Clinical Pathways

Tonsillectomy and Adenoidectomy Perioperative Care

Christopher Grindle, MD

What is a Clinical Pathway?

An evidence-based guideline that decreases unnecessary variation and helps promote safe, effective, and consistent patient care.

Objectives of Pathway

- To standardize the management of Tonsillectomy and Adenoidectomy patients based upon severity of their obstructive symptoms

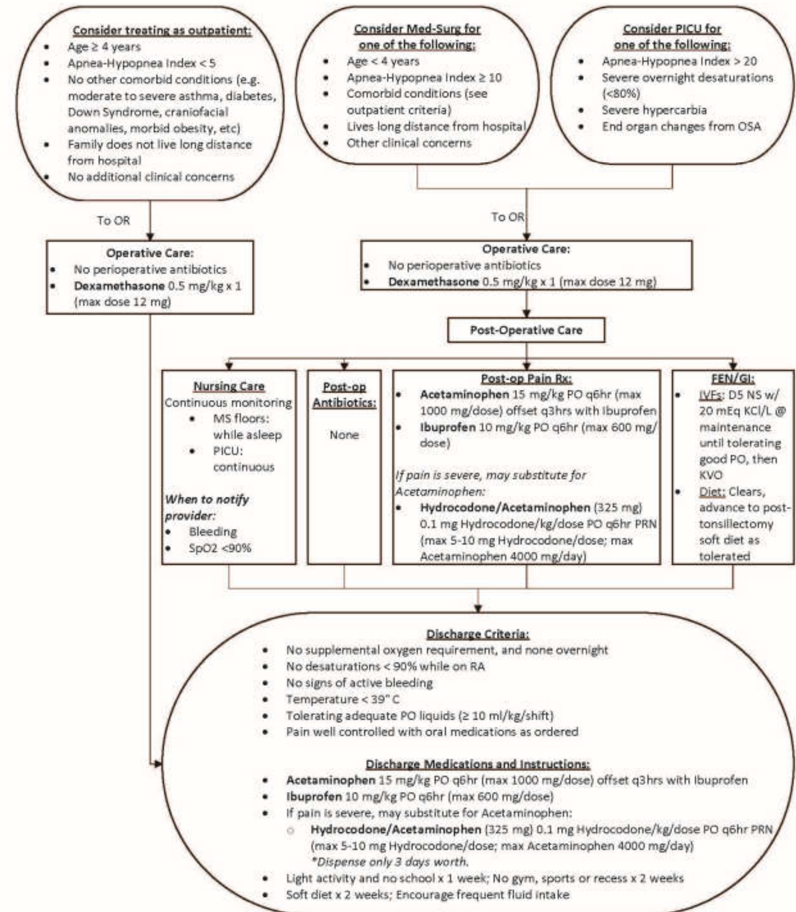
- To prevent the use of unnecessary medications:
  - No perioperative antibiotics
  - 1 single dose of IV steroids in the operating room

Why is Pathway Necessary?

- Tonsillectomy and Adenoidectomy is a common procedure with greater than 500,000 performed annually in the United States.
- Standardization of care helps to:
  - Level-set expectations for patients, families and providers
  - Decrease unnecessary use of medications
  - Expedite patient flow
  - consistent messaging and patient education

This is the Tonsillectomy and Adenoidectomy Clinical Pathway.

We will be reviewing each component in the following slides.



CLINICAL PATHWAY:

Tonsillectomy & Adenoidectomy: Perioperative Care

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Consider treating as outpatient:

- Age ≥ 4 years
- Apnea-Hypopnea Index < 5
- No other comorbid conditions (e.g. moderate to severe asthma, diabetes, Down Syndrome, craniofacial anomalies, morbid obesity, etc)
- Family does not live long distance from hospital
- No additional clinical concerns

Consider Med-Surg for one of the following:

- Age < 4 years
- Apnea-Hypopnea Index ≥ 10
- Comorbid conditions (see outpatient criteria)
- Lives long distance from hospital
- Other clinical concerns

Consider PICU-Surg for one of the following:

- Apnea-Hypopnea Index > 20
- Severe overnight desaturations (<80%)
- Severe hypercarbia
- End organ changes from OSA

To OR

Operative Care:

- No perioperative antibiotics
- **Dexamethasone** 0.5 mg/kg x 1 (max dose 12 mg)

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Post-Operative Care

Nursing Care

Continuous monitoring

- MS floors: while asleep
- PICU: continuous

When to notify provider:

- Bleeding
- SpO2 <90%

Post-op Antibiotics:

None

Post-op Pain Rx:

- **Acetaminophen** 15 mg/kg PO q6hr (max 1000 mg/dose) offset q3hrs with Ibuprofen
- **Ibuprofen** 10 mg/kg PO q6hr (max 600 mg/dose)

If pain is severe, may substitute for Acetaminophen:

- **Hydrocodone/Acetaminophen** (325 mg) 0.1 mg Hydrocodone/kg/dose PO q6hr PRN (max 5-10 mg Hydrocodone/dose; max Acetaminophen 4000 mg/day)

FEN/GI:

- IVFs: D5 NS w/ 20 mEq KCl/L @ maintenance until tolerating good PO, then KVO
- Diet: Clears, advance to post-tonsillectomy soft diet as tolerated

Discharge Criteria:

- No supplemental oxygen requirement, and none overnight
- No desaturations < 90% while on RA
- No signs of active bleeding
- Temperature < 39° C
- Tolerating adequate PO liquids (≥ 10 ml/kg/shift)
- Pain well controlled with oral medications as ordered

Discharge Medications and Instructions:

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Determining Post-Operative Level of Care:

Outpatient vs. Med-Surg unit observation vs. PICU observation

Decision is made based on several factors
- Age
- Apnea-Hypopnea index
- Comorbid conditions
- Where family lives

CLINICAL PATHWAY:

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT ...

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Perioperative Care:
Regardless of Post-operative disposition

- There is no indication for perioperative antibiotics
- Single dose of intraoperative dexamethasone is given to all patients

Post-Operative Care

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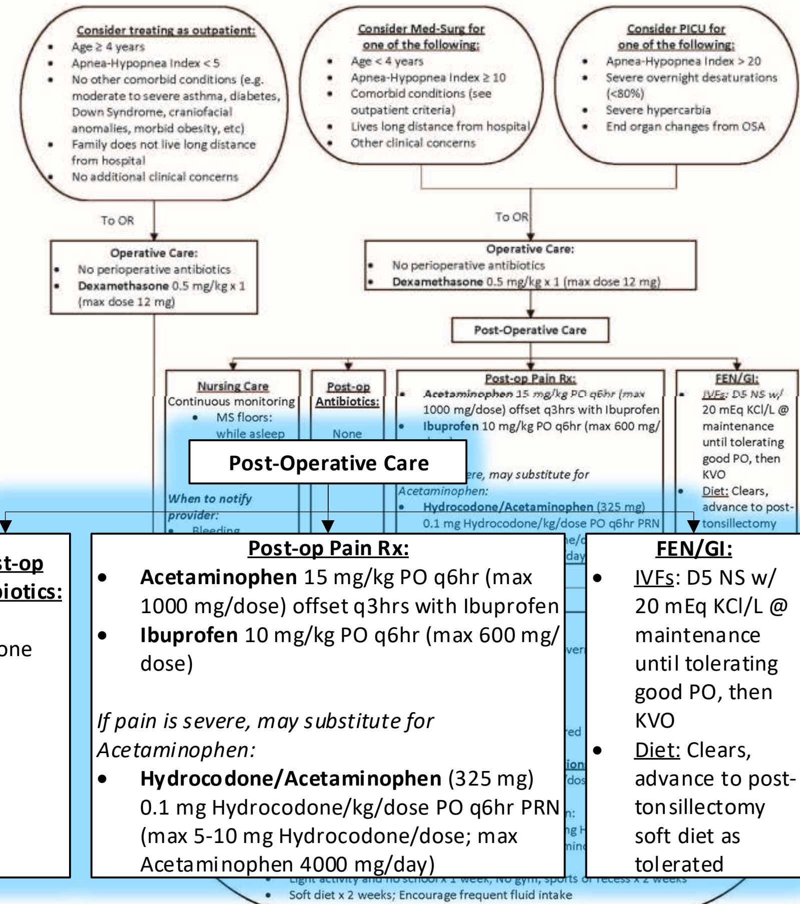
Post Operative Care for Observation Patients:

Focus is on:

- Oral hydration:
  - IVF are weaned quickly once patient is tolerating liquids well.
- Pain management:
  - Goal is to avoid narcotics when possible
- Again there is no indication for antibiotics postoperatively

Level of monitoring is based on observation location



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Nursing Care	Post-op Antibiotics:	Post-op Pain Rx:	FEN/GI:
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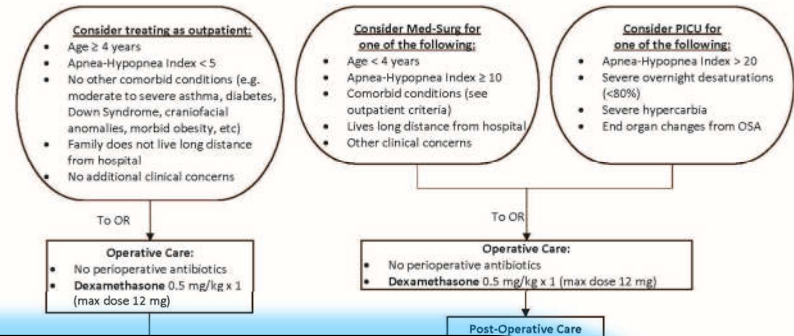
Discharge criteria:

There are pre-established discharge criteria, instructions, and management help to maximize efficiencies in patient flow



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Use of Order Set

General
ADT
Transfer patient- Different Level of Care/Different Floor
Return To Bed - Same Level of Care/Same Room
Effective Immediately

Nursing — Required
Vital Signs
☑ Vital signs-TPR, BP and O2 sats
Routine, Every 4 hours First occurrence Today at 1200 Until Specified
Post-op, Sign & Hold
☐ Cardiorespiratory monitoring
Continuous, While Asleep, Post-op
☑ Pulse oximetry
Routine, Continuous starting Today at 0924 Until Specified
While Asleep, Post-op, Sign & Hold
Activity
☑ Activity, as tolerated
Until discontinued starting Today at 0924 Until Spe
Post-op, Sign & Hold
Nursing Assessments
☑ Strict intake and output
Until discontinued starting Today at 0924 Until Spe
Post-op, Sign & Hold
Growth Measurements — Required
Growth measurements-infant
Post-op
Growth measurements- child 1-3 yrs
Post-op
Growth measurements- child >3 yrs
Post-op
Nursing Interventions
☑ Peripheral IV
P Until discontinued starting Today at 0924 Until Specified
Post-op
Lines needed: 1
Per Peripheral IV Policy. , Sign & Hold
☐ Restraints, medical/surgical (non-violent)
Post-op
Safety Protocol
☑ Initiate Safety Risk Protocol w/Primary Interventions
Until discontinued starting Today at 0924 Until Specified
Post-op, Sign & Hold
☐ Initiate Safety Risk Protocol w/Observation Interventions - Level 2
Post-op
☐ Initiate Safety Risk Protocol w/Observation Interventions - Level 3
Post-op
☐ Initiate Safety Risk Protocol w/Observation Interventions - Level 4
Post-op

☐ lidocaine (LMX) 4 % cream for infants and children less than 4 years old
1 g, Topical (Top), Every 1 hour PRN, for procedure, Post-op
☐ lidocaine (LMX) 4 % cream for children greater than or equal to 4 years old
2.5 g, Topical (Top), Every 1 hour PRN, for procedure, Use 1 to 2.5 grams as needed., Post-op

Nutrition
Diet
☐ Diet NPO - effective now
Post-op
☑ Diet clear liquid
P Diet effective now starting Today at 0924 Until Specified
Advance to: Post T and A diet
Does the patient have any food allergies? (Note- do not order a regular diet if pt has food allergy. Order a special diet): No, the patient has no known food allergies
Please follow Diet Advancement Protocol. NO BREAKFAST PLEASE!, Post-op, Sign & Hold

Similac (20kcal/oz) ready to feed without additives
Post-op
imilac (22 kcal/oz) ready to feed without additives
Post-op
oAdvance, Similac (19 kcal/oz) ready to feed Standard without additives
Post-op
ort, Similac (19 kcal/oz) ready to feed without additives
Post-op
Similac (19kcal/oz) ready to feed without additives
Post-op

☐ Mother's own milk 20 calories without additives
On demand without restrictions, Post-op

Respiratory Therapy
Respiratory Therapy Interventions
☑ Oxygen therapy via nebulizer
P Until discontinued starting Today at 0924 Until Specified
Post-op
FiO2(%): 100
Titrate O2 to maintain saturations > or = : 94
Titrate O2 to maintain saturations < or = : 100
Titrate FiO2(%) by: 20
Maximum FiO2(%): 100
Minimum FiO2(%): 21
Please notify MD/CP if the following occurs: 1.) O2 requirement reaches maximum range 2.) O2 sats outside range despite titration Please consider weaning the amount of oxygen delivered every 60 minutes., Sign & Hold

Order Set:

Has specific pre checked items that include diet and oxygen therapy

Quality Metrics

- Percentage of patients with NO intra-op antibiotic use
- Percentage of patients receiving single dose steroid intra-operatively
- Length of stay
- Percentage of patients with return ED visits (up to 14 days post-operatively) for pain, hemorrhage, or dehydration
- Number of admissions/observations for post-operative bleeds
- Number of patients returning to the OR for bleeds

Pathway Contacts

- Christopher Grindle, MD
  - Connecticut Children's Otolaryngology (ENT) Department

References

- Raman VT, Jatana KR, Elmaraghy CA, Tobias JD. Guidelines to decrease unanticipated hospital admission following adenotonsillectomy in the pediatric population. *Int J Pediatr Otorhinolaryngol*, 2014;78(1):19-22
- Baugh RF, Archer SM, Mitchell RB, et al. Clinical practice guideline: tonsillectomy in children. *Otolaryngol Head Neck Surg*, 2011;144:S1-S30.
- Roland PS, Rosenfeld RM, Brooks LJ, et al. Clinical practice guideline: Polysomnography for sleep-disordered breathing prior to tonsillectomy in children. *Otolaryngol Head Neck Surg*, 2011;145:S1-S15.

Thank You!

About Connecticut Children's Clinical Pathways Program

Clinical pathways guide the management of patients to optimize consistent use of evidence-based practice. Clinical pathways have been shown to improve guideline adherence and quality outcomes, while decreasing length of stay and cost. Here at Connecticut Children's, our Clinical Pathways Program aims to deliver evidence-based, high value care to the greatest number of children in a diversity of patient settings. These pathways serve as a guide for providers and do not replace clinical judgment

This Educational Module was edited by:

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