

# New laser for neurosurgery allows greater precision and efficiency for removal of complex tumors

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Surgeons at Northwestern Memorial Hospital are among the first in the country to use a new micro-laser, which uses light energy in place of a cutting tool to remove complicated brain and spine tumors. The technique offers greater precision and efficiency during surgery, reducing the incision size, surgery time and patient recovery period following surgery.

Surgeons first used the laser in October when Stephen Abbott, a 70-year-old retired United States Army officer, presented with a brain tumor the size of a plum attached to one of the major veins draining blood from the brain. The tumor was discovered during a routine physical earlier in the year when a test indicated Mr. Abbott was experiencing some hearing loss.

Bernard Bendok, MD, a vascular and skull base neurosurgeon and Andrew Fishman, MD, a neurootologist and skull base surgeon, collaborated on the case and determined that Mr. Abbott was a prime candidate for surgery. The two then merged their specialties to operate on the complex tumor, using the laser, to help them remove the tumor quickly and safely. The removal of the tumor took less than one hour and after just five days Mr. Abbott was home, healthy and back to his daily routine.

The laser, called the BeamPath NEURO™, allows surgeons to direct CO2 laser energy into deep holes and around blood vessels and other specific nerve structures and the brainstem. It is designed for operating near critical structures in the brain and spine and is used in place of a scalpel to cut tissue and remove tumors.

"When lasers were first used in neurosurgery some 30 years ago, surgeons were very excited, but it faded quickly because the devices were too

cumbersome," commented Dr. Bendok. "This new tool provides far greater control and precision in tight surgical corridors"

"The laser enables us to be much more efficient during surgery, we are able to remove tumors much more quickly which shortens overall surgery time," commented Dr. Fishman. "That translates into a quicker recovery for patients."

Hunt Batjer, MD, chair of the department of neurological surgery commented that, "Northwestern's clinical neuroscience program strives to provide the latest and most advanced technology to enhance our patient's outcomes from the most difficult problems imaginable."

Currently surgeons at Northwestern Memorial are utilizing the laser for surgery on certain brain tumors, certain vascular malformations, delicate inner ear and hearing restoration procedures, and even some trachea, larynx and vocal cord procedures. Drs. Bendok and Fishman say that the laser adds a new dimension to what they are able to accomplish, and predict that the laser will have many applications in both neurosurgery and spine surgery in the future. To learn more about Northwestern Memorial's neurosciences program, visit [www.nmh.org](http://www.nmh.org) .

Source: Northwestern Memorial Hospital

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