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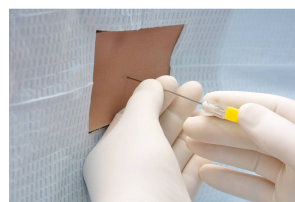
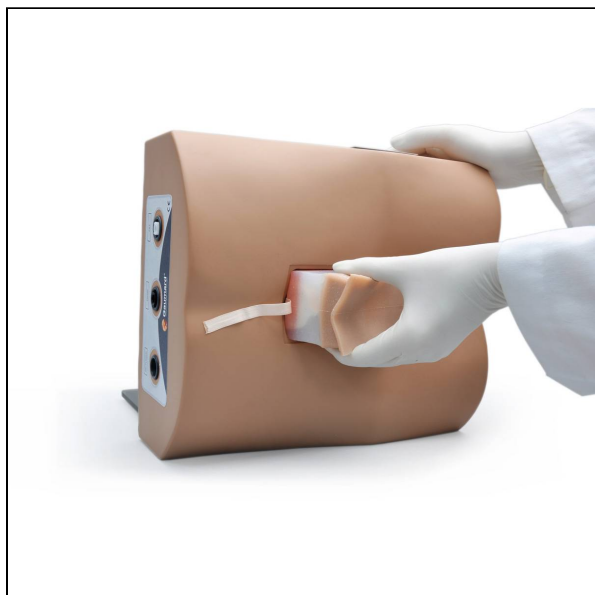
Lumbar Puncture Trainer

Item No. 1019658
Weight 7.25kg
MPN: S411.M

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SKU:

Categories: Injections and Punctures



Product Description

Details: Provides realistic tactile feedback combined with a fluid supply and pressure system, allowing the collection of CSF and measurement of opening pressure. Ideal for practicing injection of local anesthesia, aseptic technique, needle insertion between vertebrae, lumbar puncture, and epidural.

Features:

- Replaceable spinal cord insert with skin layer, subcutaneous layer, connective tissue, and lumbar

vertebrae - Anatomic features include: iliac crests, lumbar vertebrae L2 - L5, ligamentum flavum, epidural space, and dura - Needle insertion possible between vertebrae - Lifelike needle resistance, including pops when needle traverses ligamentum flavum and dura - Self-healing skin that allows 15 uses with an 18 gauge needle and 25 uses with a 22 gauge needle before replacement is necessary - Simple to fill simulated CSF and set fluid pressure, thereby allowing students to collect CSF and measure CSF opening pressure - Pressure system with simple push-button operation to increase or decrease pressure - LED displays pressure set-point ranging from low, medium to high pressure - Practice procedure in the left lateral decubitus or sitting position - Trainer can be used to simulate aseptic technique and local anesthetic at puncture site

Why Choose the Gaumard Lumbar Puncture Trainer (S411.M) for Your Neurology, Paediatrics, or Emergency Medicine Training Programme in India?

The Lumbar Puncture Trainer (Item No. 1019658, MPN: S411.M) is a high-fidelity lumbar puncture procedural simulator from Gaumard Scientific, USA — designed for neurology residents, paediatric medicine trainees, emergency medicine residents, anaesthesiology fellows, and clinical skills centres in India where lumbar puncture competency is a mandatory procedural milestone. At 7.25 kg with a built-in electronic CSF pressure system and self-healing multi-use skin, the S411.M is the most fully featured standalone LP trainer available in the SEM catalogue — the only one with LED-displayed CSF opening pressure and push-button pressure control built into the trainer itself.

Lumbar puncture is performed in India for diagnosis of meningitis, subarachnoid haemorrhage, CNS infections, and multiple sclerosis, and for intrathecal drug delivery in oncology and pain management. It carries significant risk — post-dural puncture headache, nerve injury, haematoma — making structured simulation-based training before patient contact essential, particularly for trainees who encounter LP infrequently and may lack the procedural confidence that comes from high-volume experience.

Realistic Tactile Feedback — Layer by Layer:

The S411.M replicates the full tactile sequence of lumbar puncture, including the two critical haptic landmarks that define safe LP technique:

- **Pop 1** — needle traversing the ligamentum flavum (the first resistance change that signals epidural space entry)
- **Pop 2** — needle traversing the dura mater (the second resistance change that confirms subarachnoid space entry and imminent CSF return)

These two pops — replicated in the correct anatomical sequence through a replaceable spinal cord insert — are the tactile events trainees must learn to recognise and act on. No diagram or video can replicate them; simulation is the only way to train the feel before patient contact.

Anatomical Structures Present and Palpable: Iliac crests, lumbar vertebrae L2–L5, ligamentum flavum, epidural space, and dura mater — all replicated in the correct anatomical relationships with needle insertion possible between vertebrae at each level.

Built-In Electronic CSF Pressure System:

A unique feature of the S411.M that no other LP trainer in the SEM catalogue provides — a built-in pressure system with:

- **Simple push-button operation** to increase or decrease simulated CSF pressure
- **LED display** showing pressure set-point at low, medium, or high — simulating the range of CSF opening pressures trainees will encounter clinically (normal, raised intracranial pressure, low-pressure states)
- **Simulated CSF collection** — after correct dural puncture, CSF flows and can be collected into sample tubes, training the full LP procedure including specimen handling

Self-Healing Skin — Quantified Usage Life:

The self-healing skin surface gives a quantified, predictable training life:

- **15 uses** with an 18-gauge needle
- **25 uses** with a 22-gauge needle

After these uses, the replaceable spinal cord insert (including skin layer, subcutaneous layer, connective tissue, and lumbar vertebrae) is replaced as a single unit — no partial component replacement needed.

Two Patient Positions Supported:

- Left lateral decubitus (foetal position) — the standard LP position in Indian ward and emergency settings
- Sitting (upright) position — used when lateral decubitus is not feasible or when landmark identification is easier upright

Five Procedures Trainable on One Simulator: Local anaesthetic injection, aseptic technique, needle insertion between vertebrae, lumbar puncture (diagnostic CSF collection with opening pressure measurement), and epidural injection.

Included in the Box: Lumbar puncture trainer with integrated pressure system, replaceable spinal cord insert, instruction manual. Contact SEM Trainers for replacement spinal cord insert pricing and

availability.

Why Buy from SEM Trainers? SEM Trainers & Systems has over 30 years of experience supplying medical simulators to 1,500+ institutions across 28 states in India. We provide pan-India delivery, on-site installation, faculty orientation, and dedicated after-sales support.

Frequently Asked Questions

Q: Does this trainer simulate the tactile pops of lumbar puncture? A: Yes — two distinct pops are replicated in the correct anatomical sequence: the first when the needle traverses the ligamentum flavum (epidural space entry) and the second when it traverses the dura mater (subarachnoid space entry). These are the critical haptic landmarks of safe LP technique.

Q: Can CSF opening pressure be measured on this trainer? A: Yes. The built-in electronic pressure system has push-button controls to set CSF pressure at low, medium, or high levels, with an LED display confirming the set-point. After correct dural puncture, simulated CSF flows and can be collected, and opening pressure can be measured — training the complete LP procedure including manometry.

Q: How many LP procedures can be performed before the insert needs replacing? A: 15 uses with an 18-gauge needle or 25 uses with a 22-gauge needle. The replaceable spinal cord insert — skin, subcutaneous layer, connective tissue, and lumbar vertebrae as a single unit — is then replaced. Contact SEM Trainers for replacement insert pricing.

Q: What patient positions does this trainer support? A: Left lateral decubitus (foetal position) and sitting (upright) — the two standard positions used for LP in Indian clinical settings.

Q: What is the difference between this trainer and the Epidural and Spinal Injection Trainer (P61)? A: The S411.M is an LP-specific trainer with a built-in electronic CSF pressure display, push-button pressure control, and simulated CSF collection — focused on diagnostic LP procedural competency. The P61 (3B Scientific) is an epidural and spinal anaesthesia trainer focused on LOR and hanging-drop technique with a closed fluid circuit but no electronic pressure system. The S411.M is recommended when LP-specific training and CSF pressure measurement are the priority; the P61 when epidural anaesthesia technique is the primary need. Both are available from SEM Trainers.

Q: Can aseptic technique and local anaesthetic injection be trained on this simulator? A: Yes — both aseptic technique and local anaesthetic injection at the puncture site are explicitly supported, making the S411.M suitable for training the complete pre-puncture preparation sequence as well as the LP procedure itself.