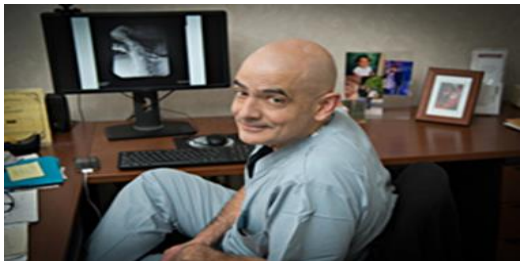


The role of the Speech Pathologist in the Dx & Treat. Of VPI

Dos and Don'ts



Role of SLP in Dx & Treatment of VPI

Questions – Write answers

AGENDA

Presentation – Animations. Examples. Etc

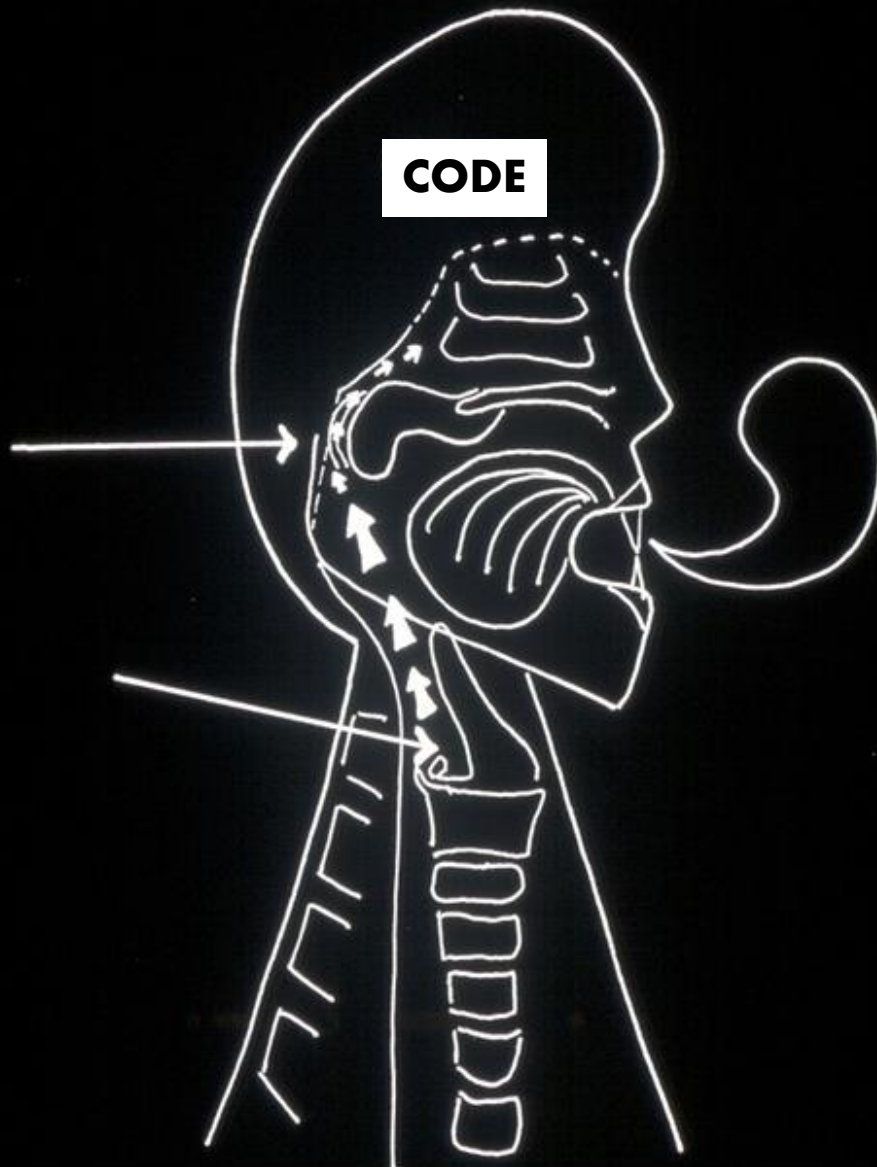
Dos and don't's with comments

Discussion

Conclusions



CODE



Universal Parameters for Reporting Speech Outcomes in Individuals With Cleft Palate

Gunilla Henningsson, Ph.D., David P. Kuehn, Ph.D., Debbie Sell, Ph.D., Triona Sweeney, Ph.D., Judith E. Trost-Cardamone, Ph.D., Tara L. Whitehill, Ph.D., Speech Parameters Group*

Cleft Palate – Craniofac J
Jan, 2008, 45, No. 1

Hypernasality



Mild (versus normal: poor intra – inter reliability)



Moderate (Still intelligible; always indicate Eval.)



Severe (Affect intelligibility)

Hyponasality

Yes



No

(Nasalance < 20)

Nasal emission

Yes / No



Consistent

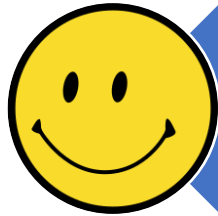


Inconsistent

Phoneme specific



Other important variables



Speech understandability
or intelligibility



Speech acceptability



Speech quality

V P I



With adequate artic placement
or phonological processes

With compensatory artic
patterns

what part of
"It's NOT ready yet"
don't you understand?

V P I and Comp. Artic.

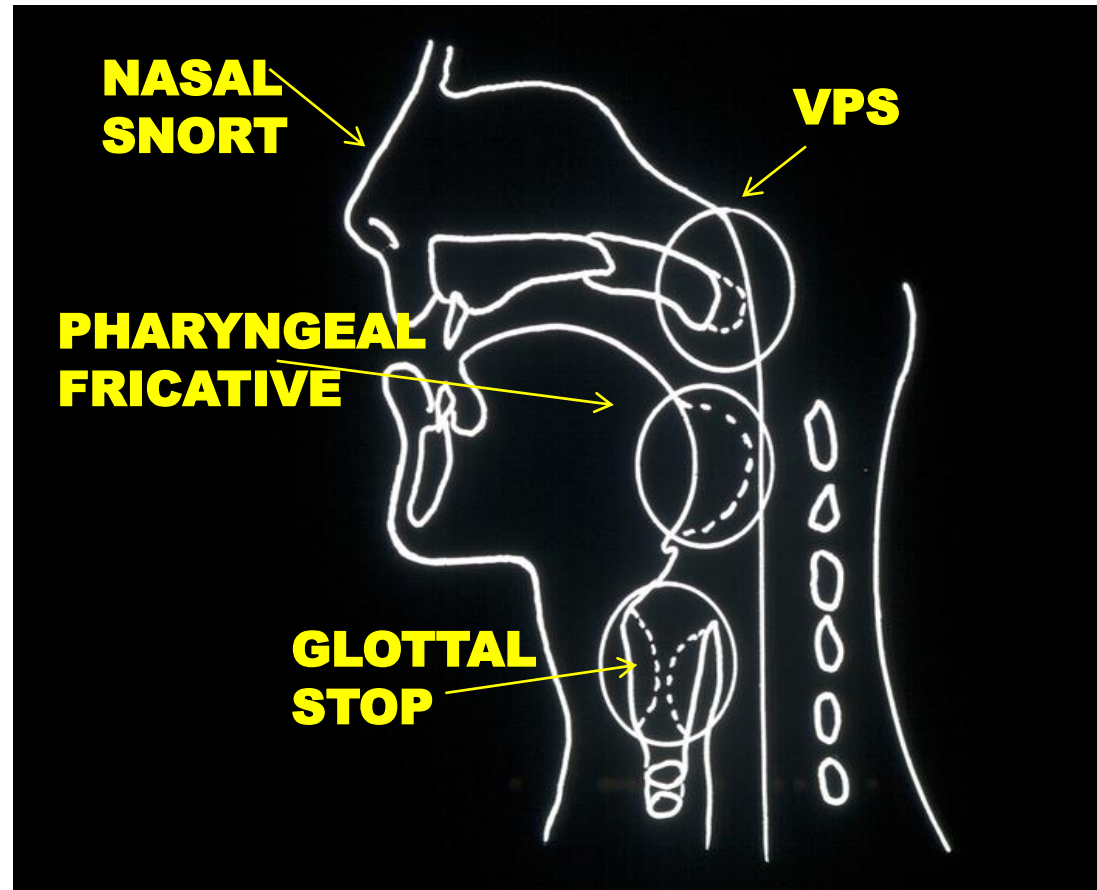
SLP treat. Correct V P I only 1% or cases (Comp. Artic)

Comp. Artic. Is not corrected by surgery (but correcting V P I helps)

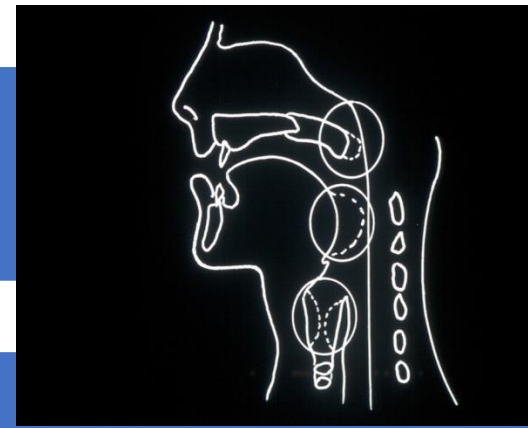
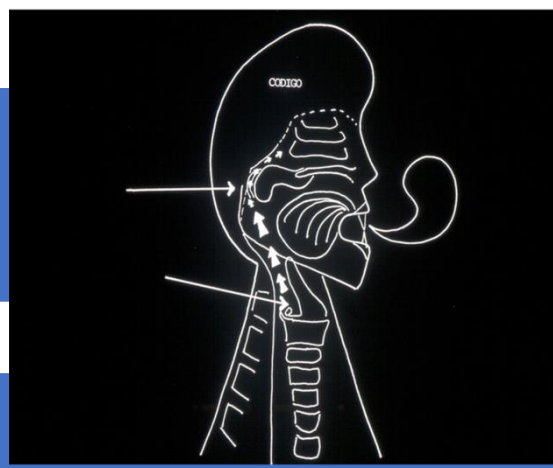
**NO CONFUNDIR LA
MAGNESIA CON LA
GIMNASIA**



Compensatory artic patterns: Displacement of adequate articulation placement to aberrant placement attempting to approximate the sound that is perceived



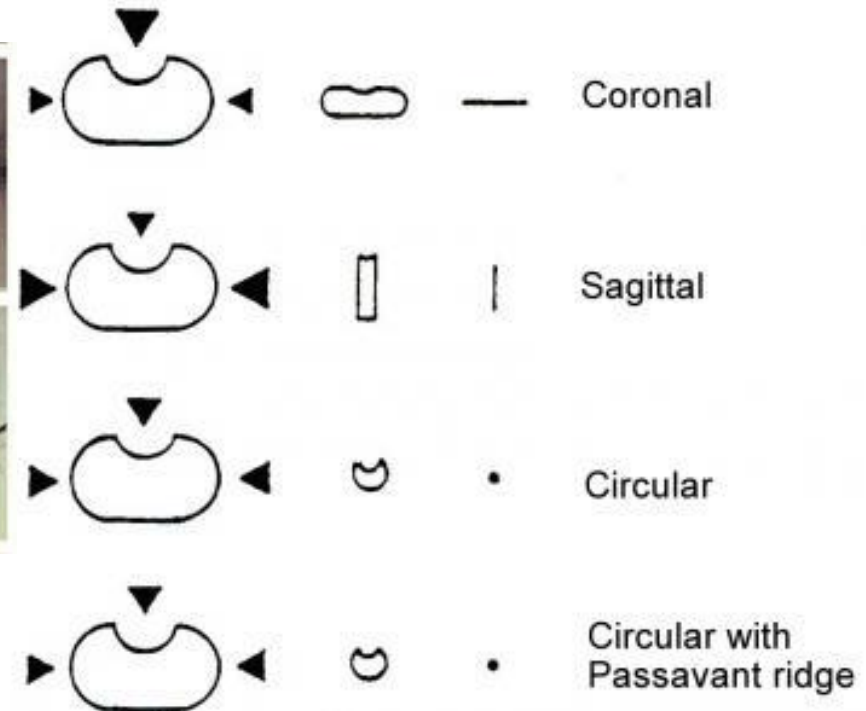
CA



Regulation/Control theory (Warren, 1986;
Bressmann, 2018) :

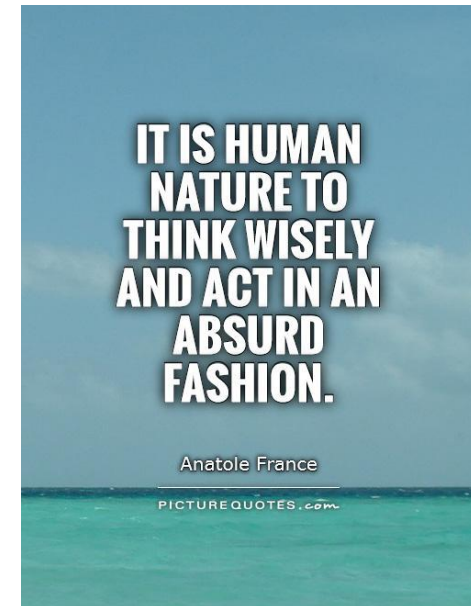
Mechanoreceptors in the oral and nasal cavities send feedback of air pressure imbalance, which is automatically compensated with an increase in airflow from the lungs.

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



V P I



SHPRINTZEN : “Tailor made flaps”

*Customize velopharyngeal surgery
according to individual characteristics
of the anatomy and physiology of VS*

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

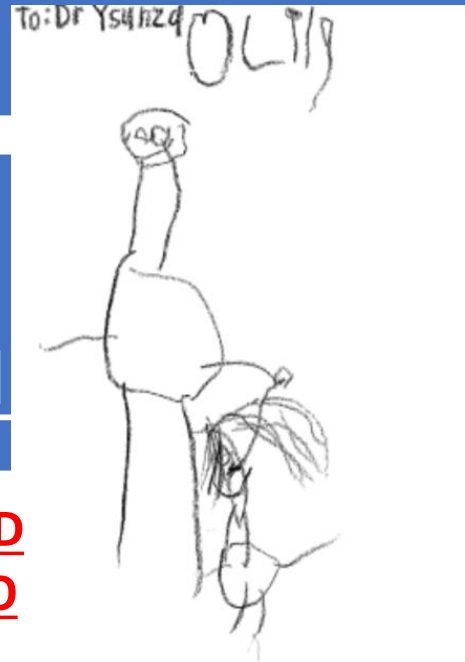
Assessing VP Closure

Seal occurs during phonemes requiring intraoral pressure

In these sounds the lips are...Closed

Imaging is
Indispensable!!

NOT WELL TOLERATED
ESPECIALLY IN < 10 YO



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

<http://www.mghihp.edu>

Tutorial

**The Use of Nonspeech Oral Motor
Exercises in the Treatment of Children
With Cleft Palate: A Re-Examination
of Available Evidence**

Dennis M. Ruscello^a  and Linda D. Vallino^b

**American Journal of Speech-Language
Pathology • Vol. 29 • 1811–1820 •
November 2020**

Surgical treatment V P I

Same procedure for every case?

How to modify surgical technique?

Define outcome : *“Ahi se va”... “Q Tanto es tantito?”... “Ma O Menos”... “Good Speech”... “It’s OK”*)

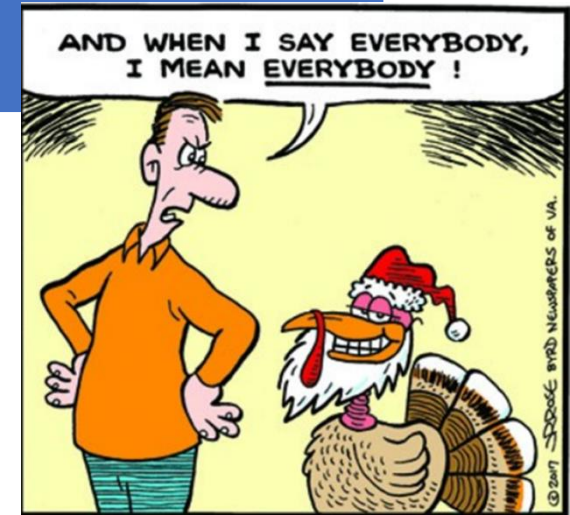
OY VEY !!!!



Residual V P I

Even the best of the best surgeons
will have residual V P I

All C P clinic have to deal w residual
V P I (More than you think!)





International Journal of Pediatric Otorhinolaryngology

**Vol. 78, Issue 10,
October, 2014**



Speech outcomes at age 5 and 10 years in unilateral cleft lip and palate after one-stage palatal repair with minimal incision technique – A longitudinal perspective

Jill Nyberg ^{a,b,c,*}, Petra Peterson ^{b,d}, Anette Lohmander

a,c a Division of Speech and Language Pathology, Department of Clinical Science, Intervention and Technology, Karolinska Institutet, Stockholm, Sweden b Department of Reconstructive Plastic Surgery, Karolinska University Hospital, Stockholm, Sweden c Department of Speech Pathology, Karolinska University Hospital, Stockholm, Sweden d Department of Molecular Medicine and Surgery, Karolinska Institutet, Stockholm, Sweden

C P repair around 1 YO
(10 – 18 Mo)

After 10 Y Follow-up –
Up TO 41% undersent
pharyngeal flap

CA < 25 %

NEVER PERFORM SURGERY FOR CORRECTING
V P I W O Assessment of V P S,
including:

V N P

M P V F

AW HELL NO.



A C P A
Cleft Palate
Craniofac J
Jan, 2018

Even if you are supersurgeon you need to see where you are going to perform the procedure





***Not very good)**

OLTY



Conclusion

Multiple reviews of recorded data over time is critical to sound decision-making.

Group Decision Making



CHI 2017 (Late Breaking Work)

M P V F

Dynamic assessment (Video)

Analysis on recording

(Coronal, Sagittal, Axial)

*Tolerance – Discomfort

0 – 1 Of 0 – 3.

(**very good)



Wilhelm Roentgen

1895

15 min exposure !!

(his wife)

Who else???

Wilhelm's wife on viewing her skeleton:

"I have seen my own death"

M P V F (CONT.)

Exam is needed

No other study provides same info WO radiation

Actual size measurements

LPW Mov

3 – D



M P V F (CONT.)

Pulsed Vs Continuous

Avoid magnification

Tower close to patient

M P V F (CONT.)

Limit fluoroscopy time (40 sec) =
ENHANCE COMPLIANCE *

Avoid views if possible

Coning to avoid sensitive structures (lens,
thyroid)



Enhance
Compliance,

Reduce anxiety



***“A trip to the
hospital to
take my
pictures”***

**You will seat on mommy or daddy’s lap
The doctor will squirt a little “white water”
Into your nose with a tiny plastic tube.
You will feel a funny tickle in your nose**

M P V F (CONT.)

Keep track of
radiation dosage
(mSv)

Non - Risk
radiation dosage
< 10 mSv for a
single proc.



VIDEOFLUOROSCOPY

M P V F (Coronal,
Sagittal. Axial and
obliques = optional)

n = 200 Patients

X = 2.90 mSv

SD = 1.55 mSv

RANGE = 0.40 mSv –
8.85 mSv





Volume 89, (2016) Pages 127 - 132

Velopharyngeal videofluoroscopy: Providing useful clinical information in the era of reduced dose radiation and safety

Pablo Antonio Ysunza; David Bloom; Kongkrit Chaiyasate; Matthew Rontal; Rachel VanHulle; Kenneth Shaheen; Donald Gibson

Affiliations

Speech Pathology Services, Ian Jackson
Craniofacial and Cleft Palate Clinic,
Neuroscience Program, Beaumont Health,
Royal Oak, MI, USA

M P V F

Assessments and
measurements on recording

Always w Sound



Tailor made flaps with V
N P in the OR (< 10 YO)



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

Precision Pharyngeal Flap: An Individualized, Patient-Specific Surgery for the Treatment of Velopharyngeal Insufficiency

Rong-Min Baek, MD, PhD, Ji-Young Kim, MD, Heeyeon Kwon, MD, Taeseon Ahn, MS, Baek-Kyu Kim, MD, and Yujin Myung, MD, PhD

Conclusions: Individually configured pharyngeal flaps designed based on preoperative nasopharyngoscopic examination coupled with precise surgical techniques led to the high surgery success rate for VPI treatment.

Copyright © 2021 by Mutaz B. Habal, MD

ISSN: 1049-2275

DOI: 10.1097/SCS.00000000000008150

The Journal of Craniofacial Surgery Volume 00, Number 00, Month 2021



The Oxford Center for Evidence-Based Medicine Hierarchy

	Level of Evidence	
Randomized controlled trials	1.	a. Systematic review of RCTs b. Individual RCTs c. All-or-none studies
Cohort studies	2.	a. Systematic review of RCTs b. Individual cohort studies c. Outcomes research
Case-control studies	3.	a. Systematic reviews of case-control studies b. Individual case-control studies
Case series / Case study	4.	a. Includes poorly designed cohort and case-control studies
Anecdotal evidence	5.	a. Animal research b. Bench research c. Unpublished clinical observations

(Adapted with permission from <http://www.cebm.net/index.aspx?o=1025>. Oxford Center for Evidence-Based Medicine--Levels of Evidence (March 2009). Accessed May 10, 2010.)



2012, 65:864



Pharyngeal flap versus sphincter pharyngoplasty for the treatment of velopharyngeal insufficiency: A meta-analysis*

Jessica Collins a, Kevin Cheung a, Forough Farrokhyar b, Nick Strumas a,*

Conclusions: Based on these RCTs, which currently compose the highest quality data that compares pharyngeal flap versus pharyngoplasty, the pooled treatment effect suggests a possible trend favouring pharyngeal flap.