

Risky Business

The Potentially Dangerous Consequences of Choosing Not to Wear Your Lower-Limb Prosthesis

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A phone message from a lower-limb prosthesis user saying “I’ve had a fall” is never taken easily by a physiatrist. The range of possible injuries – a wounded ego, a skin opening in the residual limb, or a major fracture, for example – run through my mind as I return the call.



The extent of the injuries is important because they could suspend the independence the person gets through the use of his or her prosthesis while he or she is healing.

Although such falls and subsequent setbacks are common for amputees, once I find out if the person is OK, the inquisition begins. My next question, of course, is, “How did this happen?” It’s often because the person decided, for whatever reason, not to wear his or her prosthesis “this time.”

Of course, not wearing his or her prosthesis will not always result in a fall or injury, but it can. Still, many prosthesis wearers choose to not wear their prosthesis at times.

The reason a person makes this choice is usually unique to the individual and the particular situation. It is often the same reason that I had no shoes on one morning when I stepped on one of my son’s LEGO building blocks while I was going to shave. I don’t wear shoes to bed, I hate slippers, and I keep the lights off to keep from disturbing my wife in the early hours of the morning. And boom! I’ve twisted my ankle, landed on the floor, shaken the house, and shattered the peace of my sleeping family. But it seemed reasonable at the time!

The bottom line is that there are reasons for, risks to, and consequences of not wearing your prosthesis.

The Reasons

One reason people don't wear their prosthesis is comfort. In the privacy of your home, you don't have to lug around a heavy, uncomfortable limb anymore than I have to wear my shoes, belt or tie. You are free to be comfortable without the stares of friends and strangers. There's no need for vanity at home, right?

Another reason people choose not to wear their prosthesis is pain. Getting comfortable also makes sense when you have skin irritation in your groin, knee, lower abdomen, or anywhere else. Prosthesis users often have pain in their residual limb or other body parts after an extended period of wearing "the leg."

Thus, to be free of "the leg" can mean being free of the pain. They also may choose not to wear their prosthesis for a while to try to avoid crossing over into the "I've had it on too long" period to begin with.

Not wearing the prosthesis might also simply be a matter of convenience. It might be my choice to risk my safety so that I can conveniently get from my bedroom to the master bathroom. Or I might not even consider the trauma that I might suffer if I don't turn on the light, put on my footwear, and ensure that my path is clear. I might just want to do what's convenient and not even think about the risks.

To take a chance seems very reasonable when the risks seem low. To put all of that cotton, gel, metal and plastic on and to pull, squeeze, snap, lock, click, and Velcro a prosthesis on just to urinate in the wee hours of the morning does not.

The Risks

As long as prosthesis users are minimally impaired, care about their safety, and are not doing stunts and acrobatics, the risks should be low if they choose not to use their prosthesis for intermittent periods. Unfortunately, this is often not the case. A large number of prosthesis wearers have significant other medical problems, such as diabetes, which can impair

their vision, their sense of position, and their balance. It is these not-so-obvious impairments that become so obvious when you're in midfall. Then, it's too late.

Other risks of moving around without your prosthesis may not be as evident as the risk of a fall. When you're hopping, jumping, sliding or banging from one location to the other, however, you can also stress and injure a number of joints, including your hips, knees, feet, shoulders, elbows, wrists, hands, neck and lower back. And don't forget that these joints don't "stand" alone. They are always working "in cahoots" with their associated ligaments, tendons and muscles. I can imagine the sound of them ripping and tearing as someone repetitively hops and jumps around with or without his or her crutch, cane or walker. It's called cumulative trauma from "abnormal biomechanics."

Skin, "the packaging," is at risk as well, either from acute trauma or cumulative trauma. Although those who are healthy and unimpaired may be able to withstand some of the skin's bumps and scrapes, the truth is that most of the trauma is occurring under the dead outer layer of skin. The soft tissue that is pinched between a hard surface outside and the hard bone inside falls apart when crushed against the bone. We see a bruise outside, but inside is a mess of ripped up cells, tissue, and blood vessels that need time to repair. For those with diabetes, however, the skin sensation may be so impaired that they don't feel the ripping and tearing of the tissues under their skin. They may, therefore, continue to hop and bounce around until a major hole or thick callous forms.

Unfortunately, the ability to heal is also diminished in people with diabetes. It happens slowly, and the person often battles infection. If he or she is fortunate, the infection is caught during the early, superficial stage and is treated aggressively. By aggressively, I mean with close medical supervision (not home remedies), which usually includes the

use of antibiotics, the use of frequent dressing changes, and the loss of the use of the prosthesis until the infection is eradicated and the skin is closed and healed.

That's correct. Their privilege, their right, and their choice to use their prosthesis is totally suspended once the skin is damaged (reddened, blistered, opened) even if there is no infection. The table has turned, and the risk is now in wearing the prosthesis over damaged skin, rather than in not wearing it.

Damaged skin is vulnerable and more damaged in the deeper layers than the eye allows a person to believe. The red spot becomes a blister, the blister becomes a sore, and the sore becomes deep and infected. At this point, it can quickly and quietly go to the bone. Then, it's very difficult to cure. The risk becomes one of limb (yes, the need for further amputation) and of life (yes, deep bone infections can quickly spread throughout the entire body). Although this process can occur in healthy, young nondiabetics as well, for those with diabetes, it can occur very rapidly and be very dangerous and costly.

Egos can be repolished; minor bumps and bruises can heal. But when bones break, shoulders (rotator cuffs) tear, and skin is opened, my patient and I are in for the long haul of recovery. Often, this involves the loss of the patient's freedom to choose. When his or her residual



limb is injured, the patient no longer has the choice to wear the prosthesis. The consequences of the injury include further limits on his or her independent mobility and usual activities, pain, and healthcare bills for such things as bandages, therapy, medication, and physiatrist visits. Once it has happened, it all seems clear to “the Monday morning quarterback.” It’s essential, though, that the regret, depression, and learned lessons occur before we get our next chance to take “the risk.”

Things to Think About

As a physiatrist who works with many prosthesis users, I usually hear from patients after they have been injured. In this case, however, I would like to offer the following suggestions to try to prevent some of these injuries from ever happening:

- If you can’t or won’t wear your prosthesis at times, think first and assess the risk. Can you use crutches, a walker, a wheelchair, a bedside commode, assistance from someone else, a clear path, a lighted path, handrails, or bars to help ensure your safety?
- Always be prepared for times when you are not able to use your prosthesis. Set up your immediate world so that you will be able to function with or without it.
- Be aware that medications and/or alcohol can impair your senses (touch, balance, judgment, etc.) and other bodily functions. This may be especially dangerous when you are not wearing a prosthesis.
- When you are preparing to put on your prosthesis, check your skin first. Even a quick check is better than none. If your skin is possibly injured, have it checked before proceeding with the use of your prosthesis.
- When using your prosthesis, use it correctly. Make sure that you are using the appropriate socks, liners, and suspension aids, and make sure that the prosthesis is fastened and fitted properly. Incorrect use can turn this device into a weapon of destruction.
- Develop close professional and support relationships with your physician, prosthetist, therapist, podiatrist and other prosthesis users. When you need to ask a question or seek help, it is important that you have resources. Insist on having these relationships. In this age of information and communication, there are many ways to establish and maintain these contacts. Remember, others may need your help as well.
- Use professional organizations like the Amputee Coalition of America to increase your knowledge, support, and sense of connectedness. You are not alone; your experience is a shared one.

About the Author

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Before You Fall Tips for Preventing Falls in the Home

Your home may be your haven, your castle, and your favorite place in the world. It can also be safe for you after your amputation, if you look around and follow these tips to keep from falling:

- Remove throw rugs and secure large area rugs with carpet tape or tacks.
- Rearrange furniture to allow enough room to navigate.
- Position heavy furniture so that there is something to grab if you begin to fall.
- Leave a light on at night.
- Wipe spills immediately.
- Reduce clutter.
- If thresholds cause problems, have them lowered or removed.
- Move any furniture that has sharp edges away from main pathways.
- Use a shower chair with arms.
- Have handrails and grab bars installed in bathrooms.
- Use nonskid strips or mats for inclines, stairs, tubs and showers.
- Adjust doors with automatic closures so that they do not bump you from behind.
- Move telephone and extension cords from the traffic areas.

Other things you can do to prevent falls include:

- Review your medications with your doctor or pharmacist; some medications can make you dizzy or sleepy or affect your balance.
- Have your vision checked every year.
- Rise slowly after sitting or lying down.
- Exercise regularly to increase your strength and improve your balance.