Tracheostomy Evening Lecture

- The Royal Hospital for Neuro-disability and Tracheostomy Management.
- Case Study 1
- Case Study 2
- Question and Answer

The Royal Hospital For Neuro-Disability

National Medical Charity:

- Brain Injury Service (BIS)
- Specialist Nursing Home
- Specialist Services (Neuro-Behavioural, Ventilator, Huntington's Disease)

Funding:

- NHS England
- CCGs
- Charity (Approx 10%)

Tracheostomies at RHN

Brain Injury Service

Ward/Unit	No. of Tracheotomy Patients	
Devonshire Predominantly PDOC	8	**Approx 50% Decannulated**
Clifden PDOC, Emerged, Locked-in, Severe Brain Injury	6	
Drapers Active/Intense Neuro-Rehab	3	

Tracheostomies at RHN

Specialist Nursing Home / Specialist Services

Ward/Unit	Number of Tracheostomy Patients
Andrew Reed	4
Cathcart	2
Chatsworth	3
Evitt	4
Glynn	9
Hunter	7
JEC/Ventilator Unit	15

RHN Tracheostomy Management

- Organisation Policy
- Organisation Best Practice Guidelines
- Standardised Tracheostomy Records
- Staff Training and Competencies

Staff Training and Competencies

	E-learning	Classroom Based (Practical/Scenarios)	Other (Individually tailored programmes, external courses)
Introduction (All Staff)	X	-	-
Level 1 (HCA, OT, RN, PT, PTA, SLT)	X	X	-
Level 2 (PT, SLT, RN)	X	X	-
Level 3 (Advanced) (PT, SLT, RN)	-	X	X

Established Tracheostomy

RHN

- > 3/12 post injury / Tracheostomy insertion.
- Severe Brain Injury / Low Arousal
- Unable to be weaned in Acute hospital.

Decannulation not straight forward:

- Multiple Medical Comorbidities
- Predisposition to upper airway abnormalities
- Respiratory Muscle fatigue
- Abnormal Ventilatory Drive

Why Wean

- Decrease infection risk
- Improve body image
- Decreased carer burden
- Improved QOL
- Decrease cost
- Increased placement/discharge options.

Weaning / Optimising Long Term Care

- Optimising Respiratory Status:
  - Secretion Management:
    - Humidification
    - Medications (Drying agents, mucolitics, Botox)
- Tube Type
  - Make/Model/Size
  - Attributes (Cuff/Cuffless, Sub-glotic port)
- Clinics
  - Tracheostomy Clinic
  - Respiratory Clinic
  - FEES/ENT

Cohesive IDT Working

Long Term Tracheostomy

- Unable to wean
- Risk of decannulation outweighs potential benefits.
  - Unable to support own airway.
  - High secretion load.
  - Ineffective cough or swallow.

Living with a Tracheostomy

- Individual risk Ax/care plan.
  - Level monitoring
  - Frequency of suction, inner cannula change
  - Humidification
  - 4 weekly tube change

Mr P – a tricky trache

Zoë Gilbertson – Advanced Specialist SLT

Amy Pundole – Clinical Lead SLT

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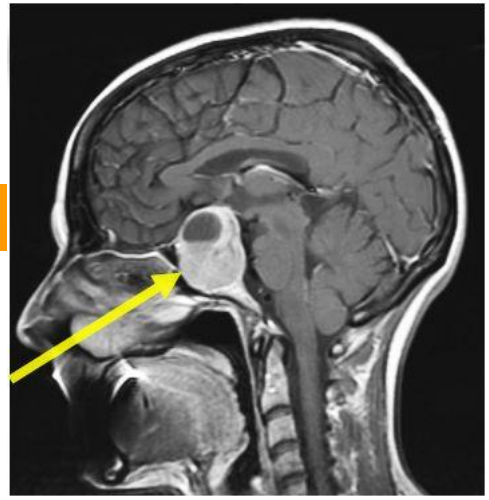
Mr P



- 36 year old man
- Admitted RHN Aug 15
- Suddenly unwell Feb 2015
- Clival Chordoma-Tumour in the posterior cranial fossa of the base of skull
- Endoscopic resection of the tumour
- Hydrochephalus/VP shunt
- Percutaneous trache inserted after surgery due to respiratory failure

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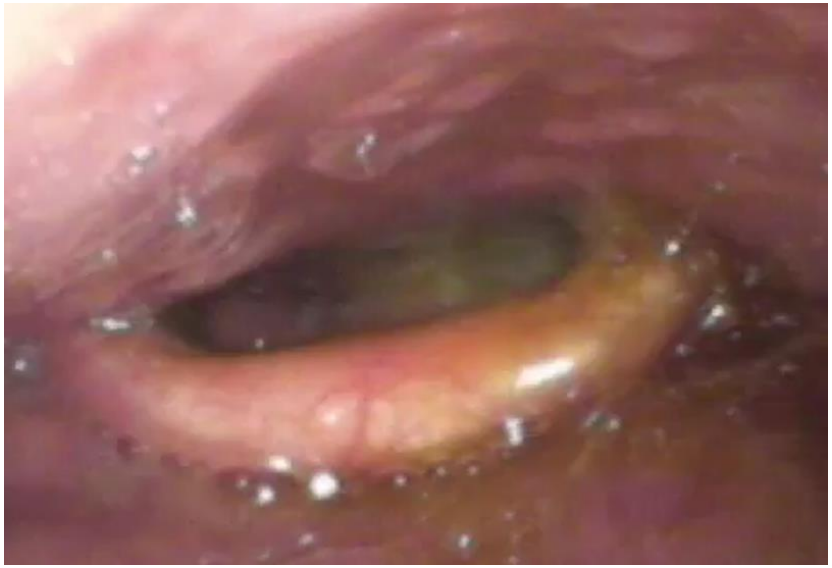
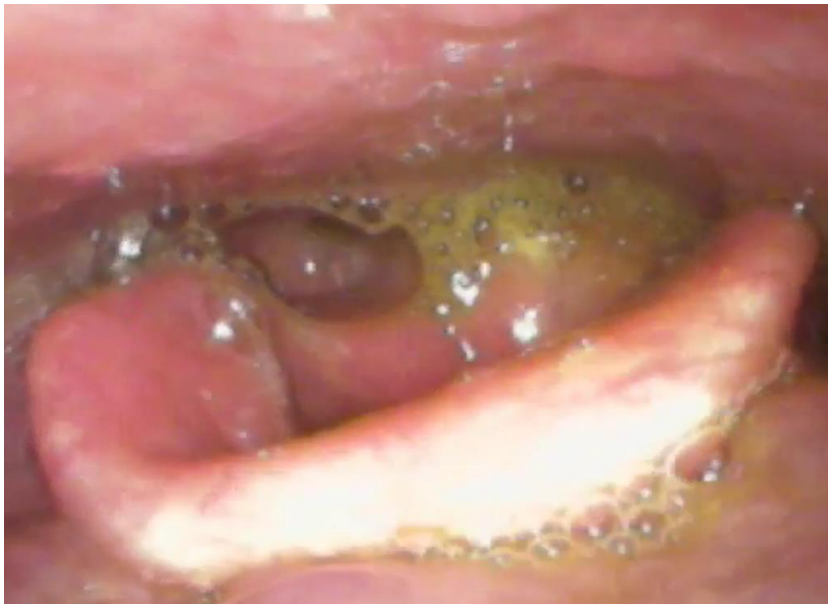
Mr P

- Significant physical and cognitive impairments, impacting on all functional tasks
- Spoke English and Mandarin, attempts to mouth unintelligible
- Thumbs up ‘yes’ head shake ‘no’
- Used writing with support
- Reduced awareness of limitations
- Poor attention, planning, problem solving, fatigue limited carry over between sessions

Mr P

- size 7 cuffed Portex suctionaid tracheostomy
- Cuff inflated 24 hours a day due to reduced saliva management and aspiration risk.
- 28% of heated humidified Oxygen
- FEES 1.9.15 deeply pooled saliva trialled with cuff down some swallows but ineffective. Wet ineffective cough.





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Oxygen weaning

- Started O2 wean Oct unable to keep sat above 95% RA
- Vestibular dysfunction frequent vomiting, chest infection
- Continued to require heated humidified oxygen frequent suctioning
- Trache upsized to Portex suctionaid size 8
- Unable to wean O2
- Pt and family very keen for cuff down and voice but high risk
- Pt very agitated wanted trache out & home

Plan

Cuff to stay up until weaned from O2

Step wise wean with very clear daily goals for pt

Nursing guidelines

SLT/psych/ Dr to explore capacity re decision making re trache

Used interpreter for several sessions

Shown FEES but unable to accept it was himself

voice

- Gradually Weaned O2
- Able to achieve functional voice in cuff deflation trial but decision to keep up until off 02
- Cuff deflation trails one way valve for voicing in best interests (behaviour, social interaction family, pt well being)
- voice but reluctant to re-inflate so contract

Trial of cuff deflation for voicing

Date:

Aim:

- To take the air out of your cuff to allow you have voice for up to 20 minutes if safe.
- To practise clear speech during this time.

There is a high risk of saliva going the wrong way onto your chest which could give you a chest infection and make you very ill but you will have the benefit of being able to talk.

We are **NOT** going to take the trache out while you are here. This is not a step to taking the trache out at this time just to allowing you some voice.

SLT agrees to make this as safe as possible by providing suction as the cuff is deflated and to monitor you carefully when the cuff is down.

Signed……

C agrees to allow the cuff to be inflated if there are signs that he is not managing or after a maximum of 20 minutes.

Signed……

Admission to LTC April ‘16

Long Term Care (LTC) is the specialist nursing home provision at the RHN.

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Review in Trache Clinic July ‘16

- Portex size 8, cuffed with subglottic port. HME in situ.
- No chest infections
- Moderate, thick, greenish/yellowish secretions. Suctioned regularly/inner cannula cleaned regularly when feed is on as tends to vomit.
- Hyoscine 2 patches; Glycopyronium; Carbocysteine
- Sats are now 94-96% at rest (previously aim 88%).

Actions in Trache Clinic July ‘16

- Repeat chest x-ray (PT/RN)
- Review saliva medications (MDT)
- Complete capacity assessment for trial cuff deflation in chair for quality of life. (SLT/Psych)

Management

- Lacked capacity to make a decision regarding cuff deflation however team and family agreed it was in his best interests to trial for quality of life
- Psych and SLT worked closely to contract with him to aid his understanding and compliance with the risk management protocol.
- Whole MDT worked together to ensure consistency

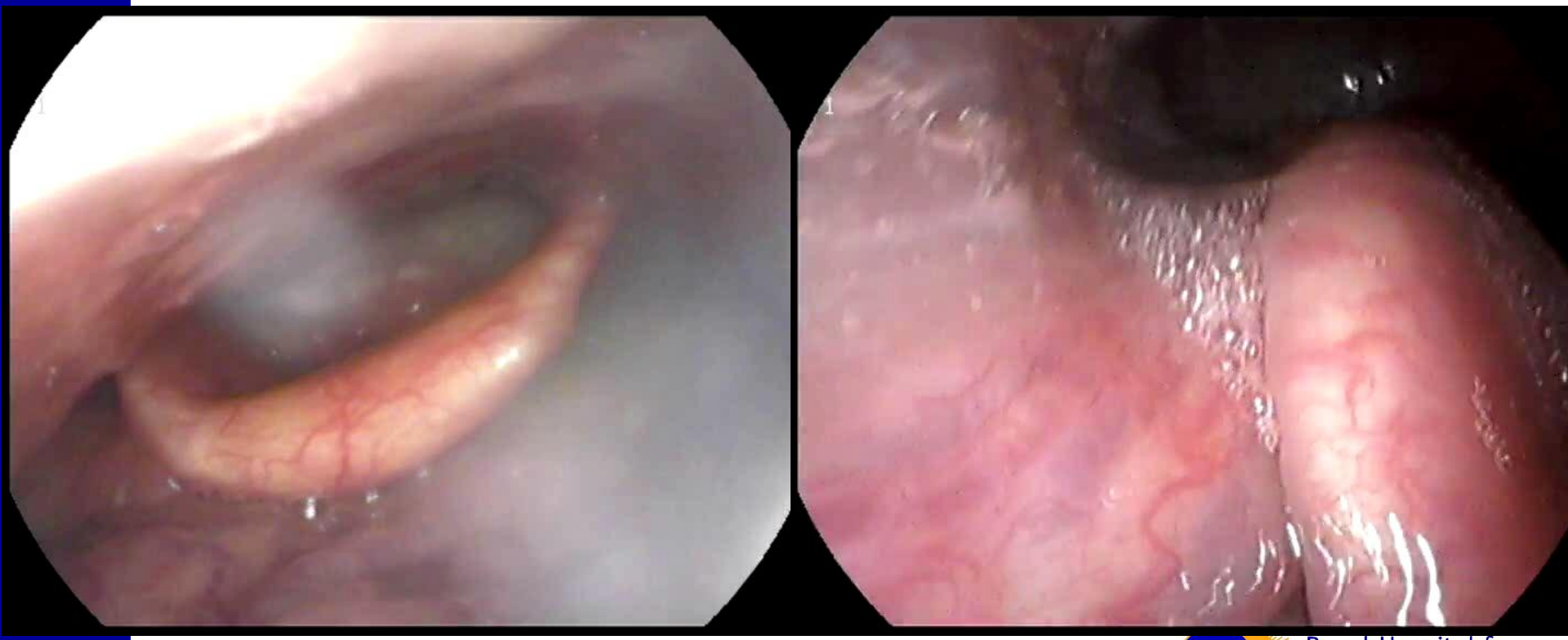
Review in Trache Clinic Nov ‘16

- Portex size 8, cuffed with subglottic port. Started OWV trials June. Now tolerating 6 hours. HME other times.
- No chest infections. CXR pre trials and another taken 31st August showed no changes.
- Moderate syrup, yellowish. Suctioned after nebulisation; inner cannula cleaned regularly
- Glycopyronium- 400mg TDS

Review in Trache Clinic Nov ‘16

- FEES Sept ‘16 -Remains at risk of silent aspiration on saliva; reduced saliva pooling compared to Feb FEES.
- ENT revealed narrow upper airway. Therefore unlikely that trache will be removed.
- **6 hours OWV in chair**, self-suctioning orally. Very dysarthric. Enjoying trying to talk.
- Skin irritation from Hyoscine therefore changed to glycopyrronium.
- Patient wanting to eat, team currently considering at risk feeding.

FEES comparison



Actions from Trache Clinic Nov ‘16

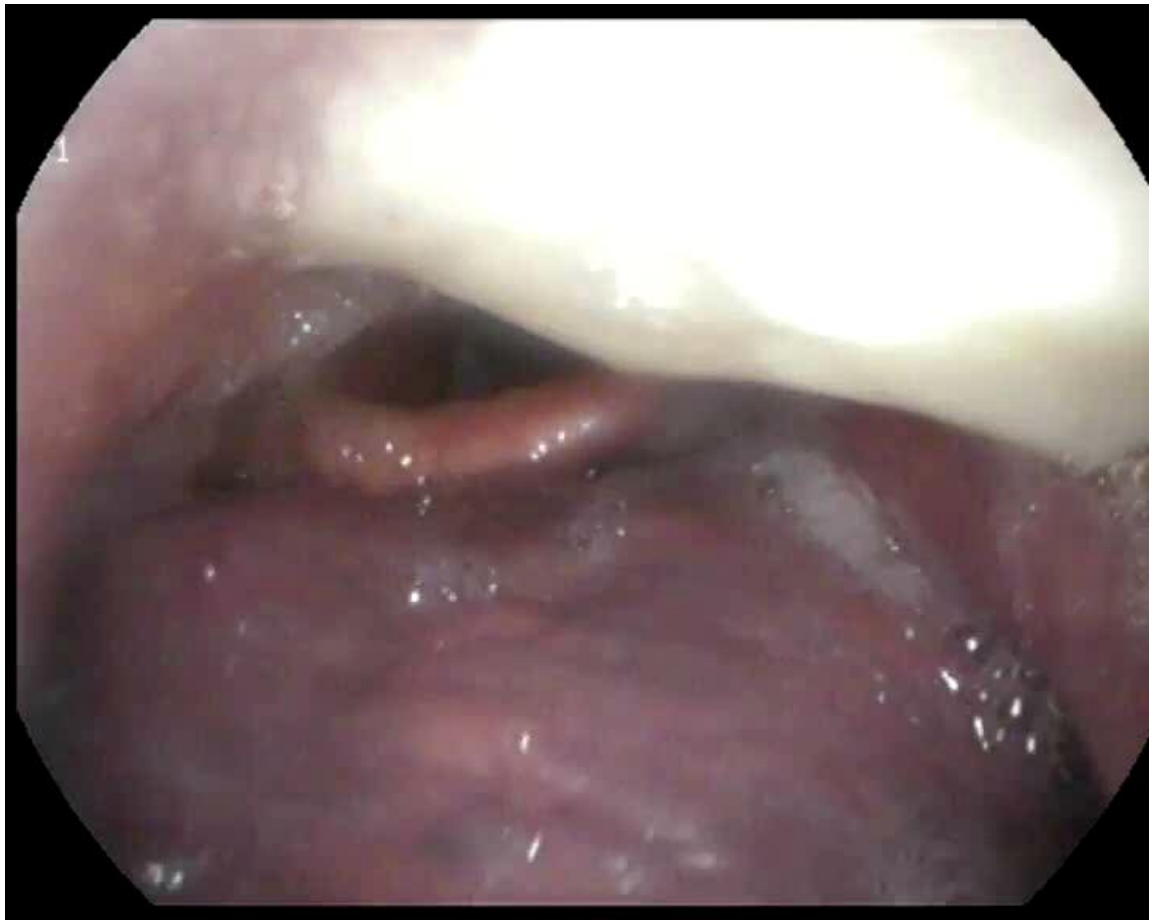
- ENT/FEES start of December to explore feeding with cuff up or down. (SLT)
- Monitor suction aid aspirates overnight (RN)

Management

- FEES Dec ‘16 – incoordination; reduced attempts at mastication, mildly delayed swallow, premature spillage and pooling to level of pyriform sinus with all consistencies trialled. Can be verbally prompted for clearing swallows. Swallow fatigue evident. Nil aspiration evident during assessment.

SLT trials of puree and syrup thick to commence!

FEES clip



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Where are we now?

- Daily OWV for 6 hours (whole of seating tolerance)
- Continues to orally suction and spit out to help manage saliva.
- Enjoys up to 200ml puree or syrup thick daily with nursing staff and strict control measures
- working on twice per day with fatigue limiting factor.
- Continues to require verbal prompting for 2nd swallow to maintain safety.

What next?

- Continue to review for cuff down 24hours/cuffless tube
- Continue to review ability to increase amount and variety of oral intake plan
- Team have communication guidelines to encourage clear speech strategies and volunteers are facilitating targeted speech practise

Open Lecture
Complex Tracheostomy Weaning

Case Study

Alice Howard – Advanced Specialist SLT
Kristian Pallesen – Senior 1 Physiotherapist

Background

48 year old

TBI – intracerebral haemorrhage with contusions in left cerebellum and left frontal lobe

Global ataxia, cognitive impairments

English second language, history of mental health difficulties, no fixed abode

Admitted October 2016

Prior to admission

Intubated due to low GCS and for neurosurgery

Size 7 cuffed tracheostomy tube

Recurrent aspiration pneumonia

1 Hyoscine patch

2 x one hour daily cuff deflations

At RHN

Initial assessment indicated drooling, reduced alertness, infrequent swallows, strong cough

FEES in first week of admission:

Not well tolerated, cuff up only

Management

- Trache changed to model with suction aid
- Botox to salivary glands early November
- Neurostimulant started and increased
- Antidepressant started
- Interpreter sessions for language/cognitive ax.

Change in Presentation

Started becoming agitated

(UTI? Constipated? Medication?)

Self-decannulated three times in a week, also pulling catheter and PEG, getting out of bed

Discussions around risk management

Lacked capacity around trache decisions, DoLS

Trache Review

Cuff deflation and OWV trials with PT/SLT

Variable at first then better

Able to speak

Team discussion – agreed quick weaning at some risk in patient's best interests to reduce risk of self-harm from self-decannulation

Decannulation

Decannulated mid December

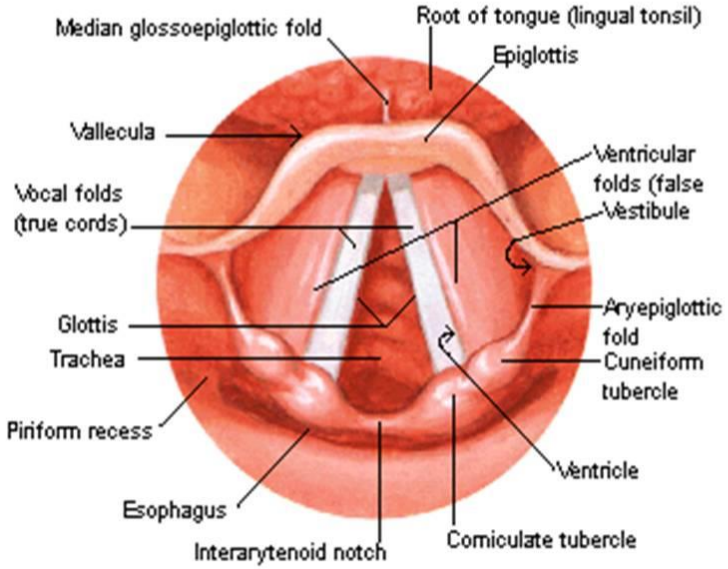
Initially stable then developed stridor, increased work of breathing, desaturating

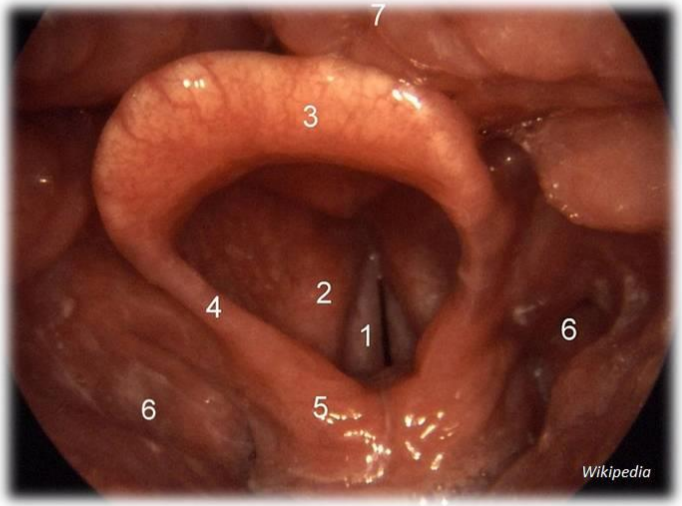
Emergency transfer to acute hospital

Prolapsed right arytenoid and aryepiglottic fold

Tracheostomy replaced

Laryngeal Anatomy (Mirror*)





1. True vocal cords
2. False cords
3. Epiglottis
4. Aryepiglottic folds
5. Arytenoids
6. Pyriform sinuses
7. Tongue base

Mirror Laryngoscopy, image is inverted.

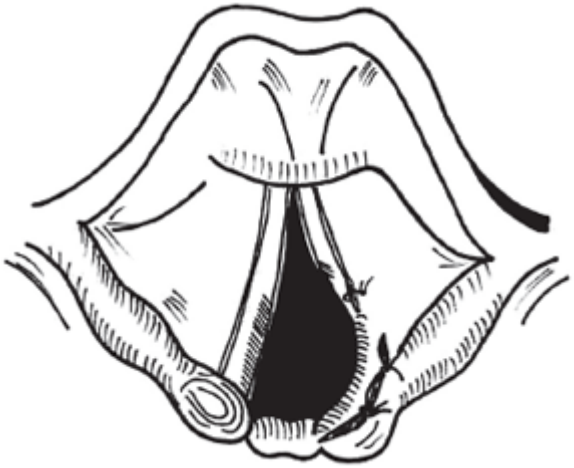
Back at RHN

Neurostimulant stopped

Upsized trache

Became more drowsy, drooling more

Arytenoidectomy suggested
by head and neck surgeon



On-going Management

Risk of aspiration increased with arytenoidectomy

Saliva management deteriorated when neurostimulant stopped

Botox repeated, small dose of neurostimulant restarted

Cuff deflation and one way valve trials with PT/SLT to allow opportunity for speech, practise saliva swallows

?refer back for arytenoidectomy