

RECOMMENDATIONS FOR POST-OPERATIVE CARE OF CHILDREN WITH NEUROMUSCULAR DISEASE FOLLOWING SURGERY (OR THE INTUBATED CHILD WITH NEUROMUSCULAR DISEASE)

For the intubated patient, perform the following q 4 hours:

1. Intrapulmonary percussive ventilation followed by
2. Cough Assist machine set at inspiratory pressure +30 for 1 second, expiratory pressure – 30 for 1 second and 2 second pause, 4 sets of 5 breaths, followed by
3. Endotracheal tube suctioning.

The Cough Assist machine can be used as often as every 10 minutes followed by endotracheal suctioning to help remove lower airway secretions.

Extubate when the patient is:

1. afebrile
2. not requiring supplemental O₂
3. CXR is without atelectasis or infiltrates
4. off respiratory depressants
5. airway suctioning is 1 time/hour or less

Extubate to continuous nasal ventilation and no supplemental O₂ such as BiPAP with settings IPAP 14-17 and EPAP 3-6 using the spontaneous timed mode with a backup rate to match their respiratory rate.

Use oximetry to guide the use of expiratory aids, postural drainage, and CPT.

Following extubation perform the following q. 4 hours:

1. Chest physiotherapy, either manual or IPV, followed by
2. Cough Assist machine, set at inspiratory pressure +40 for 1 second, expiratory pressure – 40 for 1 second and 2 second pause, 4 sets of 5 breaths, followed by
3. Postural drainage (trendelenberg) up to 15 minutes as tolerated, followed by
4. Cough Assist machine, 4 sets of 5 breaths.

The Cough Assist machine can be used as often as every 10 minutes to clear lower airway secretions. Use if oxygen saturation drops to < 94% acutely.

Wean from BiPAP during the day as tolerated. Goal is to use BiPAP per nasal mask while sleeping only. Wean airway clearance regimen above as airway secretions decrease working toward a 4x/day. schedule or less.

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Adapted from Bach JR et al, Spinal muscular atrophy type 1: a noninvasive respiratory management approach. Chest 2000; 117:1100.