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My Future with Scoliosis

At my physical before my eighth grade year my doctor asked me to touch my toes as she ran her fingers down the center of my back. This was nothing unusual, she had been doing it for the past two years but this time was different. This time she did it several times rather than once, and this time she called my mother over to look at something. This was because, for the first time, my doctor noticed a minor curvature of my spine. "Nothing to be too worried about" she explained, "We'll just get some x-rays of your back to see what's going on. It's just something we need to keep an eye on." A week later I sat in the waiting room of an unfamiliar office to see Doctor Kevin Eck: orthopedic surgeon. After several x-rays and hours in the doctor's office, I was officially diagnosed with scoliosis.

What I know (or think I know) about scoliosis

I know I have scoliosis which causes me to have an S-shaped curvature in my spine. The top half of my spine, between my shoulder blades, curves twenty-seven degrees while the area of my spine near the small of my back curves fifteen degrees. Shortly after being diagnosed with scoliosis, I got a plastic back brace to keep it from curving any more. Luckily, my case of scoliosis is relatively mild, most people don't know I'm 'crooked' until I point it out to them. However, my scoliosis is bad enough that it causes me to carry my right shoulder about a quarter of an inch lower, while the right side of my hip sits slightly higher and is rotated forward. I tip the entirety of my hips out, and roll my shoulders abnormally far back. The easiest telltale signs

of my scoliosis are my protruding shoulder blades, and a rib that sticks out from the rest. All of these are caused by my scoliosis, and all of them lead me to carry twenty-five pounds more weight on my left foot than my right. This makes it difficult for me to stand, walk, or sit in hard chairs for more than an hour without some form of considerable discomfort.

Perhaps the most fascinating, and potentially unsettling, element of scoliosis is that no one knows what *causes* it. Scoliosis crosses all ages, genders, and ethnic borders. Worse yet, no one knows how to predict scoliosis, and there is no “cure.” It can only be “corrected” or “maintained,” talked about as though our spines were as rudimentary to straighten as crooked teeth. There are procedures to “correct” a curvature of the spine caused by scoliosis which involve cutting open a person the length of their back and screwing a metal rod into their vertebrae to force the spine to stay straight. This procedure is extremely painful, and necessitates a lot of recovery time. In individuals who are still developing a curvature, doctors often place them in one of a variety of back braces, all of which are exceptionally painful and involve shaping the muscles and spine similar to the way braces straighten teeth.

Why I want to learn more

I want to know more about scoliosis because I *have* scoliosis. I constantly wonder what it will mean for me as I get older. I already have chronic back discomfort, something I’ve learned to ignore, and know that as ‘normal’ people get older they begin to suffer from back pain and hunching of the shoulders, both of which I *already* suffer from. Will my pain only get worse, or will I just prematurely develop the spine of an old woman? Is it possible for my spine to keep curving now that I’ve stopped growing? Am I at an increased risk of other diseases and conditions because of my scoliosis? I want to find out what kinds of stretches, exercises, or other methods of physical therapy there are to prevent further chronic back pain, or even eliminate my

current back pain. Are my children at a higher risk of developing scoliosis because I suffer from it? All of these were questions I had been too afraid to ask until now.

Scoliosis is scary. It doesn't affect my life enough anymore for me to acknowledge its existence in my daily routine. So I don't. I don't like to think about a future where I am physically unable to do the things I want because of a stupid curve in my spine. I don't want to think about the constant dull pain in my back getting harder to ignore with each passing year. But the truth is I *need* to know the answers to these questions, because simply ignoring my scoliosis isn't going to make it go away. It's time I sat down, shut up, and learned everything there is to know about this stupid condition.

The story of my search

Where else does a millennial start their research but the internet? So to Google I went, and with a simple search for 'scoliosis' I quickly found the National Scoliosis Foundation and their website. The National Scoliosis Foundation (NSF) is a non-profit organization dedicated to helping individuals understand scoliosis: the impacts on life, screening programs, information on the newest information, and most importantly providing a community for individuals affected by scoliosis. While reading through the posts in the forum, I realized they had all kinds of technical jargon when describing curvatures, surgeries, and diagnoses. It turns out I'm not as familiar with the different types of scoliosis as I had thought, so I decided to start at the beginning.

I quickly found a journal by orthopedic surgeons Marc Asher and Douglas Burton about my type of scoliosis, and one of the most common types: adolescent idiopathic scoliosis (AIS). Asher and Burton begin their article by examining whether or not scoliosis causes an increase in mortality rate as the individuals get older. They did so by examining two different studies that set

out to answer this exact question, one at Stockholm, and the other at Gothenburg. Both Stockholm and Gothenburg were longitudinal studies through which individuals with scoliosis were observed for a minimum of 45 years in the Stockholm study, and 9 years for Gothenburg. Both of these studies found that the mortality rate of individuals with scoliosis was 15%, very close to the general population mortality rate at 17% (Asher).

The journal went on to explore the quality of life for individuals with scoliosis, versus those without. When it came to general quality of life, there was no difference between the two groups based on various longitudinal studies, and when focusing specifically on back pain individuals with scoliosis were inconsistently at higher levels. Though it is worth noting there is no specific pattern among individuals with scoliosis, who do and do not develop chronic back pain later in life, among individuals with scoliosis, pain severity may or may not increase (Asher). When focusing specifically on function in old age, there were only noticeable differences between those and those without scoliosis in females with a curvature of more than 40 degrees.

It was at this point in my research that sitting on a less-than-comfortable futon, hunched over my computer my back began to be exceptionally uncomfortable. I figured this would be a great opportunity to move onto my next big questions when exploring scoliosis: what kind of nonsurgical relief and exercises are there for individuals with scoliosis, and do they actually work? This was more difficult to find than I originally anticipated, everything I found discussed braces and surgery but no one was talking about physical therapy for scoliosis. Finally I found the Schroth Method: a conservative physical therapy practice specifically designed for individuals with scoliosis (Schroth). The Schroth Method creates individual exercises for patients based on their specific curvature and degree of curvature. Essentially, the Schroth Method

exercises creates an awareness for patients to pay attention to their posture and teaches them to “breathe into the collapsed areas in order to elongate and tense muscles to create muscle activation in the direction of the correction” (Berdishevksy, 3:09). The Schroth Method essentially mirrors the curvatures of the spine in an attempt to create an elongation of the trunk (Berdishevksy).

Though I can't travel to Germany to experience the Schroth Method in all its glory, they do have some example exercises on their website I attempted. The exercises mostly involved standing up straight and focusing directly on countering ones specific curvature, or standing along a wall and holding onto the door frame to stretch out the shoulder blades. After about twenty minutes and several exercises I began to feel some relief in my back pain, and continued to practice for about a week. However I felt like the Schroth Method was not as effective as it should have been, based on the fact that I didn't have a personal trainer familiar with my exact curvature telling me exactly how to position myself to counteract my curve. So I set out in search for simpler exercises I would be able to do by myself, without the help of a personal physical therapist.

Next I found Yoga and Scoliosis, a book of exercises based on yoga that is designed specifically for individuals with scoliosis. The thing I responded to the most with this book was how easy it was to understand. Each exercise specifically laid out which props were needed, what to focus on during the exercise, and how to perform the exercise. Again I tried a few exercises a day for a week, and again I noticed a decrease in back pain. I preferred Yoga and Scoliosis over the Schroth Method because the exercises are much less sensitive to my specific curvature degree and placement, making it more effective on a general level. Yoga and Scoliosis focuses on lengthening and strengthening the muscles around the vertebrae, similar to the way

the Schroth Method does, however Yoga and Scoliosis is designed to be much more applicable to individuals practicing without the guidance of a personal physical therapist.

Yoga and Scoliosis also points out that “the floor provides feedback on how the body lies and interacts, or not, with gravity...lying down on the floor with the legs and arms extended, hands facing up, will inform you of your habitual posture” (Yoga and Scoliosis, 14). It was like a light bulb had suddenly gone off in my head! By lying down on my back on the wood floor I was able to easily feel what areas of my body were being pushed farther into the ground, and which ones were not touching the floor at all. By doing this I was able to easily visualize where my asymmetries occurred, and was thus more aware of them and could actively work to correct them.

What I learned

I learned that in some cases, the cause of scoliosis *can* be determined. Only about 65% of individuals who suffer from scoliosis are diagnosed with idiopathic scoliosis, which simply means the cause is unknown. That’s me. I originally thought this was the case with everyone who suffered from scoliosis, however about 15% are congenital, meaning they’ve had it since birth, and the remaining 10% of people with scoliosis develop it due to a preexisting neuromuscular disease (Agabegi, 90). Within these subsets, individuals are also labeled by their period of onset; infantile, before age three years; juvenile, age five to eight years; adolescent, ages nine to seventeen (Asher). I also learned that, generally speaking, there is no evidence to suggest that my back pain will increase more than a ‘normal’ person would, or that I will be at any kind of decreased function ability.

I also learned that there are several different ways to strengthen and elongate my back to prevent further pain and curving of my spine. I will continue to use the different exercises and stretches to help my back pain, and potentially even improve my curvature. By knowing exactly where my asymmetries lie I am more aware of the asymmetries that cause my pain, and am thus better able to be aware of correcting them.

I know my scoliosis is going to be a part of me for my whole life, but that doesn't mean it has to control my life. With all of the knowledge I now have about scoliosis, it's not so scary. I can maintain it, and stop worrying if it's going to limit my life, because there's no way I'll let it.

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