MEDCO FORUM®
PRESENTING INNOVATIVE PRODUCTS AND SERVICES TO HEALTHCARE PROFESSIONALS
VOLUME 19 NUMBER 4
FEBRUARY 2012
REPRINT

THE CHECKPOINT® STIMULATOR/LOCATOR

A Significant Advance in Neuroprotective Surgery

Recent advances in nerve stimulation technology allow surgeons to practice "neuroprotective surgery" – employing surgical techniques designed to protect and preserve nerves during surgery. The **CHECKPOINT® Stimulator/Locator**, from **Checkpoint Surgical,** is a state-of-the-art hand-held, intra-operative nerve and muscle stimulator that helps surgeons ***locate, identify and evaluate*** motor nerve tissue and muscle function in surgical procedures that require careful and precise soft tissue dissection or nerve exploration and repair.

CHECKPOINT® STIMULATOR/LOCATOR

With more than 45 million surgeries performed in the United States each year, the Checkpoint addresses an important issue: protecting nerves from intra-operative nerve injury. The risk of nerve injury during surgical procedures is significant and such an injury can be life-altering for the patient. The Checkpoint can assist in locating a nerve through surrounding tissue allowing the surgeon to activate the nerve without dissecting it out or avoid the area where the nerve is detected.

Scott H. Kozin, MD, Professor of Orthopaedic Surgery at Temple University, and Chief of Hand Surgery at Shriners Hospitals for Children (Philadelphia, PA), said that prior to having the Checkpoint he used a relatively inexpensive, disposable device that did not reliably or reproducibly provide information to help in his surgical decision making. "The old device often did not work properly and provided only a single electrical stimulation that was not phasic. Because that stimulator was not able to replicate what happens when a normal nerve fires, it could give a false negative or a false positive." Dr. Kozin continues, "The Checkpoint, on the other hand, works 100% of the time, provides a bi-phasic current that is adjustable in terms of the dose and pulse width, and it provides consistently reliable information that gives me confidence when making decisions during surgery."

About 50-60% of Dr. Kozin's practice involves pediatric nerve cases, many of which include procedures for brachial plexus injury in infants. Dr. Kozin notes that the Checkpoint makes the surgery more efficient for him, while helping to identify the nerves that are primarily affected by the injury. "When I expose the brachial plexus, I use the Checkpoint to define both normal and abnormal anatomy. I can stimulate the phrenic nerve to make sure it is

appropriately mobilized out of the way and working, and then I stimulate the various roots of the brachial plexus to confirm that my surgical findings are consistent with my physical examination prior to surgery. Once I know the uninjured nerves are working and safely mobilized out of the way, I can turn my attention to the damaged nerve segments."

Dr. Kozin cites another example where he used the Checkpoint in a pediatric procedure. "We had a fracture of the forearm, where the ulnar nerve was trapped in the bone. We chiseled away the bone and then had to decide whether to resect the nerve and graft it, or determine whether the nerve still had ample fascicles in it for function. The Checkpoint demonstrated there was some conduction into the hand, so we opted not to resect it. In the past, I didn't have a device that I could rely upon to make this kind of decision, and now I do."

"The Checkpoint is a much more sophisticated device than the one we had before," notes Milan Stevanovic, MD, PhD, Professor of Orthopedics and Surgery, University of Southern California; Departments of Orthopeadic Surgery and Pediatrics at the Childrens Hospital Los Angeles (Los Angeles, CA). "With the Checkpoint, you can more efficiently and precisely locate and evaluate the nerves. With the variable stimulation intensity control, I am able to change the amount of stimulation to the nerve to be sure there is some transmission. Additionally, with this device we can also locate and stimulate nerves deeper into the tissue than with the previous stimulator, which would only allow you to stimulate a nerve if you dissected it." Dr. Stevanovic says he uses the Checkpoint in cases involving pediatric patients with brachial plexus palsy, obstetric brachial plexus palsy, as well as adults with traumatic injury of the brachial plexus. "I can also use the Checkpoint if I need to identify the axillary nerve or other nerves in the shoulder if a total joint surgeon needs us to dissect a nerve to prevent any injury around the joints."

Checkpoint® is being used by surgeons in a variety of orthopedic procedures that require careful and precise soft tissue dissection including brachial plexus procedures, shoulder and elbow revision, reverse shoulder arthroplasty, and non-union fracture repair. The Checkpoint is not only a reliable tool for locating and identifying nerves, but also helps surgeons assess nerve and muscle function from initial exposure, throughout the case, and prior to closing. If suboptimal function is observed, the surgeon can assess options to improve function. This kind of feedback allows surgeons to make on-the-spot clinical decisions with greater confidence.

Developed by a world-class team of surgeons and biomedical engineers, the FDA-cleared Checkpoint® is a single-use device that is easy to use. The Checkpoint's unique combination of features allows surgeons full control over a wide range of stimulus settings (.5mA, 2mA, 20mA), for nerve and muscle stimulation. A slide control allows precise variation of the pulse width from 0 to 200 microseconds, so surgeons can adjust the stimulation as the situation warrants. The reliable electronic circuitry provides a biphasic waveform with continuous adjustable stimulation, always within safe parameters, and an LED indicator light provides continual visual feedback to confirm that stimulation is being delivered. The Checkpoint comes sterile and ready to use and there is no need for advance set-up. The comfortable, ergonomic device is designed for one-handed use that allows greater maneuverability with an unobstructed view of the surgical site.

Checkpoint Surgical, headquartered in Cleveland, Ohio, is devoted to providing physicians with state-of-the-art medical devices that support "neuroprotective surgery," leading to better patient outcomes. A surgeon needs to experience Checkpoint personally to really appreciate the true value that the technology delivers.

To trial Checkpoint at your hospital or surgery center, you need only email info@checkpointsurgical.com. For more information about the Checkpoint® Stimulator Locator; call 877-478-9106; or visit the website at www.checkpointsurgical.com.

CONTRAINDICATION:

Do NOT use this Stimulator when paralyzing anesthetic agents are in effect, as an absent or inconsistent response to stimulation may result in inaccurate assessment of nerve and muscle function.