Motivating Others

Tanya Krueger speaks out

Tanya Krueger speaks at Menasha High School in 2013. (photo courtesy of Tanya Krueger)

by Margaret Bicker

From the moment Tanya Krueger entered the world, she was surrounded by naysayers. "I love proving people wrong," she says. By overcoming lifelong hurdles, she has done just that.

At birth, when the doctor saw her twisted spine and bulging spinal cord indicating the presence of spina bifida, he told her parents that she most likely wouldn't survive and that they should place her in an institution and move on with their lives. The condition of spina bifida, in which the spinal column doesn't fuse properly during fetal development, often results in severe disabilities. Undaunted by her daughter's condition and the doctor's suggestion, Krueger's mother instead brought her home, determined to do whatever it took to give her only daughter a chance for a normal life.

No one, not even Krueger, expected her to survive into adulthood, so it had never occurred to her to make plans for her future. But year after year, Kruger's strength, drive and perseverance proved others wrong. Eventually, she earned a college degree and now draws from her life experiences to motivate others.

Childhood was not an easy road. Three spinal surgeries before the age of three offered only temporary correction to her severe scoliosis. The more Krueger grew, the more her spine twisted. At the age of seven, to assist her breathing she underwent a tracheostomy procedure in which a tube was inserted through her throat. As a result, Krueger spent much of her childhood connected to a ventilator day and night. By the time she was 13, she had spent more than half of her life in the hospital for various procedures in an attempt to straighten her spine and prolong her life.

Krueger's mother remained a powerful advocate for her daughter, and continually sought the best care for Krueger. The school district was reluctant to enroll her and suggested that she be home schooled, but "My mom fought hard [to see that] I was treated like everyone else," Krueger says.

A childhood turning point came for Krueger when she became involved with the Make-a-Wish Foundation at age ten. A lifelong Green Bay Packer's football fan, she sent the foundation her wish to meet her idol, Don Majkowski, then quarterback for Green Bay. In the spring of 1990, Make-a-Wish arranged for Majkowski to come to Krueger's home for a catered chicken dinner followed by a limo ride to the neighborhood ice cream parlor. Their 'date' was even covered in a June, 1990, issue of *Sports Illustrated*. "Over the next few years," says Krueger, "[Majkowski] invited my family and me to practices and scrimmages. And I was able to see him inducted into the Packer Hall of Fame." Krueger views her encounter with Majkowski as one of the pivotal events in her life. It helped her to see the impact a role model can have on a young person's life. "It's a tough world," she says. "So if I can have a part in being a positive role model, that's great." The experience with Majkowski also gave Krueger the idea that she might be able to be a role model and someday help others through public speaking.

As the only girl, and with three older brothers, Krueger was a fighter. Mercifully, her spina bifida turned out to be far less serious than originally thought, causing her few problems as she grew. The scoliosis, however, was another story. Born with a 55° curve, her curve steadily increased to more than 100°, stunting her growth and threatening to crush her lungs. Doctors told her parents there was little they could do. But year after year, Krueger amazed the medical professionals with her tenacity. Bit by bit, her crooked body began to grow stronger. Hospitalizations became less frequent. Against many odds, she was able to complete middle school, then high school.

Graduating from high school was a significant accomplishment, but it posed a bit of a dilemma for the diminutive Krueger.

With the high school diploma in her hands, she began to consider continuing her education. Once again, the naysayers told her that she could never do it. Her high school counselor suggested she consider getting a two-year certificate from a technical school. Since almost no one was encouraging her to get her bachelor's degree, that's exactly what she decided to do.

First, "I had to [take] three years of independent study with my local technical school," Krueger explains. By her early twenties, she enrolled in the University of Wisconsin-Oshkosh, changing her major three times before settling in as a communications major specializing in radio/TV/film production. It took her seven years to graduate.

Inside the classroom, Krueger's learning disabilities made college level academics a new challenge. Her reliance on a ventilator to assist her breathing while she slept, required the presence of a night

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Krueger as a child.

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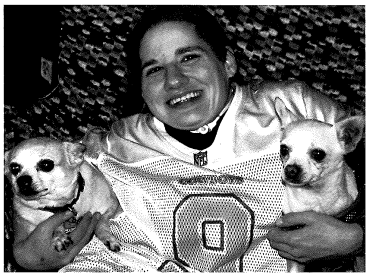
-Tanya Krueger



Krueger with her dogs Ivan (left) and Trevor (right).
(photo by Kris Pagel)

nurse which made living in the dorms out of the question. Krueger had to rely on friends, family and caregivers to drive her to and from school.

But that all changed two and a half years before she graduated. According to Krueger, "The change in technology and a smaller machine allowed me to let my night nurses go," and to maintain ventilators both at home and away from home, making it possible for her to fulfill her dream of living in a dorm. During her last year of college, at age 30, Krueger took another giant step toward independence. She learned to drive an adapted van and got her driver's license.

In May of 2011, Krueger graduated from the University of Wisconsin-Oshkosh with a Bachelor's degree in Communications. "College was one of my greatest adult challenges," she says. Although Krueger is thankful for "some great professors" who were very supportive and helpful in her attempts to reach her goals, she admits, "I had a lot of people who thought I would fail. That gave me the motivation to continue, even when I was stressed and wanted to drop out."

Now 34, Krueger lives in her own home with her two chihuahuas and a cat. Her mother lives next door and the rest of her family lives nearby. She works with kids part time in an after school program at the local YMCA, where her job can vary. "My job is different day to day," says Krueger. "I work in an elementary school as part of the YMCA. I have been there a few months. I prepare and serve snacks, check phone messages, [organize] gym games and arts and crafts, clean up, and just hang with the kids. It's only a few hours every weekday, but it's a lot of work."

Fueled from her childhood experience with Make-a-Wish, Krueger is also pursuing her passion by moonlighting as a motivational speaker for groups of all ages, and has shared her stories with students at her alma mater, Menasha High School, the Little People of America's national conference in Washington, D.C., and Make-a-Wish. She hopes to make a career out of public speaking, and also to use her college training to film documentaries of the lives of people with disabilities. "I feel [there are] a lot of stories that need to be told, and I want to do that with film," she says.

Krueger is never one to complain. "I am glad I am here, and able to do so much," she says. "It's all about perspective and attitude. I am grateful for my life and the many blessings I have had." SQ

Get to Know Your Spinal Discs

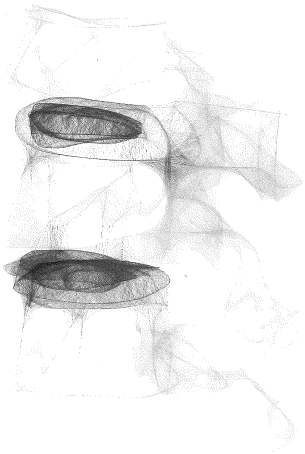
by Maureen Janson Heintz

Ever wonder why vertebrae don't bump together when you move? Most joints are held together by ligaments, which separate the bones of a joint and keep them from touching each other. But the ligaments of the spine actually include a structure not found anywhere else in the body, called an intervertebral disc. Intervertebral discs, or simply, discs, not only hold the vertebrae together, but they act as shock absorbers, and of great importance, they allow for mobility in the spine.

Discs (also sometimes spelled with a k—disks, and also sometimes called vertebral discs) are sandwiched between each vertebra in the spinal column, with six discs in the cervical spine, twelve in the thoracic spine, and five in the lumbar spine. Each of these 23 discs are made up of a tough collagen outer core that surrounds a softer inner core creating a configuration similar to the concentric circles of a small jelly doughnut. This combination of collagen fibers (protein made of bone, cartilage and tendon) which seal off the inner fibers and mucoprotein gel (soft organic protein compound found in body tissues), creates a sponge-like softening between the vertebrae, helping to evenly distribute any force or pressure on the spine.

When you are born, your discs are made of 80 percent water and hydration is crucial for maintaining healthy discs. The jelly-like substance in the center of the disc is called the nucleus pulposus, which has the ability to carry and distribute hydraulic pressure under the body's main axial loads. One amazing feature of the nucleus pulposus is that it contains molecules that can draw water to it, helping discs stay hydrated.

As we age, discs draw less water, and naturally become more stiff and dehydrated. Discs become less effective at handling the compression to the spine that occurs any time the body is vertical. This disc degeneration is not an unhealthy thing, but rather is a normal part of the aging process. SQ



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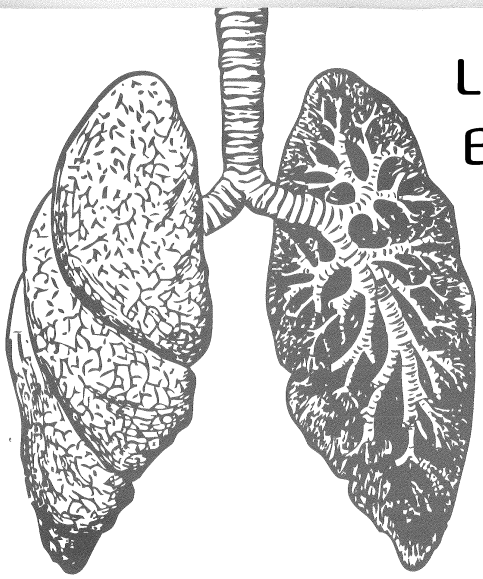

Lungs + Breath = Life

by Margaret Bicker

Oxygen, a gas that fills our atmosphere, is necessary for life. Every cell in every living mammal needs a continuous fresh supply of oxygen in order to survive. Have you ever wondered how the oxygen gas that's in the air all around us gets delivered to the 100 trillion cells that make up the human body? That's what your lungs are for. The two lungs that surround your heart inside your rib cage, and rest on the muscle known as the diaphragm, efficiently and effectively deliver oxygen from the air to every one of your body's cells giving you energy. Not only that, but they remove carbon dioxide waste from those cells at the same time.

Each lung is made up of spongy tissue which expands and contracts allowing the lungs to do their job. Both lungs are surrounded by thin tissue membranes known as pleura. Between the lungs and the pleura is a small amount of fluid that allows the lungs to move smoothly over the ribs and against each other during the process of inhalation and exhalation. The left lung is typically slightly bigger than the right lung in order to accommodate the heart.

Both lungs are filled with tubes that become progressively smaller known as bronchioles. If these bronchioles were strung end to end they would cover a distance of 1500 miles, or roughly half way across the United States! Each bronchiole is lined with millions of tiny hairs called cilia which effectively sweep the bronchioles clean of mucus. The lungs gradually fill with various dirt particles

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which you constantly breathe in from the outside, and the cilia help keep things clean. All the miles of bronchioles ultimately come together in air sacs known as alveoli--about 350 million of them in each lung.

The thin, sheet-like diaphragm muscle that extends across the bottom of the ribcage pushes downward every time you take a breath—roughly 19,000 times a day or 6 million times a year. Inhaling, by taking air in through the mouth and nose causes the lungs to inflate. The air is carried through the windpipe (or trachea) to the large tubes known as bronchi that branch off of the trachea to each of the two lungs. Subsequently, the bronchi continue to branch out into the smaller and smaller bronchioles which carry the air all the way down to the alveoli. The alveoli are microscopic air sacs filled with tiny capillaries through which blood continually flows. As it does so, the oxygen in the sacs is assimilated into the blood stream which then carries it through the body, delivering oxygen to every single cell and removing the leftover carbon dioxide through exhalation.

Because the lungs are directly exposed to air from outside the body, they are highly susceptible to air-born contaminants and pathogens, making them prone to illness and damage. Protecting the lungs is one key to good health and longevity. For instance, cigarette smoke can create tar build up on the trachea, bronchi and bronchioles making it difficult for the cilia to remove the dirt laden mucus and for air to move through the airways reducing the amount of oxygen inhaled and the amount of carbon dioxide exhaled.

If there is an impact of scoliosis on lung function, it would depend on the location and severity of the spinal curve. (Infantile scoliosis could affect actual lung development, yet skeletal restriction is the cause of most pulmonary problems associated with adolescent onset scoliosis.) Lumbar curves generally have no effect on lung capacity. A moderate thoracic curve (20 – 45 degrees) may impact lung function during aerobic exercise. A thoracic curve in the 45-100 degree range could cause a generalized decrease in lung function, especially if the spine causes the rib cage to press against the lungs limiting their ability to expand during inhalation. A curve that exceeds 100 degrees could potentially reduce lung capacity by 50 percent or more.

Staying active is helpful and recent tests have demonstrated that regular aerobic exercise can increase lung function in people with severe scoliosis curves. Some scoliosis-targeted exercise programs, such as yoga, Schroth Method or Pilates, include breathing as a means of working towards curve reduction.

Lungs work hard for your entire life. One breath at a time, 19,000 times a day, healthy lungs allow those 100 trillion cells in your body to get the oxygen they need to take good care of you. SQ