



POINTING HIGHER

Driving Innovation
in Nerve Surgery

We are singularly focused on elevating the clinical practice of peripheral nerve surgery. Our mission is to provide surgeons with innovative technologies that ultimately help improve patient outcomes.



CHECKPOINT® Stimulators help surgeons unlock the information they need to assess and protect nerves during surgery to support intraoperative decision making. All Checkpoint Stimulators use a biphasic waveform that is safe for prolonged or repeated stimulation without diminished response.

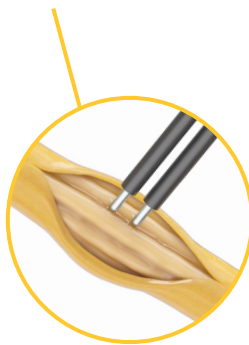
CHECKPOINT GUARDIAN® Nerve Stimulator

CHECKPOINT GUARDIAN® delivers safe stimulation for nerve location and identification, assessment, and intraoperative modeling. Enhanced information delivery supports intraoperative decision-making.



CHECKPOINT GEMINI® Bipolar Nerve Stimulator

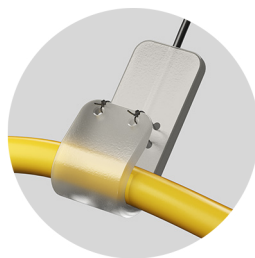
CHECKPOINT GEMINI® offers a bipolar stimulation probe for finely controlled stimulation even at the fascicular level.



	Guardian	Gemini
Nerve Location	●	
Nerve Identification	●	●
Nerve Assessment	●	●
Direct Muscle Stim	●	
Fast Twitch Muscle		●
Area of Activation	BROAD	PRECISE
Intraneural Selectivity	GOOD	BEST
Stimulation Probe	MONOPOLAR	BIPOLAR
Current Return Needle	●	

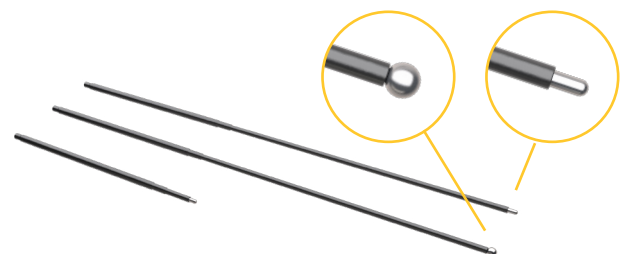
Checkpoint® Stimulator Intraoperative Lead Accessory

The Checkpoint Intraoperative Lead Accessory allows for simple, hands-free same-site stimulation, making it easier to repeatedly assess motor nerve excitability throughout a procedure.



Checkpoint® Stimulator Probe Extension

The Checkpoint Probe Extension allows surgeons to customize the Checkpoint Guardian and Checkpoint Head & Neck Stimulators by extending the length of the probe.



CHECKPOINT NEUROSHIELD™

Chitosan Membrane

CHECKPOINT NEUROSHIELD™ is a chitosan membrane indicated for the repair of peripheral nerve injuries. In preclinical studies, chitosan has been shown to support a variety of potential attributes for nerve healing.



Supports an anti-inflammatory environment^{7,8}



Has antimicrobial properties⁹



Inhibits fibroblast proliferation and infiltration³



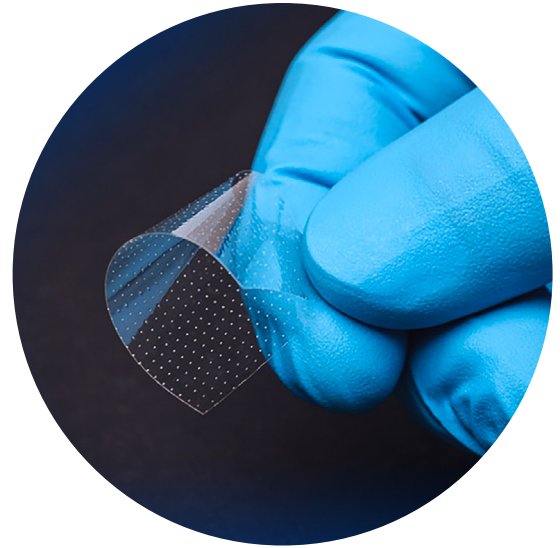
Is biodegradable^{10,11}



Supports Schwann cell activity^{1,2,4-6}



Fully resorbs¹⁰



CHECKPOINT ACMShield™

Soft Tissue Barrier

CHECKPOINT ACMShield™ is a dehydrated placental membrane allograft for use as a protective barrier in surgical applications. Comprised of the complete, intact layers of amniotic tissue and minimally processed to preserve the native structure of the tissue, ACMShield is an ideal protective barrier and extracellular matrix (ECM) scaffold for use in a variety of surgical applications, such as nerve and tendon repair.



Includes the complete amnion and chorion layers, including the spongy layer, for improved handling



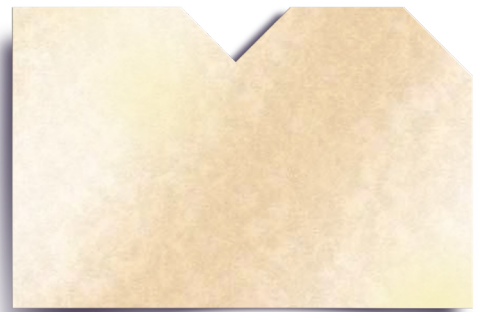
Self-adherent, but fixation may be used by method of choice, if desired



Minimal processing preserves native structure and benefits of amniotic tissue



Rapid rehydration in situ



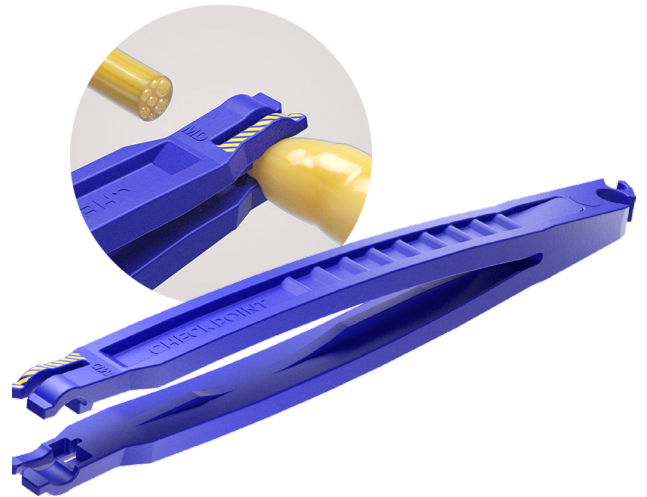
1. Freier, Thomas et al. "Controlling cell adhesion and degradation of chitosan films by N-acetylation." *Biomaterials* vol. 26,29 (2005): 5872-8. 2. Haastert-Talini, K. et al. Chitosan tubes of varying degrees of acetylation for bridging peripheral nerve defects. *Biomaterials* 34 (2013): 9886-9904. 3. Chatelet, C et al. "Influence of the degree of acetylation on some biological properties of chitosan films." *Biomaterials* vol. 22,3 (2001): 261-8. 4. Wrobel, Sandra et al. In vitro evaluation of cell-seeded chitosan films for peripheral nerve tissue engineering. *Tissue engineering. Part B* vol. 20,17-18 (2014): 2339-49. 5. Yuan, Ying et al. "The interaction of Schwann cells with chitosan membranes and fibers in vitro." *Biomaterials* vol. 25,18 (2004): 4273-8. 6. Carvalho, Cristiana R et al. "Investigation of cell adhesion in chitosan membranes for peripheral nerve regeneration." *Materials science & engineering. C, Materials for biological applications* vol. 71 (2017): 1122-1134. 7. Vasconcelos DP, Fonseca AC, Costa M, Amaral IF, Barbosa MA, Águas AP, Barbosa JN. Macrophage polarization following chitosan implantation. *Biomaterials*. 2013;34(38):9952-9959. 8. Oliveira MI, Santos SG, Oliveira MJ, Torres AL, Barbosa MA. Chitosan drives anti-inflammatory macrophage polarisation and pro-inflammatory dendritic cell stimulation. *EurCell Mater*. 2012 Jul 24;24:136-52; discussion 152-3.

CHECKPOINT EDGE®

Nerve Cutting Kit

Traditional nerve cutting techniques may flatten and crush nerve tissue, leaving nerve ends misshapen and difficult to align. CHECKPOINT EDGE® employs circumferential constraint to maintain the nerve's natural shape during transection. Constraining the nerve in this manner can prevent nerve sliding, flattening and subsequent nerve edge malformation, helping to preserve fascicular group alignment and tissue integrity.^{12,13}

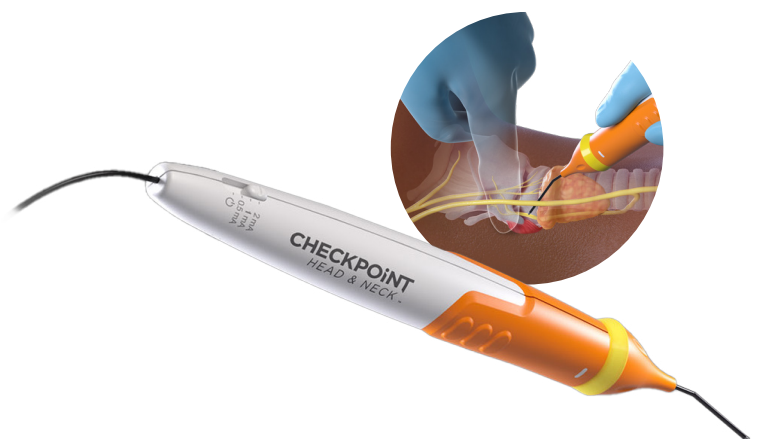
The head design permits a secure, single-handed hold that both grasps the sacrificial nerve zone to allow tensioning and gently constrains the nerve to be preserved. The cutting slot facilitates a right-angle cut with the other hand. Surgeon control of placement, tension, and transection reduces variability, facilitating reliable, consistent nerve tissue preparation for aligned coaptation.



CHECKPOINT® HEAD & NECK

Nerve Stimulator/Locator

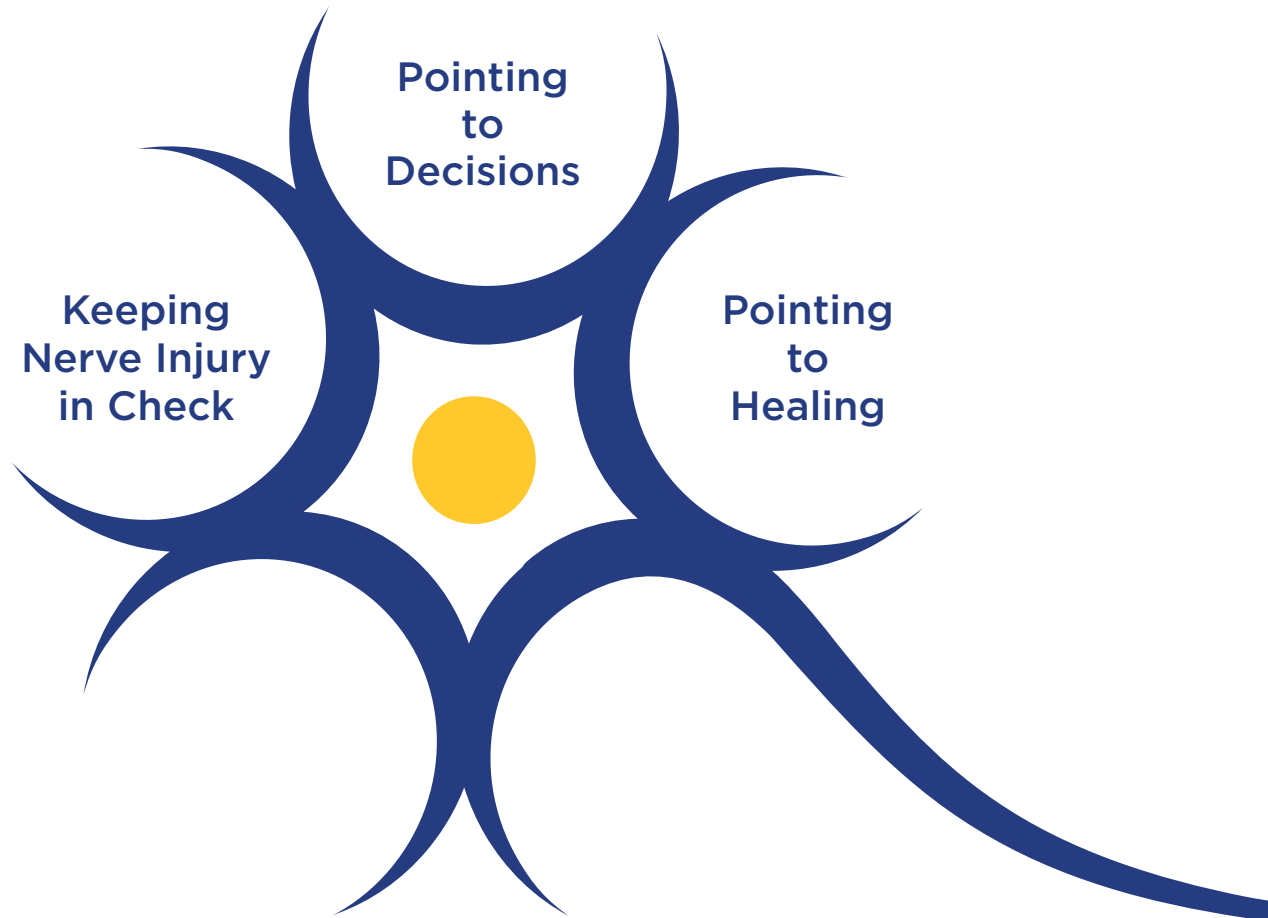
CHECKPOINT® HEAD & NECK provides visual or tactile confirmation of nerve function and location without the need for external monitoring equipment, protecting nerves even in obscured anatomy. For use in thyroidectomy, parotidectomy, and neck dissection.



9. Ke CL, Deng FS, Chuang CY, Lin CH. Antimicrobial actions and applications of chitosan. *Polymers (Basel)*. 2021 Mar 15;13(6):904. 10. Matica A. Biodegradability of chitosan-based products. *New Front Chem*. 2017;26:75-86. 11. Suyeon Kim, "Competitive Biological Activities of Chitosan and Its Derivatives: Antimicrobial, Antioxidant, Anticancer, and Anti-inflammatory Activities", *International Journal of Polymer Science*, vol. 2018, Article ID 1708172, 13 pages, 2018. 12. Smetana B, et al. Improving Nerve End Preparation for Neuroorrhaphy through Use of a Circumferentially Constraining Surgical Device. Poster presented at 2018 ASPN Annual Meeting, January 12-14, 2018, Phoenix, AZ. 13. Jernigan EW, Patterson JMM, Draeger RW. How to cut a nerve: morphological implications of instruments used in preparation of severed nerves for neuroorrhaphy. *J Hand Surg Eur Vol*. 2017 Nov;42(9):961-963.

THE FINER POINTS OF NERVE SURGERY

By putting a wide-range of technologies in the hands of surgeons, our solutions help enable improved patient outcomes by:



Pointing to Decisions

Checkpoint technologies provide precise and accurate nerve information at key decision points throughout surgery.

Keeping Nerve Injury in Check

Checkpoint solutions optimize the careful handling of nerve tissues to optimize surgical success.

Pointing to Healing

Checkpoint nerve repair technologies are designed to support and enhance the body's innate healing capabilities, leading to enhanced nerve function.

ORDERING INFORMATION

CHECKPOINT GUARDIAN®		
9095	Checkpoint Guardian Nerve Stimulator	Pack of 4
CHECKPOINT GEMINI®		
9092	Checkpoint Gemini Bipolar Nerve Stimulator	Pack of 4
CHECKPOINT GUARDIAN® Intraoperative Lead Accessory		
9524	Intraoperative Lead, Small	Pack of 4
9525	Intraoperative Lead, Medium	Pack of 4
CHECKPOINT GUARDIAN® Probe Extension		
9504	Probe Extension Assembly, 12 cm	Pack of 4
9505	Probe Extension Assembly, Ball Tip, 12 cm	Pack of 4
9506	Probe Extension Assembly, 4 cm	Pack of 4
CHECKPOINT NEUROSHIELD™		
NS3020	NeuroShield Chitosan Membrane 30×20 mm	Single unit
NS4030	NeuroShield Chitosan Membrane 40×30 mm	Single unit
CHECKPOINT ACMShield™		
ACM2030	ACMShield Soft Tissue Barrier 20×30 mm	Single unit
ACM4040	ACMShield Soft Tissue Barrier 40×40 mm	Single unit
ACM4060	ACMShield Soft Tissue Barrier 40×60 mm	Single unit
CHECKPOINT EDGE® Nerve Cutting Kit		
9250	Kit includes: (3) forceps: SM (1–3 mm diameter), MD (3–5 mm diameter), LG (5–7 mm diameter) (1) microsurgical background (1) SM69 scalpel blade (1) 10R scalpel blade	Pack of 4
CHECKPOINT® HEAD & NECK		
9394	Checkpoint Head & Neck Nerve Stimulator	Pack of 4
CHECKPOINT® Nerve Repair Kit		
NS4030K1	Kit includes: (1) NeuroShield Chitosan Membrane 40×30 mm (1) Edge Nerve Cutting Kit	Single unit

INDICATIONS FOR USE

The CHECKPOINT® Stimulator is a single-use, sterile device intended to provide electrical stimulation of exposed motor nerves or muscle tissue to locate and identify nerves and to test nerve and muscle excitability. 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.

The CHECKPOINT EDGE® Nerve Cutting Kit is a single-use, sterile kit intended to provide surgeon aid in transecting nerve tissue for the purpose of nerve graft preparation, nerve repair, or removal of exposed nerve.

CHECKPOINT NEUROSHIELD™ is indicated for the repair of peripheral nerve injuries in which there is no gap or where a gap closure can be achieved by flexion of the extremity. NeuroShield nerve membranes are designed exclusively for single use. Allergic reactions to implanted products containing chitosan are not yet known. However, since chitosan is derived from shellfish, individuals with known shellfish allergies should exercise caution in the use of any product containing chitosan. As with all procedures carried out on peripheral nerves, there is a risk of the nerve not regenerating.

Please see Instructions for Use for complete product specifications, indications, contraindications, precautions, and warnings.