New Guidelines for Tonsillectomy

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Objectives

- To review highlights of the new Clinical Practice Guideline for Tonsillectomy in Children.
- To understand which patients may benefit from tonsillectomy/adenoidectomy who do not meet the more common criteria.
- To understand what information/documentation from the referring clinician’s office will most help to expedite the evaluation for tonsillectomy/adenoidectomy.
- To understand new strategies for pain control after tonsillectomy/adenoidectomy.

Who said it?

“…(doctors,) a lot of times are forced to make decisions on the fee payment schedule that is out there. So you come in and you’ve got a bad sore throat or your child has sore throats or repeated sore throats. The doctor may look at the reimbursement system and say to himself, ‘You know, I make a lot more money if I take this kid’s tonsils out.’ Now that may be the right thing to do. But I’d rather have that doctor making that decision based on whether you really need your kids tonsils out or whether it might make more sense just to, uh, change… maybe they have allergies, maybe they have something else that would make a difference…”
Who said it?

"... (doctors,) a lot of times are forced to make decisions on the fee payment schedule that is out there. So you come in and you’ve got a bad sore throat or your child has sore throats or repeated sore throats. The doctor may look at the reimbursement system and say to himself, ‘You know, I make a lot more money if I take this kid’s tonsils out.’ Now that may be the right thing to do. But I’d rather have that doctor making that decision based on whether you really need your kids tonsils out or whether it might make more sense just to, uh, change... maybe they have allergies, maybe they have something else that would make a difference..."

Risks of Surgery

- Primary hemorrhage 0.2 – 2.2%
- Secondary hemorrhage 0.1 – 3%
- Death 1/16,000 to 1/35,000
  - 530,000 cases = 15 deaths
  - 1/3 due to bleeding
  - 2/3 due to aspiration, anesthesia complication, electrolyte imbalance, CP failure

Indication for Tonsillectomy

- EBM approach
- Identifying children who are the best candidates for tonsillectomy
- Optimize perioperative management
Caveats

- Ages: 1 – 18 years
- Does not apply to:
  - Craniofacial disorders
  - Cardiopulmonary disease
  - Immunodeficiencies (Diabetes)
  - Hematologic disease (Coagulopathies, SCD)
  - Intracapsular or partial tonsillectomy

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Major Indications

- Chronic tonsillitis
- Sleep disordered breathing

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Indication: Chronic Tonsillitis

- 7 episodes in 1 year
- 5 episodes/year x 2 years
- 3 episodes/year x 3 years

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RECOMMENDATION: Watchful waiting

NO

YES

OPTION: "Physician may recommend tonsillectomy"

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Indication: Chronic Tonsillitis

- 7 episodes in 1 year
- 5 episodes/year x 2 years
- 3 episodes/year x 3 years

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Sore throat plus

- Temperature >38.3
- Cervical lymphadenopathy
- Group A Streptococcus positive
- Tonsillar exudates

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STRONG EMPHASIS ON DOCUMENTATION OF ALL EPISODES IN THE PATIENT’S MEDICAL RECORD
**Indication: Chronic Tonsillitis**


<table>
<thead>
<tr>
<th>Year</th>
<th>Average Annual Episettes of Pharyngitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td>1.17:1.03:0.45</td>
</tr>
<tr>
<td>2nd year</td>
<td>0.43:0.31:0.16</td>
</tr>
<tr>
<td>3rd year</td>
<td>0.77</td>
</tr>
</tbody>
</table>

**SYSTÉMATIQUE REVIEWS**

  - Many cases will resolve without surgery
  - In all studies reviewed, control group showed a rate of spontaneous reduction

**CASE SERIES OUTCOMES**

  - 5 episodes over 2 years, 9 month waiting list, 27% no longer met criteria
  - Paradise criteria, 623 children, 10.8 month wait, 18.6% with no infections
- Fox et al. *J Laryngol Otol.* 2008

**SYSTÉMATIQUE REVIEWS**


**CASE SERIES OUTCOMES**

  - Multicenter, prospective, observational outcomes

**Indication: Chronic Tonsillitis**

- Reduction in sore throats
  - For moderate to severe chronic tonsillitis, up to 3 years post op


- Multicenter, prospective, observational outcomes

**Indication: Chronic Tonsillitis**

- Reduction in missed school, doctor visits, antibiotic use
Indication: Chronic Tonsillitis

Table 1
Impact of tonsillectomy on Tonsillitis scores

| Reference | Baseline mean (SD) | After 6 months mean (SD) | Improvement | Tonsillitis mean (SD) | Tonsillectomy mean (SD) | P value
|-----------|-------------------|--------------------------|-------------|----------------------|------------------------|--------
| Gyllenband | 28.0 (10.5)       | 26.0 (10.5)              | <0.001      | 1.0 (0.0)            | 0.9 (0.0)              | <0.001 |
| Indications | 28.0 (10.5)       | 26.0 (10.5)              | <0.001      | 1.0 (0.0)            | 0.9 (0.0)              | <0.001 |
| Physical functioning | 16.0 (10.5)       | 14.0 (10.5)              | <0.001      | 2.0 (0.0)            | 1.0 (0.0)              | <0.001 |
| Social function | 16.0 (10.5)       | 14.0 (10.5)              | <0.001      | 2.0 (0.0)            | 1.0 (0.0)              | <0.001 |
| Emotional | 16.0 (10.5)       | 14.0 (10.5)              | <0.001      | 2.0 (0.0)            | 1.0 (0.0)              | <0.001 |
| Total | 28.0 (10.5)       | 26.0 (10.5)              | <0.001      | 1.0 (0.0)            | 0.9 (0.0)              | <0.001 |

- Improvement in Tonsill and Adenoid Health Status Instrument


**Indication: Chronic Tonsillitis**

- Baseline lower global QOL
- Improved global QOL


**Indication: Chronic Tonsillitis**

- Caveats
  - No control group
  - Selection bias
  - Caregiver collection of data
  - Limited follow up


**Indication: Chronic Tonsillitis**

- Severe infections requiring hospitalization
- Locoregional complications
  - Peritonsillar abscess
  - Lemierre’s syndrome
- Family history of rheumatic heart disease
- Household “ping-pong” spread
- PFAPA
- Febrile seizures
- Antibiotic allergies/intolerance

Indication: Sleep Disordered Breathing

Primary
Snoring

Obstructive
Sleep Apnea

• "... abnormalities of respiratory pattern or the adequacy of ventilation during sleep..."
• Sx: snoring, mouth breathing, apneas
• Daytime sx: Excessive sleepiness, inattention, poor concentration, hyperactivity, enuresis, aggression, anxiety, depression, somatization

Snoring
Primary

Daytime: Excessive sleepiness, inattention,
• snoring, mouth breathing, apneas

Lower QoL
• General health
• Physical functioning
• Behavior
• Bodily pain
• Caregiver impact

40% more hospital visits

Enuresis (50%)
• FTT

MILD SDB
MODIFYING FACTORS

Enuresis (50%)
• FTT

POLYSOMNOGRAPHY CPG
Indication: Sleep Disordered Breathing

• POLYSOMNOGRAPHY CPG
  – Preop for complex medical problems
    • Obesity, Down syndrome, craniofacial anomalies, neuromuscular diseases, sickle cell, MPS
  – Discordance between history and exam
  – Discuss results with anesthesiologist
  – Overnight admission for
    • OSA < 3 years old
    • Apnea Hypopnea Index > 10
  – Laboratory based studies

Outcome Counseling: SDB

• Improved SDB in 60-70%
• Resolution in 10-25% obese children

• Recommendation: Specific parental counseling on s/sx of persistent SDB and need for further treatment

Perioperative Care Issues

• Strong Recommendations:
  – GIVE intraoperative steroids
    • Decreased post op pain
    • Decreased nausea
    • Improved PO intake
  – DO NOT GIVE intra/postoperative antibiotics
    • Reduce postoperative fever
    • No impact on pain in 5 of 7 clinical trials
    • No impact on time to normal activity in 4 of 7 trials
    • Adverse events to abx result in 20% of the US ER visits

• Recommendation: Counsel at length regarding postoperative pain control issues
    • 27% ≤ 1 dose POD 1 despite "severe pain"
    • 41% ≤ 1 dose POD 3 despite 67% still reporting "severe pain"
  – Use NSAIDS (EXCLUDING KETOROLAC)
  – Do not use codeine
  – No advantage of narcotics over tylenol and ibuprofen in children under age 5
  – Encourage hydration

Pop Quiz

• Who should get a tonsillectomy?
  – 4 y/o male with 5 episodes of strep throat and LAD this year, sister has had 3 episodes per year since she was 8
  – 12 y/o female with 3 episodes of non-strep pharyngitis
  – 6 y/o male with 8 documented episodes of strep throat over the past 2 years
  – 18 m/o male, snoring nightly, gasping, choking, apneas
  – 9 y/o female with really massive tonsils
  – 7 y/o male, new to town, parental c/o 10 episodes of sore throat with fever in past two years

Referral Information

• Primary complaint
  – Infectious, SDB, other
• Infections
  – Dates of episodes with symptoms
  – Treatment regimen with each episode
  – Any modifying factors
  – Febrile seizures, PFAPA, hospitalizations, abscesses/Lemierre’s, affected sibs, antibiotic allergies or intolerance, rheumatic heart disease
• SDB
  – Polysomnography results
Conclusion

- **Recommendation:**
  - Chronic Tonsillitis < 7/5/3 episodes: observation
- **Option:**
  - Chronic Tonsillitis < 7/5/3 episodes: surgery
- **Recommendation:**
  - Recurrent infection with modifying factors: surgery
    - Patient specific factors (Multiple abx allergies)
    - Clinical syndromes (PFAPA, PANDAS?)
    - Poorly validated (febrile seizures, muffled speech, dysphagia, malocclusion, cryptic tonsils, GABHS carriage)

Conclusion

- **Recommendation:**
  - Consider modifying factors for SDB
  - Poor school performance
  - Enuresis
  - Growth retardation
  - Behavioral problems
- **Recommendation**
  - Specific parental counseling on s/sx of persistent SDB and need for further treatment

Conclusion

- **Strong Recommendation:**
  - Give intraoperative steroids
- **Strong Recommendation**
  - No perioperative antibiotics
- **Recommendation**
  - Counsel regarding pain management
    - No Tylenol with Codeine
    - OK to use NSAIDS (except Ketorolac)