



What did we learn about airway stenosis and its treatment during 2023?

Living with idiopathic subglottic stenosis (iSGS) support community:
www.facebook.com/groups/airwaystenosis

What we learned

1. Serial Intralesional Steroid Injections (SILSI) can extend time between dilations for subglottic stenosis patients



Reading:

Office based steroid injections for subglottic stenosis

Ramon A Franco

Operative Techniques in Otolaryngology-Head and Neck Surgery, 4 May 2023

DOI:

<https://doi.org/10.1016/j.otot.2023.05.009>

The initial procedure can be performed in the operating room post dilation, with an injection of triamcinolone acetate 40 mg/cc into the subglottis. Subsequent injections are performed in the awake-office setting at 3-week intervals until reaching a total of 6 injections (1 with dilation + 5 in-office).

Nearly three in five patients (58%) only require one round of six injections. Using peak flow to measure their airways, most patients went from 55% open to over 90% open with SILSI. Time between dilations extended to an average of 36 months (3 years).

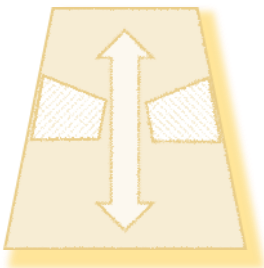
What this means

SILSI is a safe, well-tolerated, and easy to learn (for doctors) who take care of patients with subglottic stenosis. It helps to preserve breathing function and can maximize patient quality of life.

SILSI can be used as a stand-alone treatment or combined with other modalities for the treatment of idiopathic and traumatic airway stenoses. If there is a return of the stenosis, SILSI does not preclude the use of more aggressive surgical techniques.

What we learned

2. Having multiple dilations does not impact the length and location of your stenosis



Reading:

Does Idiopathic Subglottic Stenosis Length and Location Change with Serial Endoscopic Interventions?

Yasine Mirmozaffari, Ameer Ghodke,

Rupali N. Shah, Robert A. Buckmire

The Laryngoscope, 03 October 2023

DOI: <https://doi.org/10.1002/lary.31080>

This paper looked at a total of 52 iSGS patients who had several dilations over a period of 8 years, to investigate whether having endoscopic dilations would cause the stenosis to migrate or lengthen.

The results revealed that patients have an average of 3.4 procedures (between 1 and 5) over this period, and there was no significant increase in the length and location of the stenosis.

What this means

This suggests that endoscopic dilations are not going to have a negative impact on where your stenosis is located, and are unlikely to increase the length of trachea impacted by scar tissue.



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What we learned

3. iSGS patients are more likely to have evidence of a cell change in the tissue lining of their trachea



Reading:
Idiopathic Subglottic Stenosis Is Associated with More Frequent and Abnormal Squamous Metaplasia

Yourka D. Tchoukalova, Tanya N. Phung, and David G. Lott, et al *The Annals of Otolaryngology & Laryngology*, 22 September 2023

DOI: <https://doi.org/10.1177/0003489423120101>

Comparing the subglottic mucosal tissue between people with healthy tracheas and those diagnosed with iSGS, biopsies found that 41% of iSGS patients have evidence of tissue change (abnormal squamous metaplasia - ASM), compared to 25% of healthy patients.

What this means

Abnormal squamous metaplasia (ASM) may contribute to the development of iSGS. Where they are present in patients' airways, they may respond well to drugs that reverse ASM to normal.

Further trials are required to test this theory.

What we learned

4. When primary care doctors refer straight to an otolaryngologist, iSGS patients are diagnosed much faster



Reading:
Navigating Pathways to Diagnosis in Idiopathic Subglottic Stenosis: A Qualitative Study

Cara Damico Smith, MPH; Nainika Nanda, MD; Kemberlee Bonnet, MA; David Schlundt, PhD; Catherine Anderson, BA; Sara Fernandes-Taylor, PhD; Alexander Gelbard, MD; David O. Francis, MD, MS *The Laryngoscope*, September 2023

DOI: <https://doi.org/10.1002/lary.31023>

It takes an average of 21 months for iSGS to be accurately diagnosed. On average, patients visit four different health care providers. Specialists were most likely to make an appropriate referral to otolaryngology that ended in diagnosis. However, when primary care providers referred to otolaryngology, patients experienced a shorter diagnostic odyssey.

What this means

Educating primary care doctors about the symptoms of iSGS and encouraging them to refer patients to otolaryngologists will help to reduce the time between seeking help and receiving a correct diagnosis.

Helping to educate your GP will be valuable, possibly sharing the '[Is it really asthma](#)' flyer we have prepared, which describes symptoms particular to airway stenosis and suggests next steps.

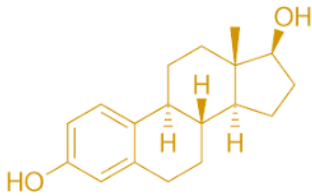


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5. There is no clear relationship between estrogen exposure and disease recurrence



Reading:

Association between Estrogen Exposure and Idiopathic Subglottic Stenosis

Nainika Nanda MD, Li-Ching Huang PhD, Sheau-Chiann Chen PhD, Lynne D. Berry PhD, Edward Ryan R. Talatala BS, Evan Clark BS, Wenda Ye MD, Alexander Gelbard MD, David O. Francis MD MS, on behalf of the North American Airway Collaborative, *The Laryngoscope*, 05 September 2023
DOI: <https://doi.org/10.1002/lary.31030>

This paper demonstrates premenopausal patients may have a more aggressive disease variant than their peri- and postmenopausal counterparts.

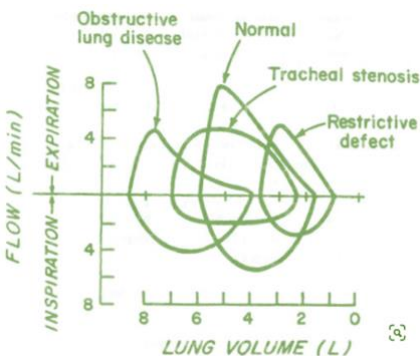
However, it is unclear as to whether this is related to reduced estrogen in the peri- and postmenopausal states or the age-related physiology of wound healing and inflammation, regardless of estrogen.

What this means

It is possible that patients in peri and post menopause will have a less aggressive disease than their premenopausal counterparts.

What we learned

6. Spirometry is an excellent tool to differentiate airway stenosis patients from those with asthma



Reading:

The diagnostic accuracy of spirometry as screening tool for adult patients with a benign subglottic stenosis

Juliëtta H.C. Schuering-Ilan, J. Y. Halperin, Maarten K. Ninaber, Antonius P.M. Langeveld *BMC Pulmonary Medicine*, August 2023
DOI: <https://doi.org/10.1186/s12890-023-02592-4>

A spirometry measures how well your lungs work by measuring how much air you inhale; how much you exhale and how quickly you exhale.

This paper demonstrates that this non-invasive tool is more than adequate at identifying airway stenosis patients

What this means

If emergency and primary care doctors have access to (and are trained how to use and interpret readings from) a spirometer when patients attend with breathing difficulty, it will be much easier to identify the potential source of the issue.

This is likely to speed up referral to the right specialist for treatment, potentially reducing the diagnostic odyssey.



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7. There is a new procedure for conducting cricotracheal resections which will spare the patient's voice



Reading:
A novel technique of voice-sparing cricotracheal resection Matthias Evermann, Imme Roesner, Veronika Kranebitter, Konrad Hoetzenecker - **JTCVS Techniques** – November 2023 – DOI: <https://doi.org/10.1016/j.xjtc.2023.11.005>

While a tracheal resection appeals to some for its long-lasting open airway, the risk of impact on voice quality is significant, ranging from a mild to moderate impact for most patients. A standard tracheal resection involves dissection of the cricothyroid ligament and loss of function of the cricothyroid joint. This joint centrally affects the tension of the vocal folds and thus is pivotal in adjusting the voice pitch.

This paper details a new technique which delivers the breathing outcome of a resection, while minimising damage to voice volume or quality. It preserves the cricoid arch and therefore the cricothyroid junction, thus avoiding the damage at this level.

What this means

Developments in resection surgery now mean airway stenosis patients need not necessarily be concerned about damage to their vocal cords and voice.

As this or other voice sparing techniques are adopted, more patients may feel comfortable undertaking this major airway surgery.

As a patient considering tracheal resection, talk to your doctor to fully understand what they are doing to minimise damage to your voice, and encourage consideration of this technique if appropriate.