

## Importance of A Multidisciplinary Approach in Managing Corrective Spine Surgery in Neuromuscular Scoliosis – Our Experience

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### INTRODUCTION:

Scoliosis is the most common spine deformity with direct effects on the thoracic cage. Involvement of the thoracic spine is primary responsible for respiratory or cardiovascular complications of scoliosis. These complications are aggravated if the patient has an underlying neuromuscular disorder. Some of the reasons for this includes weakness to the respiratory muscles, impaired lung growth due to earlier onset of disease, increased risk of aspiration and pneumonia and higher incidence of developing atelectasis post surgery.

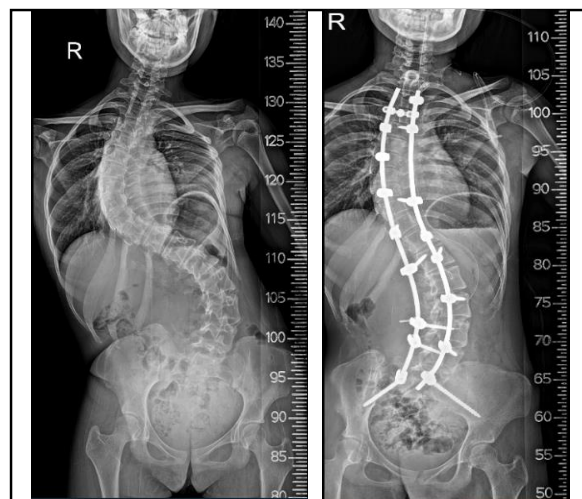
### REPORT:

In this report, we present a case of a 16 year old child with underlying congenital muscular myopathy SEPN-I related myopathy complicated with severe obstructive sleep apnea with hypoventilation and chronic type 2 respiratory failure and restrictive lung disease. The child has been on nocturnal biPAP non-invasive ventilation prior to surgery.

The child presented to us with thoracolumbar with a double curve of 90 degrees each with tethered cord at level of thorax and conus. The case was referred to the anesthetic team early and was given clearance for surgery. After early admission for traction, the child underwent corrective scoliosis surgery T2-S2 with T4-T10 laminectomy and durotomy together with the neurosurgical team.

Post operation the child was transferred to the intensive care unit for closer monitoring. The complication started with prolonged ventilation and poor weaning thus, the intensive care unit proceeded for a tracheostomy. This was further complicated with multiple bouts of nosocomial infection. The child still struggled to be weaned off the biPAP machine and a multidisciplinary meeting was held together with the Pediatric

Respiratory team. To our surprise, the paediatric team which were handling the home biPAP



**Figure 1: Preoperative and Postoperative X-ray of the scoliosis corrective surgery**

machine prior to this was unaware of the surgical plan and were also not informed about the tracheostomy. Subsequently, the pediatrics team took over the case and the child was weaned in the pediatric intensive care unit. The child was finally discharged after 83 days of admission with a home biPAP machine and is able to rest for 1 hour 3 times a day.

### CONCLUSION:

Corrective scoliosis surgery in a child with neuromuscular disorders can be tricky. What we have learned is that an earlier referral to the anaesthesia team as well as getting our pediatric team involved during the preoperative counseling is vital. This is to avoid morbidities as above to happen. Thus, the multidisciplinary approach should have been done for this patient.

### REFERENCES:

1. Anastassios et al., Paediatric Respiratory Review Journal 2006; Pg152-160.