

## The Application of Regional Anesthesia by the Special Forces Medical Sergeant

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The United States Army Special Forces medical sergeants (SFMS), who are often deployed in austere environments and limited to just the supplies that they carry on their backs, have continually proved that they are highly capable of providing prolonged medical care to seriously injured U.S., Allied, and indigenous soldiers. More often than not, these soldiers operate in areas where casualty evacuation may be delayed or tactically unfeasible. The Joint Special Operations Medical Training Center (JSOMTC) is constantly exploring innovative options to enhance the education for these SFMS graduates so that they can better provide for their patients. These options include advanced procedures that are practiced only by credentialed military or civilian providers with years of experience.

An example of such was demonstrated in July 2012, when training in regional anesthesia via a nerve stimulator and coupled with intravenous sedation was incorporated into the academic curriculum at the JSOMTC. Historically, total intravenous anesthesia (TIVA) and peripheral nerve blocks without the use of a nerve stimulator were taught to SFMS students as an advanced skill that could support surgical interventions. Through the assistance of several board-certified anesthesiologists, the JSOMTC proceeded to examine whether this advanced regional anesthesia technique could be relevant, practical, and sustainable for SFMS students. This evaluation included establishing a database to track the success rate for the students' attempts at achieving regional anesthesia that was practiced on another student. As of September 2013, a total of 204 students have been evaluated.

The grading criteria for the evaluation were divided into three categories:

1. **SUCCESSFUL:** The student was able to correctly identify motor function of the nerve of interest using a nerve stimulator and with only verbal guidance from the instructor.
2. **SUCCESSFUL, BUT WITH DIFFICULTY:** The student identified motor function of the nerve of interest, but the instructor had to provide more than verbal assistance. This may include the instructor correcting the

student's ability to identify anatomical landmarks or helping the student refine his needle handling technique.

3. **UNSUCCESSFUL:** The student was unable to identify motor function even with instructor assistance and due to safety considerations the attempt was abandoned.

Also included in the evaluation were Special Operations Independent Duty Corpsmen (SOIDC) students. Each instructor who conducted the evaluation had to successfully complete the block of instructions as a student and then as an assistant instructor before being credentialed. The instructors evaluated regional anesthesia techniques conducted on the following five nerves:

- Sciatic nerve via posterior approach
- Femoral nerve
- Popliteal nerve
- Interscalene nerves via posterior approach
- Radial nerve

Additionally, with the popliteal nerve block, when motor function was identified, approximately 5.0–7.0ml of 0.5% lidocaine hydrochloride was injected to temporarily block the nerve. This further ensured competence and confidence that the student had correctly performed the procedure.

A more comprehensive report is planned for submission at a later date to the *Journal of Special Operations Medicine*. It should be noted that from the time this initiative started, the JSOMTC has received anecdotal reports, from several previous students, that regional anesthesia with intravenous sedation had been successfully used in a deployed environment.

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