

Body donor's rare anatomy offers valuable lessons

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Medical students have long learned the human body's intricacies by carefully examining a donated body in a gross anatomy class.

But in the spring of 2018, OHSU students had the unusual opportunity to learn from a donor whose anatomy was anything but typical.

Rose Marie Bentley apparently lived 99 years without knowing she had a rare condition called situs inversus with levocardia, meaning her liver, stomach and other [abdominal organs](#) were transposed right to left, but her heart remained on the left side of her chest.

"I knew something was up, but it took us a while to figure out how she was put together," recalled Cam Walker, Ph.D., who helped students unravel the mystery of Bentley's anatomy. Walker is an assistant professor of anatomy in the OHSU Anatomical Services Center, which teaches anatomy.

Beat the odds

Situs inversus with levocardia occurs about once in every 22,000 births, and is often associated with life-threatening cardiac ailments and other abnormalities. Bentley may have been the oldest-known person with the condition. Medical literature describes two other cases of older patients, both of whom lived into their 70s. Walker estimates only one in 50 million people who are born with Bentley's specific condition live long

enough to become adults.

Bentley's family reports she lived without any chronic conditions, aside from arthritis. She had three organs removed during her life, but only a surgeon who removed her appendix recorded its unusual location in their notes. None of Bentley's children were aware of their mother's transposed organs, and they believe she didn't know, either.

Unexpected education

Walker and his colleague Mark Hankin, Ph.D., are presenting a scientific poster on Bentley's unusual anatomy at the 2019 American Association of Anatomists Annual Meeting at Experimental Biology, which runs April 6-9 in Orlando, Florida. Hankin is a professor of anatomy, a senior anatomist and the director of the OHSU Anatomical Services Center.

Warren Nielsen, now a second-year medical student from Lake Oswego, Oregon, was one of many OHSU students who worked with Bentley in 2018.

"It was quite amazing," Nielsen said. "We were able to not only learn normal [anatomy](#), but also all the anatomic variation that can occur. I grew to appreciate how she was able to live as long as she did. It made me wonder who she was. The experience has me looking forward to caring for patients and being able to apply what I've learned from her."

A full life

One of Bentley's five children, Louise Allee of Canby, Oregon, said her mother would love all the belated attention she's receiving.

"My mom would think this was so cool," Allee said. "She would be tickled pink that she could teach something like this. She would probably get a big smile on her face, knowing that she was different, but made it through."

Bentley lived most of her adult life near the rural northwestern Oregon town of Molalla, where she and her husband, James Bentley, owned and operated the Bentley Feed Store. The store still sells farm and pet supplies under the ownership of their grandson, Brian Bentley, and his wife, Ashley.

She belonged to Molalla United Methodist Church, where she sang in choir and taught Sunday School, and also served as a Camp Fire leader. Bentley tended to a backyard garden to feed her large family. She and her husband traveled to all 50 states and several countries after they retired in 1980.

She and her husband decided to donate to the OHSU Body Donation Program after reading a moving poem about remembering loved ones after they die. The family read the poem at the December 2018 Service of Gratitude, an annual celebration OHSU organizes to thank donors and their families for their selfless gifts.

Bentley died about 13 years after her husband on Oct. 11, 2017, in Canby.

More information: Cam Walker, Mark Hankin, "An Unusual Case of Situs Inversus with Levocardia," 2019 American Association of Anatomists Annual Meeting at Experimental Biology, 10:15 a.m.-12:15 p.m. April 8.

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