



Welcome to the SDX Scope Squad!

Our goal is to support your skilled dysphagia therapy with realistic instrumental swallow testing, performed at the bedside. We encourage testing with a meal, caregiver involvement, true-to-life positioning when eating & self-feeding, giving you the big picture on mealtime challenges for your resident.

For more resources, visit us at SDX-FEES.COM, & follow us on Facebook, Instagram, LinkedIn & YouTube.

We invite you to *see the evidence and eliminate the guesswork* with SDX FEES.



INTRO TO SDX FEES SERVICES



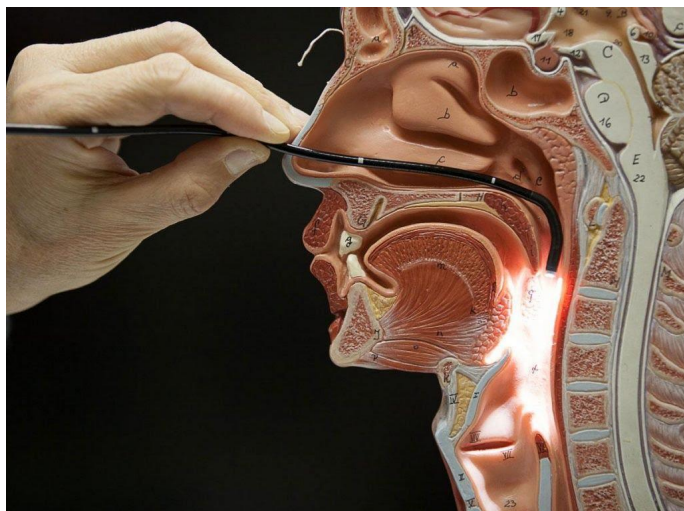
SDX knows post-acute care, and we know aspiration doesn't always happen in the first 3 minutes. Because we offer endoscopy and not radiation like a modified barium swallow, SDX FEES can see how your patient eats over time, during the course of a meal. And no radiation means no barium, so your patient can eat & drink an entire meal during the exam. Our average FEES study lasts 12 minutes, providing information about the PRE- and POST-swallow deficits as well as the impact of fatigue...a necessity for patients with COPD, neurodegenerative disease, post-surgical weakness or debility following illness.



Since 1997, SDX Dysphagia Experts has made dysphagia easier to swallow with a REALISTIC view.

WHY DO 350+ FACILITIES ALREADY CHOOSE FEES WITH SDX?

- FAST SERVICE: WE AIM FOR SERVICE WITHIN 48 HOURS OF YOUR CALL.
- ON-SITE TESTING: IF YOUR PATIENT EATS IN BED, WE CAN TEST THEM IN BED.
- WE CAN TEST ANY FOOD AND WE CAN TEST FOR FATIGUE AND STRATEGIES WITH *BIOFEEDBACK PROVIDED TO IMPROVE CAREGIVER TRAINING & PATIENT OUTCOMES.*
- ONLY A FEES CAN EVALUATE SECRETION MANAGEMENT.
- ESPECIALLY IF A PATIENT NEEDS A MODIFIED DIET, MEDICARE WANTS TO SEE THAT DIET INDIVIDUALIZED TO INCLUDE PERSONAL PREFERENCES. *ONLY A FEES CAN PROVIDE UNLIMITED TRIALS OF FOOD, INCLUDING EVERYTHING FROM MIXED CONSISTENCIES TO NATURAL NECTARS, EVEN ICE CREAM, TO ENSURE A LEAST RESTRICTIVE DIET.*
- WITH EACH SDX FEES, YOU RECEIVE A REPORT IN PDF WITH COLOR IMAGES AND A VIDEO RECORDING OF FEES FOOTAGE THROUGH SECURE CLOUD ACCESS.



SDX FEES Offers FREE Staff In-Services:

***E-Mail
EDUCATION@swallowingdiagnostics.net
to schedule yours today!***

SDX Dysphagia Experts * SDX-FEES.COM *
***Call Katrina Woodward, Vice President
to learn more.***

Services across New England!

P: 860 -573-0120 * katrina@sdx-fees.com



BILLING PROCEDURES FOR SDX FEES SERVICES

Thank you for choosing SDX FEES services!

Your facility will receive bimonthly invoices in the mail from SDX listing each FEES procedure at the contracted rate, regardless of the patient's payor source.

A *RECEIPT FOR FEES SERVICES* indicating patient name, date of service, applicable CPT code(s), corresponding ICD-10 code(s), payor source and SDX provider information is submitted with the completed FEES report. Your facility SLP and/or DOR have access to this via our secure portal and cloud storage and can print it for you. If you would like access as well, simply email Katrina@swallowingdiagnostics.net.

The facility's speech therapist will indicate treatment time under CPT 92526 if s/he provides dysphagia treatment.

******Please remember to add 92612 to each patient's UB-04 insurance claim form to recapture a portion of the exam.******
SDX is not a third party biller; per terms of our contract with your facility, payment to SDX is made by the facility.

The following CPT code represents the SDX FEES procedure:

CPT Code 92612 - Flexible fiberoptic endoscopic evaluation of swallowing by cine or video recording - supporting ICD-10 is R13.12 (oropharyngeal dysphagia)

Medicare recognizes that an instrumental assessment such as a FEES may be needed:

- ✓ for clinical decisions re: whether to place feeding gastrostomy tubes;
- ✓ to plan and evaluate appropriate therapy programs;
- ✓ in the dietary management of the impaired patient.

Medicare requires a medical diagnosis of dysphagia when reimbursing a facility for a FEES. FEES is considered a **rehab procedure**.

The FEES can be used as the initial assessment/SOC date for a speech patient.

For Medicare A - The cost of the procedure is subtracted from the patient's day rate. The treatment portion (92526) can be applied to your rehab totals when billed by your facility SLP.

For Medicare B - Therapy procedures, including FEES, are billed by CPT codes.

Billing of a patient's insurance has to be completed by the facility. SDX is not a third-party biller.

The amount billed for the FEES to Medicare, not the rate charged by SDX for the FEES, should be included in the PT/ST cap.

For Medicaid - Medicaid does not reimburse for a FEES procedure; however, if the patient has Med B coverage for therapy, the FEES is a therapy service and the facility can then bill Med B for the FEES.

For Private Insurance - Some insurance companies will reimburse for the FEES by CPT code and require prior authorization, so it is a good idea to check on a case-by-case basis.

Insurance companies are billed by the facility using the facility as the provider; SDX is not a third-party biller.

If you have any questions, please contact

Katrina Woodward, Vice President

E: Katrina@swallowingdiagnostics.net * P: 860-573-0120

To request an invoice, statement or W-9 please email

theoffice@swallowingdiagnostics.net



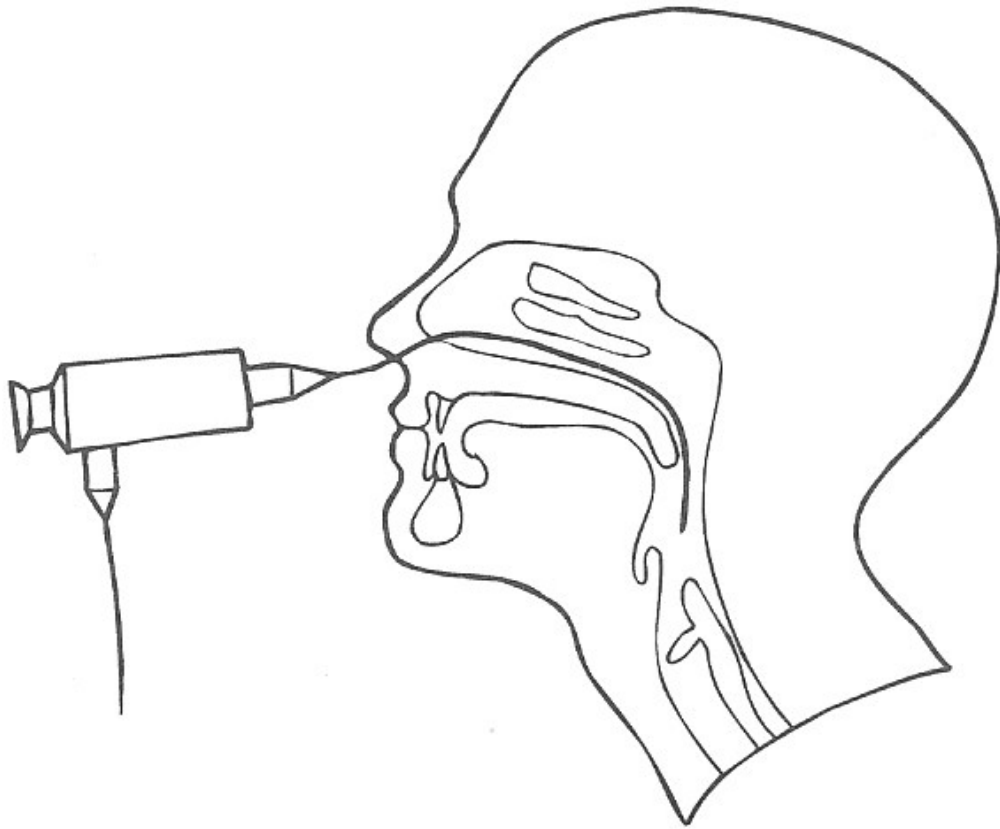
**SDX FEES RESOURCES
for SUCCESSFUL SCOPING**

PHOTOCOPY-FRIENDLY PAGES!



TIPS FOR SUCCESSFUL SCOPES IN YOUR FACILITY:

- Consent Form: Photo of scope in nose may assist with resident awareness of the process.
- Educate the resident in their primary language, and give re-education via pictorial representation the day before and the day of the FEES whenever possible.
- Encourage family participation: This can ease resident stress, and provides an ideal teaching opportunity.



During the FEES, the scope goes up one side of your nose and stays near the back of your tongue while you are eating and drinking. The scope is like a tiny flashlight (as thin as a piece of cooked spaghetti) shining into your throat, and we can see everything below the light including your windpipe (trachea) and voice box (larynx).



FEES TEST TRAY REQUEST FROM SPEECH THERAPY

Please deliver the following items to the nursing station prior to the FEES Test for

_____ Room# _____

on _____ at _____. Thank you!

- ☐ Napkins, extra cups, spoons and forks, 1-2 STRAWS
- ☐ Half a soft salad sandwich (egg, tuna, chicken)
- ☐ Scrambled eggs or cottage cheese
- ☐ Mixed fruit or soup with noodles
- ☐ Cold cereal with an extra milk
- ☐ Puree fruit/applesauce
- ☐ Thickener and juice or pre-thickened juice drinks (Nectar and Honey)
- ☐ Ice cream
- ☐ Milk
- ☐ Salad with dressing
- ☐ Banana
- ☐ Apple
- ☐ Cookies or crackers (fruit-filled or sandwich-type cookies, graham crackers, Saltines)
- ☐ Other: _____

For SLP consideration: When testing to advance toward a more regular diet, please request ground meat, regular meat, gravy, regular vegetable and pasta or rice as you deem appropriate.

SLP-to-Staff Dysphagia Testing Request Communication Form:

The SLP has checked all that apply and tallied the number of checks in the bottom row to indicate the most appropriate instrumental assessment for this patient based on the results of the clinical swallow evaluation.

Patient name: _____ **Date:** _____

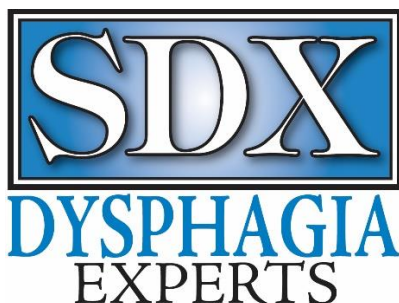
Instrumental Assessment requested: FEES / MBS / Barium swallow

<input type="checkbox"/> Oropharyngeal deficits <input type="checkbox"/> Need to assess for aspiration and/or residue <input type="checkbox"/> Concerns for laryngopharyngeal reflux <input type="checkbox"/> Change in patient's vocal quality is noted or reported <input type="checkbox"/> Patient fatigues when eating <input type="checkbox"/> Patient shows atypical eating behaviors, impulsivity and/or needs to be assessed in unlimited self-feeding scenario <input type="checkbox"/> Patient's respiratory coordination is a concern <input type="checkbox"/> Patient is challenging to position upright or difficult to transport <input type="checkbox"/> Patient has difficulty managing secretions or has chronic cough/persistent vocal wetness <input type="checkbox"/> Patient may or may not follow commands	<input type="checkbox"/> Oropharyngeal deficits <input type="checkbox"/> Need to assess oral stage <input type="checkbox"/> Need to assess for aspiration and/or residue <input type="checkbox"/> Fatigue at meals is not a concern <input type="checkbox"/> Patient complains of globus sensation or pain when swallowing <input type="checkbox"/> Patient history of Zenker's diverticulum <input type="checkbox"/> When asked to reference where food is stuck, patient points to neck area <input type="checkbox"/> Patient adjusts well to new environments <input type="checkbox"/> Patient is easily transported <input type="checkbox"/> Patient can follow commands	<input type="checkbox"/> Esophageal deficits <input type="checkbox"/> Need to assess esophageal motility <input type="checkbox"/> Complaints of reflux <input type="checkbox"/> Patient history of esophageal stricture, achalasia, hiatal hernia <input type="checkbox"/> When asked to reference where food is stuck, patient points to chest area
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FEES*	MBS*	Barium Swallow*

Requesting Therapist: _____

Notified Nursing Supervisor and/or Rehab Director (name): _____

*Use of this form and selection of any of the above instrumental procedures does not imply endorsement of any company, agency, or hospital. The decision to request any instrumental procedure is made based on a clinical assessment and the patient's need. Companies, agencies, or hospitals identified as service providers are selected based upon area availability.



Dear Staff,

SDX supports the use of patient consent forms in accordance with best-practice standards. This provides you and your facility with verification of the education provided to your patient and/or their caregivers regarding the SDX FEES procedure.

SDX believes that information is a necessary part of any rehabilitation procedure. Every patient has the right to education regarding their therapeutic plan of care. More information regarding patient consent can be found at asha.org under *Role of the Speech-Language Pathologist in the Performance and Interpretation of Endoscopic Evaluation of Swallowing: Guideline (2004)*.

Please complete the Patient Consent Form with the patient and/or caregiver(s) prior to their scheduled FEES. SDX *does not* require a copy of the completed form but we do recommend that it be filed in your patient's medical chart in the appropriate section.

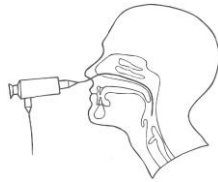
Thank you for your continued business. We appreciate working with you and your patients. Any questions, please call or email Katrina Woodward at 860-573-0120 or Katrina@swallowingdiagnostics.net.

Respectfully,
Katrina L. Woodward, MS, CCC-SLP, CDP
Vice President, SDX Dysphagia Experts

PATIENT CONSENT FORM

Background

Fiberoptic Endoscopic Evaluation of Swallowing (FEES) is a procedure which utilizes modern technology to evaluate and manage swallowing difficulties. The procedure uses a fiberoptic laryngoscope which is passed transnasally (slides in along the floor of the nose) to the hypopharynx (the back of the throat). At this point, the larynx and the surrounding structures can be viewed. The scope hangs quite high in the throat, and does not pass between the vocal folds. Colored foods and liquid are given to the patient, and the swallow is viewed.



Picture to left shows scope placement during FEES procedure.

Possible adverse reactions as reported in the literature, which have been considered prior to this patient's selection:

1. Nosebleed
2. Fainting (vasovagal response)
3. An abrupt tightening of the vocal folds if the endoscope passes between the vocal folds (laryngospasm).

Please Sign Below:

I, _____, understand that the FEES has been ordered for: _____. The procedure has been explained to me, including the adverse reactions. I give my consent for this procedure and for the recording of this procedure. I understand that the recording and its images may be used for evaluation, educational, research, and teaching or publication purpose, and if so utilized will be de-identified. I give my consent to the therapy provider _____ (facility name) to release any medical information necessary to process claims for this service, and I authorize my insurance company and/or Medicare to make payments on my behalf.

CONSENT GIVEN: ☐ **Verbal via Phone Contact**

_____ 1st witness _____ Date _____ Time

_____ 2nd witness _____ Date _____ Time

☐ **Written in person**

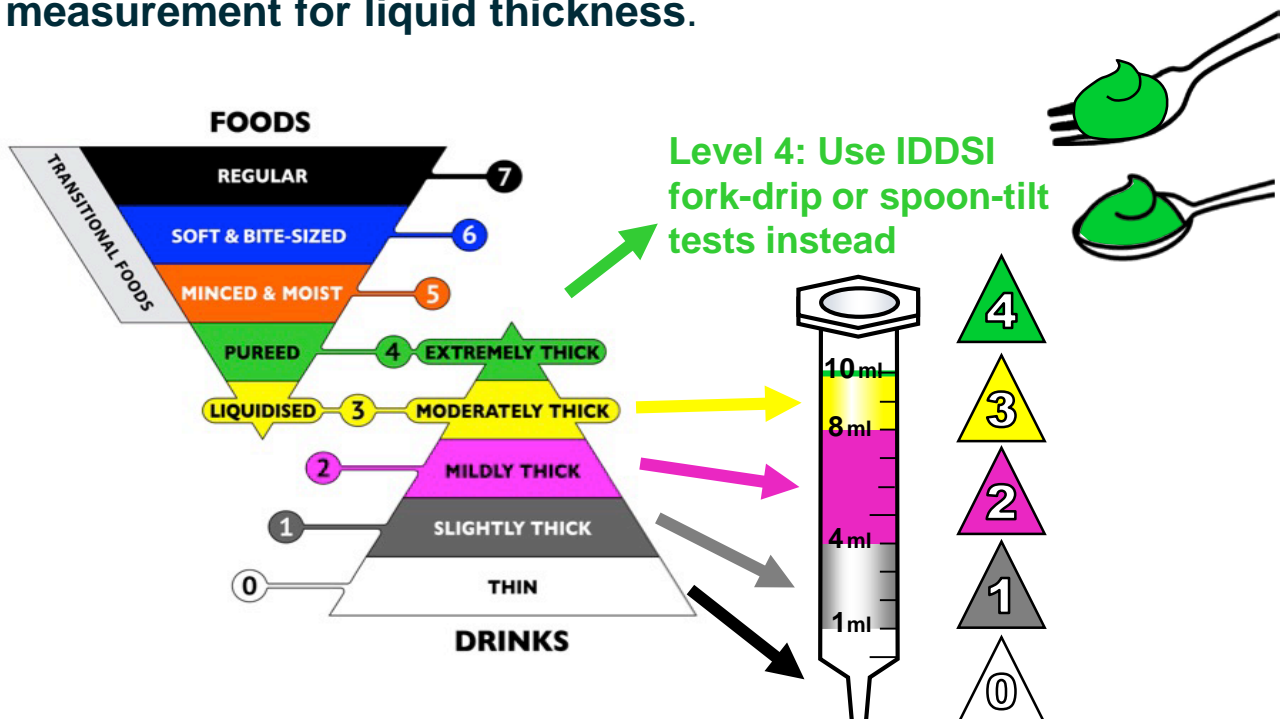
_____ Patient or patient representative _____ Date

_____ witness _____ Date



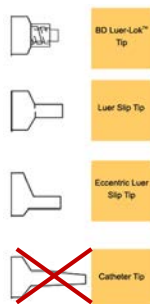
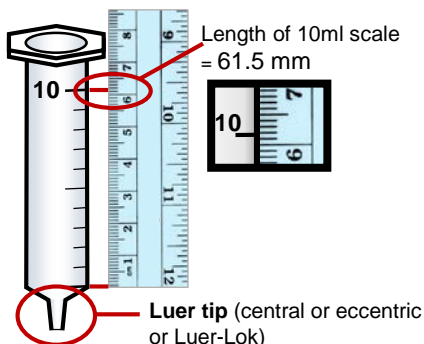
*Handy Dysphagia Resources
for the SLP*

The International Dysphagia Diet Standardisation Initiative (IDDSI) framework of terminology and definitions includes an **objective measurement for liquid thickness**.



The **IDDSI flow test** classifies **IDDSI Levels 0-3** based on their rate of flow.

Use a syringe (following syringe dimensions as per image below) for correct results.



DISCOVER MORE ABOUT IDDSI

Visit: IDDSI.org

Follow on Twitter: [@IDDSI_org](https://twitter.com/IDDSI_org)

Download the IDDSI App:

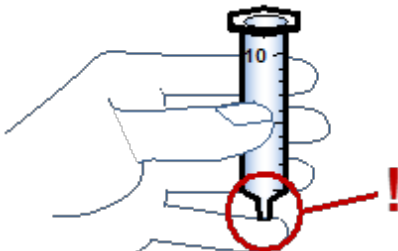


IDDSI flow test - instructions

Videos of IDDSI flow test can be found here:

<http://iddsi.org/framework/drink-testing-methods/> or
in the IDDSI App

**1. Remove
plunger**



**Check the nozzle is
completely clear before use**

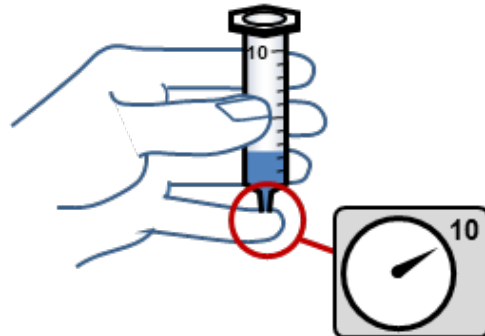
**2. Cover nozzle
with finger and
fill 10ml**



**3. Release nozzle &
start timer**



4. Stop at 10 seconds



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Gordon Food Services . Lyons Magnus . Precise Thick-N

MEDICATIONS AND DYSPHAGIA/ SWALLOWING RISKS

[Some of the medications that can impact swallowing and why this happens]

Dysphagia as a side effect of medication

- Medications that affect the smooth and striated muscles of the esophagus that are involved in swallowing may cause dysphagia.

Medications with anticholinergic or antimuscarinic effects	
Benztropine mesylate (Cogentin)	given for movement related effects caused by some psychotropic meds
Oxybutynin (Ditropan)	improves bladder capacity
Propantheline (Pro-Banthine)	inhibits the release of stomach acid
Tolterodine (Detrol)	affects bladder capacity

- Medications that cause dry mouth (xerostomia) may interfere with swallowing by impairing the person's ability to move food

Medications that cause Dry mouth (xerostomia)	
ACE Inhibitors - used for high blood pressure	Captopril (Capoten) Lisinopril (Prinivil, Zestril)
Antiarrhythmics - cardiac preparations	Disopyramide (Norpace) Mexiletine (Mexitil) Procainamide (Procan)
Antiemetics - used for nausea	Meclizine (Antivert) Metoclopramide (Reglan) Prochlorperazine (Compazine)
Antihistamines and decongestants - used for cold symptoms	Chlorpheniramine (Chlor-Trimeton) Diphenhydramine (Benadryl) Pseudoephedrine (Sudafed)
Calcium channel blockers - used for chronic chest pain due to angina	Amlodipine (Norvasc)
Diuretics - given to get rid of excess fluid in body	Ethacrynic acid (Edecrin)
SSRIs (Selective serotonin reuptake inhibitors)- antidepressant medications	Citalopram (Celexa) Fluoxetine (Prozac) Nefazodone (Serzone) Paroxetine (Paxil) Sertraline (Zoloft) Venlafaxine (Effexor)
* see also Antipsychotic/ Neuroleptic medication list below	

- Local anesthetics such as Novocain which is often used for dental work may temporarily cause a loss of sensation that may affect swallowing before it wears off..
- Antipsychotic/ Neuroleptic medications given for treatment of psychiatric disorders may affect swallowing as many of them produce dry mouth and some of them can cause movement disorders that impact the muscles of the face and tongue which are involved in swallowing.

Antipsychotic/ Neuroleptic medications	
Chlorpromazine (Thorazine)	Olanzapine (Zyprexa)
Clozapine (Clozaril)	Quetiapine (Seroquel)
Fluphenazine (Prolixin)	Risperidone (Risperdal)
Haloperidol (Haldol)	Thioridazine (Mellaril)
Lithium (Eskalith, Lithobid)	Thiothixene (Navane)
Loxapine (Loxitane)	Trifluoperazine (Stelazine)

Dysphagia as a complication of the therapeutic action of the medication

- Medications that depress the Central Nervous System (CNS) can decrease awareness and voluntary muscle control that may affect swallowing.

Medications that depress the CNS	
Antiepileptic drugs- for seizures	Carbamazepine (Tegretol) Gabapentin (Neurontin) Phenobarbital Phenytoin (Dilantin) Valproic acid (Depakote)
Benzodiazepines- antianxiety drugs	Alprazolam (Xanax) Clonazepam (Klonopin) Clorazepate (Tranxene) Diazepam (Valium) Lorazepam (Ativan)
Narcotics- for pain relief	Codeine (Tylenol #3) Fentanyl (Duragesic) Propoxyphene (Darvon, Darvocet)
Skeletal muscle relaxants- relieves muscle spasms and relaxes muscles	Baclofen (Lioresal) Cyclobenzaprine (Flexeril) Tizanidine (Zanaflex)

Medications that can cause esophageal injury and increase risk

- Some medications can cause dysphagia because of injury to the esophagus caused by local irritation. This can happen because the person is in a reclining position shortly after taking the medication or because an inadequate amount of fluid is taken with the medication. In both instances, the medications remain in the esophagus too long, potentially causing damage and affecting swallowing.

Drugs that may cause esophageal injury	
Acid- containing products	Clindamycin (Cleocin) Doxycycline (Vibramycin) Erythromycin (Ery-tabs, E-mycin) Tetracycline (Sumycin)
Aspirin	Bayer aspirin and generic brands
Bisphosphonates- given for osteoporosis	Alendronate (Fosamax)
Iron containing products	FeoSol, Feratab, Slow-FE, Fer-Iron etc.
Methylxanthines- bronchodilators	Theophylline (Theo-Dur, Unidur, Slo-Bid)
Nonsteroidal anti-inflammatory drugs- relieves pain	Ibuprofen (Advil, Motrin) Naproxen (Aleve, Naprosyn)
Potassium chloride supplements	K-Dur, K-tabs, Klor-Con, Slow K, etc.
Vitamin C (ascorbic acid) supplements	Allbee with C Vitamin C tabs, etc.

- Other medications such as high dose steroids and chemotherapeutic (anti-cancer) preparations may cause muscle wasting or damage to the esophagus and may suppress the immune system making the person susceptible to infection.

Reference: Balzer, KM, PharmD, “Drug-Induced Dysphagia”, International Journal of MS Care, page 6, Volume 2 Issue 1, March 2000. (http://www.ms-care.com/a003/page_06.htm)



Laryngopharyngeal Reflux (LPR) Protocol

C. Kwang Sung, MD, MS

LPR is the retrograde (backward) movement of stomach enzymes (Pepsin) and acid into the lower throat region. LPR patients are usually unaware of LPR and, unlike Gastroesophageal Reflux Disease (GERD) patients, do not usually complain of heartburn (only 35% do complain). When the lining of the throat is irritated by stomach contents, there is secretion of a mucus blanket in an attempt to protect the lining from the caustic agents. Patients can manifest symptoms such as excessive throat-clearing (especially in the morning or after a meal), persistent dry cough, sore throats not associated with a cold, hoarseness, or the feeling of a lump in the throat. The treatment of LPR takes a three-pronged approach with attention to diet and behavior changes, and use of acid blocking medicines.

Diet Changes

Different foods affect LPR by different mechanisms. These specific foods should be avoided or reduced drastically, or they will interfere with the healing process:

Caffeine, alcohol, chocolates, and peppermints weaken the lower esophageal sphincter, which normally holds in the stomach contents.

Citrus fruits, kiwi, pineapples, tomatoes (and other acidic foods), spicy deli meats, and hot spices (hot mustard, curry, hot peppers) directly irritate the throat lining. This means that even if the medicines are working well, eating these foods will cause direct irritation and inflammation of the throat lining.

Carbonated beverages (such as sodas and beer) bring acidic contents into the throat. *Beware of even non-caffeinated soda.*

Behavior Changes

Do not increase the pressure within the abdomen for at least 2 hours after eating (no bending over, exercising or singing), as it will force contents into the throat.

Do not over-distend the stomach (*eat smaller meals throughout the day, instead of 3 larger meals*).

Do not lie down within 3 hours after eating a meal. Do not eat a snack or drink before going to sleep. Prop up the head of your bed with a 4-inch wedge to allow gravity to help keep contents in your stomach.

Medicines

Proton Pump Inhibitors (PPIs) are the most effective medicines for the treatment of LPR. Remember that LPR is different from GERD and its successful treatment requires higher doses of medicine for a prolonged period of time. The initial trial of medicines is at least 6 months, at twice-a-day dosage (depending on the severity of LPR changes seen on examination). Symptoms should start to improve within 4 to 6 weeks after you start taking the medicines. The visual signs lag behind the symptomatic relief by several months. PPIs stop acid production in the stomach for 12 to 17 hours (this is why a twice-daily dose is necessary), helping to decrease the irritation potential of the stomach contents.

PPIs must be taken on an empty stomach, ½ hour before a meal. The most effective dose is the morning dose.



Use antacids (such as Tums® or Rolaids®) liberally ½ hour after meals (2 tablets) or ½ hour before singing or exercising.

Some patients may require a second class of medications (H2-blockers) to help control nighttime symptoms. H2-blockers are a form of anti-histamine that interfere with the signals that cause stomach acid to be produced. These medications are not as strong as PPIs, but are more effective during sleep.

Please keep in mind the lag between the time you take the medicine and the time you start feeling symptom relief. People who stop taking the medicines typically feel fine for 1 to 3 weeks and then notice a gradual return of symptoms. It takes a few weeks to get back to where they were before. Some people successfully come off of the medicines but need to follow a strict diet. There is no “free lunch” when it comes to reflux; you need to do your part to keep it under control.

Characteristics of LPR

Laryngopharyngeal reflux (LPR) is also known as extraesophageal reflux disease. It results from chronic acid and pepsin exposure to the larynx.

Common LPR symptoms include

- Hoarseness
- Chronic throat irritation
- Chronic cough
- Cough that wakes you from your sleep
- Thick or too much mucus
- Chronic throat-clearing
- Voice problems

Differences between LPR and GERD

GERD, or gastroesophageal reflux disease, occurs when stomach acid and enzymes backflow into the esophagus, causing heartburn (burning sensation in the chest) and damage to the esophageal lining. *LPR* occurs when stomach acid and/or food enzymes backflow all the way back into the lower part of the throat (laryngopharynx). Not everyone who has reflux has LPR.

LPR in the absence of GERD

Many people with LPR do not have symptoms of heartburn. Compared to the esophagus, the voice box and the back of the throat are significantly more sensitive to the effects of acid/pepsin on the surrounding tissues. Acid that passes quickly through the food pipe does not have a chance to irritate the area for too long. However, acid that pools in the throat around the voice box causes prolonged irritation, resulting in the symptoms of LPR.

Throat-clearing alternatives

If you sense a build-up of secretions in the throat, try swallowing or taking a sip of water. You can also use a “silent cough” by pushing as much air as you can from the lungs in a short blast. The only sound should be a rush of air, then swallow.

Rating Laryngopharyngeal Reflux Severity: How Do Two Common Instruments Compare?

by John Austin • August 1, 2006

CHICAGO-Laryngopharyngeal **reflux** (LPR) is considered one of the most complex and difficult-to-diagnose manifestations of gastroesophageal reflux disease (GERD). Although it has been estimated that LPR is present in up to 50% of patients with voice disorders, there have been no validated instruments for quantifying the physical symptoms and severity of LPR.

Much effort has been spent over the past few years in developing such instruments, said Tamer A. Mesallam, MD, MSc, of the Cincinnati Children's Hospital Medical Center (Ohio). Two instruments-Reflux Finding Score (RFS) and Reflux Symptom Index (RSI)-are commonly used as assessment tools in diagnosing and treating LPR.

Dr. Mesallam presented a paper comparing these two measurement tools at a session hosted by the American Broncho-Esophageal Association (ABEA) here at the Combined Otolaryngology Spring Meetings (**COSM**).

Quantifying LPR

The most commonly recognized signs and symptoms of LPR include hoarseness, vocal fatigue, excessive throat clearing, globus pharyngeus, chronic cough, postnasal drip, and dysphagia. Treatment options available to LPR patients include diet and behavior modification, antacids, H2-receptor antagonists, proton-pump inhibitors, and fundoplication surgery. Determining the appropriateness of these potential therapies, however, is dependent on the physician's ability to accurately quantify the associated treatment outcomes.

RFS is an eight-item index designed to assess clinical severity based on laryngoscopic findings. Scores range from 0 (normal) to 26 (most severe), with a score of 11 or above generally considered to be indicative of LPR. The eight items included in the scale are subglottic edema, ventricular obliteration,

Reflux Finding Score

Subglottic Edema	2 = present 0 = absent	
Ventricular Obliteration	2 = partial 4 = complete	
Erythema/Hyperemia	2 = arytenoids only 4 = diffuse	
Vocal Fold Edema	1 = mild 2 = moderate 3 = severe 4 = polypoid	
Diffuse Laryngeal Edema	1 = mild 2 = moderate 3 = severe 4 = obstructing	
Posterior Commissure Hypertrophy	1 = mild 2 = moderate 3 = severe 4 = obstructing	
Granuloma/Granulation	2 = present 0 = absent	
Thick Endolaryngeal Mucus	2 = present 0 = absent	
Total:		

Source: Center for Voice Disorders of Wake Forest University. Reprinted with permission.

[click for large version](#)

Table. Reflux Finding Score

erythema/hyperemia, vocal fold edema, diffuse laryngeal edema, posterior commissure hypertrophy, granuloma/granulation tissue, and excessive endolaryngeal mucus (see Reflux Finding Score, left).

The RSI is a nine-item self-administered outcome questionnaire designed to document LPR symptoms and severity. Patients are asked to rate how nine problems have affected them over the past month on a scale of 0 (no problem) to 5 (severe problem), with a maximum total score of 45. A total score of more than 13 is considered positive as far as diagnosis of LPR (see Reflux Symptom Index, above).

While both RFS and RSI have been shown to be effective, the correlation between these two instruments has not been much studied, said Dr. Mesallam. The objective of our study was to determine the relation between RSI and RFS regarding total score.

Study Protocols

Forty randomly selected patients-14 males and 26 females between the ages of 17 and 60-were included in the study. A retrospective chart review was performed for those patients fitting the inclusion criteria to choose those with RSI suggestive of LPR. For RFS, the video stroboscopic samples for the study group were reviewed and rated by six experienced raters on two different occasions to evaluate inter- and intra-rater reliability. The RSI and RFS were statistically compared with regard to both the total scores and the individual parameters.

Overall, we found that there was high agreement between raters, Dr. Mesallam said. The correlation between RFS and RSI symptoms and signs reveals that hoarseness or throat clearing and globus sensation were the main RSI symptoms that correlate significantly with RFS signs.

Dr. Mesallam reported that the RFS scores ranged from 0 to 30 while those of the RSI varied from 13 to 38. There was a high agreement between the raters' scores, demonstrating high inter- and intra-rater reliability of the RFS. The RSI and RFS were highly correlated. Hoarseness was highly correlated with vocal fold edema and thick laryngeal mucus, while excessive throat clearing correlated significantly with thick endolaryngeal mucus.

Reflux Symptom Index

Within the last MONTH, how did the following problems affect you?

0 = no problem, 5 = severe problem

1. Hoarseness or a problem with your voice	0	1	2	3	4	5
2. Clearing your throat	0	1	2	3	4	5
3. Excess throat mucous or postnasal drip	0	1	2	3	4	5
4. Difficulty swallowing food, liquids, or pills	0	1	2	3	4	5
5. Coughing after you ate or after lying down	0	1	2	3	4	5
6. Breathing difficulties or choking episodes	0	1	2	3	4	5
7. Troublesome or annoying cough	0	1	2	3	4	5
8. Sensations of something sticking in your throat or a lump in your throat	0	1	2	3	4	5
9. Heartburn, chest pain, indigestion, or stomach acid coming up	0	1	2	3	4	5
Total						

Source: Center for Voice Disorders of Wake Forest University. Reprinted with permission.

[click for large version](#)

Table. Reflux Symptom Index

I believe the study demonstrates a highly significant correlation between the RFS and RSI, Dr. Mesallam said. This strongly confirms the validity of both tests as good diagnostic instruments for LPR.

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ENTtoday - <http://www.enttoday.org/article/rating-laryngopharyngeal-reflux-severity-how-do-two-common-instruments-compare/>

Filed Under: **Departments, Laryngology, Medical Education, Practice Focus**

Tagged With: **COSM, diagnosis, outcomes, reflux, research, treatment**

SDX FEES Procedures Observation Tracker

SLP: _____

DATE	FACILITY	PT. INITIALS	SDX Endoscopist	SIGNATURE
1.				
2.				
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REMEMBER:	ASSESS THIS:	ASK THESE QUESTIONS:
FEES	Feeding status	IS RESIDENT TAKING ANYTHING BY MOUTH? PEG TUBE & NO ORAL INTAKE INCREASES PNA RISK.
SHOWS	Secretions management	IS SUCTION NEEDED? DO SALIVA SWALLOWS OCCUR AT THE EXPECTED ELDERLY RATE OF AT LEAST 1 SWALLOW/1-2 MINUTES? ARE THERE VOICE CHANGES?
ORAL	Oral hygiene	IS DENTITION DECAYED? BLEEDING GUMS? VISIBLE PLAQUE? LINGUAL COATING?
PHARYNGEAL	Pulmonary status	IS THERE UNDERLYING RESPIRATORY DISEASE LIKE CHF OR COPD? TOBACCO USE?
DYSPHAGIA	Dependence for ADLS	IS RESIDENT DEPENDENT FOR FEEDING OR MOUTH CARE? CAN THEY AMBULATE? TURN IN BED?
IN	Immune system status	CURRENT INFECTION OR CHRONIC DISEASE? ASPIRATION PNA IS AN OPPORTUNISTIC INFECTION!
COLOR	Cognitive status	DELERIUM? FLUCTUATIONS IN ALERTNESS? MED CHANGES? AN IMPACT ON COGNITION MEANS INCREASED PNA RISK.

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