Balloon Sinuplasty: Indications and Cost-Effectiveness

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Balloon Sinuplasty Indications

• Balloon is a tool for treatment of sinus disease
• Indications for balloon sinuplasty same as for standard FESS
  • Sinus disease refractory to medical therapy
• AAO-HNS and ARS position statements
  • May be used alone or in combination with standard FESS
  • Not investigational or experimental
Contraindications

• Ethmoid disease
• Sinonasal polyps
• Significant osteoneogenesis
Insurance coverage policies

• No questions about safety and feasibility
• Additional cost
• Level of evidence
• Superiority to standard FESS?
• Advantages over standard FESS?
“At present there is no convincing evidence supporting the use of endoscopic balloon sinus ostial dilation compared to conventional surgical modalities in the management of CRS refractory to medical treatment. With the escalating use of balloon sinuplasty, there is an urgent need for more randomised controlled trials to determine its efficacy over conventional surgical treatment modalities.”
Cochrane Review

- Prospective randomized control trial
- Reviewed published studies:
  - 75 → 34 → 11
  - Excluded all of them
- Based on 1 unpublished study (later was published)
  - Plaza et al (2011)
  - Standard FESS vs. balloon/FESS
  - No significant difference in resolution of frontal sinus disease on post-op CT scans
  - Error in abstract
• Policy Statement on Balloon Sinuplasty

  "Health Net, Inc. considers balloon sinuplasty (e.g. Relieva Sinus Balloon Dilation Catheter) medically necessary to relieve obstruction of the maxillary, sphenoid, and frontal sinus ostia, either alone or in combination with standard endoscopic sinus surgery techniques, for patients with chronic rhinosinusitis…"

  • August, 2013
Position Statement on Balloon Sinuplasty

“The use of balloon sinus ostial dilation for the treatment of any sinus condition, including, but limited to sinusitis, is considered investigational and not medically necessary.”

11/18/2013
Cost effectiveness

• Cost of balloons
  • Range $1000--$1600

• Reimbursement
  • Self-pay
  • Medicare, other insurance carriers
31295

• Nasal/sinus endoscopy, surgical; with dilation of maxillary sinus ostium (e.g., balloon dilation), transnasal or via canine fossa
(Do not report 31295 in conjunction with 31233, 31256, 31267 when performed on the same sinus)

31296

• Nasal/sinus endoscopy, surgical; with dilation of frontal sinus ostium (e.g., balloon dilation) (Do not report 31296 in conjunction with 31276 when performed on the same sinus)

31297

• Nasal/sinus endoscopy, surgical; with dilation of sphenoid sinus ostium (e.g., balloon dilation) (Do not report 31297 in conjunction with 31235, 31287, 31288 when performed on the same sinus)
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<tr>
<th>CPT</th>
<th>Description</th>
<th>Global</th>
<th>Facility Total</th>
<th>Non-Facility Total</th>
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<th>Non-Facility Payment</th>
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<td>Submucous resection, inferior turbinate, partial or complete, any method</td>
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FESS Reimbursement, Medicare National Average Rates (2012)

CODES: 31297 31287 31288 31296 31276 31295 31256 31267

- Sphenoid
- Frontal
- Maxillary

- Balloon-Only, Non-Facility Physician Payment (Office)
- Balloon-Only, Facility Physician Payment (Hospital)
- Traditional/hybrid FESS, Facility Physician Payment (Hospital)
Cost effectiveness
In-office procedure

• High RVU/reimbursement for in-office procedure
  • High $$ cost to insurance carrier or patient
• Little to no downtime/loss of work or school for patient
• Avoid general anesthesia
  • Patient with medical morbidities/risk for general anesthesia
Cost effectiveness
Hybrid procedure

• Added cost to the hospital/surgery center
• Multiple low level studies (non-randomized, no control groups, lack of long-term follow-up) demonstrate “non-inferiority” of hybrid procedure to standard FESS
  • Tomazic (2013), Achar (2012), Cutler (2013)
• Less tissue trauma for frontal/maxillary sinus in pediatric cases
  • Ramadan (2009)
Summary

• Balloon dilation techniques are valuable treatment tools for sinus disease
• Safe and feasible as stand-alone in-office procedure or part of a hybrid procedure in the operating room
• Indications and contraindications must be recognized
Summary

• Efficacy must be balanced against cost
• Cost savings may be intangible, particularly for in-office balloon dilation
  • No operating room/facility fees
  • Avoid risk of general anesthesia
  • Economic savings for patient (less time off work)