Office-Based Procedures: Collaboration between Otolaryngologists and Speech Language Pathologists

American Speech-Language Hearing Association
November 19, 2011

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Overview

- The collaborative model – an introduction
- Office-based laryngology – general
- Procedures – specific
  - Indications
  - Techniques
  - Collaborative approach
- Discussion
  - Therapy
  - Billing

Akst Messing
Pulsed KTP Laser

Office-based injection
Disclaimer #1

Focus is on taking care of patients

- Our premise: Patients benefit when SLP care and Laryngology care are combined
- We benefit when SLP/ENT are combined

Even though it’s not about the money, it needs to make financial sense

- The model needs to at least ‘break-even’
- Otherwise, the ability to continue to care for patients is compromised
Disclaimer #2

• Every state is different
• Facility vs non-facility
• Etc.

• *What works for us in our clinic may not work for you in yours*
  – It doesn’t work for me in my other job sites
  – Seek advice of Institutional and ASHA resources when determining appropriate billing
The Collaborative Model
Our patients

• Children with laryngeal disorders
• Adults to geriatrics with various etiologies
• Adults with laryngeal disorders
  – Professional Voice Users - Are they trained?
    • Teachers
    • Clergy, doctors, lawyers, sales staff, telemarketers, etc.
  – Performing voice users - are they trained?
    • Singers – professional and non-professional
    • Actors, broadcasters, voice over artists, etc.
Common Vocal Fold Problems
Variety of presentations
Interdisciplinary Team

- The management of patients with vocal pathologies is complex
- All patients need access to a team of professionals with expertise in the management of vocal pathologies and state-of-art diagnostic and treatment tools for optimal vocal improvement to be realized
Interdisciplinary Team

- Laryngologists
- Head and Neck Surgeons
- Speech Pathologist/Voice Specialists
- Singing Voice Specialist
- Medical Assistant
- Administrative Staff Support
- Clinical Research Associate
Our philosophy:

Collaboration between otolaryngologists and speech pathologists employing state of the art technology such as stroboscopy, pH probe monitoring, KTP laser, vocal fold injections, voice therapy, etc., in an office-based voice clinic setting is the ideal approach to the diagnosis and treatment of vocal pathologies and optimization of patient outcomes.
Training

- MD’s: A fellowship in laryngeal surgery enables the otolaryngologist acquire a better knowledge of the procedures, ongoing continuing education, mentorship, on-the-job training.

- SLP’s: continuing education, mentorship, **procedure specific competencies**, on-the-job training.
Policy & Procedures

• LASER - OFFICE-BASED PROCEDURE-bpm.doc
How did we get here?

- 12 + years in the making
- Facility support
- Funding
- Staff training
- Space & equipment
- Coding/billing
Our approach

- A combination of …
  - Behavioral approaches
  - Medical interventions
  - Surgical options
The flow...

MA: Vitals, medication reconciliation

SLP: History, acoustical analysis

SLP + MD: Discuss and see patient, make treatment recommendations
Patient Flow

• Patient history / interview with SLP including subjective symptom indices
• Review of medical history
• Laryngeal function studies
• Patient history / medical assessment / exam by laryngologist and SLP
• Imaging: Laryngeal Stroboscopy
• Review study & findings with the patient
• Recommendations for medical and/or therapeutic interventions.
• Possible procedure as indicated (i.e., vocal fold injection, ktp laser, etc.)
Patient History & QOL

• VoicePatientPacket.pdf
Office-Based Laryngology
Overview

• History
  – Laryngology started in the office
  – It moved to the operating room
  – It’s moving back to the office

• Precision, Safety, Comfort, Costs, Time
Manuel Garcia – 1855
Mirror Laryngoscopy

Jacob Solis-Cohen, 1868
Direct Laryngoscopy

Alfred Kirstein, 1895
Suspension Laryngoscopy

Gustav Killian,
1911
Operative Laryngoscopy

Chevalier Jackson, early 20th Century
Medical Advances

• To improve treatment outcomes
  – In laryngology, move from office to OR was driven by need for increased precision

• To reduce treatment morbidity

• To improve patient safety and comfort

• To minimize costs of treatment, or improve efficiency of care
  – Move from OR back to office when appropriate
Stroboscopy
Stroboscopy

• **Accurate diagnosis is the critical foundation for treatment planning**
  – $Dx \neq$ stroboscopy alone
  – $Dx = Hx + PE +$ Perceptual evaluation + Stroboscopy $\pm$ Testing

• Stroboscopy vs laryngoscopy
  – Assess *function*, not just structure
  – Rigid or flexible exam
  – Functional evaluation benefits from shared SLP/MD approach
Stroboscopy

• How many of you are familiar with stroboscopy?
• How many are doing stroboscopy routinely?
• How many are providing voice therapy on the basis of outside ENT flexible laryngoscopy exams?
• How often do you get to see those exams?
Phonation

- Subglottal pressure builds until the vocal cords open
- Air rushes through
- The air creates negative pressure, which draws the vocal cords closed
- Cycle repeats hundreds of times each second
Stroboscopy

Fig 10. Max Josef Oertel (1835-1897), inventor of laryngeal stroboscopy.49

Oertel M. Arch Laryngol Rhinol 1895;3:1-16.
Stroboscopy

- Regular periodicity of waveform (patient)
- Strobe light, synchronization (technology)
- “Aliasing” of sine waves
Stroboscopy

• Persistence of motion - observer
• Kinetoscope – 1888 Edison
  – Debut 1893 Brooklyn
  – 1894 “Recording of a Sneeze”
    – first copyright

Wikipedia.com
Stroboscopy
Indications + Technique

• Study of laryngeal biomechanics and vocal fold oscillation
  – Patients with voice complaints

• Rigid exam
• Transnasal exam
Stroboscopy: Collaboration

• MA: set up; vitals, updates medications, dx’s, pain scale, fall risk
• SLP ~ history, laryngeal function studies
• Imaging: collaborative effort [MA, MD, SLP]
• Rigid &/or flexible endoscope [MD + patient’s tolerance, presenting problem]

Strobe
Stroboscopy: Collaboration

- Review stroboscopy study to educate patient on laryngeal anatomy & physiology
- Identify problem(s)
Plan

• Physician: medical/surgical recommendations
• SLP: Voice therapy recommendations
• Patient/family: consider options, decision making
pH Probe
Why are we talking about LPR?

- Increasing recognition of LPR
  - 1990-2001: annual visits for reflux up 306% (especially among ENT), PPI prescriptions increased 14-fold
  - Madison, WI survey of 1854 people – 26% reported both GERD and laryngeal symptoms concurrently, suspicious for LPR

- Increased clinical investigation, increased basic science studies, and increased discussion
Obesity Trends Among U.S. Adults between 1985 and 2008

**Definitions:**

- **Obesity:** Body Mass Index (BMI) of 30 or higher.

- **Body Mass Index (BMI):** A measure of an adult’s weight in relation to his or her height, specifically the adult’s weight in kilograms divided by the square of his or her height in meters.
Obesity Trends Among U.S. Adults between 1985 and 2008

Source of the data:

• The data shown in these maps were collected through CDC’s Behavioral Risk Factor Surveillance System (BRFSS). Each year, state health departments use standard procedures to collect data through a series of telephone interviews with U.S. adults.

• Prevalence estimates generated for the maps may vary slightly from those generated for the states by BRFSS (http://aps.nccid.cdc.gov/brfss) as slightly different analytic methods are used.
Obesity Trends* Among U.S. Adults


(*BMI \geq 30, or about 30 lbs. overweight for 5’4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1985

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1986

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1987

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

No Data           <10%          10%-14%
Obesity Trends* Among U.S. Adults
BRFSS, 1988

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Legend:
- No Data
- <10%
- 10%-14%

Map showing obesity trends across the United States in 1988.
Obesity Trends* Among U.S. Adults
BRFSS, 1989

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1990

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1991
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1992

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1993

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1994
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1995

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1996

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1997

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1998
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1999
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2000
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

No Data          <10%           10%–14% 15%–19% ≥20%
Obesity Trends* Among U.S. Adults
BRFSS, 2001

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2002

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2003
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2004
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2005
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2006

(*BMI \geq 30, or \sim 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2007

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2008
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4’’ person)
Obesity Trends* Among U.S. Adults
(*BMI ≥30, or about 30 lbs. overweight for 5’4” person)

<table>
<thead>
<tr>
<th>Year</th>
<th>No Data</th>
<th>&lt;10%</th>
<th>10%–14%</th>
<th>15%–19%</th>
<th>20%–24%</th>
<th>25%–29%</th>
<th>≥30%</th>
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<tbody>
<tr>
<td>1990</td>
<td></td>
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<td>1999</td>
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<td>2008</td>
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</table>
LPR: What we know (or think we know)

- It’s prevalent, and may relate to multiple different pathologies
  - Reflux laryngitis
  - Vocal cord nodules
  - Polypoid corditis
  - Laryngeal cancer
  - Vocal process granuloma
  - Subglottic stenosis
  - Laryngospasm
  - Paradoxical vocal fold motion
  - Dysphagia
  - Zenker’s diverticulum
  - Cough
  - Asthma
  - Sinusitis
  - Rhinitis
  - Otitis media

LPR Position Statement, AAO-HNSF, July 2002
Diagnosis

• Diagnosis is sometimes difficult
• Different tools:
  – Symptoms
  – Exam findings
  – Empiric therapy
  – Studies – pH probe

• There are problems with each
• Correlation may be poor
Role of Pharyngeal pH Probe

• Assess for LPR in untreated patient
  – Alternative to empiric PPI treatment
  – (Depending on trial, PPI may not be better than placebo at addressing LPR)
  – (PPI cause diminished Ca^{++} absorption)

• Assess for refractory LPR in patients who are not responding to treatment
  – Acid vs non-acid reflux
Pharyngeal pH Probe

- Respiratory Technology Company (Restech)
- Nasopharyngeal catheter
- HP probe only – no esophageal measurements
Pharyngeal pH Probe

- Positioned 5-10 mm beneath uvula
- LED aids positioning (no manometry)
- Transmitter secured to collar
- Receiver / recorder worn on belt
Pharyngeal Probe Sensor

- 3.2 mm teardrop tip with 1 mm antimony sensor
- 2 Hz sampling rate (vs 0.2 Hz)
- Aerosolized droplets
  - Moisture in exhaled air creates fluid layer which bridges between antimony sensor and reference electrode
- Hydration monitor
- Downward aim limits masking
### RYAN Score

<table>
<thead>
<tr>
<th>24-hour Pharyngeal pH Measurement</th>
<th>Upright</th>
<th>Supine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based on 95th percentile values in 55 normal subjects.</td>
<td>pH &lt; 5.5</td>
<td>pH &lt; 5.0 (suggestive)</td>
</tr>
<tr>
<td>% Time Below Threshold</td>
<td>&lt;0.13</td>
<td>&lt;5.15</td>
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<tr>
<td>Number of Episodes</td>
<td>&lt;1.20</td>
<td>&lt;4.00</td>
</tr>
<tr>
<td>Longest Episode (min)</td>
<td>&lt;0.71</td>
<td>&lt;18.97</td>
</tr>
<tr>
<td>Ryan Composite Score</td>
<td>&lt;9.41</td>
<td>&lt;6.79</td>
</tr>
</tbody>
</table>

- Analysis can exclude meals
- Can adjust thresholds for analysis
- Can measure by other criteria (ie, 10% drop from moving baseline, etc)
Sample Patient

• 49 yo female with dysphagia to solids, progressive for 3 years; now limited to liquids, with -30 lb weight loss over 3 months
• Episodic heartburn, about 1-2x per month
• + globus and throat clearing – “but it doesn’t bother me”
• CP hypertonicity and HP redundancy on MBS, but no Zenker’s diverticulum
• Unwilling to take PPI or H2-antagonist without proof of reflux
### Symptoms / Patient Diary / Button Presses

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Start Time</th>
<th>End Time</th>
<th>Notes</th>
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<td>TC</td>
<td>11/20/2009 12:50:02 PM</td>
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<tr>
<td>Glob</td>
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<td>Glob</td>
<td>11/20/2009 13:00:58 PM</td>
<td>11/20/2009 13:00:58 PM</td>
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</table>

### pH Events

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<th>Event #</th>
<th>p-value</th>
<th>Start Time</th>
<th>Finish Time</th>
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</table>

### Symptoms / pH Events / Correlation

<table>
<thead>
<tr>
<th>Symptom Name</th>
<th>pH Event</th>
<th>Correlation</th>
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</table>
Patient RYAN Score

<table>
<thead>
<tr>
<th>Upright pH &lt; 5.5</th>
<th>Patient’s Value</th>
<th>Normal Value</th>
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<tbody>
<tr>
<td>% Time Below Baseline</td>
<td>0.99</td>
<td>&lt;0.13</td>
</tr>
<tr>
<td>Number of Episodes</td>
<td>17</td>
<td>&lt;1.20</td>
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<tr>
<td>Longest Episode</td>
<td>2.9</td>
<td>&lt;0.71</td>
</tr>
<tr>
<td>RYAN Score</td>
<td>52.99</td>
<td>&lt;9.41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supine pH &lt; 5.0</th>
<th>Patient’s Value</th>
<th>Normal Value</th>
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</thead>
<tbody>
<tr>
<td>% Time Below Baseline</td>
<td>2.44</td>
<td>&lt;5.12</td>
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<tr>
<td>Number of Episodes</td>
<td>4</td>
<td>&lt;4.00</td>
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<tr>
<td>Longest Episode</td>
<td>11.79</td>
<td>&lt;18.97</td>
</tr>
<tr>
<td>RYAN Score</td>
<td>6.4</td>
<td>&lt;6.88</td>
</tr>
</tbody>
</table>
Patient RYAN Score

- **Upright:** RYAN score 52.99 (normal <9.41)
  - Mild-moderate reflux
- **Supine:** RYAN score 6.4 (normal <6.8)
  - No excessive reflux
- AM PPI and PM H2 antagonist peri-operatively
- Switch to BID H2 antagonist for maintenance therapy
pH probe: Collaboration

Probe

- SLP + MA + Patient for study set up: follow recorder prompts.
- Educate patient on symptom & meal charting and device use
- SLP places the probe
pH probe: Collaboration

Review

- Patient returns within 24 hours for probe removal by SLP.
- SLP downloads data
pH probe: Collaboration

Plan

• Physician: reads results, provides diagnosis and recommendations
Pulsed KTP Laser
Pulsed Laser Angiolysis

- Selective targeting of oxyhemoglobin
  - Anderson RR et al, Science 1983
- Used first in dermatology for pigmented skin lesions, hemangiomas, port-wine stains, etc.
Laryngeal Indications

• Epithelial Diseases
  – Papilloma – office, OR
  – Dysplasia – office, OR
  – Early invasive cancer – OR

• Vascular Malformations
  – Varix, ectasia, hemorrhagic polyp

• Scar remodeling
  – Post-surgical, autoimmune, etc – office
Vascular Malformation

70/72 (97%) Successful Office-Based Procedures

Dysplasia: 28 patients and 36 procedures
- 34/36 completed
- F/U 29/34
  - 75-100%  18/29 (62%)
  - 50-75%  7/29 (24%),
  - 25-50%  4/29 (14%).

Papillomatosis: 20 patients and 36 procedures
Dysplasia – Office Treatment
Dysplasia

Presentation, April 2008

Post-Treatment, September 2008

Post-Treatment, September 2008
Recurrent Respiratory Papilloma
KTP Laser: collaboration

Laser

- MA: set up; vitals, medication & dx update, pain scale, fall risk
- SLP initially interviews the patient ~ history
- Acoustical analysis of voice
  - Laryngeal function studies
KTP Laser: collaboration

Laser

- MD + SLP procedure performed
KTP Laser: collaboration

Post laser

- Periodic follow up based upon laryngeal disorder
Office Injection
Office-Based Injection – Why

• To improve closure, decrease glottal insufficiency

• Unilateral vocal fold paralysis
  – Improve voice – less breathiness, less effort, better projection
  – Improve swallowing
  – Strengthen cough

• Vocal fold paresis with incomplete or effortful closure

• Presbylaryngis with incomplete closure
Office-Based Injection – Why

- Contour defect (post-resection)
- Steroid – scar, nodules, granuloma
- Botox – spasmodic dysphonia
- Cidofovir – RRP
- New biologics – scar, lost pliability
Office-Based Injection – Where

• Office
  – Schedule at your convenience
  – Topical / local anesthesia
  – Several approaches
  – Procedure: 10-15 minutes
  – Set-up, turnover, etc. = 30 minutes total
  – Patient time = 30 minutes

• Operating Room
  – Schedule when you have OR time available
  – General anesthesia
  – Via direct laryngoscopy
  – Procedure: 10-15 minutes
  – Set-up, turnover, etc. = 90 minutes total
  – Patient time = 4-5 hours
Other benefits

• “Financially effective”
  – Average costs - $2505 OR vs. $496 office
  Bove et al. Laryngoscope. 2007 Feb;117(2):226-30

• Anesthesia morbidity greatly decreased

• Ability to judge endpoint of medialization
  – Awake patient can phonate, with stepwise injection
  – Awake patient can demonstrate degree of contralateral abduction
How to inject

• Two aspects
  – Visualization
  – Injection
• Visualization
  – Monitor
  – Transorral – rigid telescope
  – Transnasal – flexible scope
• Generally requires 2 sets of hands
How to inject

- Needle placement
  - Transoral
  - Thyrohyoid membrane
  - Cricothyroid membrane
  - Trans-thyroid cartilage
  - Via flexible scope
  - (Direct laryngoscopy)
Transoral Injection
Transoral Injection

• Precision: good
• Tolerance: patient-dependent
• Learning curve: if already doing rigid strobe, then transoral injection is fairly easily learned
• Set-up/Equipment: need rigid scope; need a 2nd person to hold the tongue
• Pro/con overall: Precision of injection make it my preferred technique for patients who tolerate it
Transoral Injection - Paralysis
Transoral Injection - Steroid
Thyrohyoid Injection

Fig 1. Angle and approach of needle as it enters larynx. Needle trajectory passes through preepiglottic space, entering larynx at petiole of epiglottis. Tip of needle is directed lateral to vocal process (spot indicated by arrow).

Amin MR. Ann ORL. 2006;115(9):699-702
Cricothyroid Injection
Transcervical Injection

- **Precision:** fair;
  - thyrohyoid - see needle enter, but angle difficult
  - cricothyroid – can’t see needle enter
- **Tolerance:** good
- **Learning curve:** angle of injection is difficult
- **Set-up/Equipment:** no special equipment, requires a second person to pass the scope
- **Pro/con overall:** Valuable technique for patients who cannot tolerate oral injection
Office Injections: collaboration

VF injections

- Front office: auths, approval, scheduling
- MA: set up; vitals, medication & dx update, pain scale, fall risk
- SLP initially interviews the patient
- Acoustical analysis of voice is obtained

The Milton J. Dance, Jr. Head & Neck Center
Johns Hopkins Voice Center at GBMC
Office Injections: collaboration

Injection

- MD: anesthesia then injects
- SLP: imaging system, hold patients tongue or flexible endoscope
- MD + SLP: stroboscopy for post injection change in vf function
Office Injections: collaboration

Post Injection

• Post injection
• Voice may be inconsistent for a few days or a couple of weeks (whether after an injection or a laser procedure)
• Follow up as indicated: 4-6 weeks for repeat strobe; voice therapy, etc.
• Voice Therapy is often the first line of treatment
  – Educate the patient on normal and abnormal vocal physiology [www.gbmc.org/voice](http://www.gbmc.org/voice)
  – Identify and minimize vocally traumatic behaviors
  – Test stimulability
  – Instruct patient on vocal function exercises
  – Direct voice therapy [eclectic approach]

• Voice therapy prior to procedure, and resumption of therapy post procedure
Discussion
Patient considerations for Office Based Procedures

- Patient’s tolerance of office procedure
  - Most patients prefer awake procedures

- Financial
  - $$ savings to patients, less expensive than OR

- Informed consent signed by patient
  - obtained prior to performing the procedure
• Hospital Outpt Billing: SLP bills…
  – Laryngeal Stroboscopy [timed]
    • CPT Code 31579
  – pH probe monitoring
    • CPT Code 91034
  – KTP laser [timed]
    • CPT code 31599; supply Laser Fiber
– Vocal Fold Injections:
  • CPT Code 31570
  • Plus supplies: injectable substance + needle
Physician Billing & Coding

• Part B Physician Billing
  – New pt: office/outpatient visit 99202-05
  – Established pt: office/outpt visit 99212 – 99215
  – Laryngeal Stroboscopy 31579
  – pH Probe Monitoring  91034 read study, diagnosis & report
  – KTP laser CPT code 31599
  – Vocal fold injection CPT code: 31570
ICD-9: Diagnosis Codes

- ICD9 POC - HN-Voice.pdf

- AETNA -VOICE THERAPY.pdf
Johns Hopkins Voice Center at GBMC

Are you Experiencing a Voice Problem?

- Do you often lose your voice?
- Do you have trouble projecting your voice?
- Is your voice problem affecting your personal or professional life?
- Has your voice been hoarse, raspy, or breathy for more than 3 weeks?
- Do you feel as though your voice gets "tired" or "strained" after prolonged talking?

Lee Akst, MD from GBMC on Vimeo

What does your voice say about you? Your voice plays an integral role in the way that you communicate, express your emotions, and establish your individuality. A voice problem can significantly change the way that you feel about yourself and how you view your communication with others. People often wait to seek professional help about a voice problem until it begins to affect them at work. This may be especially true for professional voice users, including singers, teachers, coaches, etc., but anyone experiencing a voice problem may find it difficult to communicate at home, at work, on the phone, etc.
• Questions?

• Comments?