Peripheral Nerve Stimulator Protocol

I. **Turn on peripheral nerve stimulator.**

II. **If the patient is already chemically paralyzed, set the current at 50 milliamps. If the patient is not paralyzed, determine the supramaximal threshold as described in #3.**

III. **Determination of Supramaximal Stimulus**
   A. Start delivery of a twitch stimulus, measured in milliamps or mA, by pressing the TWITCH button or the TW button, depending on the model of PNS utilized.
   B. Correct usage of the PNS is dependent upon applying **supramaximal** stimulation to the nerve being tested and accurate interpretation of the subsequent twitch response.
      1. To determine supramaximal stimulation, start current at 20 milliamps. Increase the current by 10 milliamps at a time until the greatest twitch response is observed. Allow 10-15 seconds between each attempt. This point marks the maximal stimulation.
      2. The twitch response need not be equal in strength. In some cases muscle twitches may be felt by the PNS operator's fingers and not visually observed. An accurate response to the PNS for each location is as follows:
         a. ULNAR NERVE - only observe the thumb twitch
         b. FACIAL NERVE - only observe facial twitch which includes more than just the eye area. The cheek and side of mouth on same side as stimulation also must twitch.
         c. POSTERIOR TIBIAL NERVE - only observe the great toe twitch.
   C. The supramaximal threshold should be determined each time electrodes are changed or repositioned.

IV. **For periodic, on-going assessments, utilize TRAIN OF FOUR (TOF) button on the PNS.**
   A. For a total of four pulsation stimuli. The current should be set at the supramaximal threshold determined as above.

V. **Monitor the twitch response, i.e., number of twitches seen out of four stimuli administered.**

VI. **The degree of block may be estimated by counting the number of twitch response seen from Train of Four (TOF) stimulation. As the depth of neuromuscular blockade increases, the number of elicited responses decreases.**