

Role of Superficial Cervical Plexus Nerve Block for Chronic Neuropathic Neck Pain

Alexandra Jankulov, MD, MS and Darryl Brown, MD

Department of Anesthesiology, Perioperative and Pain Medicine, Mount Sinai West and Morningside Hospitals

INTRODUCTION

The cervical plexus nerve block is a regional anesthesia technique effective for providing dense anesthesia and analgesia in the C2 to C4 nerve root distribution, covering the anterolateral neck, earlobe, clavicle, and acromioclavicular joint. The sensory component of the cervical plexus can be blocked separately and easily through a superficial cervical plexus nerve block (SCPNB), while both motor and sensory block can be achieved with a deep cervical plexus nerve block. This block can be administered using either landmark-based or ultrasound-guided methods. Common indications for the SCPNB include procedures involving superficial neck structures, carotid endarterectomies, lymph node dissections, pain management for clavicular fractures,, and more. The utilization of SCPNBs in the outpatient setting may be a beneficial adjunctive modality for the treatment of chronic neck pain.

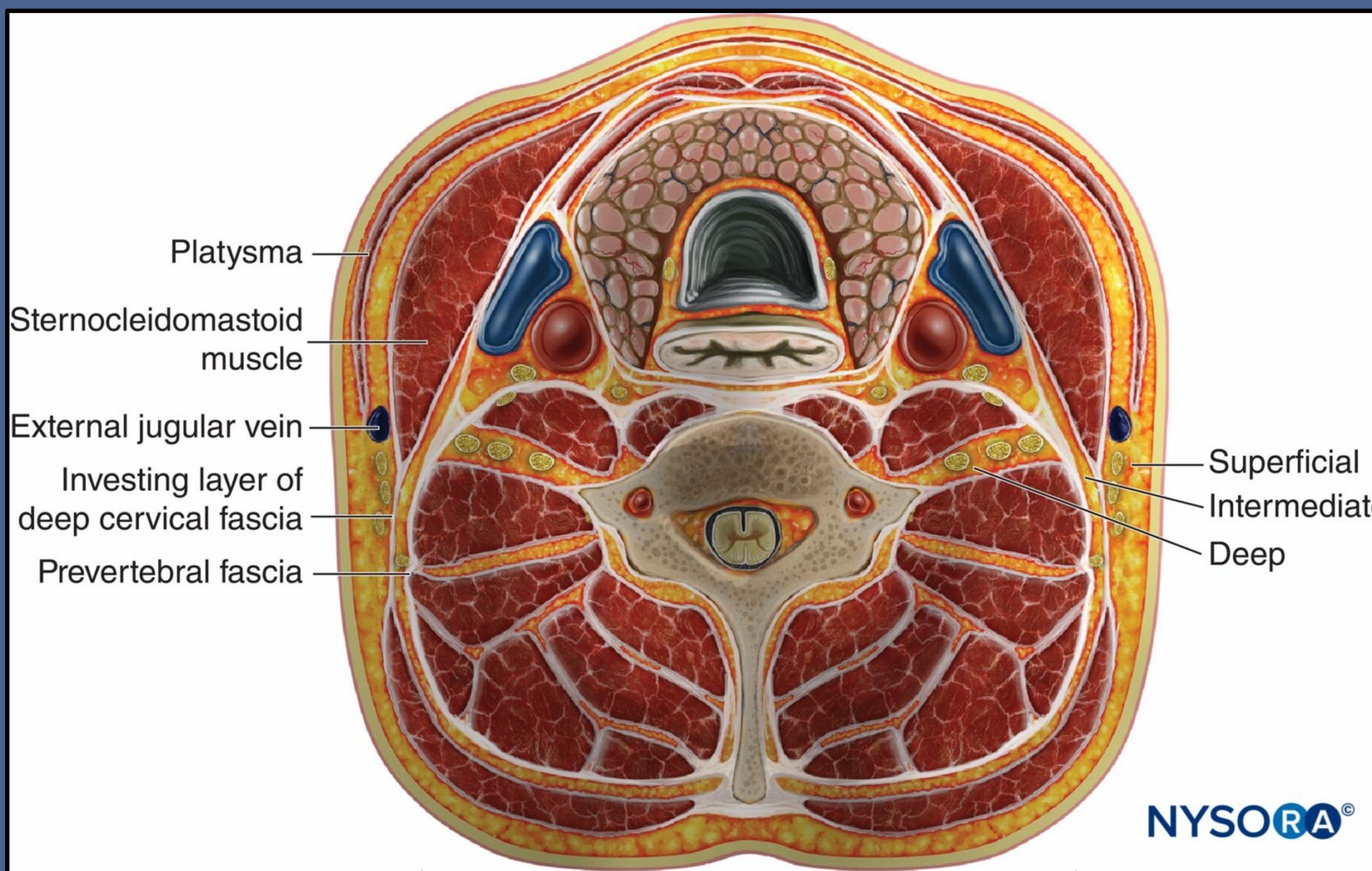


Image 1 (above): Anatomy relevant to the superficial cervical plexus nerve block

Image 2 & 3 (right) : Ultrasound image of the superficial cervical plexus and block

CASE PRESENTATION

This case report is devoid of protected health information, thus it is exempt from Institutional Review Board (IRB) requirements per the IRB at the Mount Sinai Health System (New York, NY). The informed consent for the publication of this case report was obtained from the patient.

This project features a 53-year-old female with past medical history of hypothyroidism and seizure disorder who presents with a 16-month history of constant, aching/burning neck pain status post cosmetic neck lift. The patient had a history of failed conservative treatment with acetaminophen, non-steroidal anti-inflammatory drugs, muscle relaxants, and physical therapy. Her pain was causing significant functional limitation leading to reduced quality of life and impairment in activities of daily living. The results of employing bilateral ultrasound-guided SCPNB were as follows: the patient reported 80% immediate pain relief status post right-sided SCPNB and 70% following left-sided SCPNB, one week later. Pain was reported to be 40% improved two months following bilateral procedures and medical management with gabapentin and pregabalin was continued with sufficient pain relief.

DISCUSSION

In this case, we examine the pharmacologic management of chronic neuropathic neck pain and the role of regional anesthesia using SCPNBs. These blocks can be performed easily, safely, and accurately under ultrasound guidance, providing superior visualization of the sensory branches of nerve roots C2 through C4 and minimizing the risk of damage to adjacent structures. It is crucial to consider the patient's medical and surgical history when evaluating the potential benefits of this regional anesthesia technique to optimize functional recovery. Further research is needed to assess the efficacy and reliability of SCPNB in managing chronic neuropathic neck pain.

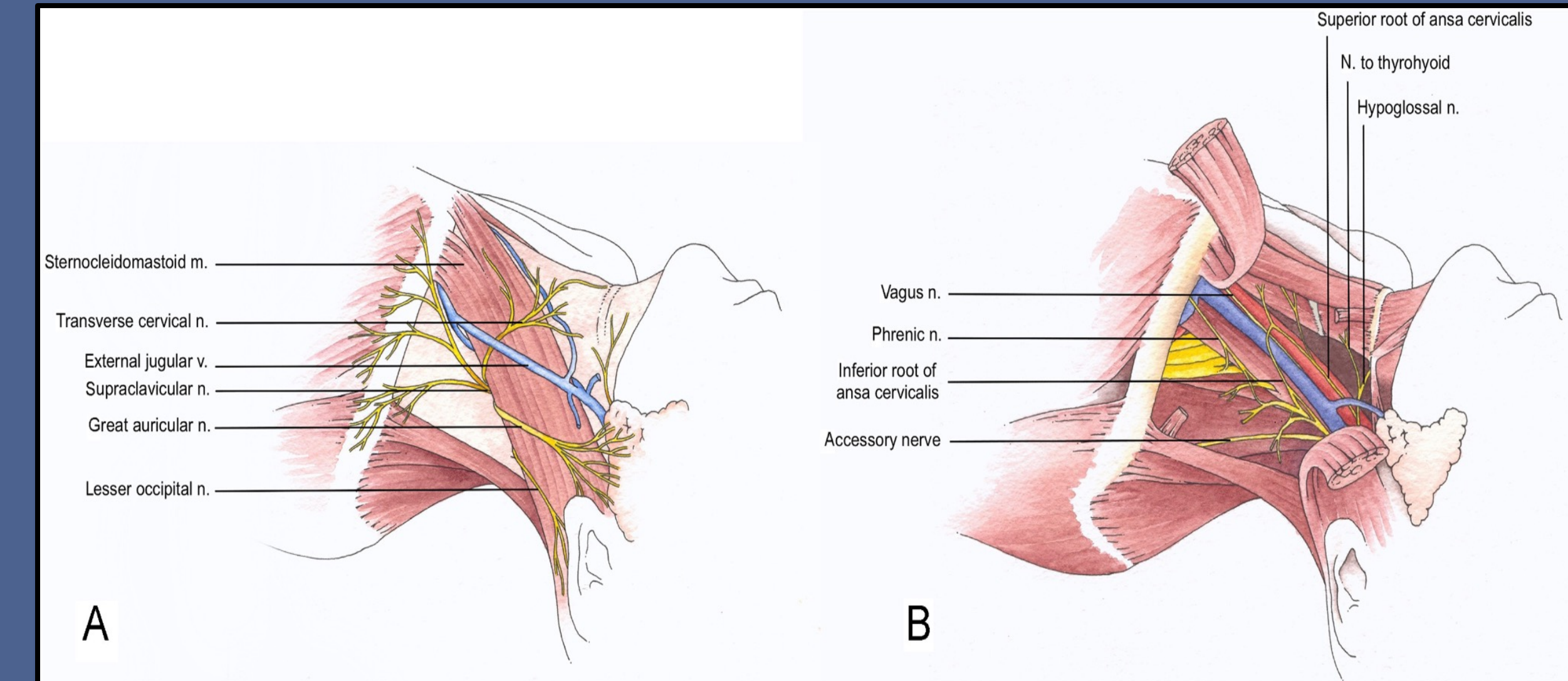
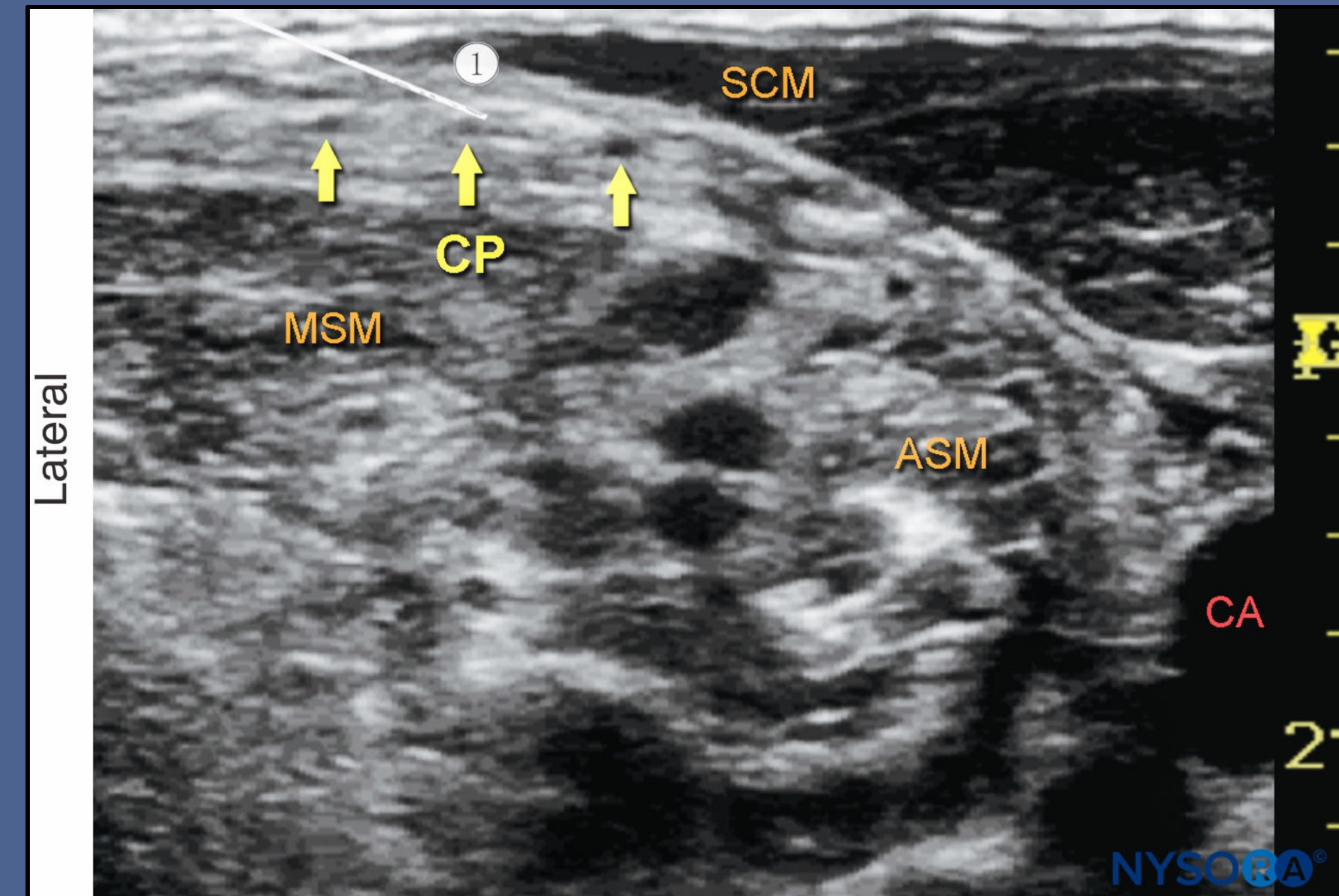
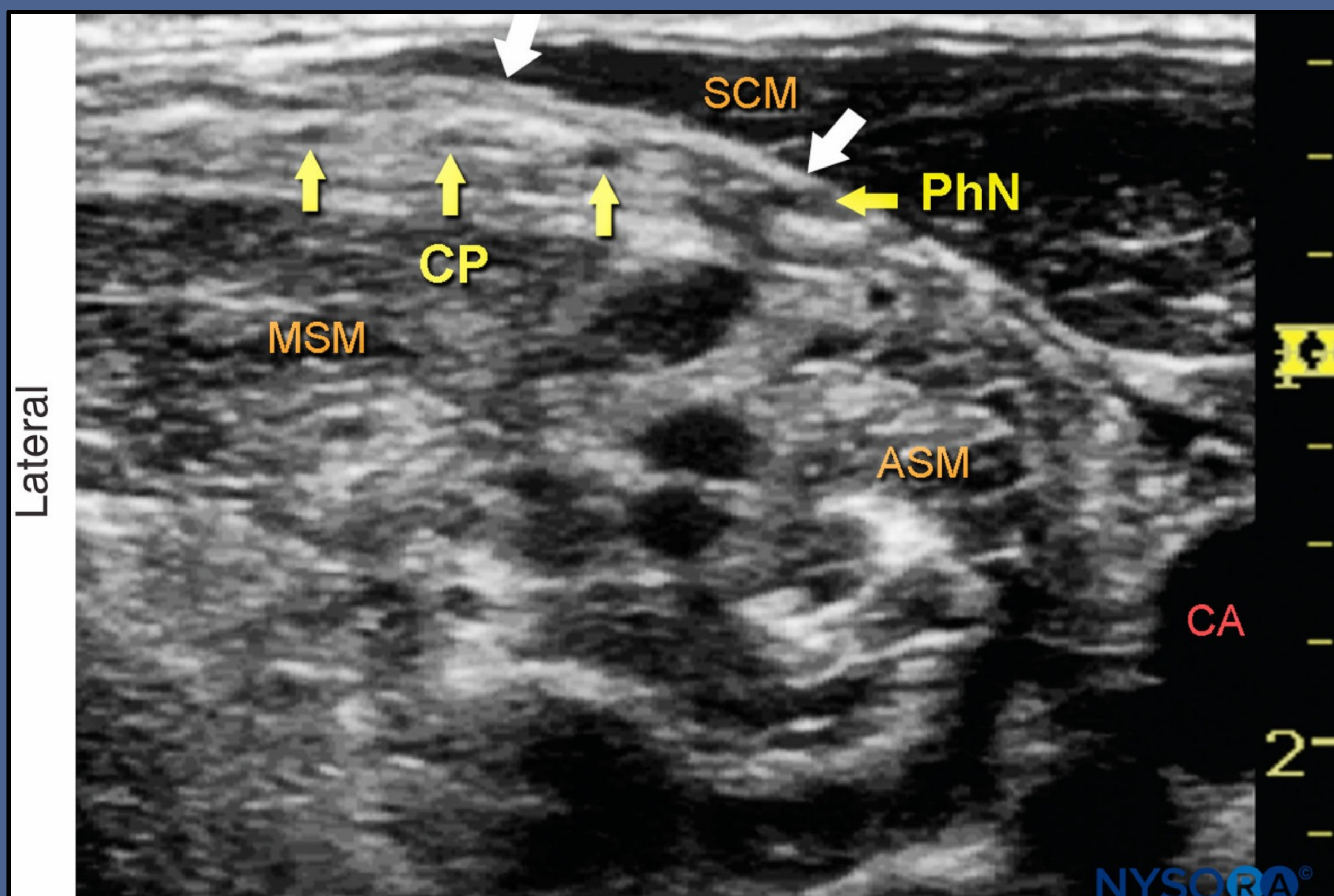


Image 4: Illustration of the anatomy relevant to the superficial cervical plexus nerve block

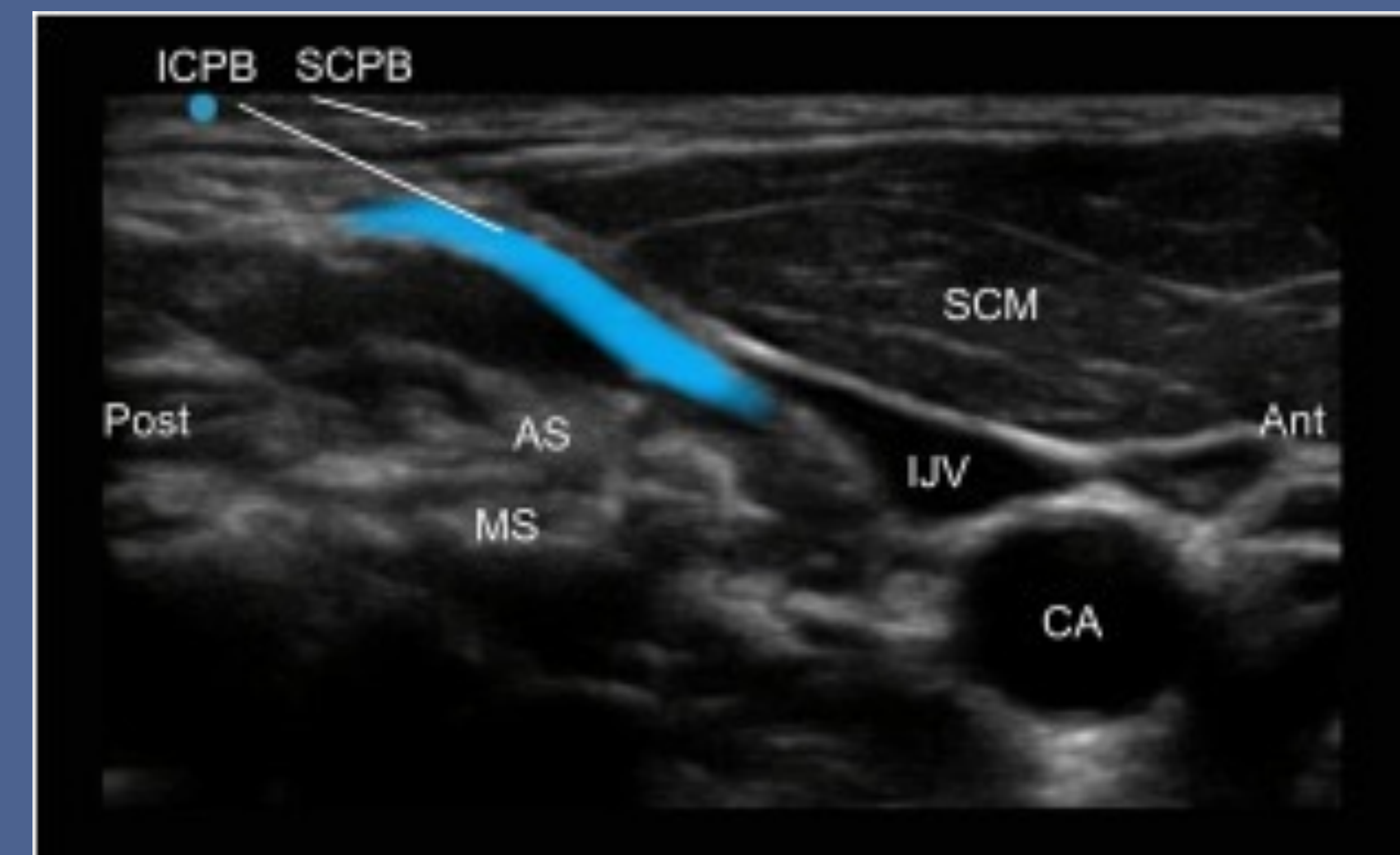


Image 5: Spread of local anesthetic in the superficial cervical plexus block

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