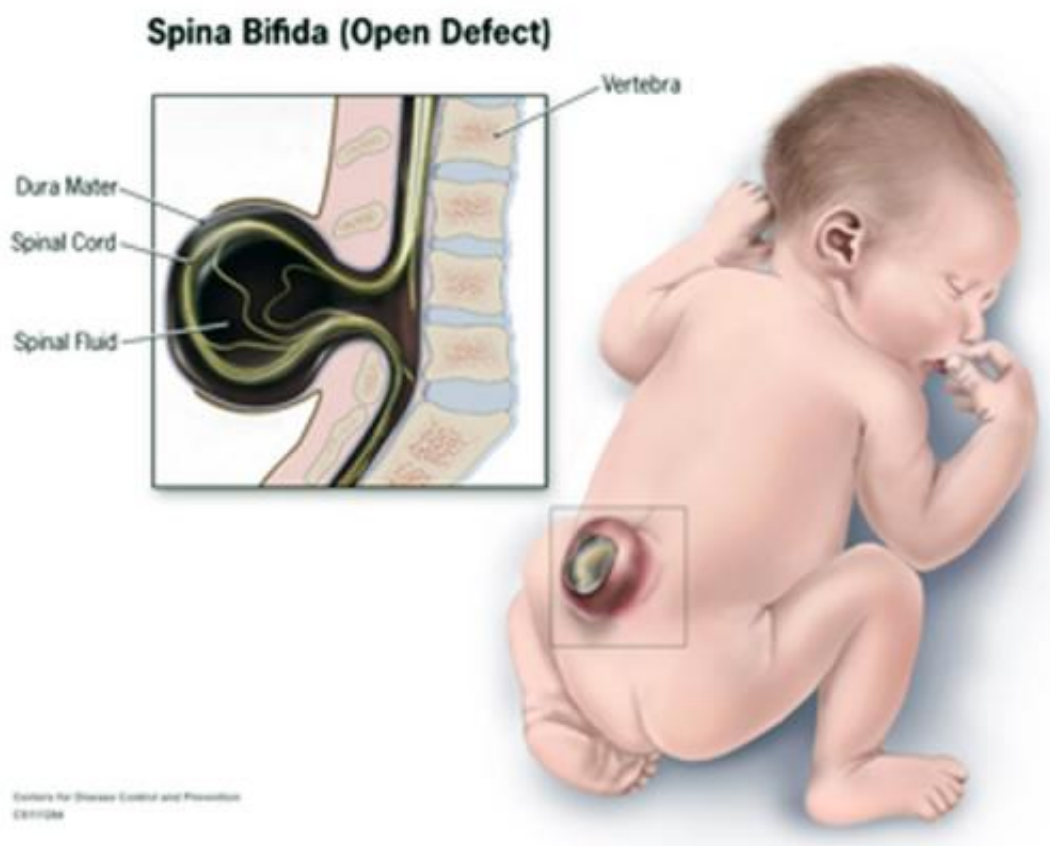


# Surgery establishes penile sensation in men with spina bifida

January 2 2013, by Chris Mc Cann



Spina bifida can take several forms. This illustration shows a type in which the spinal cord protrudes from the infant's back.

(Medical Xpress)—A procedure to establish feeling in the penis for men with spina bifida was performed for the first time in the United

States in Seattle.

Anthony "Tony" Avellino, UW professor of [neurological surgery](#), and Thomas Lendvay, a UW associate professor of pediatric urology who practices at Seattle Children's Hospital, led the surgical team.

"This is truly an innovative procedure for either spina bifida patients or patients with lower-level [spinal-cord](#) injury who have sensation in the groin but not the penis," said Avellino.

Lendvay noted that, "Based on the positive results of the first two patients, this new procedure has the potential to greatly improve the quality of life in our spina bifida adult and [adolescent patients](#)."

People with spinal bifida were born with an incomplete closure of their backbone, often because the [neural tube](#) didn't form correctly during [early embryonic development](#). Even when the spine is surgically closed after birth, the spinal cord in the affected section may not work properly in conducting [nerve impulses](#). The patient may have a combination of [nerve function](#) and loss. They may have paralysis or [numbness](#) in only some parts of their body, for example.

The new operation is known as TOMAX (TO MAX-imize sensation, sexuality and quality of life). The procedure entails transferring a branch of the nerve supplying sensation from the thigh skin to the main skin sensation nerve to the penis. The successful completion of the procedure allows men with spinal cord impairment to feel sensation in a previously insensitive penis and improve sexual health.

Max Overgoor from the University of Utrecht in The Netherlands had performed 18 successful operations when David Shurtleff, UW professor of pediatrics, invited him to Seattle to observe the first U.S. operation of this nature.

Lendvay and Avellino performed the TOMAX procedure at Seattle Children's Hospital in March 2009. Their first U.S. patient was a 19-year-old college student. At a recent follow-up appointment, the young man reported having erogenous penile skin sensation and enhanced sexuality over the course of the past 18 months.

He said, "Before the surgery, I had no sensation at all. I found that sex was very frustrating and unsatisfying. Today, I have very good sensation... I feel like I gained a body part that I was previously missing."

Avellino and Lendvay performed two TOMAX procedures (at Harborview Medical Center and UW Medical Center) on another patient who also experienced erogenous sensation where he had never before felt anything. This man reported, "It continues to improve my quality of life and makes me feel like I have a much more normal and complete body."

Avellino said the success of this pioneering procedure is due to a truly multidisciplinary effort. "We can do innovative things here because we have experts from different specialties collaborating as a team. Pediatricians, spina bifida specialists, urologists and neurosurgeons—all working together."

Lendvay added, "We are planning to collaborate with our Rehabilitation Medicine colleagues to expand this surgical opportunity to patients with traumatic spinal cord injury. We also hope to explore the role such surgery may have in female patients with spinal cord lesions."

In October, Lendvay presented one of the surgical videos at the American Academy of Pediatrics meeting in New Orleans during the "Innovative Procedures in [Pediatric Urology](#)" panel. Avellino and Lendvay have submitted a video of the most recent procedure to the

American Urological Association annual meeting, which will be held May 4–8, 2013, in San Diego, Calif.

For more information about the procedure, read Overgoor's article in the *Journal of Urology*, "[Increased Sexual Health After Restored Genital Sensation in Male Patients with Spina Bifida or a Spinal Cord Injury: the TOMAX Procedure.](#)"

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