



SPEAKER

Mr Gary Wood

Principal Speech & Language Therapist

PRESENTATION

ENT symptoms and treatment for EDS and hypermobility disorders:

A Speech and Language Therapist perspective



Royal National ENT and Eastman Dental Hospitals



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Declarations

Work for NHS

Private practice

Currently not paid as advisor to any commercial organisation.



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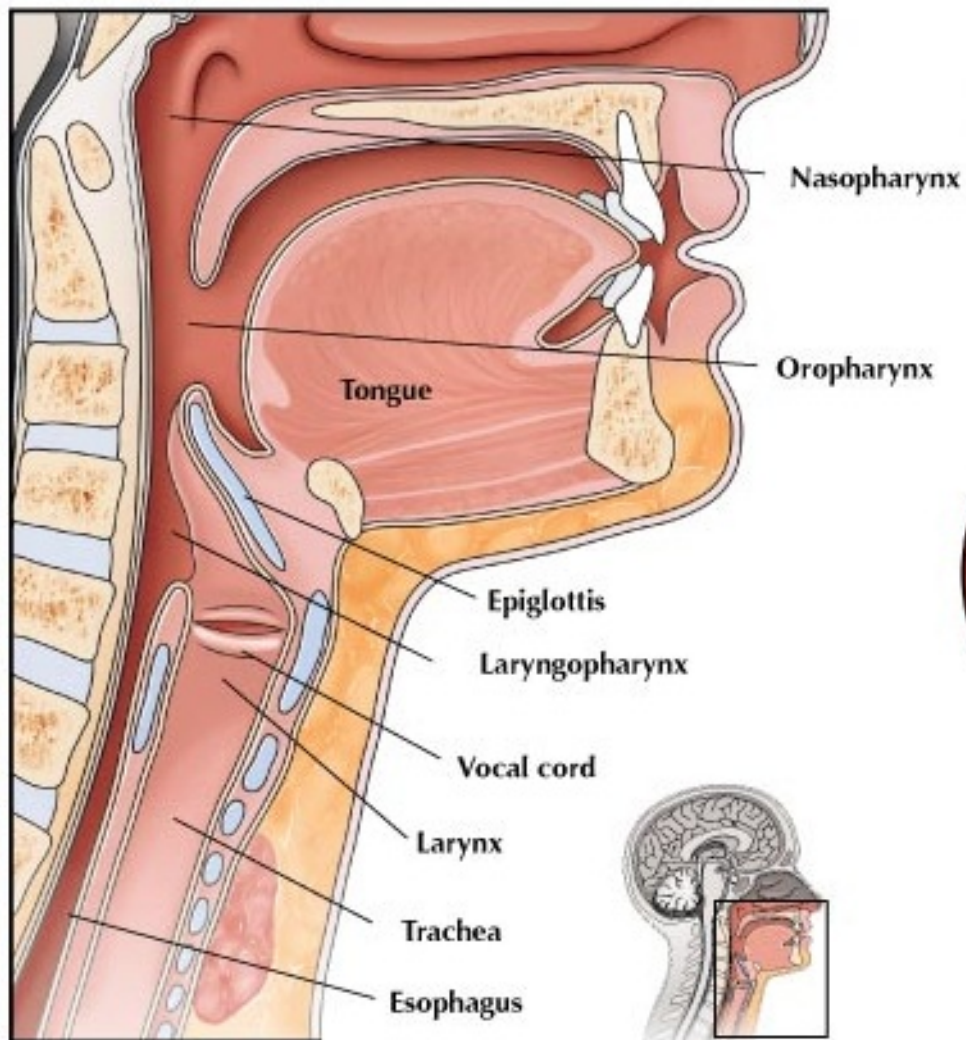
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Explain the Anatomy and functions for Voice and swallowing

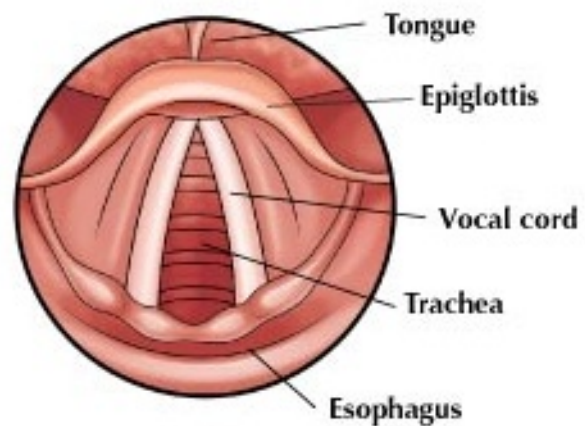
How EDS and Hypermobility can affect Voice and swallowing

Remediation approach

Case studies

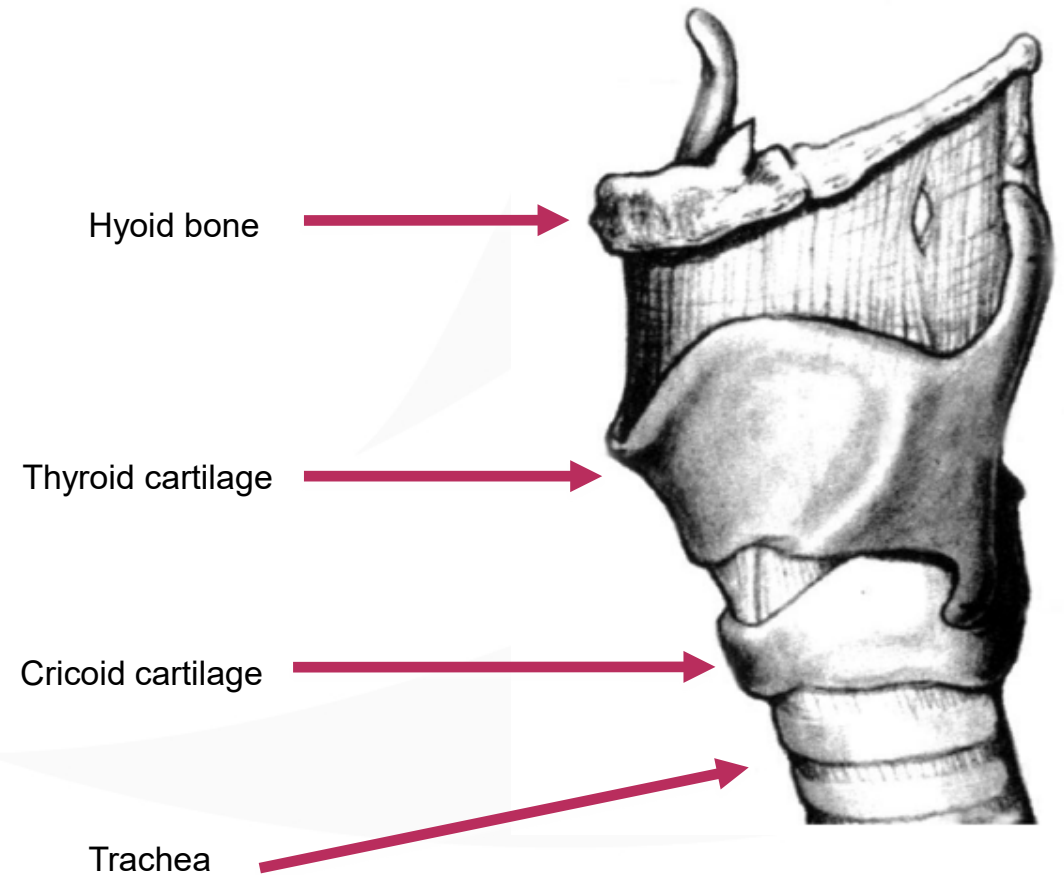
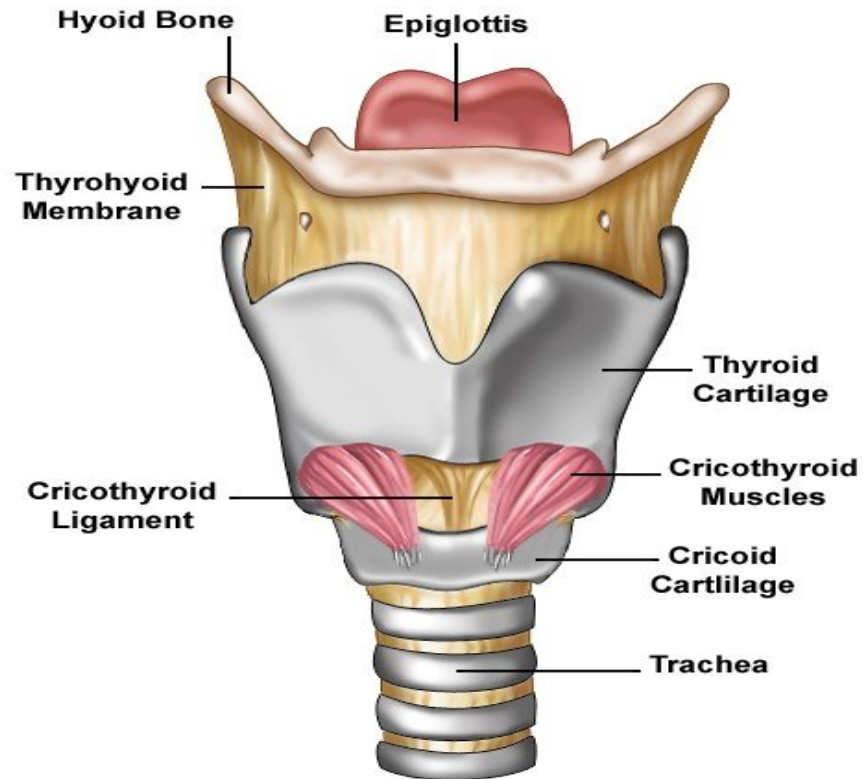


ANATOMY OF THE LARYNX

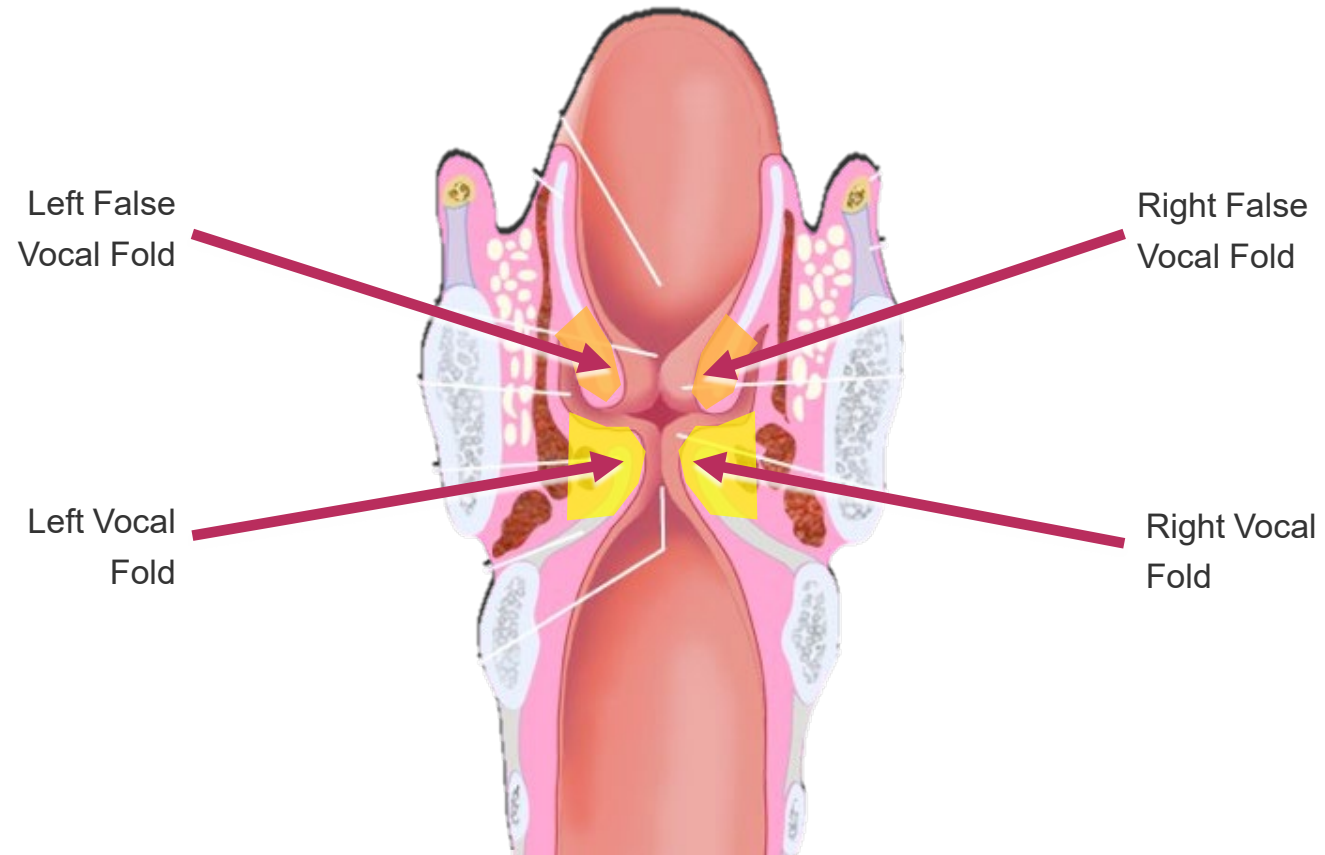


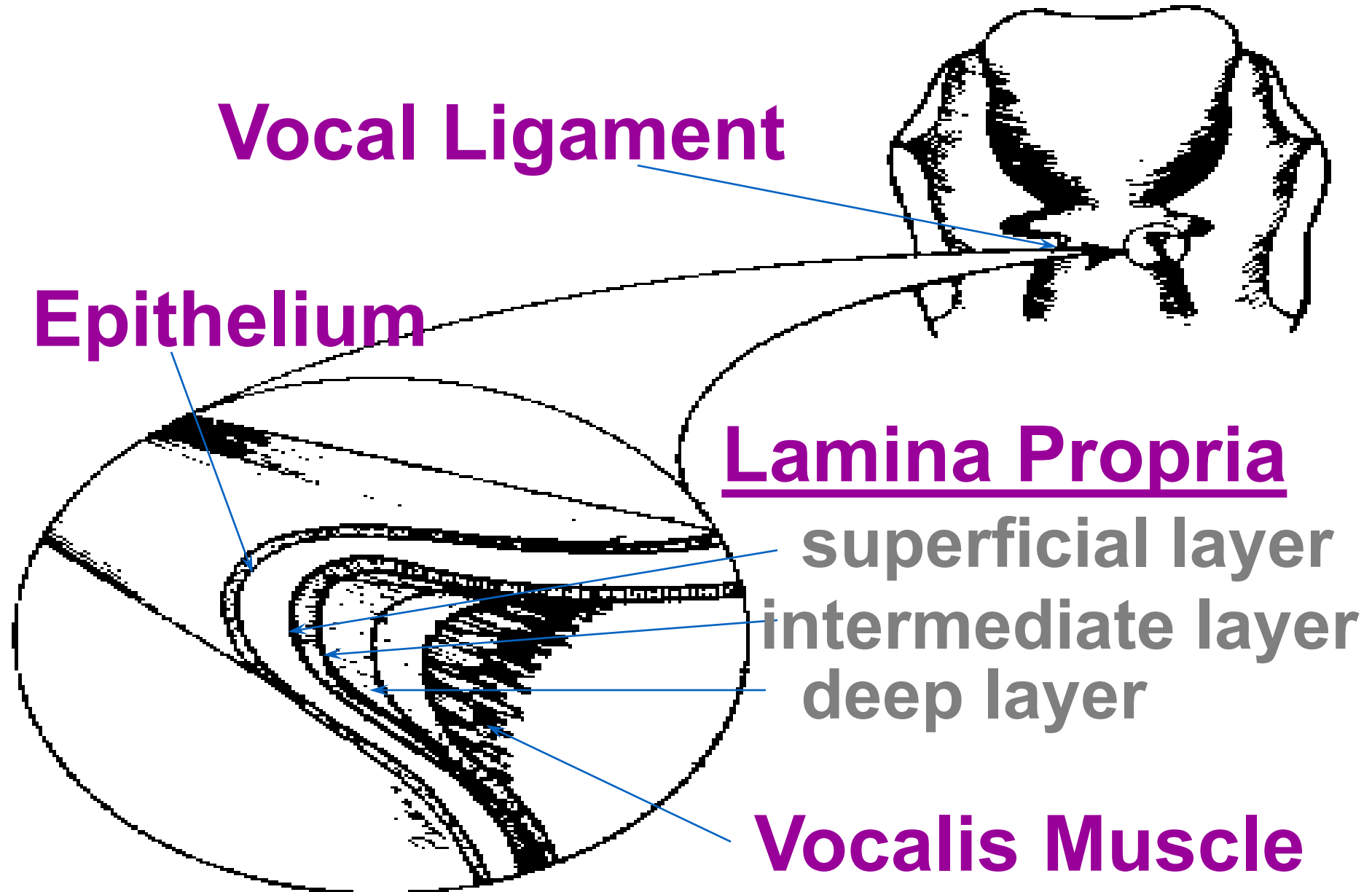
LARYNGOSCOPIC VIEW

The Larynx



The Larynx: Cross-section

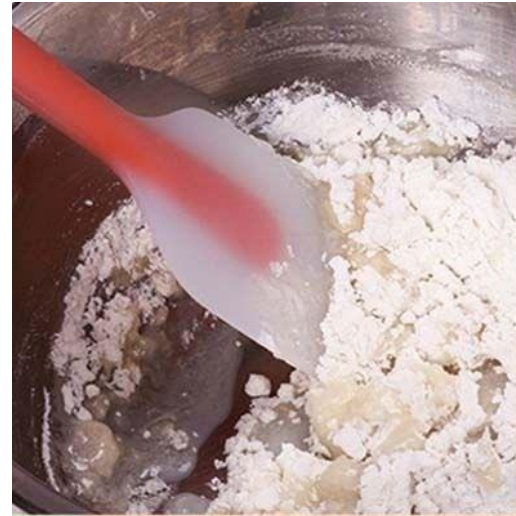






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Epithelium

Thin mucosal covering of squamous cells

Wraps around internal contents of vocal folds'

No mass, totally compliant

Needs thin layer of mucous lubrication to oscillate best.

Lamina Propria

Consists of three layers:

superficial layer-

- composed of loose fibrous matrix (known as Reinke's space)

- composition described as soft gelatin

- intermediate layer-

intermediate layer-

- composed of **elastic Fibres** and has slightly more mass

deep layer-

Denser still, **composed of collagenous Fibres**

Tissues of 3rd & 4th layers together are known as the *vocal ligament*

The vocal ligament develops throughout childhood until the larynx reaches full maturity (puberty)

Vocalis Muscle

Fifth layer

Main body of the vocal fold

Provides stability and mass



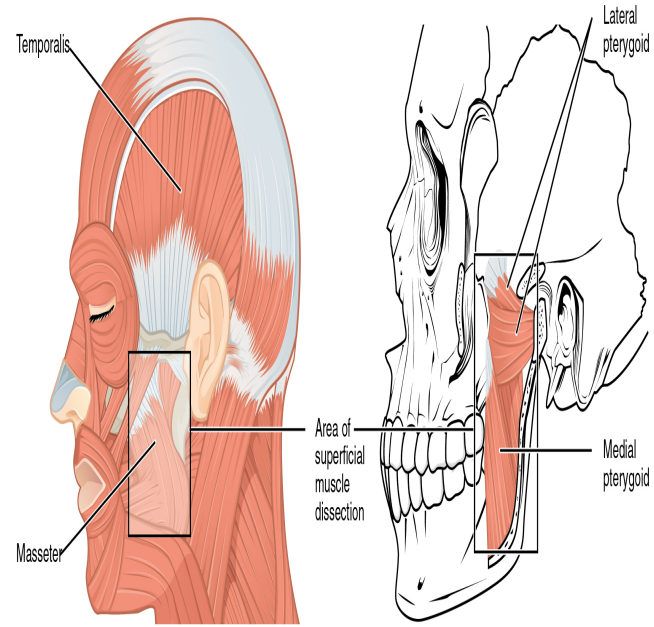
Muscles of Larynx

Different muscles get their unique properties from the composition of muscle fibre type. Different Fibres vary in their individual (1) resistance to fatigue and (2) in their speed of response.

The larynx contains muscle Fibres which are both very quick to react and also high in endurance; these properties evolved because of the constant need to protect the airway.

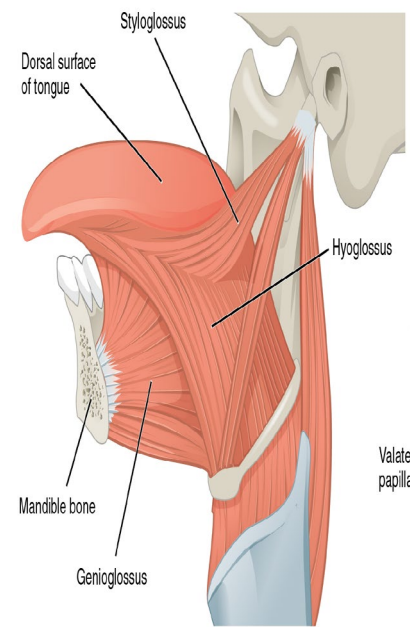


Muscles work in pairs - antagonistically

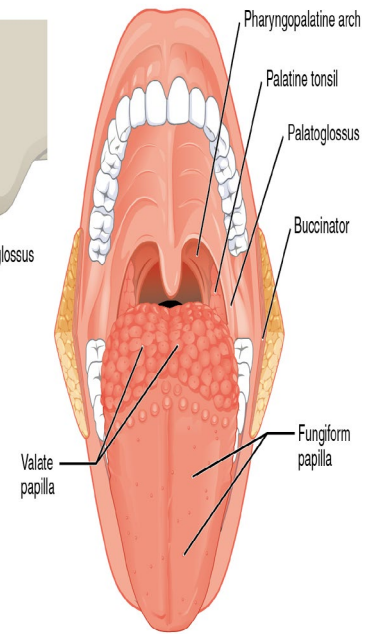


Chewing muscles (superficial)

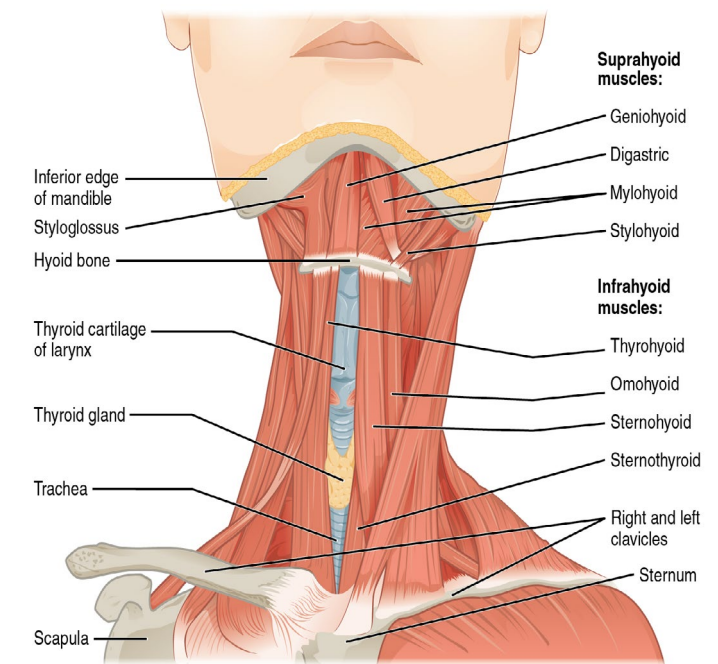
Chewing muscles (deep)



(a) Extrinsic tongue muscles



(b) Palatoglossus and surface of tongue



Suprahyoid muscles:

Infrahyoid muscles:

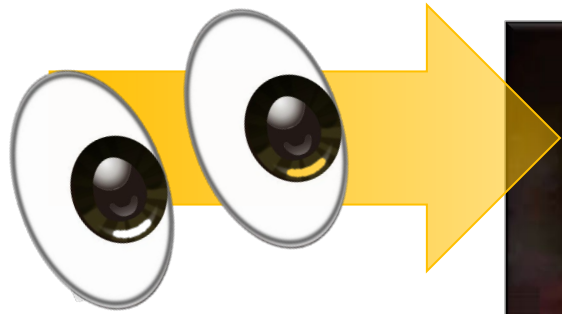


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Voice

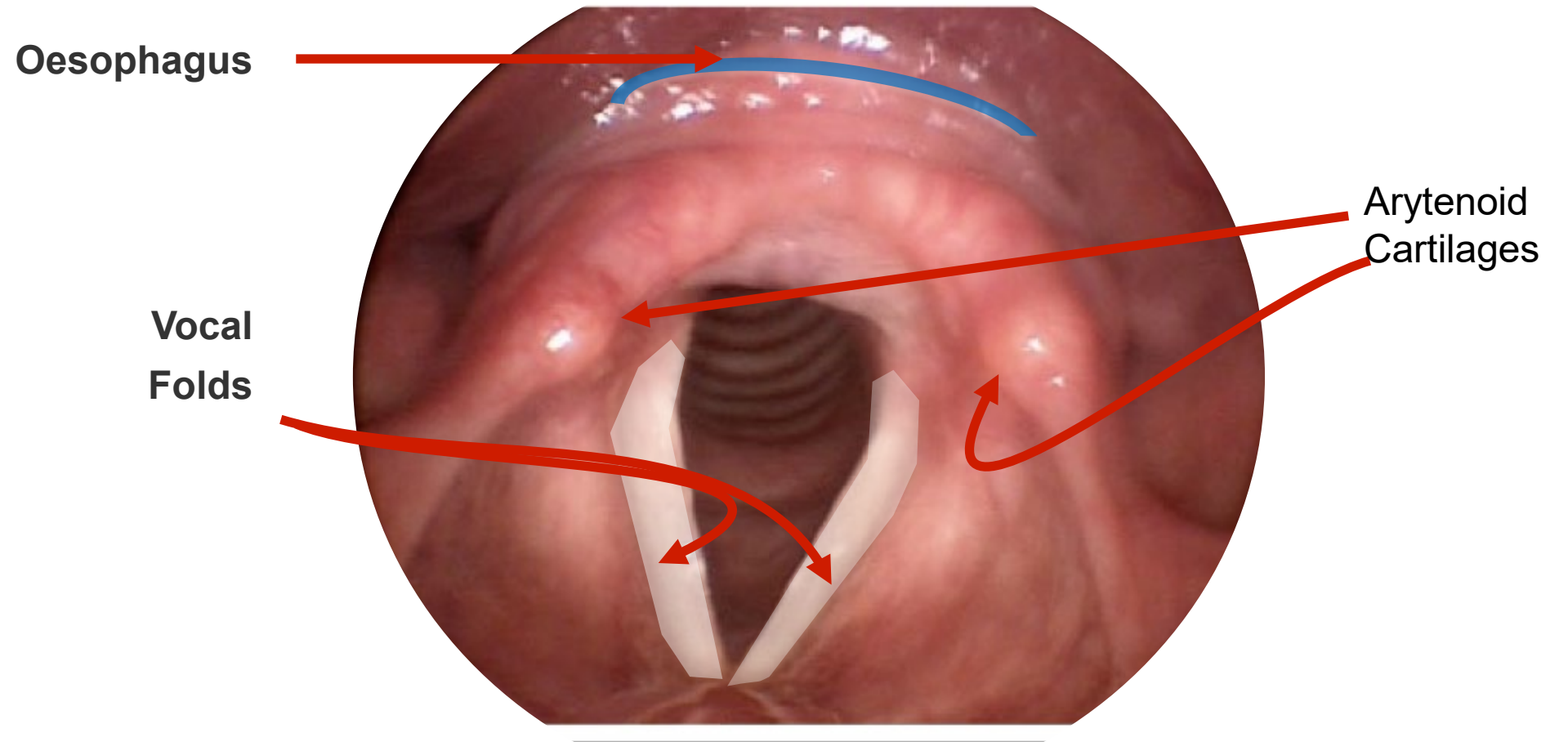
The Larynx: Normal vocal folds in action!



Watch how many vocal
fold vibrations are
happening per second!



The Larynx: Normal vocal folds





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Swallowing

Four Phases of the Normal Swallow

Oral preparatory phase

Oral phase

Pharyngeal phase

Oesophageal phase

Oral Preparatory Phase

Thinking about food/liquid and how to get it to the mouth

Chewing the food in our mouth

Oral Phase

- Begins when chewing stops
- Tongue pulls the food to the back of the mouth
- Takes one second

Pharyngeal Phase

Bolus contacts anterior faucial pillars and initiates the swallow response

Soft palate rises

Peristalsis moves the bolus down

Vocal folds close tightly

Oesophageal sphincter pulled open

Oesophageal Phase

Bolus carried to lower Oesophageal sphincter to enter stomach



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Dysphagia

Difficulties in swallowing that occur when impairments affect any of the four phases of swallowing that puts a person at risk for aspiration or penetration (food going down the wrong way).

Dysphagia

Team approach is required:

Speech and Language Therapist /Pathologist

Dentist

Dietician,

Neurologist

Gastroenterologist

Pharmacist



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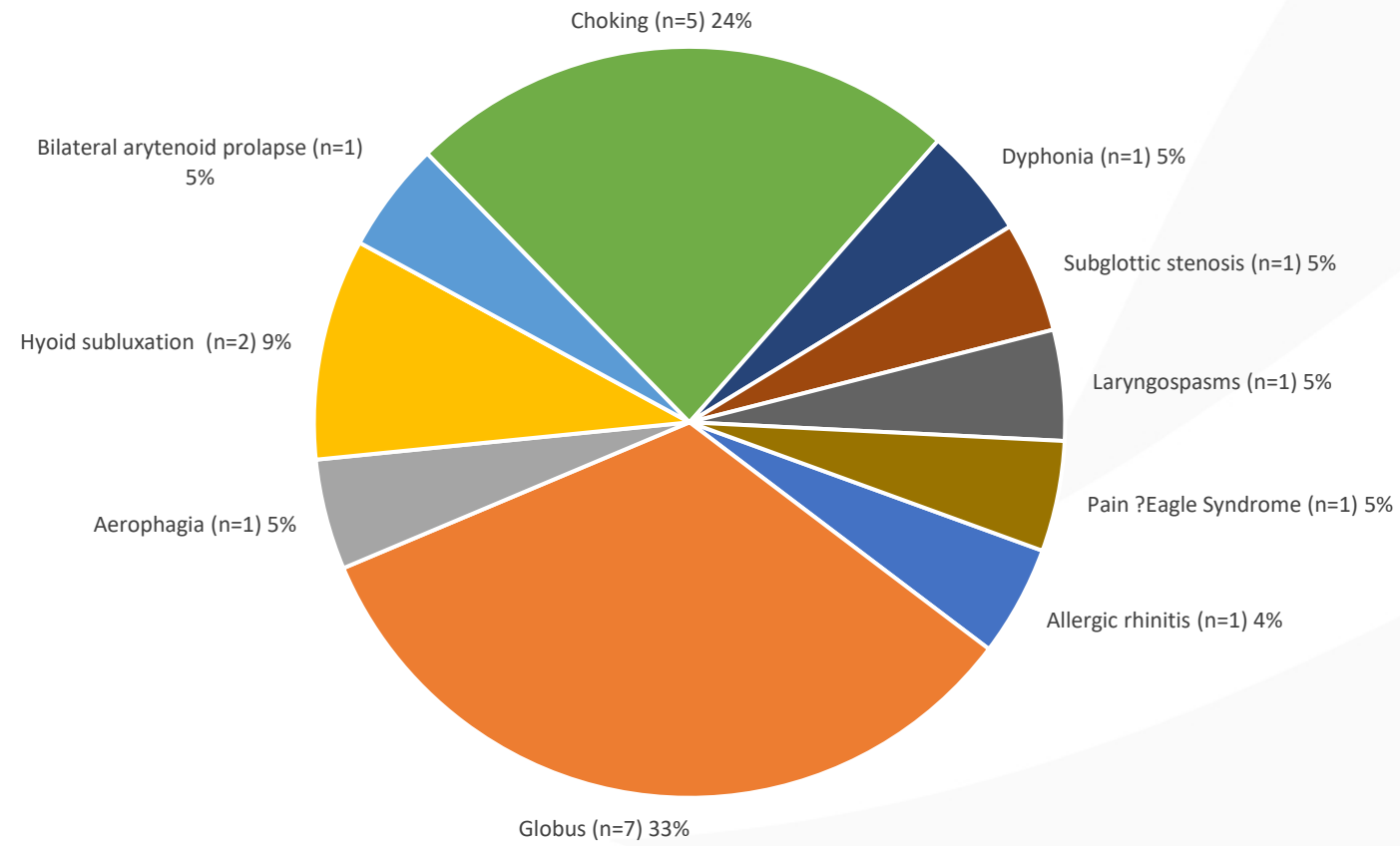
ENT and EDS / Hypermobility

Work with Professor Martin Birchall ENT Consultant at RNTNE (UCLH) linked with the Hypermobility units at UCLH

Increase referrals of Hypermobile type patients in clinic over the past 11 years



First presenting symptom





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Major Symptoms

Stretchy, loose, and/or “velvety” skin

Flexible joints with hypermobility (causes chronic joint pain, damage and reactive muscle pain)

Abnormal wound healing

***Joint dislocations and/or partial dislocations (aka
subluxations)***

Easy bruising

Muscle pain and weakness

Heart and vascular problems such as aneurysms, MVP, aortic root dilatation

Organ rupture, hernia



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Associated Conditions

Autoimmune thyroid disease

Chronic pelvic pain from endometriosis and/or pelvic congestion syndrome

Depression, generalized anxiety disorder and obsessive compulsive disorder

Chiari malformation

GI symptoms/IBS related to mast cell activation disorder (MCAD) and “leaky gut”

Autonomic dysfunction from Postural Orthostatic Tachycardic Syndrome (POTS)

Temporomandibular Joint Dysfunction (aka TMJ)

Chronic (daily) headache

Reduced responsiveness to anesthetics and opiate pain medication

Clumsiness, falls, trauma, etc. due to decreased proprioception and strength

Etc.....



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ENT finding

Larynx Often looks normal but patient c/o pain, fatiguing voice, clicking or disordered swallow

Prolapsing arytenoids on respiration and voicing

High Arched palate

Heightened pain but on palpation feels “normal”

Over extensions Intrinsic and extrinsic muscles i.e neck, jaw, head and shoulders and Laryngeal muscles



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Common Voice and Throat symptoms

Vocal cords and throat muscles, get tired very easily.

Pain in neck

Throat spasms

Fatigue.

Voice getting quite croaky, low and manly sounding,

Quiet voice or strangely louder.

Sore throats

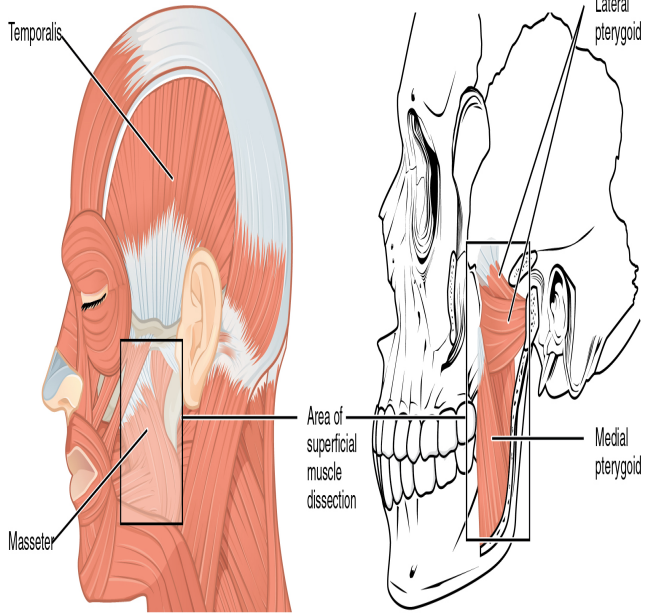
Breathless whilst speaking

Disordered Swallowing

Clicking larynx

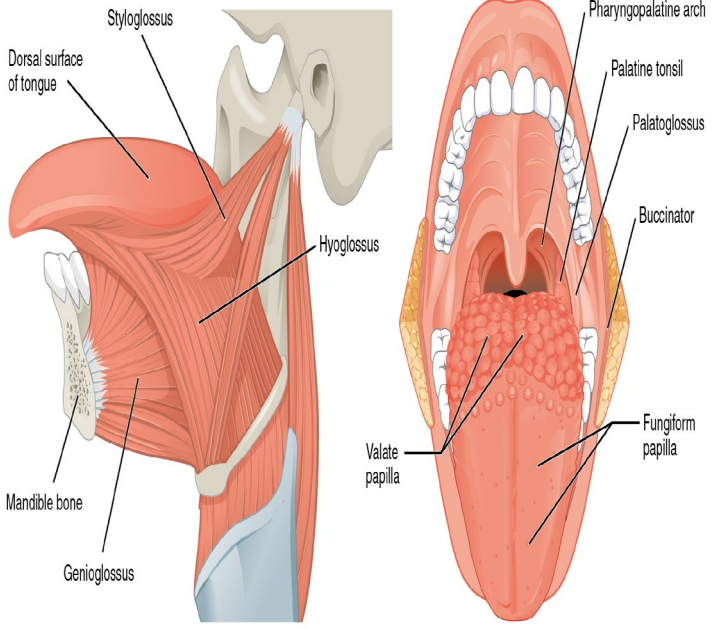
Etc.....?

Muscles work in pairs - antagonistically



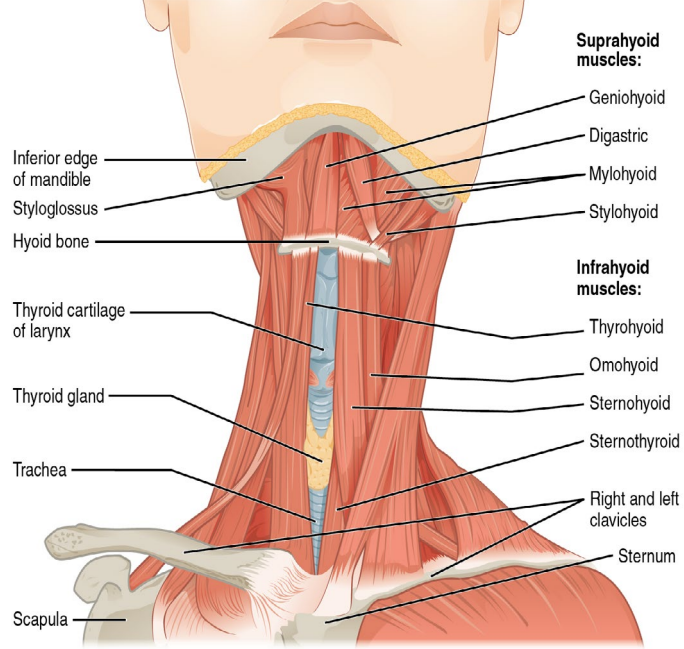
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Muscles work in pairs



Speech Therapy intervention

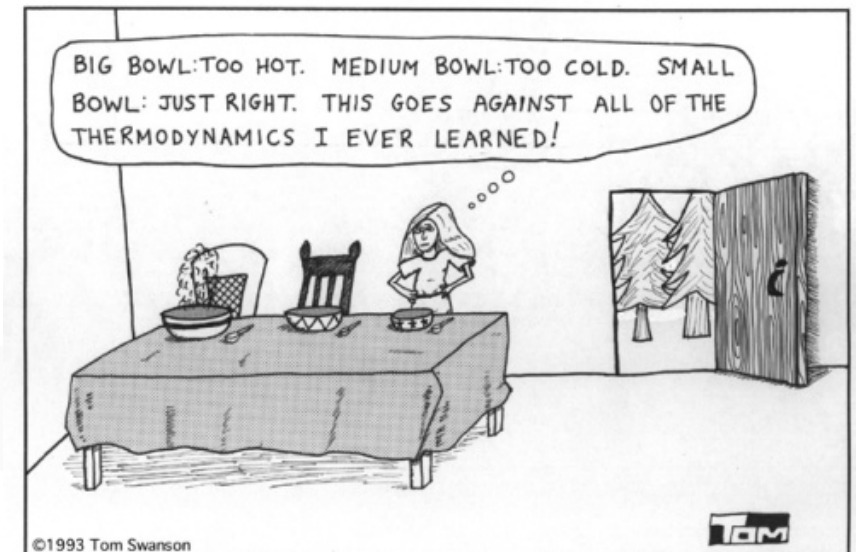
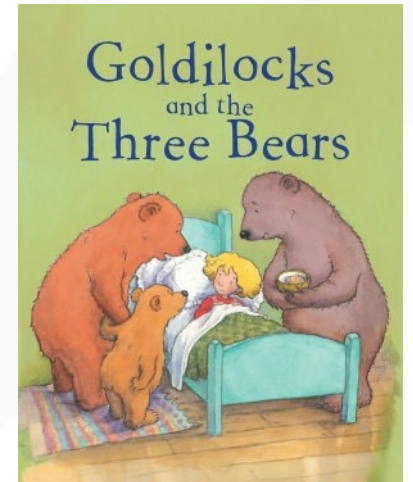
Swallowing assessment and management

Voice strengthening exercises for Hypo “tension”

Manual therapy and relaxation for Hyper “tensions”

Stabilisation of swallowing and voice

Managing expectations of abilities





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Case study 1

Ref by junior ENT doctor: NAD

48 yr old female

c/o 1 year history Throat pain and Voice cuts out and tires easily
sensation of lump in throat (globus).

Excess phlegm, needs to swallow slowly

Find bitty food more difficult to swallow.

Soreness and dry throat

Works as an interpreter



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DIAGNOSES

Classical form of EDS confirmed on genetic testing (alteration in COL5A1)

Partial right bundle-branch block and left anterior fascicular block

Vasovagal syndrome non-hypertrophic left ventricle with good function

Incidental right bundle branch block and left anterior vesicular block

Gastrointestinal dysfunction . She has a 2 cm hiatus hernia. No further investigations are required at present.

Insertional Achilles tendinopathy , Plantar fasciitis

Other signs

Flexible skin,

Medications and Anaesthetics affect her differently



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Treatment

Increase fluids, steam and Sinus rinse to lubricate and reduce Phlegm

Looked at ROM – guidance as to “normal” movements to stabilise Head and Neck and reduce hyperextensions

Utilise alginate to reduce reflux and Hiatus hernia affects Pt used herbal supplements i.e marshmallow root

Laxvox (SOVT) vocal exercises to gain stability, increase control and prevent hyper and Hypo activity

Space out talking and eating to reduce fatigue affects
Awareness of her vocal load abilities



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Case Study 2

46yr old lady

C/O

wheelchair bound

She was a professional dancer, boxer and did lots of gym work.

Used to sing a large amount.

Misdiagnosed with MS / sickle cell anaemia previously and was told strictly to do no exercise –She said this then deteriorated her mobility.



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DIAGNOSES

Benign joint hypermobility

Ehlers-Danlos

Obesity

Functional constipation

Bladder incontinence

Concerns regarding flatulence and gut dysmotility

(Polypharmacy)

Chronic widespread pain, particularly involving neck and low back

Reduced hand function with subluxation of fingers and wrists several times a day.

Multiple muscle spasms (relieved with Oramorph and diazepam)

Bilateral tennis elbow (currently having cortisone injections via GP)

Concerns regarding brain fog and an inability to remain alert



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Treatment

4-5 small meals throughout the day

Process her food more readily to aid her in her chewing and swallowing

Anti-reflux management

-improved her swallow and she has not been vomiting as a result of the reflux protocol

Vocal exercises to re-stabilise her laryngeal function. Worked on resonance for volume

Reduce (Volume) and strain

-she reports less strain in her throat with her voice

“Voice has been sporadically been louder and easier”



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Case Study 3

LP

33yr old female Admin worker and Church singer

Junior ENT Doctor Diagnosed Post glottic chink.

Speech Therapy Voice Clinic Diagnosed Hypermobility arytenoid movement

C/O rough croaky voice which 'breaks' all the time.

Reduced vocal stamina in voice preventing singing in church.

stamina in jaw movement cause pain or dislocations in speaking and eating



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DIAGNOSES

diagnosed with EDS (type 3) in 2012

overarches a cluster of conditions:

Postural tachycardia syndrome (PoTS),

Mast cell activation disorder (MCAD)

Chronic headaches/migraines,

Asthma,

IBS,

type 2 diabetes,

endometriosis,

laryngopharyngeal reflux and sinus disease.

She has had a bilateral maxi osteotomy due to previous underbite. jaw now miss a lined



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Treatment

have smaller and more frequent meals whenever possible and to trial a slight incline to her bed to assist with nocturnal reflux

improving the efficiency of her voice and rebalancing the vocal tract with regards to her hypermobility.

head and neck relaxation exercises throughout the

Laxvox at least once or twice a day

laryngeal manual therapy releasing mainly her left side of the neck

self manipulation working on the base of tongue and at the upper oesophageal sphincter area



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General Tips

Understand your own limitations and abilities.

Strengthening and relaxing muscles equally important

Swallowing:

- eating little and often
- Process food
- Control reflux

Voice

- Give yourself “Vocal naps “
- Use voice
- Avoid extremes e.g screaming and shouting
- Support voice with training



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Take home message

Voice and swallowing issues occur

Seek ENT and Speech therapist who understand EDS and Hypermobility

“Life (living with a Hypermobility disorder) is sort of like Goldilocks and the Three Bears, if you know what I mean. Some days are too big. Some days are much too small. But today was one of those rare days that was just right.”

— **Leila Sales** Childrens Author



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