

Peripheral Nerve Catheter Advancer

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Technology description

Summary

A Vanderbilt clinician has developed a device capable of allowing a single practitioner to control both the needle and the catheter while using an ultrasound probe to place a nerve block. A nerve block involves the placement of anesthetic and other agents onto or near a nerve in order to temporarily disrupt the signal traveling along the nerve. To place a nerve block, a needle is inserted into the patient and a catheter is thread through the needle to inject the block. An ultrasound probe is used to identify placement of the catheter and nerve block. Current catheter advancement techniques require one clinician to hold the needle and control the catheter while a second person maneuvers the ultrasound probe to accurately deliver the nerve block. The proper placement of the nerve block is highly dependent on the coordination between the two individuals. Relying on a second individual can result in misplaced nerve blocks or prolong the placement process. The novel catheter advancer eliminates the need for a second clinician and makes the placement faster and more accurate.

Addressed Need

Nerve blocks are typically placed using a needle, catheter, and ultrasound system. The primary practitioner is responsible for holding the needle and threading the catheter to reach the nerve block injection site. A second individual is needed to hold the ultrasound system in order to achieve proper placement. The two clinicians must work in unison to ensure that the nerve block is placed properly and in a timely fashion. This present device enables a single clinician to both hold the needle and place the catheter using only one hand, leaving the second hand free to maneuver the ultrasound probe. This eliminates the need for a second individual and allows for real-time visualization from the ultrasound while also likely speeding up the procedure.

Advantages

Combines needle control and catheter advancement into a single device

Eliminates the need for a second practitioner to assist with catheter placement

Allows for real time visualization of catheter and needle placement via ultrasound

Institution

[Vanderbilt University](#)

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