

**Breathing Easy: Respiratory
Consideration of a Phrenic Nerve
Sparing Block in Adult-Onset Muscular
Dystrophy**

Arjun S. Bakshi, MD¹
Avery Duncan, BS²
Olabisi Lane, MD¹

¹Emory University School of Medicine, Atlanta, GA

²Mercer University School of Medicine, Savannah, GA

Introduction

- Interscalene brachial plexus blocks are commonly used for pain control after shoulder surgery but can cause phrenic nerve paralysis, especially in patients with respiratory issues.
- Phrenic nerve-sparing techniques have emerged as a safer alternative, particularly for patients with conditions like COPD, OSA, and muscular dystrophy, as explored in our case report.

Case Description

History

A 68-year-old man presents for a pre-operative upper extremity nerve block for post-operative pain management. His extensive pulmonary history is notable for COPD, OSA, and wheelchair-bound Adult-Onset Muscular dystrophy requiring O2 and Bipap at night.

Operative Course

The pre-operative assessment included stable respiratory function with no acute chest pain or dyspnea, and an ultrasound-guided phrenic sparing supraclavicular, suprascapular, and superior trunk nerve block was planned. The brachial plexus roots and phrenic nerve were identified on ultrasound and 1% lidocaine was injected being careful to avoid phrenic nerve paralysis.

Results

After receiving the phrenic nerve-sparing block, the patient reported a significant improvement in his overall quality of life. He described experiencing less post-operative discomfort, which allowed him to breathe more easily and engage in daily activities without the fear of respiratory distress. This enhanced his recovery process, contributing to a sense of renewed confidence in managing his underlying conditions.

23rd Annual Pain Medicine Meeting

November 21-23, 2024 | #ASRAFALL24

ASRA
PAIN MEDICINE



**Phrenic nerve-sparing blocks provides
a significant advantage for post-
operative pain management in
patients with comorbid pulmonary
conditions.**



Discussion

- Phrenic nerve-sparing blocks offer a safer alternative for post-operative pain management in patients with pulmonary comorbidities, reducing the risk of respiratory compromise from phrenic nerve palsy.
- While effective, these blocks may present challenges, including inadequate pain control, difficulties in identifying the phrenic nerve on ultrasound, and potential nerve damage.
- Our case demonstrates that a phrenic-sparing supraclavicular, suprascapular, and superior trunk block can provide effective pain relief while minimizing respiratory complications in high-risk patients.

Figures



Figure 1: The phrenic nerve ultrasonography of the right neck

Contact Information

Arjun S. Bakshi, MD, abaksh2@emory.edu



EMORY
UNIVERSITY