

# Intercostal nerve cryoablation reduces opioid utilization after thoracotomy in children with cancer

Kathryn McElhinney L<sup>1</sup>, Suhail Zeineddin<sup>1</sup>, Samantha Ahle L<sup>1</sup>, Seth D. Goldstein<sup>1</sup>, and Timothy Lautz<sup>1</sup>

<sup>1</sup>Ann and Robert H Lurie Children's Hospital of Chicago

June 1, 2023

## Abstract

**BACKGROUND:** Intercostal nerve cryoablation (INC) has shown promise as an adjunct method for analgesia in adults undergoing thoracotomy but has yet to be widely used in children for this indication. We hypothesize that INC decreases opioid utilization in children undergoing thoracotomy for cancer operations. **METHODS:** A retrospective review was performed of children who underwent thoracotomy for a cancer diagnosis at a freestanding children's hospital from 2018-2023. Patient characteristics, intraoperative data, and data on clinical course were collected. Patients were divided into those who underwent INC and those who underwent routine care for comparison. **RESULTS:** Twenty-six patients underwent 38 procedures at a median age of 16 years (range 5-21 years). INC was performed in 23 cases over a median of 5 intercostal levels (range 2-7). Total oral morphine equivalents (OME) during inpatient admission were significantly lower in INC patients (137.6mg versus 514.5mg,  $p=0.002$ ). Routine care patients were more likely to be discharged with an opioid prescription (30.4% versus 80.0%,  $p=0.008$ ). Length of stay was similar between patients with INC and routine care (4 versus 5 days,  $p=0.15$ ). There were no differences in rates of reoperation or 30-day readmission (emergency department (ED) or inpatient). **CONCLUSIONS:** INC is a feasible and safe adjunct for children undergoing thoracotomy for cancer. INC is associated with reduced postoperative opioid utilization with respect to both inpatient use and outpatient prescriptions.

## Hosted file

Thoracotomy manuscript 52323.docx available at <https://authorea.com/users/624412/articles/646755-intercostal-nerve-cryoablation-reduces-opioid-utilization-after-thoracotomy-in-children-with-cancer>



