

**V P I**



**A CHALLENGE**

**40 YEARS  
A PHYSICIAN**

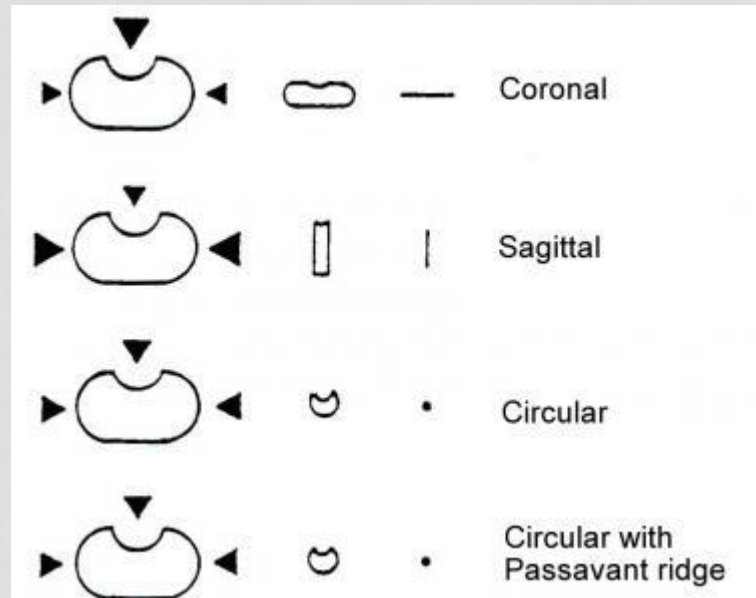


**37 YEARS  
TREATING  
PATIENTS  
WITH V P I**

**THE DEVIL KNOWS  
MORE FOR BEING  
OLD THAN FOR  
BEING THE DEVIL**

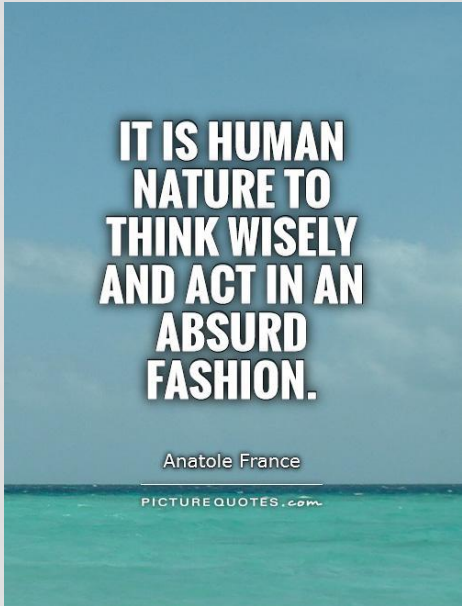
- **NO CP CENTER IN THE WORLD CAN CLAIM 0% PREVALENCE OF V P I AFTER PALATAL REPAIR (OR THEIR DATA IS NOT EVIDENCE BASED)**
- **MOST (RELIABLE) REPORTS: RESIDUAL V P I = AROUND 20%**
- **MORE LIKELY: AROUND 40%**

# VPS ANATOMY AND PHYSIOLOGY VARIES FROM INDIVIDUAL TO INDIVIDUAL



**THUS...**

**IT IS ABSURD TO EXPECT A  
SUCCESSFUL OUTCOME BY  
PERFORMING THE SAME  
PROCEDURE IN EVERY CASE**



**IT IS HUMAN  
NATURE TO  
THINK WISELY  
AND ACT IN AN  
ABSURD  
FASHION.**

Anatole France

[PICTUREQUOTES.COM](http://PICTUREQUOTES.COM)

# V P I

- **SHPRINTZEN : “TAILOR MADE FLAPS”**
- ***CUSTOMIZE VELOPHARYNGEAL SURGERY ACCORDING TO INDIVIDUAL CHARACTERISTICS OF THE ANATOMY AND PHYSIOLOGY OF THE VELOPHARYNGEAL SPHINCTER***

**EVEN IF YOU ARE SUPERSURGEON YOU NEED TO  
SEE THE SITE WHERE YOU ARE GOING TO OPERATE  
ON**



# INTRAORAL EXAMINATION

- **ONLY SAYING /a/**
- **DURING /a/ PALATE MAY “ELEVATE” OR NOT AND IT MEANS...NOTHING. MOREOVER, YOU CAN SEE THE PALATE BUT NOT THE LATERAL WALLS**





# ASSESSING VELOPHYARYNGEAL CLOSURE

- **CLOSURE OCCURS DURING PHONEMES WHICH REQUIRE INCREASED INTRAORAL PRESSURE (PLOSIVES, FRICATIVES)**
- **IN ALL THESE SOUNDS THE LIPS ARE...CLOSED, THUS:**
- **IMAGING PROCEDURES ARE  
INDISPENSABLE**

NOT WELL TOLERATED  
ESPECIALLY IN < 10 YO



**WELL TOLERATED**

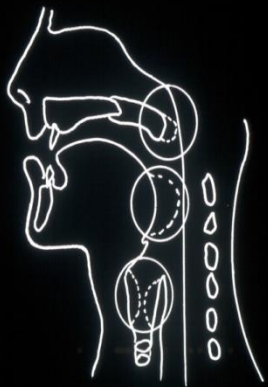
**NEVER PERFORM SURGERY FOR V P I  
WITHOUT ADEQUATE ASSESSMENT OF  
VELOPHARYNGEAL SPHINCTER:**

- **VIDEONASOPHARYNGOSCOPY**
- **MULTIPLANAR VIDEOFLUOROSCOPY**



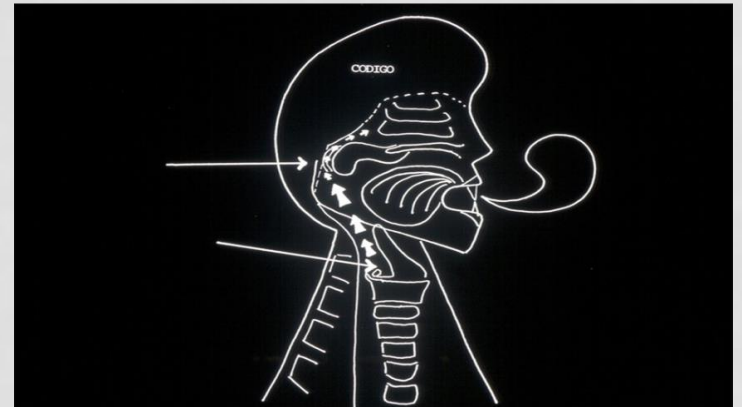
# IMAGING PROCEDURES FOR ASSESSING VELOPHARYNGEAL VALVE

- **ADEQUATE SPEECH SAMPLE**
- **ADEQUATE ARTICULATION PLACEMENT**
- **ENHANCE COMPLIANCE**
- **MAKE PATIENT AS COMFORTABLE AS POSSIBLE**
- **RECORD PROCEDURE WITH SOUND**
- **ONLY REPEATED OBS. BY CLINICIAN AND SURGEON IMPROVE DX. EFFICACY**



# V P I WITH – WITHOUT C A

- **COMPENSATORY ARTICULATION PATTERNS DECREASE VELOPHARYNGEAL MOVEMENTS**
- **SURGERY CAN HELP BUT CANNOT CORRECT ARTICULATION PLACEMENT**
- **ORAL MOTOR EXERCISES ARE USELESS!!**
- **THE ONLY EXERCISE FOR SPEECH IS SPEECH**
- **SEE COCHRANE 2015**
- **ASHA 2009 (LOF)**



# 2015

## Non-speech oral motor treatment for children with developmental speech sound disorders (Review)

Lee ASY, Gibbon FE

*Oral Motor Exercises Update*

*ASHA Convention 2009*

*G. L. Lof*

*Page 1*

## **Nonspeech Oral Motor Exercises: An Update on the Controversy**

*American Speech-Language-Hearing Association Convention*

New Orleans, LA    November 20, 2009



**MGH INSTITUTE  
OF HEALTH PROFESSIONS**

A graduate school founded by Massachusetts General Hospital

**Gregory L. Lof, Ph.D., CCC-SLP**

*Department Chair/Associate Professor*

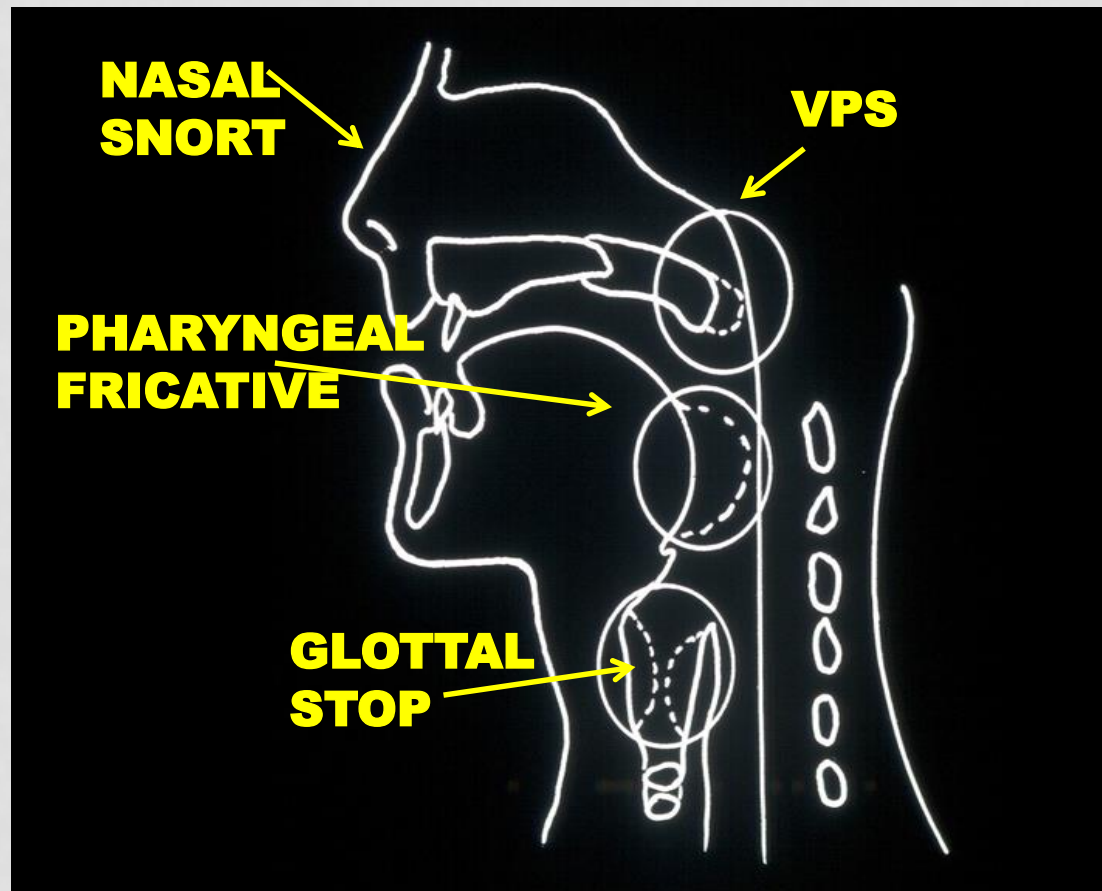
Department of Communication Sciences and Disorders    Boston, MA 02129-4557

[glof@mghihp.edu](mailto:glof@mghihp.edu)

<http://www.mghihp.edu>

# 2009

**COMPENSATORY ARTICULATION PATTERNS: DISPLACEMENT OF ADEQUATE ARTICULATION PLACEMENT TO ABERRANT PLACEMENT IN AN ATTEMPT TO APPROXIMATE THE SOUND THAT IS BEING PERCEIVED**



# **COMPENSATORY ARTICULATION PATTERNS**

- **REGULATION / CONTROL THEORY** (WARREN, 1986; BRESSMANN, 2018) :
- **Mechanoreceptors in the oral and nasal cavities send feedback of air pressure imbalance, which is automatically compensated with an increase in airflow from the lungs.**

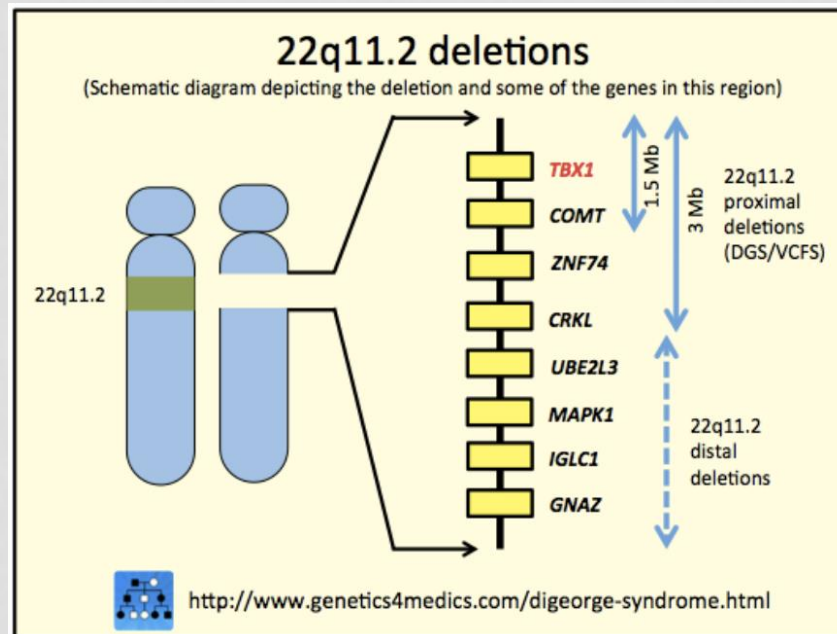
# V P I

• SYNDROMIC

VS

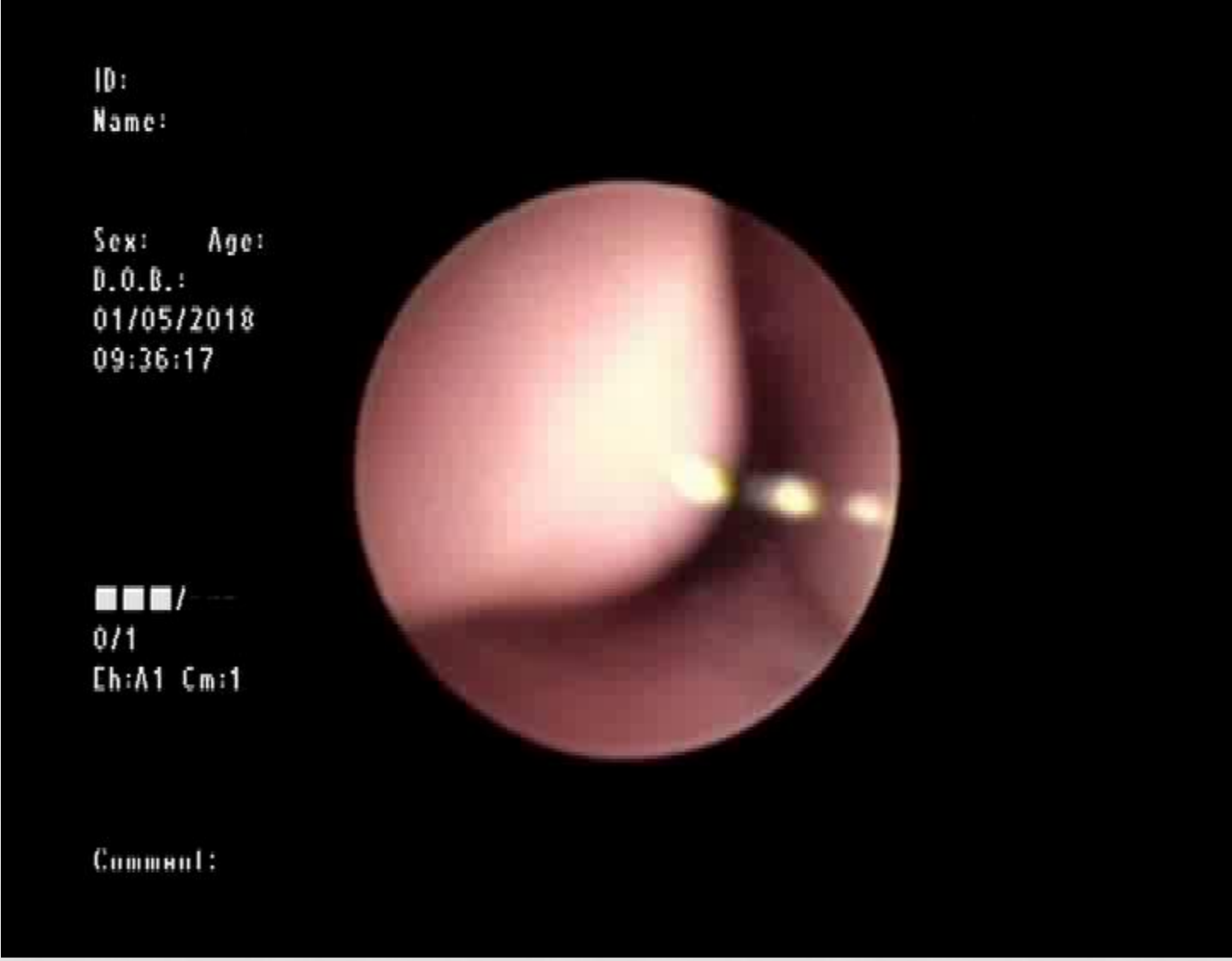
NON - SYNDROMIC

**DIFFERENT  
SURGICAL  
APPROACH**





# 8 YO FEM. V P I AFTER T(caps) & A. HISTORY OF MILD STRIDOR



ID:  
Name:

Sex: Age:  
D.O.B.:  
01/05/2018  
09:36:17

■■■/—  
0/1  
Ch:A1 Cm:1

Comment:

# AFTER IMAGING PROCEDURES

- **GOOD OL' T & A (COMPLETE RESECTION OF ADENOID TISSUE – INTRAOPERATIVE ENDOSCOPIC MONITORING. CYST RESECTION**
- **SNP – CMA = 8q22.2 DELETION (1.027 Mb)**
- **NECK CT SCAN = NORMAL I C A'S**
- **P S G = NORMAL AHI, O2, CO2; NO SLEEP DISORDERED BREATHING.**
- **PHARYNGEAL FLAP (7 MONTHS AFTER T & A)**
- **ADEQUATE SPEECH AND RESONANCE POSTOP**

# **THE BEST PHONIAATRIST IN MOVIES**

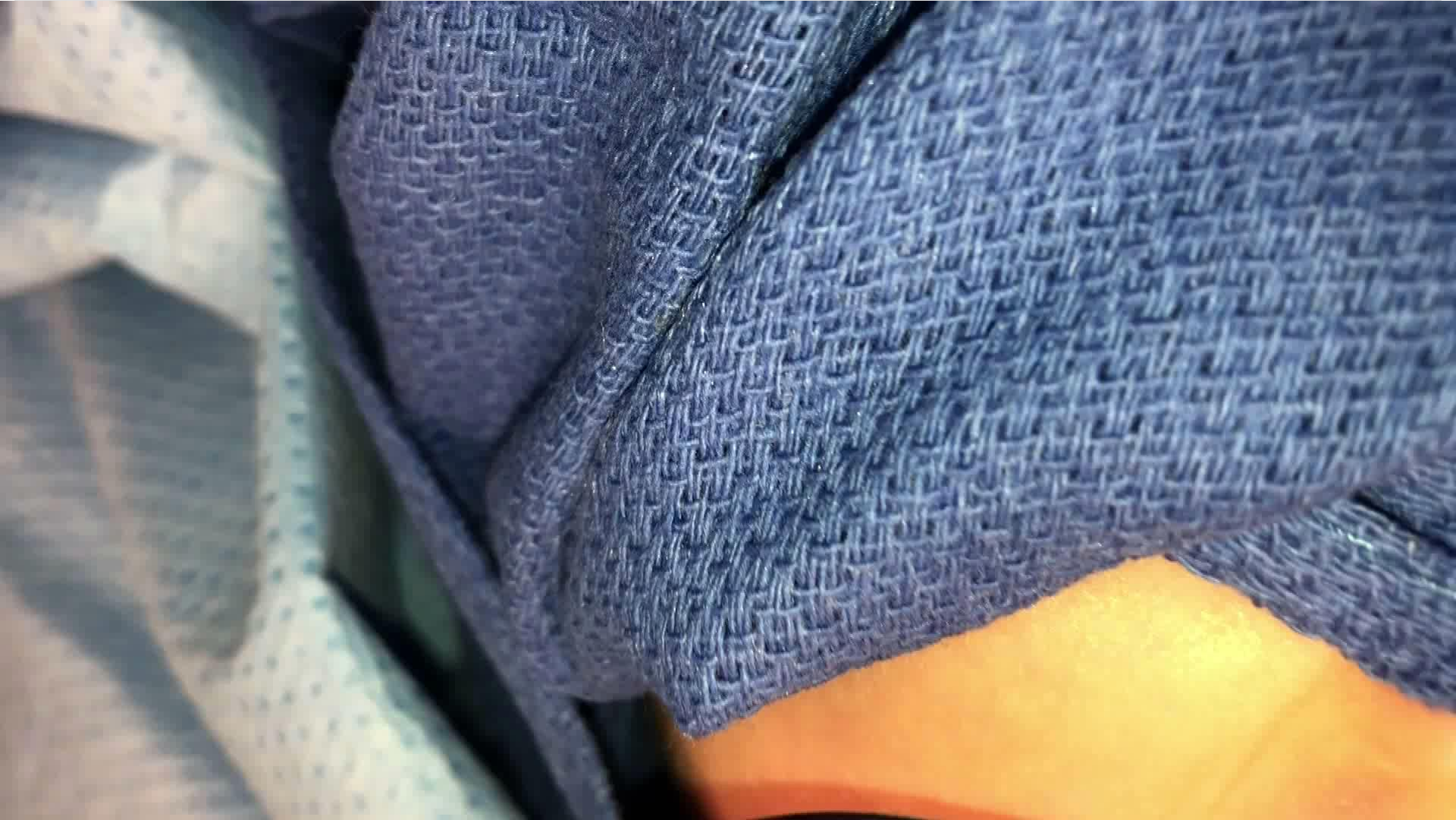
INSERT VIDEO HERE

# **T & A IN PATIENTS WITH VPI**

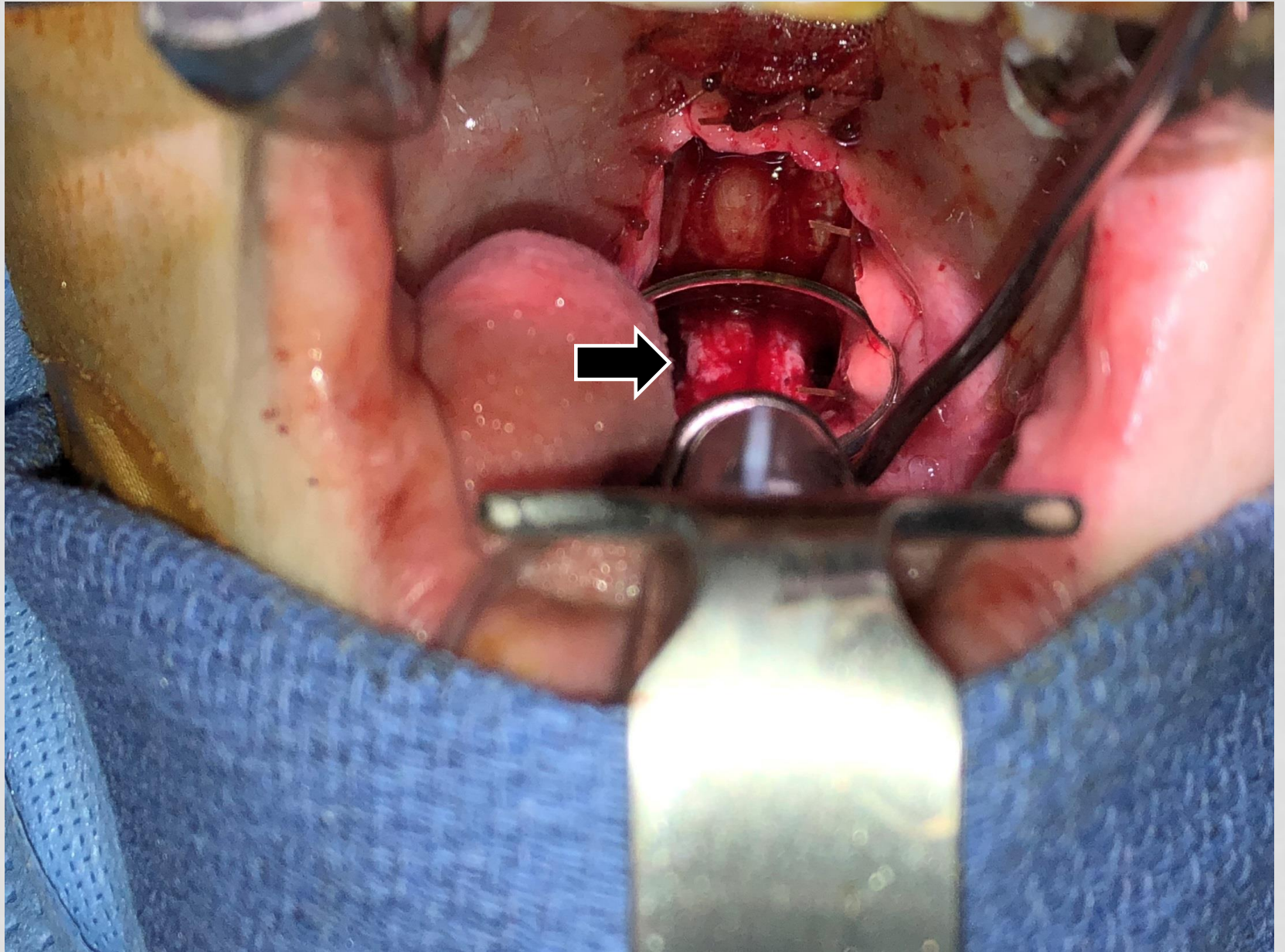
**WHEN ?? WHO ??  
HOW ??**



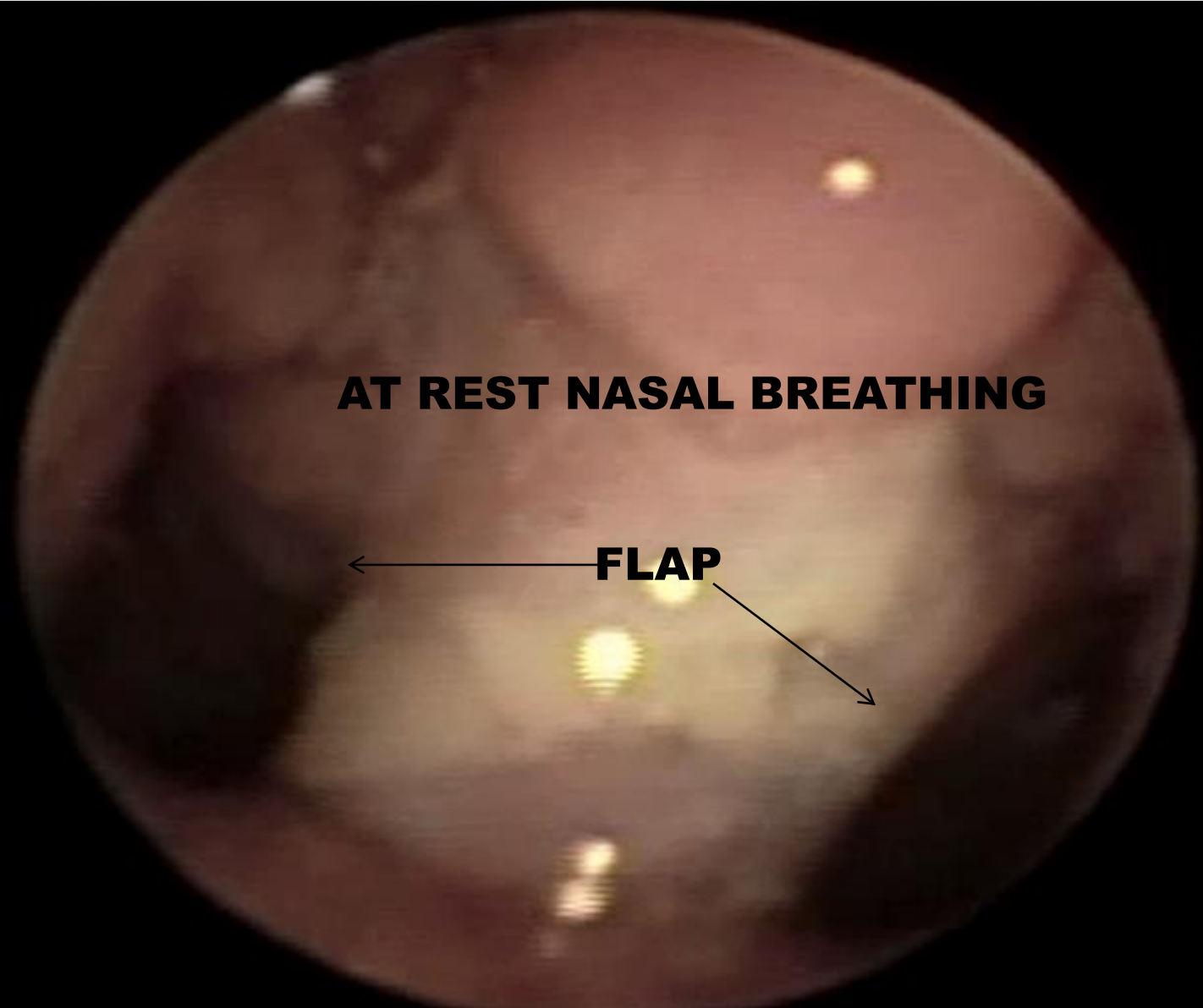
**5 YO. VPI. 22Q11.2. INTRAOPERATIVE VIEW BEFORE T & A**



# FINAL INTRAOPERATIVE VIEW OF FLAP ON MIRROR



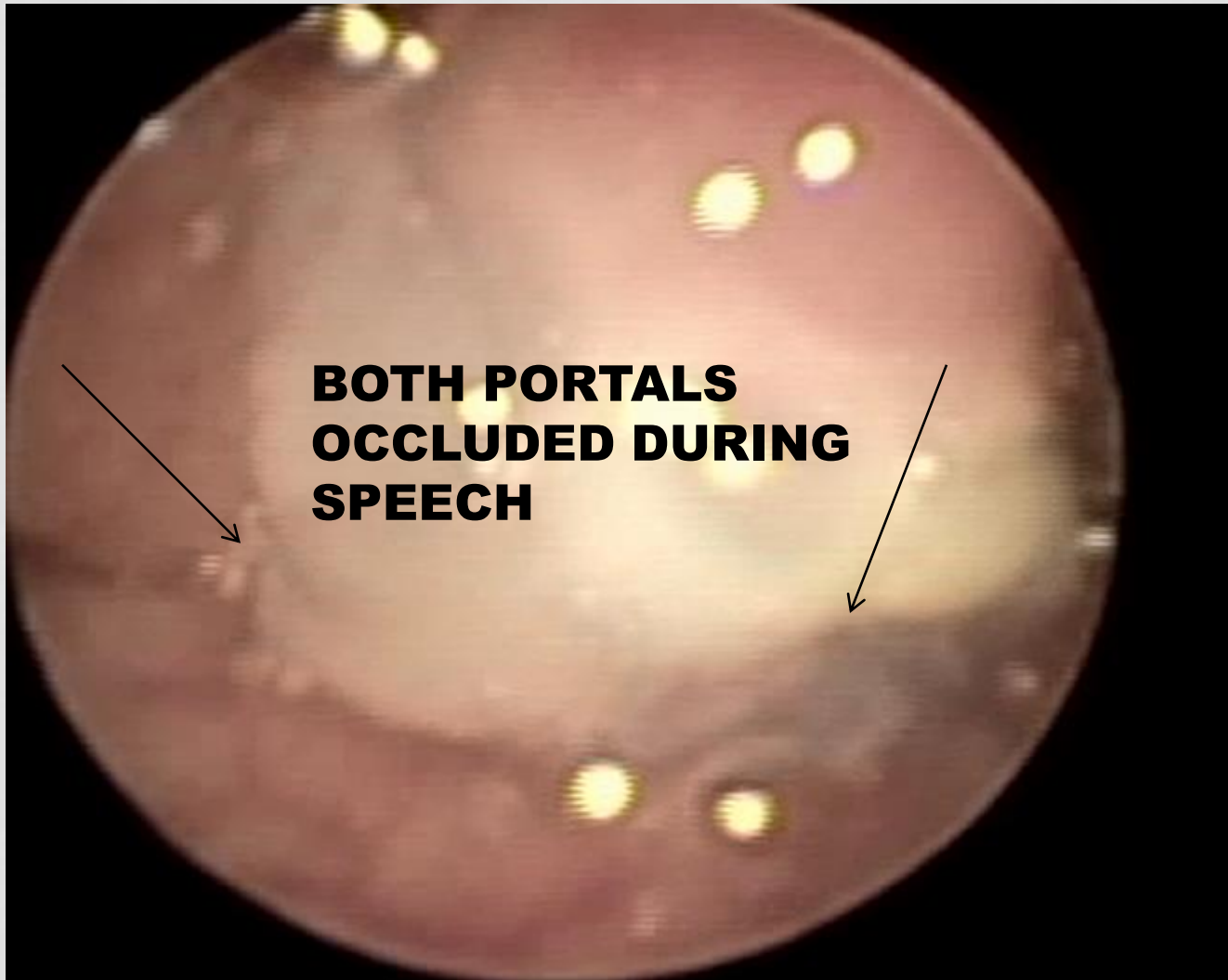
**ENDOSCOPIC VIEW OF FLAP 2 MO POSTOP**



**AT REST NASAL BREATHING**

**FLAP**

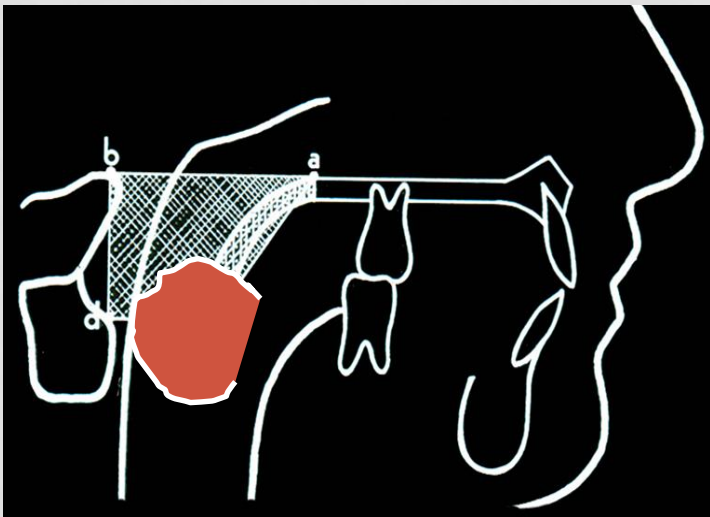
## **ENDOSCOPIC VIEW OF FLAP 2 MO POSTOP**





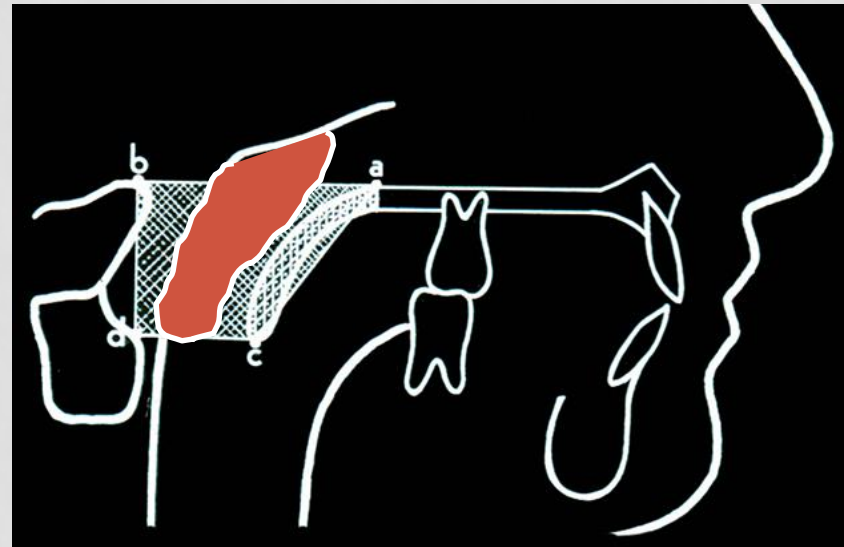
# TONSILLECTOMY

- **MYTH: TONSILLECTOMY CAN INCREASE VPI**
- **AU CONTRAIRE !: ENLARGED TONSILS CAN ACTUALLY HINDER PALATAL MOVEMENTS DURING SPEECH. TONSILLECTOMY CANNOT CAUSE VPI (UNLESS YOU DO IT W MEX MACHETE)**



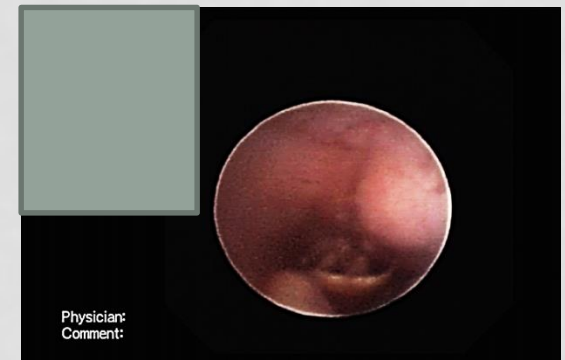
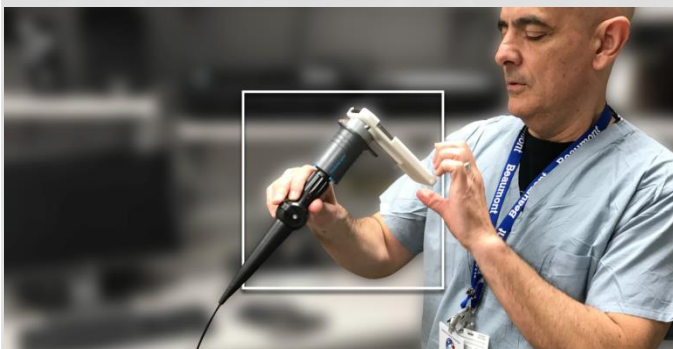
# ADENOIDECTOMY

- **ENLARGED ADENOID CAN CONTRIBUTE TO VELOPHARYNGEAL CLOSURE BUT THEY CAN BE OBSTRUCTIVE**
- **ADENOIDECTOMY CAN CAUSE V P I EVEN WITHOUT ANY PALATAL ANOMALY**
- **ADENOID ARE USUALLY WHERE FLAP OR SPHINCTER SHOULD BE**



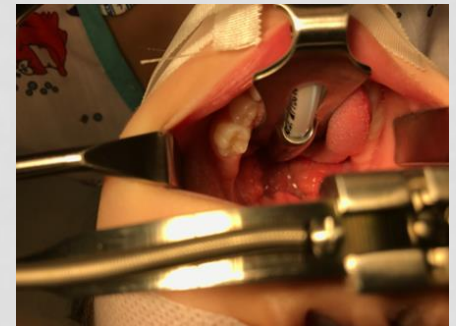
# T & A AND VELOPHARYNGEAL SURGERY

**T & A IN PREPARATION FOR  
VELOPHARYNGEAL SURGERY CAN PREVENT  
SLEEP DISORDERED BREATHING  
DECISION BASED ON IMAGING FINDINGS (NOT  
INTRAORAL EXAMINATION!)  
COMPLETE REMOVAL OF ADENOID IMPROVES  
SUCCESS OF VELOPHARYNGEAL SURGERY**



# T & A

- **NOT IN SAME SURGICAL TIME AS FLAP OR SPHINCTER PHARYNGOPLASTY**
- **HIGHER INCIDENCE OF INTRAOPERATIVE AND POSTOPERATIVE COMPLICATIONS**
- **LOWER SUCCESS RATE OF CORRECTING V P I**

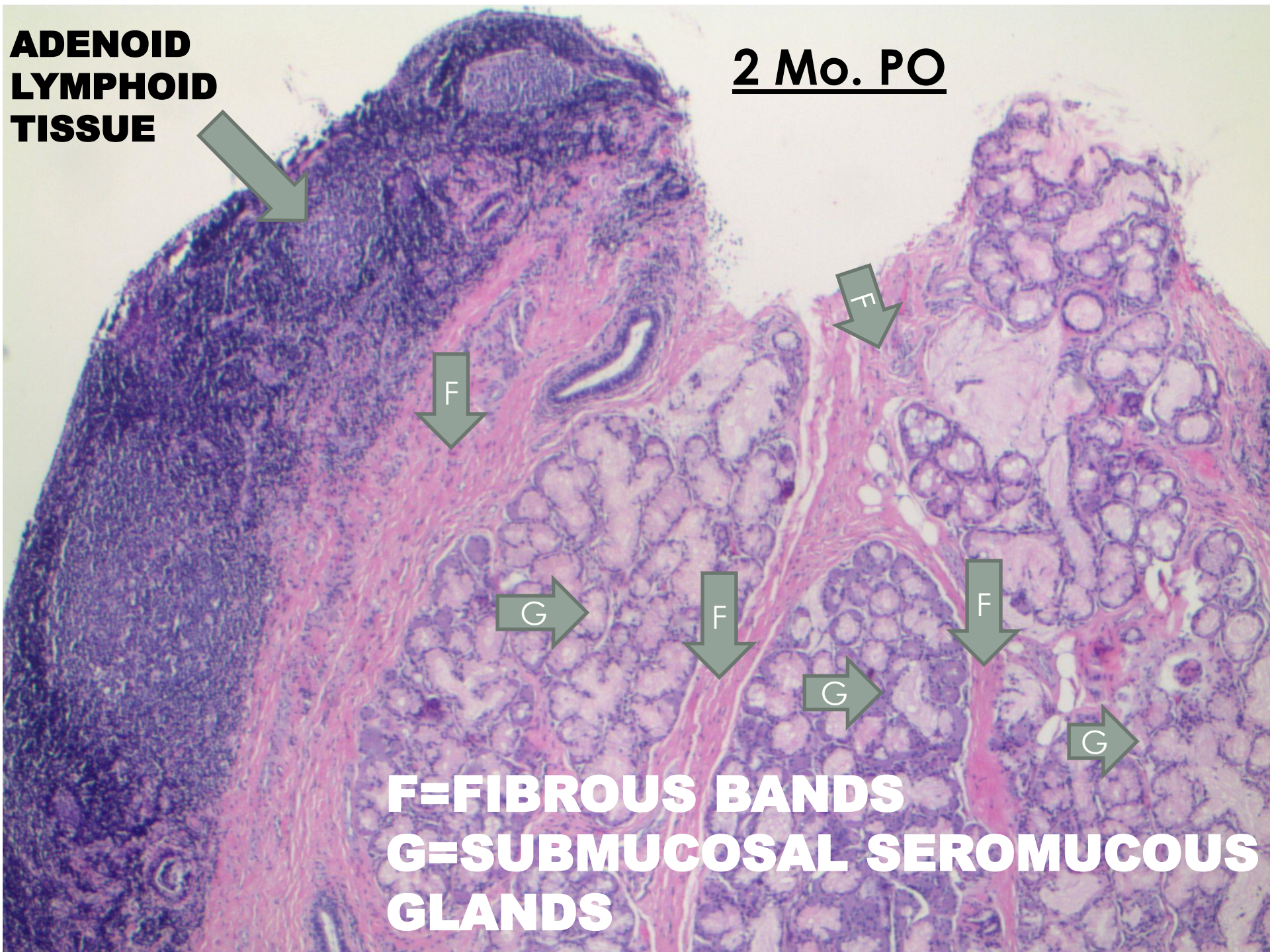


# **T & A AND VELOPHARYNGEAL SURGERY**

- **VELOPHARYNGEAL SURGERY: HOW LONG FOLLOWING T & A?**
- **2 MONTHS?**
- **4 MONTHS?**
- **6 MONTHS?**
- **MORE?**

**ADENOID  
LYMPHOID  
TISSUE**

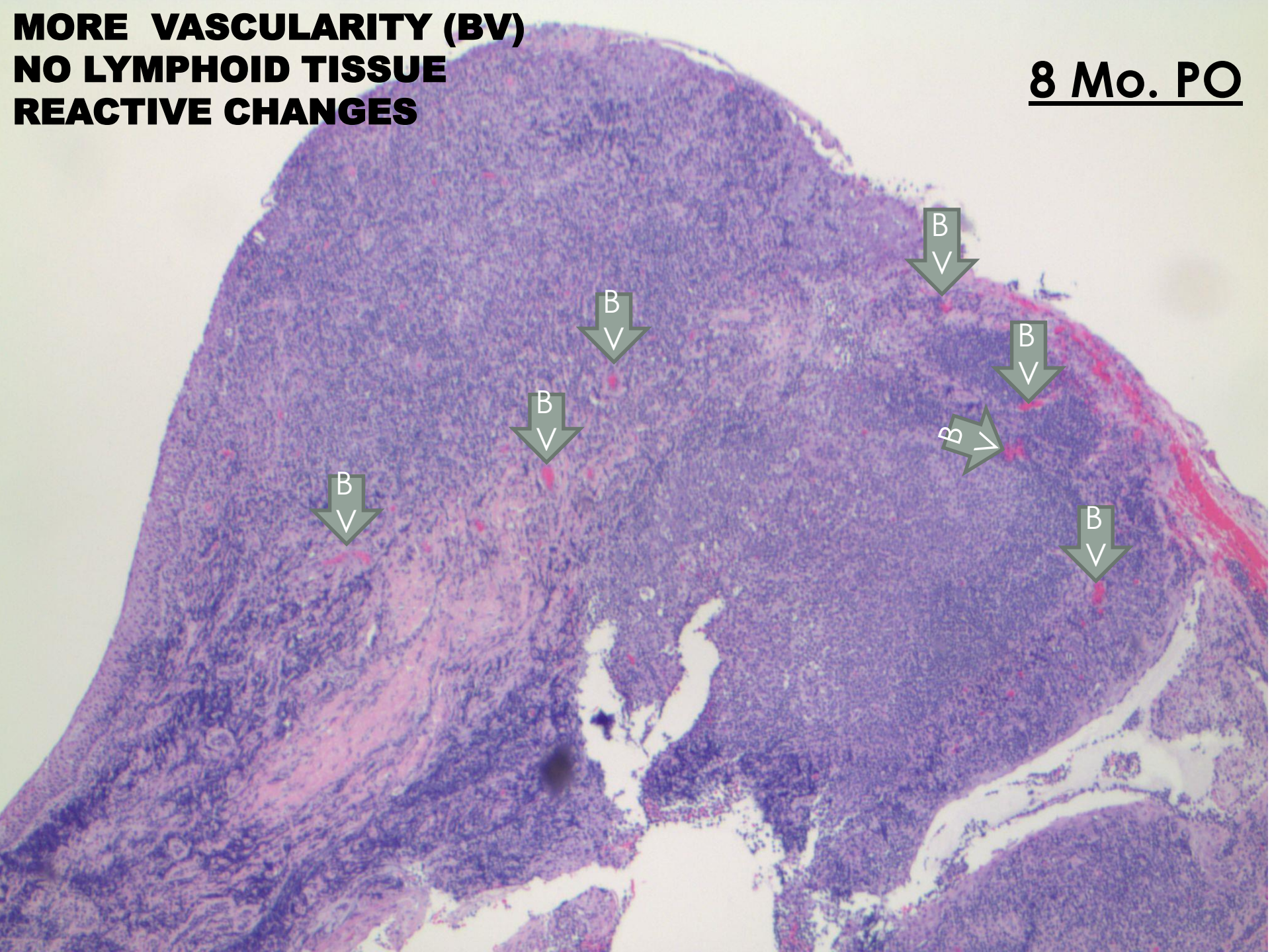
**2 Mo. PO**



**F=FIBROUS BANDS  
G=SUBMUCOSAL SEROMUCOUS  
GLANDS**

**MORE VASCULARITY (BV)  
NO LYMPHOID TISSUE  
REACTIVE CHANGES**

**8 Mo. PO**



**PHARYNGEAL FLAP 2 MO. AFTER T & A  
VPI CORRECTED. GRANULOMA ON POST. PHAR. WALL**

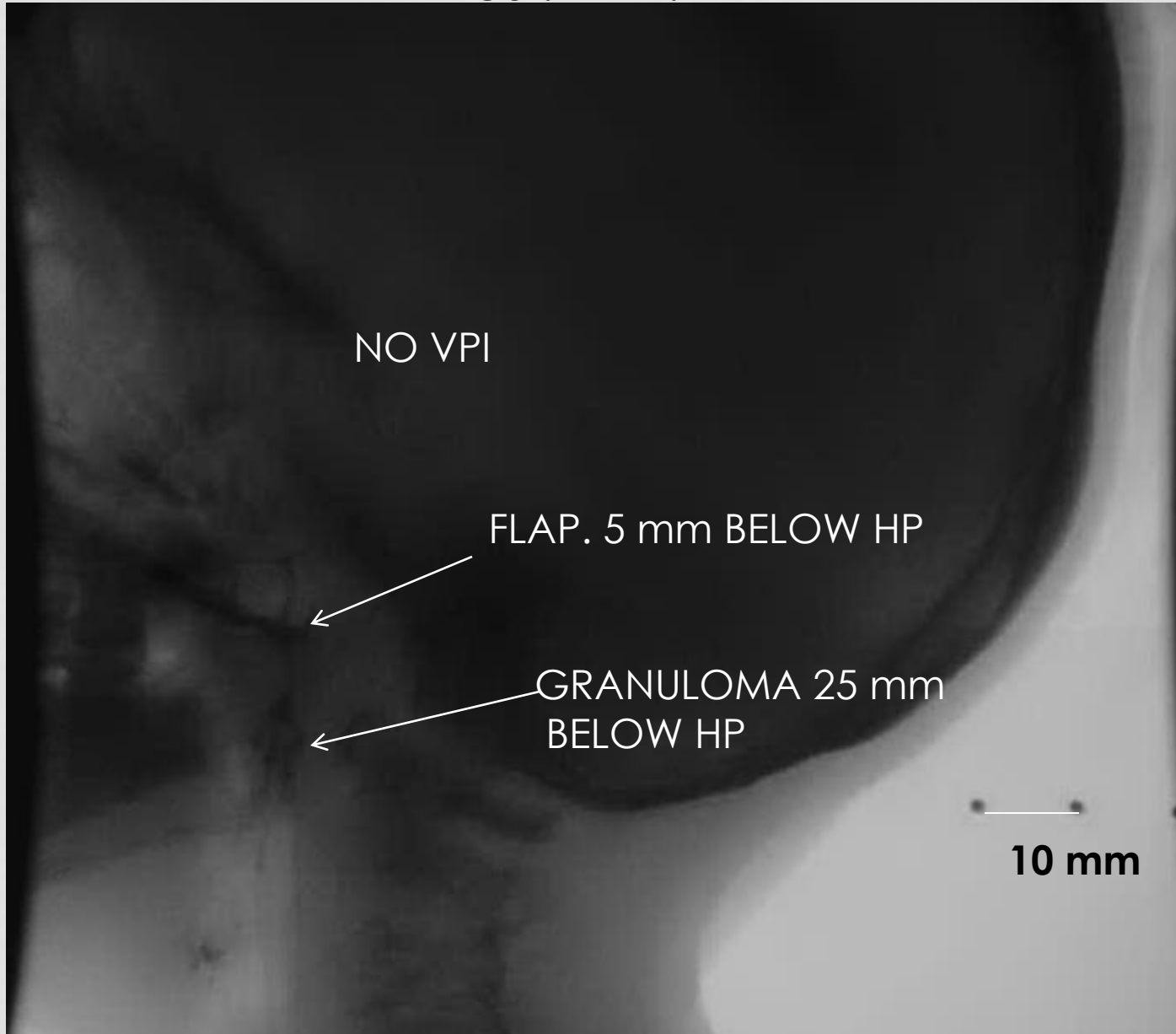




**PHARYNGEAL FLAP 2 MO. AFTER T & A  
VPI CORRECTED. GRANULOMA ON POST. PHAR. WALL**



**PHARYNGEAL FLAP 2 MO. AFTER T & A  
VPI CORRECTED. GRANULOMA ON  
POST. PHAR. WALL**



NO VPI

FLAP. 5 mm BELOW HP

GRANULOMA 25 mm  
BELOW HP

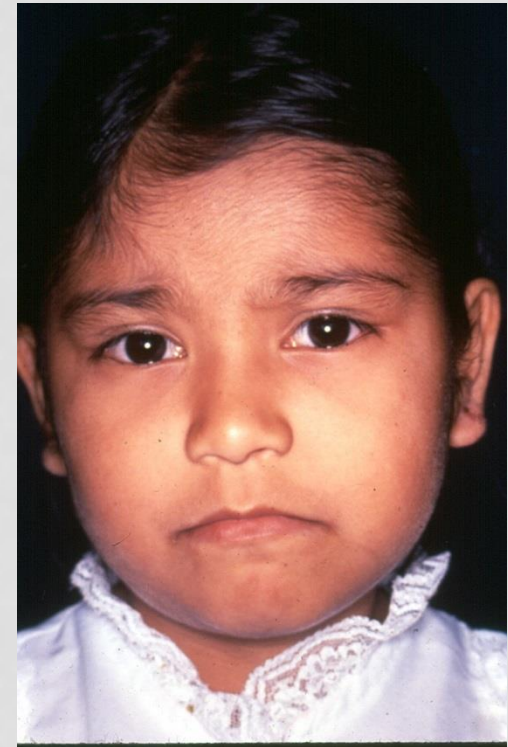
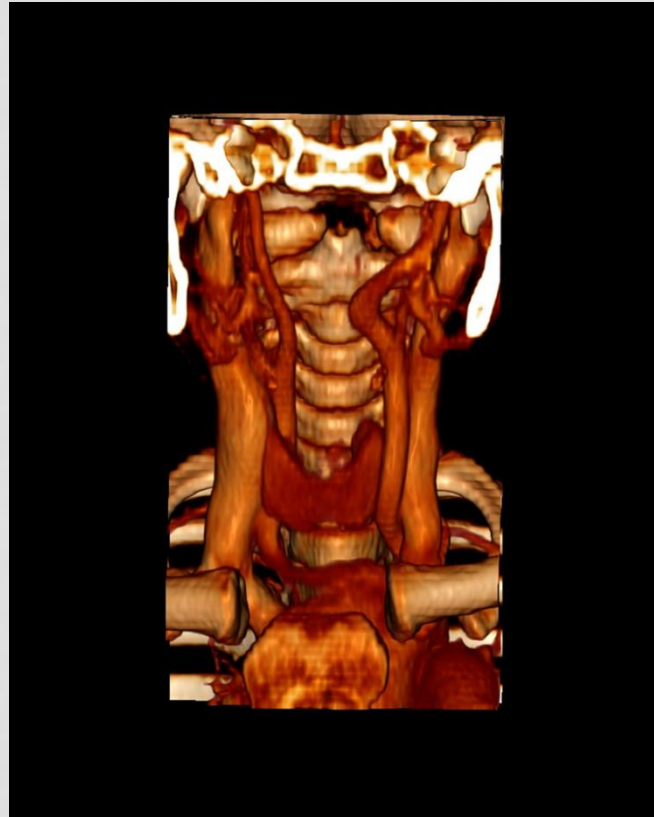
10 mm



*Good things*

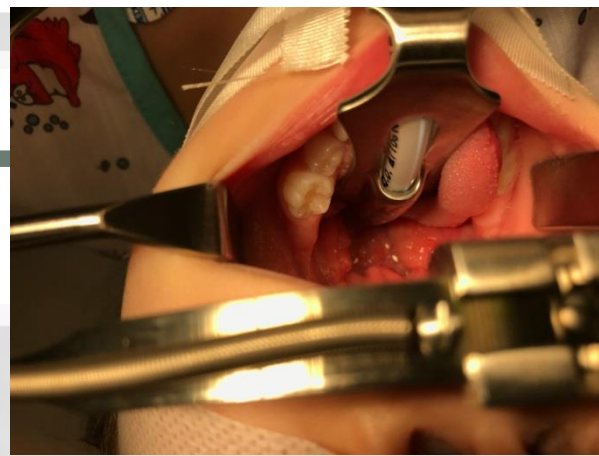
*come to those who wait*





**NON-SYND V P I = 45% T&A BEFORE FLAP  
OR SPHINCTER PHARYNGOPLASTY**

**SYND V P I = 98% T&A BEFORE FLAP OR  
SPHINCTER PHARYNGOPLASTY**

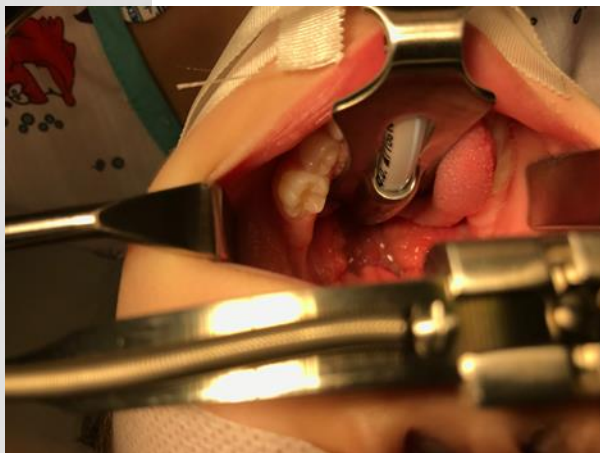


- TONSILLECTOMY AFTER FLAP IS FEASIBLE AND NOT EXTREMELY COPPLICATED
- **ADENOIDECTOMY** AFTER FLAP IS VEEEERY DIFFICULT (A.P.I.T.A)





*"Nurse, get on the internet, go to SURGERY.COM, scroll down and click on the 'Are you totally lost?' icon."*





Comparison of three different surgical techniques for designing pharyngeal flaps according to findings of videonasopharyngoscopy and multiplanar deofluoroscopy



Roberto Antonio Ysunza\*, Kongkrit Chaiyasate, Matthew Rontal, Kenneth Shaheen, Blake Bartholomew

**2019**

- **200 PHARYNGEAL FLAPS (2012 – 2017)**
- **INCLUDING CLP; CP; SYNDROMES; VPI WO CLEFT**
- **ACCORDING TO IMAGING FINDINGS (VNP & MPVF)**
- **3 DIFF SURGEONS – 3 SLIGHTLY DIFF TECHNIQUES**
- **\*\*\*RADIATION DOSAGE < 10 mSv; X = 2.70 SD = 1.51**
- **\*\*\*\*95 % SUCCESS**

# SURGERY FOR VPI (< 10 YO)

- **54** PHARYNGEAL FLAPS (2014 – 2017)
- INCLUDING CLP; CP; SYNDROMES; VPI WO CLEFT
- ACCORDING TO IMAGING FINDINGS (MPVF AND VNP IN OR W PREOP SEDATION)
- 3 DIFF SURGEONS – 3 SLIGHTLY DIFF TECHNIQUES
- \*\*\*RADIATION DOSAGE < 10 mSv; X = 2.54  
SD = 1.40
- \*\*\*\*99 % SUCCESS



# **CORRECTING V P I**

- **OPEN YOUR OPTIONS!!**
- **SECONDARY INTRAVELAR VELOPLASTY OR FURLOW**
- **FAT INJECTION**
- **SYNTHETIC INJECTION**
- **PHARYNGEAL FLAP**
- **SPHINCTER PHARYNGOPLASTY**
- **PHARYNGEAL OBTURATOR**
- **SLP TREATMENT**
- **PLAN AND CUSTOMIZE!!**
- **INDIVIDUALIZE!!**



# THE VIOLIN METAPHOR DESCRIBING THE ROLE OF THE SURGEON IN CLEFT PALATE SURGERY

- *“A violin without strings cannot be played”*
- *“It is the surgeon who puts the strings on the instrument”:*  
Fernando Ortiz –  
Monasterio MD



**But...It is the speech and language pathologist who teaches how to play**



**BEING WELCOMED TO THIS MOST HONORABLE  
AND PRESTIGIOUS CLUB...**

**I REMEMBER THE WORDS OF MY PROFESSOR...**

**“RESEARCH MUST BE:**

**UNCOMFORTABLE, IRREVERENT,  
HERETIC”**

**RENE DRUCKER Ph. D. (R.I.P.)**





**THE ONE AND ONLY REAL  
REWARD: THE SMILE OF OUR  
PATIENTS AND FAMILIES**

Beaumont

**GRACIAS  
POR SU  
ATENCIÓN !!**



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