Question: I am 74 years old and had polio in 1954. My recent DEXA scan (to measure bone density) showed I had osteopenia. I have also recently suffered two compression fractures in my L1 and L2 vertebra due to an automobile accident in which I drove off the road over very bumpy terrain. My longtime physician, who is familiar with my PEG (feeding) tube, wants me to have a bisphosphonate infusion. What is this and is it safe?

Dr. Maynard: I invited Marny Eulberg, MD, Denver, Colorado, family physician and polio survivor, and Daria Trojan, MD, Montreal Neurological Institute, post-polio researcher and clinician to respond with me on your question. It is one that PHI receives regularly.

Dr. Eulberg: As you may know from past issues of *Post-Polio Health* [See Calcium, Vitamin D and Bisphosphonates, Oh My! (Vol. 27, No. 3) and More Research About Bisphosphonate Treatment in Polio Survivors (Vol. 28, No. 1)], there are some controversies about bisphosphonates (oral or injection/infusion). For you who uses a PEG tube the possibility of taking the bisphosphonate pills is not an option, and thus, the side effects of irritation to your esophagus or GI tract is eliminated.

The advantage of bisphosphonates is their ability to slow down or completely stop the process of bone becoming more brittle and decreasing the risk for fractures of vertebrae, of the hip and of the wrist. The risks are that some people have developed breakdown of bone in their jaw bones (osteonecrosis) especially after extractions or other dental work that involves the jaw bone (routine fillings, cleaning, etc., do not cause this), or in some people an increased risk of spontaneous fracture of the femur (thighbone). Therefore, if you have been advised to have any dental work done you should do it before starting the bisphosphonate.

It is now thought that people do not need to take a bisphosphonate for a lifetime. The current thinking is that a total of five years gives the best benefit with the least amount of risk.

Your insurance will likely need some extra documentation explaining why you can’t take the pills and why you need the more expensive injections or infusions. The criterion they use to approve intravenous bisphosphonates is usually a diagnosis of osteoporosis not osteopenia. But, they may decide you qualify because some experts say that a diagnosis of even a single vertebral fracture is sufficient to say a woman has osteoporosis. Osteoporosis means that the DEXA scan shows a T-score of -2.5 or greater, which means your bone is about half as dense as the bone of a normal 30-year-old. Osteopenia means that your bone is less dense than a normal young adult but not bad enough yet to qualify as osteoporosis.

Dr. Trojan: With regard to the question about intravenous (IV) bisphosphonates in post-polio patients, we did not analyze data of patients treated with these medications in our published manuscript (Alvarez A et al. *PMR* 2010;2:1094-1103). See *Post-Polio Health*, More Research About Bisphosphonate Treatment in Polio Survivors (Vol. 28, No. 1). Outside of this group of patients, more recently, we have had a few patients treated with IV bisphosphonates and from our anecdotal experience with this very small number of patients, they seem to be well tolerated.
end-of-life process. Many of us take time to imagine those final
days, dreaming of what we can do to bring about soft clouds of
serenity to waft us peacefully on, for example.

We may rely on our deep faith, the divine gift that leads us to a
glorious new tomorrow. Or on moments of laughter among the
 tears as memories of happiness crowd our minds, and loved ones
find their way to say goodbye.

Others want no part of this. Their time is here, they say – let
death design the stage and pull the curtain. Their plan is not to
have a plan. So be it.

But no matter what, if we want to see our intentions carried out,
active or passive as they may be, we are the ones who must steer
ourselves to that outcome. We are in charge of this phase of life
and death. It is we who examine our options, consider where
they sometimes telescope into each other – Hospice merging
into Death with Dignity? Palliative Care moving into Hospice? –
and how this leads us to develop our plan. Whatever we decide,
however we put it together, this is the message we send to those
around us.

Dr. Maynard: In this case, I think the dilemma is deciding if the vertebral compression
fractures were a result of violent trauma, or if they were a result of osteoporosis
weakening the vertebrae sufficiently that minor trauma resulted in their fracturing.

I would favor recommending treatment with vitamin D and calcium, and then a repeat
of the bone scan in one year before initiating IV bisphosphonates now, because violent
bouncing in a car can result in fractures regardless of bone scan scores.