

About one in four patients with diabetes will get it.

Welcome to SBH Bronx Health Talk produced by SBH Health System and broadcast from the beautiful studios at St. Barnabas Hospital in the Bronx. I'm Steven Clark.

A diabetic foot ulcer is an open sore or wound that will occur in as many as a quarter of all people with diabetes. Of those who develop a foot ulcer, as many as one in four will end up with an amputation and yet these diabetic ulcers are treatable and with early intervention amputations are often preventable. The Bronx is at the epicenter of the diabetes epidemic. An estimated 16 percent of all Bronx residents have diabetes, the highest rate in New York City or New York State. With me today to discuss diabetic foot ulcers and their treatment is Dr. Ronald McLean, a general surgeon and director of the Wound Healing and Hyperbaric Medicine Center at SBH Health System. Welcome Dr. McLean.

From what I understand even a very small cut on the foot of a diabetes patient can quickly overnight manifest into a life-threatening wound.

Yes it's possible.

Yeah so that's something they really have to watch out for right? So when they come into the wound healing center what happens?

When the patient comes in they're evaluated. First you look at the whole patient, look at their history see the medical problems are involved with diabetics there are other things going on also and all that's obtained from the patient and then you go through the system where the patient is examined and the wound is actually examined more specifically as to where the ulceration and so on is and evaluated.

Do you find that many patients wait longer than they should?

Yes they usually do and sometimes it's not their fault in that because the nature of diabetes and the effects they might not even be aware of the wound in the initial stage.

Okay and so when they come to you there is there are various treatments and I assume you start out with a less invasive treatment right?

Yes, the patient is evaluated first of all from a vascular point of view where the aim here is to be sure that they have enough blood supply coming to the limb or to the area where the wound to heal the wound so they are evaluated from a vascular point of view by the vascular surgeon or we send them for these specific tests uh initially they also checked to make sure that the diabetes itself is controlled.

Well let's talk about some of the common treatments if someone comes in with diabetic foot ulcer.

So they come in on this like I said for evaluation from a vascular point of view also from a controlled diabetic disease then the wound itself is examined. You're looking for changes in the foot because of the neuropathy associated with diabetes. There may be bony deformations. There may be calluses on the foot, also various stages, so that is evaluated. If there is an infection this needs to be controlled and they're treated with antibiotics. If there's any necrotic or devitalized tissue that's present this is debrided as part of the initial treatment. Then local wound care with various dressings applied going through the process to see how the wound heals.

What is off-loading?

This is like I said the patients are usually neuropathic. The sensation in the limb is decreased so they're putting more pressure on the wound itself than a usual person who would feel pain would do so offloading you have special custom-made shoes, they can be walk-in braces, or total contact casts which are put on to take the pressure off the foot that's ulcerated and distribute the pressure evenly to the rest of the limb.

So typically I guess when they come in they see a podiatrist too, right?

Yes the podiatrists who are on staff in fact most of the physician panel is comprised of podiatrists.

You're a general surgeon yes where do you come do they do surgery sometimes if necessary?

Yes depending on the extent and if the ulceration or the infection extend beyond the ankle, more proximally of the limb, then this is where the general surgeon, the vascular surgeon also might come in from a surgical point of view and address the problem.

So where again hyperbaric oxygen therapy is something that's been around for a long time right but that seems to be an option that works for a lot of patients, right?

Yes that's an option where I'd say down the road after you carry out the local wound care usually we go for about four weeks of treatment. There are certain things you look for. It has to be decreased size of the ulcer as much as say 40 percent and if this happens, they're not progressing much further after four weeks of continuous treatment, then we go into offering hyperbaric oxygen therapy which is basically an adjunct for this.

Why does the hyperbaric oxygen therapy work effectively or how does it function how does it work?

If you go back to the initial problem I mentioned before what diabetes does it causes microscopic and small blood vessels go into the limb so in effect it decreases the blood supply and in effect the oxygen coming to the tissues for healing. What the hyperbaric oxygen therapy does is that one of the things it does is that it increases the amount of oxygen that's locally available in the wound and around the wound which in a diabetic patient is deficient it's locally hypoxic in the wound area so hyperbaric oxygen therapy increases the amount of oxygen there, it increases granulation and proliferation of the cells that do promote wound healing and this is how it works

primarily.

What's the regimen like in the chamber?

The patient comes in for repeated what they we term dive in where they're placed in this tube where the it's a closed environment, 100 percent oxygen is pumped into the tube itself, it's a higher pressure than normal, and they stay in this tube monitored for up to 90 minutes per session and it's done every day five days a week usually depending on the extent of the injury meaning the ulceration or the wound they have for about 30 sessions.

And you've had good success with that right yes that's works quite well.

We've had good success in healing wounds using that and it's not just for diabetic foot ulcers you use it for other things as well.

Yes it's used for radiation injury for someone who say has had radiation to their jaw and then they need to get an extraction or they suffer trauma or have a fracture they draw to promote healing again they hyperbaric oxygen therapy is offered to them other radiation injury on other areas of the body injuries where the tissues are crushed there are the tissues where other injuries where they have necrotic infections like what we call gangrene where the treatment is offered also.

Now foot ulcers even when they're healed they can reoccur right?

Yes so this is why it's an ongoing process so they have to be continued monitoring of the blood sugar so there has to be good control of the diabetes as well as other nutrition. The patient has to be protective of the limb continue wearing their custom shoes as needed. These are the ongoing process.

I guess with your multi-disciplinary approach at the wound center you offer them preventative measures too so again you're not hopefully going to see them six months down the road.

Yeah so you know patients who smoke, we encourage them to stop. We encourage them also to control the weight. These are all things which help and this ongoing process.

Now if someone was interested either in finding out more information or making an appointment at the wound center is there a number they could call this there's a number you can call?

Yes, there is. 718-960-5064. Or you can talk to your physician and have them refer you to the center.

Okay with Dr. McLean thank you for joining us today in SBH Bronx Health Talk. For more information on services available at SBH visit www.sbhny.org and thank you for joining us until next time.