Mandibular Distraction Clinical Guideline (MDO)

Inclusion Criteria:
- All infants with micrognathia with respiratory distress, glossptosis

Exclusion Criteria:
- Known lower airway obstruction <36 weeks

Available Resources:
- MDO Order Set
- MDO Airway Box

Clinical Evaluation

Admission:
- Admit to NICU or PICU ** For any consults or testing assure they have been completed outpatient
- Initiate reflux precautions and position to maintain airway (side lying or prone) as needed or indicated
- Consults: (if not previously consulted)
  - Genetics
  - Otolaryngology
  - Plastic Surgery
  - Pulmonary
  - GI
  - PICC Team
  - Developmental Team
  - Child Life
  - Ophthalmology (prior to discharge)
- Laboratory: Chromosomal Microarray
- Bedside Procedures
  - NAP Study
  - 3D CT Scan for virtual surgical planning (non-contrast face CT with 0.5-millimeter cuts)
- Operating Room Procedures
  - Rigid bronchoscopy
  - Laryngoscopy
- Multidisciplinary care meting to discuss surgical plan: To include Plastics, ENT, Neo/Intensivist

Preoperative Care

- Notify Anesthesia of patient prior to OR
- Complete NICU Green OR sheet at bedside
- NPO per protocol
- Place MDO turn schedule at the bedside
- RN to ensure that turning screwdriver return with patient from OR

Reassess the appropriateness of Care Guidelines as condition changes and 24 hrs after admission. This guideline is a tool to aid clinical decision making. It is not a standard of care. The physician should deviate from the guideline when clinical judgment so indicates.
Postoperative Care

Medications:
- Acetaminophen IV 10-15mg/kg/dose Q6 hours for 48-72 hours postoperative
- Opioid Naive
  - Morphine infusion 0.03-0.05mg/kg/hr
  - Fentanyl infusion 0.5-2mcg/kg/hr
- Opioid Exposed
  - Morphine infusion of 0.05-0.1 mg/kg/hr or increase current opioid infusion by 20%
  - Fentanyl infusion 0.5-2mcg/kg/hr
- Additional options as needed
  - Dexmedetomidine infusion 0.2-1mcg/kg/hr
  - Dexamethasone 0.25 mg/kg/dose ~ 4 hours before extubation per physician order
- PRN
  - Intermittent Morphine 0.05 mg/kg/dose or fentanyl 1mcg/kg/dose IV PRN every 2 hours for breakthrough pain to start if increasing morphine or fentanyl infusion, the PRN dose and infusion hourly dose should be the same
- Antibiotics: Cefazolin 30mg/kg/dose IV every 8 hours for 48 hours postoperative

Airway Management:
- Endotracheal intubation for 4-7 days or PICU per physician order
- Until mandibular alignment is achieved or if patient has tracheostomy **PICU per physician order**
- Suctioning as needed: Please render discretion to avoid oral aversion

Nursing Care Post Operatively
- HOB elevated 30°
- Ice to face Q6 hours for 20 min for 24 hours postoperative
- Pin care: Cleanse with sterile water and apply Bacitracin as ordered
  - Mepilex to be placed under pins on face during the first 72 hours post-op
- Rotation Instructions:
  - 2 turns BID while intubated followed by 1 turn TID as ordered OR per physician order
  - Plastic surgery to do first turn and every morning turn. RN to do evening turn.
  - Continue turning as ordered until instructed to stop
- Enteral Feeding: With return of bowel function and clinical stability
  - NPO for 12-24 hours
  - Normal diet to resume over 24 - 48 hours
- Repeat NAP Study near completion of detractions

Post-Operative Device Removal
- 3 months after last turn

Discharge Recommendations
- Follow up with plastic surgery in clinic 4-6 weeks after last turn
- Craniofacial team referral
- Instruct family on how to use the wrench and how to turn daily
- Instruct family on assessment of pin site for redness or drainage and to call the plastic surgeon
distraction change the laryngoscopy grade in infants with Robin Sequence? Journal
(American Medical Assoc.)

B. Resnick, C. M. (2018). Precise osteotomies for mandibular distraction in infants with

C. (2014). Tracheostomy versus mandibular distraction osteogenesis in infants with


Sleep architecture in Pierre-Robin sequence: The effect of mandibular distraction