

## Learning to Drive Again: One Hand at a Time

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I had polio in 1949 at the age of one. My legs were affected, and after a lot of corrective surgery, I was able to walk with crutches and braces. By fourth grade, I no longer needed the braces and just used the crutches.

I graduated from college and taught in elementary schools in St. Louis and Mexico City and now work for *Yellow Pages* in downtown St. Louis. I am an avid swimmer and lead an active life. I live independently, so I am mindful of safety in all of my activities.

About five years ago, the strength in my arms began to rapidly deteriorate from overuse. After a shoulder replacement three years ago, I started using a walker. Last year, my doctor said that I needed a brace on my right leg to protect my knee, so I started wearing one, and I loved it – it was doing the job it was intended to do.



Joan Langhi, ready to drive with one hand on the spinner knob and one on the brake and accelerator control. "My van came with automatic door openers, which really helps when I stow my walker in the back seat."

What was not intended was the weight of the brace being just heavy enough that I could not safely use my right leg to operate the accelerator and brake pedals in my car. I'd been driving for years and had a wonderful little station wagon. Although it had been suggested when I had the shoulder replacement that I look into vehicle modification, I ultimately didn't want to do it – at least not until the leg brace.

I was grappling with emotions – the brace was helping me, but wearing it felt like a setback. I couldn't imagine giving up driving a car. Luckily, a wonderful associate pastor at my church

who had a spinal cord injury encouraged me to contact United Access, the company that modified his van.

United Access referred me to an occupational therapist who is a Certified Driving Rehabilitation Specialist for an assessment of driving skills, alertness and strength. I had three sessions learning to drive with hand controls (which felt like being told to be left-handed after being right-handed all my life). With my left hand, I push forward on a lever to operate the brake and push down to operate the gas. The occupational therapist also found that there was significant absence of strength in my right arm, and recommended reduced-effort steering with a spinner knob.

A salesman at Bommarito Nissan found a used van that was well suited. Then, Stephen Kinstler at United Access put me in touch with a Missouri state agency that offers low interest loans for vehicle access modifications. The process took several weeks, but the vehicle, of course, needed to work for me and fit my budget.

I was particularly concerned about my ability to parallel park using the hand devices. With a little practice, I've been able to accomplish this too. I can drive with confidence. I am a blest woman!

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**PHI:** Tell us about your new chair.

**Larry:** It's an astounding chair! The foot control is wonderful – a joystick turned on its side and mounted under the foot rest. The chair has an elevating seat, which helps with transfers, and I can now carry on a conversation eye-to-eye with most people. Getting enough ground clearance for the foot control required putting a slight tilt in the seat, and although I don't need it now, the seat also reclines. The chair also has "attendant control," a joystick usable by someone else. The foot control is equipped with Bluetooth® capability for wireless operation of my computer mouse. An on-board screen that I can operate with either the foot control or a mouthstick indicates seat position, drive speed and battery level. It's a front-wheel drive and weighs 260 pounds. The top speed is 5 miles per hour. The technology is so good now – I think it's the only chair I'll ever need.

**Saul:** My chair has a left-hand joystick. It has a seat elevator, which is great for restaurants, talking to people at eye level and transferring to high beds in hotels. I also got a seat recliner that I use more than I had imagined. It's a rear-wheel drive and weighs 280 pounds. Top speed is 7 to 8 miles per hour. I like speed! ▲

**Stephen Kinstler**, United Access  
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More than half of the modifications we do are non-driver modifications – wheelchair and scooter ramps and lifts, van door and roof extensions, etc., that have to do with mobility issues.

Because Joan needed driver modifications, she had to be assessed by a Certified Driving Rehabilitation Specialist, an occupational therapist who gives us an independent, impartial evaluation of what is needed. The therapist provides on-the-road driver training on hand controls and may be able to develop exercises to strengthen driving muscles. The therapist also observed that, in Joan's case, reduced-effort steering was needed. This reduces the amount of strength required to turn the wheel by half or more and can even to go zero.

Joan recognized that she needed help and she got it. Mobility changes for people who have had polio are often gradual, and they sometimes feel they are giving up something when they get help. I had a spinal cord injury, so, for me, change was instant, but I understand the reluctance to give something up. I say, don't be afraid to need a little help – it's out there if you just look. ▲



Stephen Kinstler

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