



Combined Spinal Epidural Device (CSE)

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Field

Biomedical Applications
Devices and Instruments
Drug Delivery, Tissue Repair

**Patent/Patent Application
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5,836,916

SUMMARY

The CSE Device is inserted inside the outer epidural needle during a combined spinal epidural anesthesia administration. The inner, spinal needle is then inserted into the CSE until a "pop" is felt. At this point the spinal needle is secured to the CSE Device, ensuring the spinal needle is in place in addition to stabilizing the needle. The anesthesiologist can proceed in the usual manner and the spinal needle and CSE Device can be removed as a unit at the end of the procedure. In this context, the CSE Device also works as a spinal needle safety cap. The CSE Device is an inexpensive tool that can be packaged individually or included as part of a spinal kit.

TECHNOLOGY

The Combined Spinal Epidural Securement Device (CSE Device) addresses weaknesses in the combined spinal epidural technique, thereby making this procedure easier for the anesthesiologist and safer for the patient. It is a simple, intuitive and inexpensive device that could be packaged individually or be included as part of a spinal kit.

The method of combined spinal epidural anesthesia has gained popularity in recent years because of the ability to reduce drug dosage, eliminate motor blockade, and to achieve highly selective sensory blockades compared to traditional epidural and spinal anesthesia. During combined spinal epidural anesthesia the spinal needle is placed within the lumen of the epidural needle for spinal anesthetic placement. The proximity of the needles to each other is not conducive to the stability of the spinal needle during the placement of the anesthetic. Additionally, the spinal needle used for the CSE technique is longer, heavier, and at a further distance from the back of the patient than the standard spinal needle, thus causing greater difficulty for the anesthesiologist in stabilizing these needles while administering anesthesia to the patient. In addition, anesthesiologists cannot detect the tactile sensation ("dural pop") of insertion of the spinal needle through firm ligaments since the epidural needle has already penetrated these ligaments.

The CSE Device consists of a needle securement port that fits the hub of the epidural needle via a friction fit or luer lock connection. Once the epidural space is located with the epidural needle the CSE Device can be attached to the inside of the epidural needle and secured using the friction fit or luer lock connection. The spinal needle is then inserted into the CSE Device until the "dural pop" is felt. At this point the spinal needle has been secured to the CSE device and the anesthesiologist can proceed in the usual manner. When the spinal needle is to be removed, the CSE Device and spinal needle can easily be removed as a unit. In this context the CSE is also working as a spinal needle safety cap. Additionally, this device allows for multiple insertions of the spinal needle through the epidural needle, if needed.

The CSE Device is an inexpensive device that can be packaged individually or included as part of a spinal kit, and will aid anesthesiologists in securing the well-being of patients. This invention is covered by U.S. patent number 5,836,916, issued 11/17/98. This patent is controlled by Women and Infants Hospital of Rhode Island. Please contact Brown Technology Partnerships for more information regarding this technology.

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