

# Minimally Invasive Back Surgery



The spine is an amazing structure composed of 24 bones called vertebrae and an equal number of gel-like discs to separate them.

**Held together by a network of muscles** and tendons, the spine encases the spinal cord. This complex design allows us to be flexible, but it also causes a lot of trouble when parts develop problems. Last year, more than 500,000 people had spine surgery to get off the roller coaster of pain they'd been riding for months—and sometimes years.

But new developments in minimally invasive spine surgery are making life easier for many patients. University of California, Irvine Medical Center physicians are leading the way by offering the newest procedures available anywhere. “By bringing together

two medical specialties—neurosurgery and orthopedic surgery—the UCI Multidisciplinary Spine Program is among the most progressive in the country,” says neurosurgeon **Dr. Burak Ozgur**, co-director of the program. Neurosurgeons are experts in the nervous system, including the spinal column and spinal cord. They're highly skilled in the use of high-powered microscopes, which aid them in working with spinal tissue. Orthopedic specialists are authorities on the musculoskeletal system, including bones, joints, ligaments, tendons, muscles and nerves.

“When doctors from these two specialties combine their expertise, they enhance each other's efforts,” says orthopedic surgeon **Dr. Nitin Bhatia**, co-director of the UCI Multidisciplinary Spine Program.

“This enables them to address any aspect of spinal surgery.” Ozgur and Bhatia are both fellowship-trained in spine surgery and experts in leading-edge minimally invasive spinal procedures.

“It's now possible to decompress pinched nerves, replace herniated discs, repair damaged joints and fuse bones, all through small incisions,” says Bhatia.

**Saving the muscles.** The difference this approach makes can be seen clearly in a procedure called extreme lateral interbody fusion (XLIF). Involving the “welding” together of vertebrae to stabilize the spine, XLIF is used to help people with conditions that require spinal fusion such as herniated discs or scoliosis. “In the past, accessing the vertebrae for a spinal fusion required major incisions, combined with cutting and manipulating muscles to get to the backbone,” explains Ozgur.

“But using minimally invasive XLIF techniques, we can access the vertebrae through a two-inch incision in the patient's side.” Guided by high-end imaging and monitoring equipment, doctors remove the disc material from between the vertebrae and replace it with finely ground bone particles packed into a tiny metal cage. Over time, the bone grows through the openings in the cage and around the device, fusing the two vertebrae. “Because the operation is performed through a thin tube, doctors can reach the spine by going through natural separations in the muscles, rather than cutting or pulling them apart,” says Ozgur. “This helps avoid failed back syndrome, a debilitating condition that can occur due to muscle trauma.”

[It's now possible to decompress pinched nerves, replace herniated discs, repair joints and fuse bones using minimally invasive methods.](#)

**X-Stop.** Another minimally invasive operation called the X-Stop procedure repairs a common problem called lumbar spinal stenosis. “This painful situation develops in the lower back when bone spurs, damaged discs or unstable vertebrae narrow the space for the spinal cord,” says Bhatia. Before minimally invasive methods for spine surgery were available, doctors routinely made a five-inch incision to correct the condition. “It began at the buttocks and continued to the small of the back,” explains Bhatia. “But today, the X-Stop approach, which is performed on an outpatient basis, requires only a single two-inch incision in the center of the spine.” Not all patients are candidates for the XLIF or X-Stop procedures. But those who qualify benefit greatly from the impressive advances made in minimally invasive spine surgery over the past few years.

For referral to a UC Irvine Medical Center spine specialist, call 714-456-BACK.