_____
Collecting			
Specify: _____	_____	_____	_____
Pets	_____	_____	_____
Visiting/Socializing	_____	_____	_____
Entertainment/Cultural Activities:			
Concerts	_____	_____	_____
Museums	_____	_____	_____
Plays/Drama	_____	_____	_____
Movies	_____	_____	_____
Bars/Nightclubs	_____	_____	_____
Shopping	_____	_____	_____
Volunteer Service	_____	_____	_____
Doing Nothing	_____	_____	_____
	_____	_____	_____

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List your five favorite leisure activities:

_____

_____

_____

_____

_____

Barriers: Check the barriers which prevent you from participating in leisure activities, interests, hobbies, etc., that you checked on page 2 of this survey. Check all that apply.

1. ____ Cost/financial limitations.
2. ____ Lack of transportation.
3. ____ Lack of accessibility.
4. ____ Lack of interest.
5. ____ Lack of another person (friend, family) to do things with.
6. ____ Lack of recreational resources where I live.
7. ____ Physically unable.
8. ____ Fear of bowel/bladder problems.
9. ____ Lack of physical assistance.
10. ____ Lack of knowledge of what to/how to do it (use of adaptive equipment, etc.).
11. ____ Don't like attitudes of others.
12. ____ Feel uncomfortable in the community.
13. ____ Weather.
14. ____ Do not have the adaptive equipment I need.
15. ____ My mood/don't feel like doing anything.
16. ____ Other (describe): _____.
17. ____ Lack of time.
18. ____ I do not feel there are any barriers.

SESSION TWO: What Do Others Do For Fun?

***Goal:** To learn from others about current methods of participation in leisure activities.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. The people around us have ideas that we can apply to ourselves. Perhaps what we learn from other participants will stimulate us to improve and expand our leisure pursuits.
2. Points will arise from the activities presented.
3. A variety of possibilities will be introduced to the rest of the group.

Activities:

1. Presentations by members of the group.
2. Discussion about material shared by presenting individuals.

***Materials Needed:** These will depend on what the participants request.

SESSION THREE: Can We Bury the Barriers?

*Goal: To learn through group problem-solving, about barriers which prevent participation in leisure activities, and how to overcome them.

*Key Points and Activities: Refer to Teaching Tips 1-8.

Points:

1. It is possible to re-think current leisure-time behaviors in order to make lifestyle changes.

2. Group brainstorming sometimes opens up possibilities which the individual could not produce alone.

Activities:

1. Review leisure interests which were identified in Session One as desirable (Leisure Interests Inventory--"Would like to participate/learn more about")

2. Facilitator leads discussion. May utilize chalkboard or pencil and paper to make charts that include:

Activity	Barrier	Potential Solution

Key discussion questions could include:

- What new activity would you like most to participate in?
- What prevents you from participating now?
- Can any members of the group suggest creative ways to overcome barriers?

3. Planned home exercise:

   Participants are asked to write down their individualized conclusions based on this session's discussion: "What new information can you apply to developing your own leisure pursuits more fully?"

*Materials Needed: Chalkboard and chalk or pencils and paper for each participant.

SESSION FOUR: Planning Your Pleasures

***Goal:** To write a personal leisure activity plan for the next 12 months.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. Ways to encourage the carrying out of a plan are to
   a) write it down and
   b) share it publicly with a group and
   c) post it prominently in your home.

2. The plan should include concrete time frames or schedules for initiation and continuation of the activities chosen.

3. The plan should be broken into separate statements as follows:

   - Each leisure objective is presented as a separate sentence.
   - Each sentence is composed of a verb and object.
   - Each object is clearly defined to as to be understandable with a stated date of initiation or completion.

   The following is an example of a personal goal and plan.

   Goal:
   By March 30, 1992, I will have been snow skiing.

   Plan:
   - find out where I can ski
   - find out about lodging accommodations
   - find out about transportation options
   - calculate dollar costs
   - check with my doctor about medical precautions, and fitness preparations
   - find out about ski resorts, instructions and accommodations for physically disabled skiers
   - find a source for the pre-skiing fitness program
   - make a step-by-step schedule to achieve this plan by March 30, 1992 (project management)

Activities:

1. After facilitator shares concepts and examples with the whole group, each participant is to create a written plan for at least one new leisure pursuit/activity for the next 12 months.

2. Participants will be asked to share their plan with the other members of the group, and later to make five copies, one to post in their home and the others to share with significant persons.

***Materials Needed:** Pencils and paper for each member of the group, chalkboard and chalk, or marker board and markers.

***Selected Resources:**

(provided by Brenda Roller, OTR Supervisor, Occupational Therapy Division, Department of Physical Medicine and Rehabilitation, University of Michigan Hospitals, Ann Arbor, MI)

All Terrain Vehicles
COOT
P.O. Box 1029
Cedar Park, TX 78613
1-800-531-5182

Aquatics
Council for Cooperation in Aquatics
National Headquarters
P.O. Box 4729
Evansville, IN 47711

Archery
National Archery Association
1750 E. Boulder Street
Colorado Springs, CO 80909

Art
Association of Mouth and Foot Painting Artists Worldwide
503 Brisbare Bldg.
Buffalo, NY 14230

Basketball
National Wheelchair Basketball Association
110 Seaton Bldg.
University of Kentucky
Lexington, KY 40506
(606) 257-1623

Bowling
American Wheelchair Bowling Association
c/o Darly Pfister
N54 W15858 Larkspur Lane
Menomonee Falls, WI 53051
(414) 781-6876

Recreation Unlimited
820 Woodend Road
Stratford, CT 06497
(203) 384-0802

Fishing Charters
Fishing and Specialty Charters Reference Guide
Michigan Travel Bureau
P.O. Box 30226
Lansing, MI 48909
1-800-5432-YES

Flying Clubs and Controls
California Wheelchair Aviators
c/o Paul Nunn
1117 Rising Hill Way
Escondido, CA 92025
(714) 746-5018

Wheelchair Pilots Association
11018 102nd Avenue, N.
Largo, FL 33540
(813) 581-5461

Gardening
National Association for Gardening
180 Flynn Avenue
Burlington, VT 05401
(802) 863-1308

General
The Guide to Recreation, Leisure and Travel for the Handicapped
Resource Directories
3103 Executive Parkway
Toledo, Ohio 43606

Kelley JD and Frieden L: *Go For It! A Book on Sport and Recreation for Persons with Disabilities.* Orlando, FL, Harcourt Brace Jovanovich, 1989.

Golf
John Klein
4474 52nd Street
San Diego, CA 92115
(714) 442-3425

Horseback Riding
North American Riding for the Handicapped Association
c/o Leonard Warner
Box 100
Ashburn, VA 22011
(703) 471-1621 or (703) 777-3540

Horseback Riding Program
c/o Linda McCowan
Cheff Center for the Handicapped
8479 N. 43rd Street
Augusta, MI 49012
(616) 731-4471

Hunting
State of Michigan
Department of Natural Resources
Law Enforcement Division
Pontiac Distribution Headquarters
2455 N. Williams Lake Road
Pontiac, MI 48054

Kayaking/Rowing
Rick Ciccotto
Route 2, Box 589
Moncks Corner, SC 29461

Special Sports Corporation
715 Emory Valley Road
Oak Ridge, TN 37830
(615) 483-4387

Motorcycles
Wheelchair Motorcycle Association, Inc.
101 Torrey Street
Brockton, MA 02401
(617) 583-8614

Outdoor Sportsmen
National Association of Handicapped Outdoor Sportsmen, Inc.
P.O. Box 25
Carterville, IL 62918
(618) 985-3759

Disabled Sportsmen of America, Inc.
P.O. Box 5496
Roanoke, VI 24012

Photography
Photography Adaptations Equipment Shop
P.O. Box 33
Bedford, MA 01730
(617) 275-7681

Racquetball
National Wheelchair Racquetball Association
c/o AARA
815 N. Weber
Suite 203
Colorado Springs, CO 80903
(301) 732-1881

United States Wheelchair Racquet-Sports Association
1941 Viento Verano Drive
Diamond Bar, CA 91765
(714) 861-7312

Sailing
National Ocean Access Project
410 Severn Avenue, Ste. 107
Annapolis, MD 21403
(301) 280-0464

The Judd Goldman Adaptive Sailing Program
Rainbow Fleet
425 E. McFetridge
Chicago, IL 60605
(312) 294-2270

Scuba Diving
Handicapped Scuba Association
11107 El Prado
San Clemente, CA 92762

Skiing
Colorado Outdoor Education Center
P.O. Box 697
Breckenridge, CO 80424
(303) 726-5514, Ext. 179

Waloon Hills Handicap Ski School
P.O. Box 25
Boyne Falls, MI 49713
Darla Evans
(616) 582-9593

Arroya Beneficial Designs
5858 Empire Grade
Santa Cruz, CA 95060
(408) 429-8447

Mountainsmith, Inc.
12790 W. 6th Place
Golden, CO 80401
(303) 238-5823

Softball
National Wheelchair Softball Association
P.O. Box 737
Sioux Falls, SD 57101

Tennis
National Foundation of Wheelchair Tennis
4000 MacCarthur Blvd.
Newport Beach, CA 92660
(714) 851-1707

International Foundation for Wheelchair Tennis
2203 Timberloch Place
Suite 126
The Woodlands, TX 77380
(713) 363-4707

Travel

Hecker H: *Travel for the Disabled (A Handbook of Travel Resources and 500 Worldwide Access Guides)*. Washington, DC, The Disability Bookshop, 1991. (To order send $19.95 plus $2.00 shipping to The Disability Bookshop, P.O. Box 129, Vancouver, WA 98666-0129, or call 800-637-2256.)

"Ten Questions and Answers About Air Travel for Wheelchair Users"
(A booklet published by the Eastern Paralyzed Veterans Association, 75-20 Astoria Blvd., Jackson Heights, NY 11370-1178.)

Wheelchair Athletics

National Wheelchair Athletic Association
2107 Templeton Gap Road
Suite C
Colorado Springs, CO 80907
(303) 632-0698

National Handicapped Sports and Recreation Association
Capital Hill Station
P.O. Box 18664
Denver, CO 80218

Wilderness Recreation

"Golden Eagle, Golden Age, Golden Access Passports--Federal Recreation Fee Program." (A brochure for disabled persons describing how to obtain free lifetime entrance to federally run recreation areas that charge entrance fees. It is available through the Director, Bureau of Land Management, U.S. Department of the Interior, Washington, DC, 20240.)

Minnesota Outward Bound School
Box 250
Long Lake, MN 55356

Courage Center
3915 Golden Valley Road
Minneapolis, MN 55422

Wilderness Inquiry II
2929 4th Avenue South
Suite 0
Minneapolis, MN 55408
(612) 827-4001

SECTION F: Personal Resource Management

(A curriculum model by Ruth Lamphiear and Sunny Roller.)

***Overall Goal:** To increase participants' awareness of the personal resources available to them and strengthen their ability to successfully manage those resources.

***Structured Overview**

Successful management of our personal resources can assure a broad variety of choices that will enhance our lifestyles.

This can be accomplished by:

1. Enabling participants to become aware of their personal resources.
2. Enabling participants to integrate concepts and activities learned during this program into their lives.
3. Enabling participants to make better use of their presently available personal resources.
4. Facilitating an individualized plan for managing personal resources.

*** Teaching Tips:**

After your introductory statements in the first session, you might consider using the following suggestions each time your group meets. These tips can help ensure successful presentations:

1. REVIEW PERSONALIZED CONCEPTS: Review personal applications of previous week's concepts. Encourage group discussion. This allows for application of content learned.

2. STIMULATE INTEREST: Get and stimulate participants' attention to the session's new concepts by giving examples, telling a story, showing a picture, etc. that immediately attaches the information to their life experience and emotions. This will serve as a brief introduction to motivate the learners.

3. COMMUNICATE OBJECTIVES: Communicate and clarify the session's behavioral objectives ("goal") with the participants. This will give people a sense of direction.

4. PRESENT STRUCTURED OVERVIEW: Show participants where the objectives fit into the overall unit topic by reviewing the "Structured Overview."

5. EXPLAIN RELEVANCE: Tell participants what they will need this information for. What will they do with it? How will it be useful and applicable to their real life situations? This provides relevance and purpose for the session's content.

6. PRESENT CONTENT: Communicate key points (content).

7. CONDUCT ACTIVITIES: Facilitate group activities that strengthen the learning process.

8. PERSONALIZE CONCEPTS: Give planned home exercises (if desired) to help participants personalize and apply presented concepts when they go home and before the next session.

***Evaluation Measures:** Listing of former, new and future personal resources

***Suggested Session Content and Activities:**

SESSION ONE: Where Does Your Treasure Lie?

***Goal:** To enable participants to become aware of their personal resources.

***Key Points and Activities:** Refer to Teaching Tips 2-8.

Points:

1. Dictionary definition of **resource** (from the *American Heritage Dictionary*):

   a) something that can be turned to for support or help
   b) an available supply that can be drawn upon when needed
   c) an ability to deal with a situation effectively
   d) means that can be used to advantage
   e) available capital and assets.

2. Definition of **personal resource:**

   the dictionary definition of "resource" (above) individualized to include personal internal and external supports, supplies, abilities and assets.

   Internal resources are what we generate or what we draw out of ourselves, and can include coping skills, religious and spiritual orientations, and personal values such as education, honesty, and staying healthy.

   External resources can include people, places and things. Can we surround ourselves with positive helping individuals? Do we have places that regenerate or nurture us, such as vacation spots, our home environment, health care facilities, and places of worship? "Things" might include books, concerts, vehicles, household items, and money.

3. Personal resources, our private treasure, when managed well and brought into balance, should enhance both our emotional strength and our physical strength.

4. As we age with the late effects of polio, it is more important than ever to know our personal resources and to manage them well.

Activities:

1. Participants should complete the "Personal Resource Inventory" handout.

2. Facilitator leads discussion.

   Key discussion questions could include:

   - What are some of your internal resources?
   - What are some of your external resources?
   - What resources do you appreciate the most?
   - What resources do you use the most?

***Materials Needed:** Pencils and handout for each participant.

HANDOUT

Personal Resource Inventory
Internal
Important personal values and inspiring thoughts
1.
2.
3.
more.....
Important physical characteristics and traits
1.
2.
3.
more....
External
Important people
1.
2.

3.
more....
Important places
1.
2.
3.
more....
Important things
1.
2.
3.
more....

SESSION TWO: Tracking Your New Treasure

***Goal:** To enable participants to integrate new concepts and activities learned during this health promotion program into their lives.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. The new concepts and activities learned through this program can become part of your resource pool.

2. New resources expand our lifestyle choices and sense of hope and well-being, but only if we choose to use them.

Activities:

1. Participants should complete the "Expanded Personal Resource Inventory" handout to include concepts and activities learned from this wellness program.

2. The facilitator encourages group members to share their lists and leads discussion.

   Key questions for discussion:

   - What new concepts are most relevant for expanding your life choices?
   - What new activities are most applicable to you in expanding your life choices?

3. Planned home exercise:

   Participants are asked to select any six new resources, use them during the course of the week (or given time between sessions), and report back to the group at the next session.

***Materials Needed:** Pencils and a handout for each participant.

HANDOUT

Expanded Personal Resource Inventory
Internal
Important personal values and inspiring thoughts
1.
2.
3.
more.....
New physical fitness concepts
1.
2.
3.
more....
New emotional health and outlook information
1.
2.
3.
more...

External
New resource people
1.
2.
3.
more....
Places discovered that can be helpful
1.
2.
3.
more....
Important new information about useful things
1.
2.

3.
more....

SESSION THREE: Your Treasure--When to Store It, When to Spend It

***Goal:** To enable participants to make better use of their presently available personal resources.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. Activity pacing, work simplification, and energy conservation will allow us to make informed choices that will change our lives for the better. They are three management methods that allow us to make optimum use of our personal resources.

2. **Activity pacing** is time management. It involves choosing activities and arranging time frames so that we rest before we're tired. Utilizing activity pacing allows us to have the energy we need, when we need it. We have to know our bodies and listen to them in order to pace ourselves effectively. Sometimes those around us don't understand our pacing efforts because they don't realize that our resting is proactive. It is essential to be able to explain the reasoning and be firm in carrying out our pacing plan. Assertiveness skills may play an important role.

3. **Work simplification** is a five-step system used to make improvements in an activity for increased efficiency. It is most easily applied to a single activity, for example, cleaning the living room. After the activity is selected, we list all the details of the job which helps us analyze job tasks. The next step is questioning all of the elements of the job itself, including the equipment and supplies used. Sometimes this results in eliminating the job altogether! Otherwise, a new method is developed and applied.

4. Using activity pacing or work simplification will result in a reduced use of energy. However, some activity changes are pure **energy conservation.** These are the changes in which we substitute technology (mechanical, motorized, electric, or electronic equipment) for physiological strength and endurance.

   For example, using a typewriter instead of writing, using an electric typewriter instead of a manual typewriter, and using a computer instead of an electric typewriter.

   This kind of equipment ranges from simple to very complex and we can find it at the mall, in the hardware store, the gift catalogue, or at the rehab center depending on what our needs are.

   Beware! We may have to balance financial costs against energy costs.

Activities:

Participants should be provided with four handouts. They should be asked to begin to complete them now and finish them at home before the next session. They are encouraged to work in small groups to brainstorm.

***Materials Needed:** Pencils and handouts for each participant.

HANDOUT

Seasonal Activities

Indicate below the activities you participate in that are seasonal in nature, for example, spring cleaning, gardening and lawn care, shovelling snow, vacation plans, putting away winter clothes, etc. List each activity under its appropriate season.

SPRING

SUMMER

FALL

WINTER

HANDOUT

Monthly Activities

List below the activities you participate in that are monthly in nature, for example, birthdays, anniversaries, holidays, etc.

JANUARY

FEBRUARY

MARCH

APRIL

MAY

JUNE

JULY

AUGUST

SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER

HANDOUT

Weekly Activities

List below the activities you participate in that are daily in nature, for example book club on Tuesday afternoons, choir Thursday night, support group second Monday, etc. Write the activity under its day.

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

SUNDAY

HANDOUT

Present Activities and Feelings

List activities more or less as they occur during the morning, afternoon and evening; for example, what you are really doing right now and how you feel - when you feel good, when you feel pain and where, when you feel increased fatigue.

(It is helpful to do a few weeks of listings in order to help establish patterns).

	MORNING	AFTERNOON	EVENING
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

HANDOUT

The Five Steps of Work Simplification

1. Select the activity to be improved--choose one which you feel takes too long, makes you too tired, or uses up too much energy.

2. Break down the job operation--list all details exactly as you do the job at present:
   a. Preparation: what tools/ supplies/equipment/space are needed?
   b. Performance: bodily motions used to do the job
   c. Completion: cleaning up and putting away supplies

3. Question the job and the equipment and supplies:
   a. WHY is it necessary?
   b. WHAT is the purpose?
   c. WHO could do it?
   d. WHEN should it be done?
   e. WHERE should it be done?
   f. HOW can it best be done?

4. Develop the new method:
   a. Eliminate unnecessary details
   b. Combine motions and activities
   c. Rearrange sequences
   d. Simplify the details

5. Apply the new method:
   a. Rearrange tools, supplies and equipment
   b. Rearrange working space
   c. Readjust working heights and distances
   d. Throw away things not used

Most libraries have work simplification literature in the reference section. It came out of the work of the Gilbreths, the "Cheaper by the Dozen" people.

SESSION FOUR: Planning to Spend Your Treasure Wisely

***Goal:** To facilitate an individualized plan for managing personal resources.

***Key Points and Activities:** Refer to Teaching Tips 1-8.

Points:

1. We have listed what we're like, what our values are, who we have around us, and places and things that are part of our "personal treasure". We've also talked about what we do in section three and ways to get more out of the things we do.

   How many of the activities we've listed are truly done with the people we value, in the places we most want to be? Ideal management of our personal resources involves doing the activities that have the most meaning for us with our favorite people in the most appropriate places.

   We will find that there is a personal value in identifying our activities and validating them as personal choices.

2. We can't always do all of the above, but we can eliminate or reduce things that are not part of that picture by using the techniques we were introduced to last time.

3. We all know what activities most concern us. We can probably divide them into three categories -

   A - "Loves": the activities that give us pleasure and that make life more worthwhile; for example, singing in choir, reading, visiting with family/friends.

   B - "Musts": the daily living activities; for example, getting our hair cut, making dinner, carrying out our job.

   C - "Somehows": the things that probably should be done either by us or (maybe) by someone else; for example, housecleaning, walking the dog, changing the oil in the car.

   We will have our own ideas, each one of us different from the others.

   Now let's review our lists of former and new personal resources. Are those resources incorporated into our list of activities? Can we integrate them into our future schedule?

Activities:

1. Review and analyze last session's lists for modification based on sound activity pacing, work simplification, and energy conservation techniques.

   A. Look for recurring patterns of fatigue or increased pain, and then see if you can relate those to previous increased energy use or previous lengthy period of activity.

      For example...it is Thursday morning and Sherlock is very tired. He knows it will be great to have the work week over tomorrow afternoon so he can spend time resting up on Saturday. How can this recurring situation be better managed and alleviated so Sherlock doesn't feel so drained? Sherlock should seriously review his morning and afternoon activities this past week. Then he can review his overall daily schedule of activities for the past weeks. A look at his monthly activities and seasonal activities will reveal patterns and lend perspective to energy output levels over the course of the past 12 months.

   B. Then, practice choosing activities and rearranging time frames so that we can rest before we get tired and thus have the energy when we need it the most. Remember, we need a balance of rest and activity, not only daily, but weekly, monthly, and seasonally.

   C. Select one activity and practice the five steps of work simplification with it.

   D. Select a problematic activity that technology can help you resolve.

2. Prioritize activities into "loves," "musts," and "somehows":

   A. "Loves": the activities that give us pleasure and that make life more worthwhile, for example, singing in choir, reading, visiting with family/friends.

   B. "Musts": the daily living activities; for example, getting our hair cut, making dinner, carrying out our job.

   C. "Somehows": the things that probably should be done either by us or (maybe) by someone else; for example, housecleaning, walking the dog, changing the oil in the car.

3. In order to make sure that the personal resources that we treasure the most are part of our lifestyle, review the seasonal, monthly, weekly and daily activity lists and include the resources identified in sessions one and two.

4. Choose a seasonal, monthly, weekly or daily outline form and create the ideal schedule for managing all of your personal resources so we can assure a broad variety of choices that will enhance our lifestyles.

5. Distribute Participants' Section Evaluation forms found in Chapter 4. Have group members complete and return them. These will need to be passed along to the program organizers.

***Materials Needed:** Handouts and pencils.

Note: Facilitators are requested to complete a Facilitator Section Evaluation Form at the end of this section. Please return this evaluation to the program organizers.

***Suggested Readings:**

Home Accessibility Resource Lists
(Available through Kenny REHAB, 2840 Crooks Road, Ste. 100, Rochester Hills, MI 48309, telephone: 313-852-5252)

"Accessible Kitchens" (explains specific ideas on how to modify your kitchen to meet your needs. Includes dimensions and technical specifications.)

"General Interior Accessibility Resources and Publications" (explains accessibility basics for doorways, floors, lights and electrical outlets, windows, stairs, furniture and more.)

"Home Accessibility Resources and Publications" (lists books, pamphlets, and organizations that can provide additional helpful information on home access.)

"Partial Listing of Manufacturers" (lists companies who make adaptive equipment. Includes some product information as well as contact addresses and phone numbers.)

"Potential Funding for Ramps, Specialized Equipment and Home Accommodations" (lists organizations that may provide funding. Give eligibility requirements, contact addresses, and phone numbers.)

"Suggestions for Bathroom Access and Safety" (explains specific ideas for making bathrooms accessible; includes dimensions and technical specifications.)

"Recommendations for Wheelchair Ramps" (provides general information and technical specifications for residential wheelchair ramps.)

"Working With Health Professionals, Builders, Architects and Funding Sources" (offers hints on how to get the most out of your relationships with these professionals. Outlines basic questions that you should ask of each.)

Time Management Resources
(Available through your library)

Eyre RM: *Lifebalance: Priority Balance, Attitude Balance, Goal Balance in All Areas of Your Life*. Englewood Cliffs, NJ, Ballantine Books, 1988.

Materka PR: *Time In, Time Out, Time Enough*. Englewood Cliffs, N.J., Prentice Hall, Inc., 1982.

McCullough BR: *Bonnie's Household Organizer*. New York, St. Martin's Press, 1980.

Winston S: *Getting Organized*. New York, W. W. Norton and Company, 1978.

Young GR: Occupational therapy and the postpolio syndrome. *The American Journal of Occupational Therapy* (43)2: 97-103, 1988.