

ASK THE PHYSIATRIST

by Terrence P. Sheehan, MD

1. What is a physiatrist?

Physiatrists are physicians who specialize in the functional rehabilitation of people who are impaired secondary to limb loss, back pain, stroke, and many other disabling conditions. They are also called “rehab docs” or “physical medicine and rehabilitation specialists.”

Upon graduating from medical school, physiatrists train for a year in family or internal medicine. This is then followed by three years of residency training in physical medicine and rehabilitation.

This is soon followed by rigorous testing called “boards,” resulting in “board certification.” Physiatrists can then go on for further training through fellowships and “sub-board” certification programs.

A physiatrist’s expertise is defined by his or her practice. I practice in an acute rehabilitation hospital and, therefore, see a greater number of people who have had life-changing events, such as spinal-cord injury, stroke, brain injury and limb loss. Many other physiatrists practice in multi-specialty groups or on their own in outpatient settings where they deal more with issues like musculoskeletal problems and acute and chronic pain. It is important, therefore, to seek out a physiatrist who is “practicing” with patients who have problems like yours.

2. Why do amputees typically see a physiatrist?

The physiatrist’s role in the care of amputees is multifaceted. In the preamputation phase, the physiatrist is more mindful of the patient’s functional outcome and is thus helpful with advising on the level of amputation. He or she can also try to implant in the patient a vision of what can be achieved after amputation.



In the postsurgical phase, the physiatrist oversees the patient’s initial rehabilitation and the healing and shaping of his or her residual limb. The physiatrist then works with the healthcare team to prescribe a prosthesis and further rehabilitation services, while monitoring medical issues, functional progress and team coordination. Long-term follow-up by the physiatrist is important for maximizing and maintaining the patient’s functional outcome. This includes being aware of the full person and his or her medical, social and avocational/vocational issues.

3. Are amputees at greater risk for osteoporosis?

Osteoporosis is a thinning of the bones from a loss of the minerals that help to “stock” them. If we use the analogy of the bones being a bank, we can only make deposits that build bone stock until we are about 25 years of age. If we have had healthful nutritional habits, we should have strong, healthy bones. As we age, there is a slow withdrawal of these deposits or thinning of our bones. This thinning is accelerated through poor nutritional habits, smoking, alcohol and, for women, menopause. If we have “rich,” healthy

bones, we can weather the withdrawal of bone deposits without a problem. If we have poor bone stock to begin with, the withdrawal of deposits that occurs with normal aging, menopause, or poor nutritional or social habits can lead to a critical bone-thinning level. At this point, the bone will fracture easily, especially at key weight-bearing points, such as the hip, spine and wrists.

Osteoporosis is more prevalent in women, especially those who are fair-skinned. This is one of the risk factors for osteoporosis, and the more risk factors you have, the greater your chance of having it. Unfortunately, being an amputee is also a risk factor.

Bones are strengthened by bearing weight against the gravitational pull of the earth and the pull of the muscles they are attached to. As a result, we have found that too much bed rest or walking in outer space causes an acceleration of osteoporosis. Thus, for amputees, a decrease in activity, especially the reduction of weight bearing and muscle use through the residual limb during walking, causes an accelerated loss of bone-mineral density.

Amputees can, however, take proactive steps to limit the detrimental effects of bone thinning. When possible, walking

and other weight-bearing activities are helpful, while focal strengthening of the muscle groups also places a healthy stress on the bones involved and strengthens them. In addition, the use of calcium supplements with vitamin D is a standard for bone maintenance therapy, and agents that help alter bone-cell turnover have been found to be helpful. Unfortunately, no cure or definitive treatment has been found that will significantly reverse the losses that have occurred.

4. I am a bilateral leg amputee and usually use a wheelchair. I am losing my muscles in my residual legs, I often have skin problems from sitting so much, and I often have shoulder pain. I have gained weight since my amputation and am not able to walk in prostheses. Is it too late to get my life together again?

It is not too late. You are dealing with a

number of issues that an “amputee-oriented” physiatrist should be able to help you with. The human body is quite resilient. Physical therapy should be able to help with strengthening your residual limbs and addressing your shoulder complaints. Further evaluation of your wheelchair or “seating system” and perhaps the use of computerized mapping to identify pressure areas when you are sitting would help address the cause of your skin problems. Training by a therapist would include weight shifts to relieve sitting pressures, proper transfer techniques, and community re-entry activities. So much is possible, including weight loss. You just need to get started.

5. I am in my 60s and have used bilateral leg prostheses since I was in my 30s. Recently, I seem to get very tired and out of breath when I walk. What should I do?

Shortness of breath can be caused by something as mild as being “out of shape” to something as serious as “drop dead” heart

disease. There is no time to waste; you need to go directly to your cardiologist or your internist to be thoroughly evaluated. You have the same risks as other 60-something-year-olds. This means that you also should have all of the other routine screenings that need to be done at your age, such as those for high blood pressure, prostate cancer and colon cancer.

If you are cleared, it will be important to maintain your strength and endurance to continue the level of function you have enjoyed. As we get older, we lose our reserve strength and endurance. With your doctor’s permission, you need to do regular exercise, including aerobic training, strengthening and stretching, to keep going strong.

6. I am an above-knee amputee and use crutches instead of a prosthesis. What advice would you give me about crutch use to prevent or minimize long-term problems from using them?

Our bodies are designed to bear weight and walk with our lower extremities. Our arms, including our shoulders, are designed for more delicate work. Thus, the use of crutches and your arms to fulfill the legs' function presents stresses to the body.

There are two types of crutches: "axillary" crutches, which shift the weight bearing to your shoulders, and "forearm" crutches, which shift the weight bearing to the wrists, elbows and shoulders. In time, the cumulative stress of this weight bearing will cause irritation to these joints, leading to tissue injury, accelerated joint degeneration, pain, and loss of function.

To prevent or minimize these problems, you must get educated about how to maintain a strong body with a focus on preserving the function of your remaining limb, your vulnerable upper limbs, and your back. A physical therapist can help you develop a regular exercise program to accomplish this. Second, you must follow through with this program compulsively. Third, you need to study your routine activities to see if they can be done in ways that are more efficient and less stressful on your body, especially the upper extremities. The philosophy can be stated simply as "conserve it to preserve it." This can include the use of power mobility equipment for long-distance activities and other adaptive equipment.

7. I want to avoid any additional physical problems related to my amputation. What is your best advice?

- **Love your residual limb.** This means maintaining excellent hygiene of your residual limb, keeping your prosthetic socket clean, monitoring your skin closely for areas of irritation, and maintaining a continuous custom socket fit to prevent any skin breakdowns early. You will also want to develop a close professional relationship with your prosthetist and/or physiatrist.
- **With your doctor's permission, maintain a regular exercise program designed for your individual needs, including convenience (because convenience leads to compliance).** This program should include strengthening and stretching of the entire body and aerobic exercises, such as using the treadmill and swimming, to prevent upper-arm, neck and low-back sprains and strains that commonly occur from the stress caused by altered body mechanics after amputation.
- **Stay connected.** You need to be part of a limb loss peer group to share experiences, resources and laughs. This will help you learn how to help yourself and others and will help motivate you to take care of yourself. ■



About the Author

Terrence P. Sheehan, MD, is the medical director for Adventist Rehabilitation Hospital of Maryland and the director of its Amputee Rehabilitation Program.