Spinal fusion may be used to treat a number of spine conditions in both the back and neck. During a spinal fusion surgery, pedicle screws are used to help secure the vertebrae following the removal of the damaged portion of the disc.

The PediGuard® technology developed by SpineGuard addresses the need in spine surgery for a safer way to place pedicle screws. PediGuard® is the world’s first handheld device with the ability to alert spine surgeons of a potential breach during pedicle screw placement. This allows a greater degree of safety particularly in minimally Invasive fusion cases, such as TLIF.

The PediGuard handheld device provides continuous, real-time navigation that allows surgeons to hear and feel what they cannot see. The technology helps alert surgeons to possible breaches in the vertebral body or pedicular wall. Surgeons are then able to redirect with confidence.

“SpineNevada is happy to be the first spine center in Northern Nevada to use this technology and we continue to work closely with PediGuard to improve the technology. Our goal has always been to demonstrate innovation in non-surgical and surgical spine care,” says Dr. James Lynch, a fellowship-trained neurosurgeon and the founder of SpineNevada Minimally Invasive Spine Institute. “While we are the only group using PediGuard in the Northern Nevada region now, I expect other spine surgeons will rapidly embrace it,” remarks Dr. Lynch.

Before PediGuard, surgeons relied primarily on imaging provided by a fluoroscope (C-arm). Fluoroscopy provides internal structure images of the patient and involves the use of x-rays. Scientific research data shows that about 20% of pedicle screws are misplaced using conventional techniques, this may result in complication rates of 2% - 5%.

Computer-based navigational equipment and nerve intraoperative monitoring systems are other options used to monitor pedicle screw placement. Computer navigation accuracy may vary depending on the surgery complexity. Neuromonitoring is used primarily for lumbar spine surgery.

Visit our website at SpineNevada.com/Pediguard to watch an educational video detailing this new technology — first available in Northern Nevada at SpineNevada Minimally Invasive Spine Institute.