

# The Use of Acupuncture in a Patient with Mucopolysaccharidosis Type II to Alter the Course of Surgical Planning

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## Introduction

Acupuncture is a complementary therapy that is being used increasingly in a multi-modal approach to pain management. Despite few contraindications and an excellent safety profile, skepticism still exists around efficacy of acupuncture. We present a novel case in which the use of palliative acupuncture was used to avoid surgical intervention for severe cervical spine stenosis in a medically complex patient.

## Case Presentation

- 23 yo w/ mucopolysaccharidosis type II, skeletal dysplasia, hypotonia, and severe cervical spinal stenosis with myelomalacia
- Preoperative clinic for cervical spine decompression.
- HCM, severe AI, OSA on BiPAP, Chronic Lung Disease
- Reported difficult bag mask ventilation and difficult intubation. Severe fixed neck extension at rest.
- Multi-disciplinary discussion with anesthesiology, neurosurgery, pulmonology, ENT → prophylactic tracheostomy with subsequent cervical decompression after a period of tracheostomy healing.
- Family discussion of surgical plan and significant risk of complications and morbidity. Family hesitant to proceed.
- Chronic neck, chest wall, and knee pain for many years
- Failed multiple management strategies in the pain clinic secondary to adverse effects and intolerance of medications
- Concurrent referral to acupuncturist to maximize conservative pain therapies
- Weekly acupuncture for > 1 year with >50% improvement in pain scores with improvement in ability to perform ADL/IADL.
- Patient no longer considering surgery because of improved quality of life with this modality

## Acupuncture Techniques

Basic Needling  
Electro Acupuncture (EA)  
Moxibustion  
Laser Acupuncture  
Acupressure

## Theories of Mechanism

Natural Opioid Substances  
The Neurogate Theory  
Endogenous Corticosteroid Release  
Myofibrillary Entanglement  
Local Blood Flow  
Mesolimbic Loop of Analgesia



Patient rests on mother's lap during treatments. Acupressure seeds used on sternum and Pyonex intradermal needles are utilized at painful areas on thorax

## Discussion

Acupuncture has been practiced for centuries as a modality for treatment of acute and chronic pain. Although well described, it remains underutilized for many pain symptoms and medical conditions. Anesthesiologists may play a unique role in the intersection of pain medicine and perioperative medicine, able to offer a comprehensive approach to the care of patients with challenging and complicated presentations. For elective surgical procedures in medically complex patients, a full preoperative risk/benefit evaluation is critical in determining what is the safest course of action for the patient. General anesthesia can pose significant risk of morbidity in patients with comorbid conditions such as a difficult airway, significant cardiac pathology, and poor pulmonary capacity. We propose a strong consideration for implementing acupuncture therapy within an integrated care plan for these high-risk patients. This is especially true when conventional standard of care is not effective, not acceptable to the patient, or has intolerable side effects.

## References

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