



# An Unbending Commitment

Once debilitating and nearly untreatable,  
today scoliosis patients in the  
Capital Health region are faring  
far better than ever

By Rick Overwater

**W**hat you know about scoliosis probably doesn't go beyond your mother's warnings that you'd get it

if you didn't stop slouching. Unfortunately for moms worldwide, that's an old myth. Scoliosis, a curvature of the spine consisting of both a lateral bend (to the side) and a spinal rotation, is not brought on by bad posture, sitting in awkward positions or sleeping on old mattresses. The majority of cases are idiopathic, meaning the exact cause is unknown.

"It's truly a dark corner," says Dr. Marc Moreau, a pediatric orthopedic surgeon at Edmonton's Stollery Children's and Glenrose Rehabilitation hospitals. "We don't know the answer, but if you ask anybody who's dealing with scoliosis today, they'll probably tell you they think there's a genetic reason."

Braces and surgical interventions have meant great strides in treatment over the past 20 years. Today, the vast majority of scoliosis patients lead healthy, normal lives. Only 2% to 4% of Canadians have this disorder, and only 10% of those will require aggressive treatment.

Typically, the disorder is treated by straightening the back, or at least preventing a curve

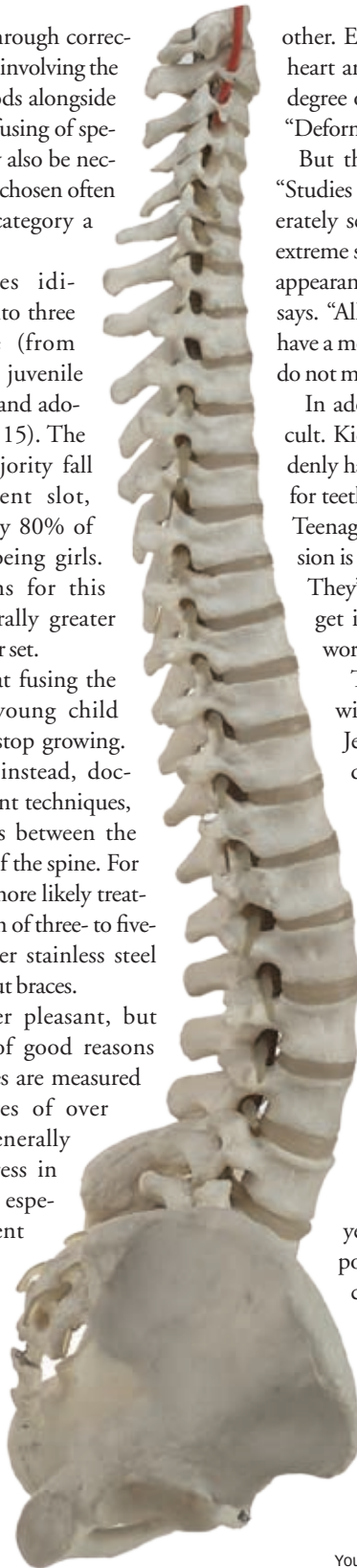
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from worsening, through corrective braces. Surgery, involving the insertion of steel rods alongside the spine with the fusing of specific vertebrae, may also be necessary. The options chosen often depend on what category a patient falls into.

Moreau divides idiopathic scoliosis into three groups: infantile (from birth three years), juvenile (ages three to 10), and adolescent (ages 10 to 15). The overwhelming majority fall into the adolescent slot, with approximately 80% of significant cases being girls. Treatment options for this segment are generally greater than for the younger set.

Moreau says that fusing the spine of a very young child would cause it to stop growing. He explains that instead, doctors employ different techniques, installing implants between the ribs or at the level of the spine. For young children, a more likely treatment is the insertion of three- to five-millimeter diameter stainless steel rods, with or without braces.

Surgery is never pleasant, but there are plenty of good reasons for it. Spinal curves are measured in degrees. Curves of over 25 degrees are generally expected to progress in growing children, especially pre-pubescent girls. Deformities develop: a hump in the back, a misaligned torso over the pelvis shifting them to one side or the other, shoulders at odd levels from each



other. Eventually, internal organs such as the heart and lungs can be compromised. "That degree of severity is quite rare," says Moreau. "Deformities are usually more cosmetic."

But the curves exact a psychological toll. "Studies show that individuals who have moderately severe curves of the spine suffer from extreme shyness, are very concerned about their appearance and don't have as many friends," he says. "All the social spheres are affected. They have a more difficult time getting jobs and often do not marry."

In adolescence, it can be particularly difficult. Kids who grew up looking normal suddenly have to wear body braces. Unlike braces for teeth, you can't cement scoliosis braces on. Teenagers being teenagers, parental supervision is required. "Sometimes girls try to cheat. They'll put their braces into their locker and get into trouble because their curves get worse," says Dr. Moreau.

There's also the possibility that a teen with scoliosis will have low self-esteem. Jessie Kautz, 26, says she personally didn't suffer any problems with self-image even though her back was curving to the point of posing a health risk. "Before I had surgery I had a curve beyond 90 degrees and it was going to start affecting my breathing," she says. When she was 13, she was scheduled to compete nationally as a member of the Alberta provincial gymnastics team; surgery to correct her condition halted her plans. "Just to know surgery is coming up is hard to deal with, especially when you're a young person."

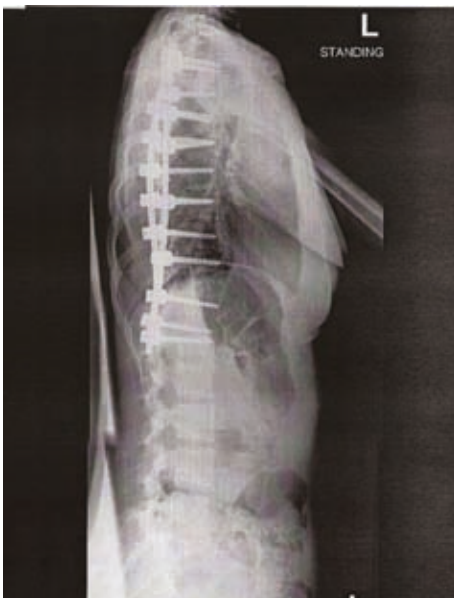
Like other scoliosis patients, for three years Kautz wore a five-millimetre thick polypropylene brace that opened like a clamshell and enclosed her from her waist to her chest. It required wearing clothes that weren't too tightly fitted. Most young patients are relieved to find that they can take off their brace for a while each day, allowing for special circumstances such as sports, sleepovers, or formal events, which



**BRACE YOURSELF:** The majority of scoliosis cases can be treated with braces, above. More extreme cases require surgery. Steel rods are surgically implanted to straighten the spine, below

they may want to wear something nice to.

Kautz would end up being an unusually complicated case, requiring the surgical insertion of rods in her spine. Doctors fused her vertebrae several times before she was 17. She stresses that her case is unusual and most scoliosis patients would not face such onerous treatment. Despite her challenges, Kautz doesn't feel like she's suffered too much. The University of Alberta sciences student does have to limit her class load, to keep from sitting for long stretches, and has to avoid hunkering down over her books for lengthy periods. But her life looks much like anyone's. "I can walk," she says. "I can swim, and I've even been



whitewater rafting." This is a relief to worried parents facing braces and surgery.

There's some debate in the medical community as to the usefulness of the braces. Some argue that the curve reduction attributed to braces would happen anyway. But Moreau is a staunch advocate of braces. And he says that more research continues to bring improved treatments.

"It's far better than it used to be," says Dr. Moreau. "People used to have to lie down for three months for their backs to heal after surgery, and now patients are home after four or five days. Braces are better than they were

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20 years ago, and we're moving more and more towards research into genetics."

Kautz founded the Northern Alberta Benefit Society for Scoliosis with her family. Her goal is to educate people, and help sufferers understand that having scoliosis doesn't prevent you from living a full and active life. "I think it's important," she says, "for people to realize scoliosis isn't the worst thing they could have." **YH**

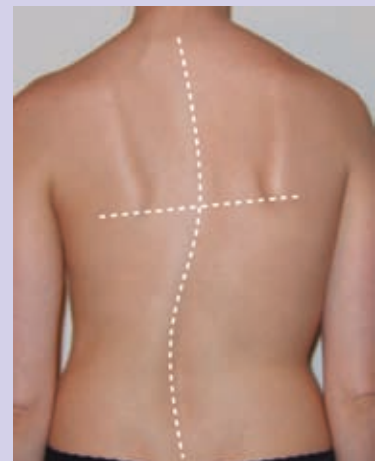
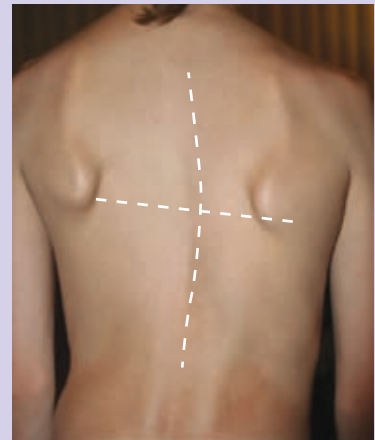
### Life's curveball

When it comes to recognizing scoliosis – a curvature of the spine consisting of both of a bend to one side and a partial spinal rotation – there are red flags. "It can be tricky to spot," says Dr. Marc Moreau, a pediatric orthopedic surgeon at Capital Health. "It's easier in a skinny person than a not-so-skinny person."

Scoliosis begins during childhood. Moreau says a key time to watch for it is during a child's peak growth years, from the age of 10. Most cases occur in girls and develop quickly from about two years before menstruation to about a year and a half afterwards. Boy or girl, there are three key signs to watch for:

- Shoulder asymmetry – Looking from the back, one shoulder may appear to be higher than the other
- Asymmetric waist crease – Instead of the normal hourglass shaped waist, one hip may stick out more than the other, or appear higher or lower than the other
- Protruding shoulder blade – A shoulder blade will push outwards, sometimes appearing as a hump

If you do see any of these signs, don't panic. What appears to be sign of scoliosis may be completely normal development. "Not everybody is perfectly symmetrical," says Dr. Moreau. If you're concerned, see your doctor.



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