



Early Detection

Katia Langton, CPed, CPed(C), DC, investigates lumbar spinal stenosis and complications from diabetes

O&P Almanac introduces individuals who have undertaken O&P-focused research projects. Here, you will get to know colleagues and healthcare professionals who have carried out studies and gathered quantitative and/or qualitative data related to orthotics and prosthetics, and find out what it takes to become an O&P researcher.

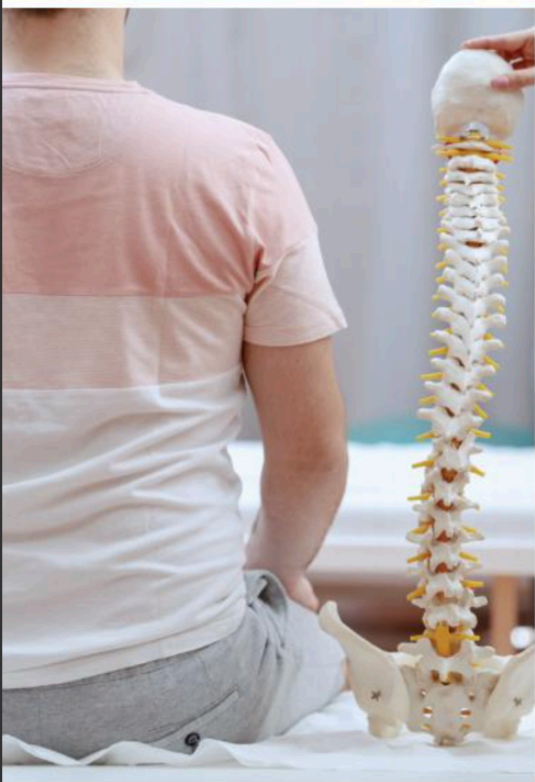


PHOTO: Adobe Stock

KATIA LANGTON, CPED, CPED(C), DC, drew from lessons learned during her early career as a chiropractor in deciding to launch a second career as a pedorthist.

Langton, who grew up in Vancouver, British Columbia, studied at Simon Fraser University and Canadian Memorial Chiropractic College, and then she practiced in the chiropractic field for 20 years. During that time, she noticed that many of her patients were troubled by painful foot conditions, pronation problems, and alignment issues that caused back problems. This prompted her to study pedorthics at the International School of Pedorthics and the Western States Pedorthic Program.

Once she earned her CPed credential, Langton returned to Vancouver and opened Island Pedorthic Foot Care. Now owner of OceanWalk Pedorthic Footcare Clinic, she concentrates her efforts on catching Charcot foot early and preventing diabetic foot complications. “Our focus is preventative off-loading with diabetic orthoses, which will reduce the number of ulcerations and foot complications we will see in the future,” she says.

Early Intervention

“I became a pedorthist because I had two main goals: to prevent diabetic foot ulcers and amputations, on a global

level, ... and to practice and teach other healthcare practitioners how to differentiate lumbar spinal stenosis (LSS) patients from the diabetic neuropathy patients,” she says. LSS, a degenerative condition of the low back, is a disabling, chronic medical condition with serious irreversible consequences that limit seniors’ mobility, walking, and independence as they age.

OceanWalk offers both in-clinic consultations and a mobile foot clinic component serving multiple locations, including many remote First Nations communities needing pedorthic services. “The goal of these clinics is to prevent diabetic foot ulcers and amputations and to keep patients active, walking, and mobile,” says Langton.

She stays true to her chiropractic roots by continuing to treat patients as owner of Nanaimo Chiropractic Inc. “We focus on a nonsurgical treatment approach based on the LSS program at Mt. Sinai Hospital in Toronto,” she explains. The goal is to improve standing and walking using manual therapy, specific exercises, and a custom table that helps to align the spine to increase openings for the spinal nerves. This six-week program involves exercises to strengthen weak back and leg muscles and mobilizations and stretches to reduce pressure on spinal nerves when standing and walking.

Helping Others Through Research

Research plays a prominent role in Langton's career. She partnered with Ed Jude, MD, an endocrinologist in the United Kingdom, in a research study on "Peripheral Neuropathy and Lumbar Spinal Stenosis in Patients With Diabetes." They conducted an initial investigation in 2017, studying 84 patients who were referred to



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a diabetic foot clinic for assessment and treatment for diabetic peripheral neuropathy and its symptoms. Langton and her team found that 13 out of the 84, or 15 percent, actually had LSS symptoms causing neuropathy, but the symptoms were mimicking diabetic peripheral neuropathy. Langton and Jude shared these results during a presentation of the Diabetic Foot

Study Group in Portugal in 2017.

LSS is "underrecognized, underdiagnosed, misdiagnosed, and thus largely untreated," Langton explains. LSS causes neuropathy—but in a top-down manner that can be treated. Left alone, it progresses and limits mobility, which predisposes patients to chronic diseases—the most common one being diabetes. "Our research continues, and

we are now partnering in a larger study to look at the effects of this in different countries based on the aging population globally." The study is in its early stages; Langton and Jude are compiling data and plan to include patients who have been confirmed for LSS via MRI imaging.

Creating Guidelines That Benefit Patients

Langton plays another important role, serving as secretary of the Diabetic Foot Stream Committee of the International Diabetes Federation. In this capacity, she assisted the committee in creating Diabetic Foot Guidelines published in 2017 (www.idf.org/component/attachments/?task=download&id=1152), as well as a Pocket Chart (www.idf.org/component/attachments/?task=download&id=1177).

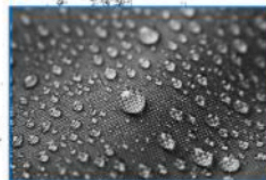
Built into the guidelines are defined risk categories as well as information to aid in recognition of LSS. "It is important that healthcare practitioners understand LSS and that as soon as the spinal nerve exits the spinal cord,



A sub-brand of Apis



Water / dust repellent upper
One-way breath-ability
Durable rubber bottom soling
PDAC A5500 Coded



9328 Women

Women's Widths & Sizes :
 D, 3E, 5E/5, 5.5-11.5, 11-12
 Men's Widths & Sizes :
 D, 4E, 6E, 9E/7, 7.5-11.5, 12-17



9329 Women



9719 Men



9711 Men



9712 Men

Understanding Lumbar Spinal Stenosis

What Causes LSS?

- Degenerative disc thinning/bulging
- Hypertrophic facets
- Thickening/infolding of the ligamentum flavum.

How Does LSS Cause Symptoms?

- Narrowing of the spinal canals inhibits venous return that leads to congestion within the canal, which results in blockage of the cerebro spinal fluid (CSF) and leads to further congestion
- Congestion compresses the arterial blood flow to spinal nerves that leads to ischemia and lower-extremity symptoms causing neuropathy.

What Are the Symptoms?

- Unilateral or bilateral buttock pain
- Hip and leg pain and weakness
- Low back pain (occasionally)
- Numbing and tingling in lower extremities and feet
- Bowel and bladder weakness
- Weakness in lower extremities mimicking diabetic peripheral neuropathy.

What Is the Presentation?

- Decreasing ability to walk upright
- Relief with forward flexion or sitting immediately (this differentiates from mechanical low back pain)
- Increased ability to walk upright with forward flexion as this opens up the spinal canals and relieves congestion, which decreases compression on arterial blood flow to decrease ischemia on the spinal nerves
- Positive for shopping cart sign (ability to walk upright bent forward over a shopping cart)
- Numbing, tingling pain in feet and lower legs mimicking diabetic peripheral neuropathy.

and there is stenosis present, then it can cause neuropathy. Neuropathy is nerve damage, no matter what the source is—diabetes or neuroischemia from stenosis,” she explains. “Any damage, compression, inflammation, or neuroischemia along the course of the nerve from the nerve root to the tips of the extremities can cause neuropathy.”

Senior patients will benefit if healthcare practitioners learn to differentiate LSS, which is treatable, from diabetic peripheral neuropathy, which is not treatable but is manageable, says Langton. “Clinicians need to understand that LSS is a ticking time bomb in these seniors, waiting to rob them of their mobility. And it is imperative with our aging population globally that this is well understood.”

Comprehending the LSS-versus-diabetes distinction is particularly critical because 80 percent of the diabetic foot



Langton speaks at a meeting of the International Diabetes Federation in 2017.

costs are associated with the highest risk category, according to Langton. “We need to focus on treating these patients earlier, and with a focus on preventing ulcers and progression into Risk Category 3,” she says. “Each country’s healthcare budget will not be able to sustain the demand necessary to treat diabetic foot complications, such as ulcers leading to amputations, as this disease progresses incessantly.

Comprehensive diabetic foot assessments and foot care, based on prevention, education, and a multidisciplinary team approach, will reduce foot complications and amputations up to 85 percent. We need to front-end load our resources and shift into treating diabetic foot disease earlier in the risk category and away from reactionary ulcer care. And this means catching patients with neuropathy from LSS and protecting them early.”

She urges new clinicians to learn to identify these two different conditions so that they are best able to assess, treat, and refer accordingly. “Don’t assume anyone else is doing it,” she says. “When you are a pedorthist looking at [a patient’s] feet, you are in a perfect position to solve these confusing problems for the patient and give them some answers, direction, and protection with a focus on returning their mobility.” CP