

Transillumination of the Occult Submucous Cleft Palate: A Practical Diagnostic Technique

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Disclosures

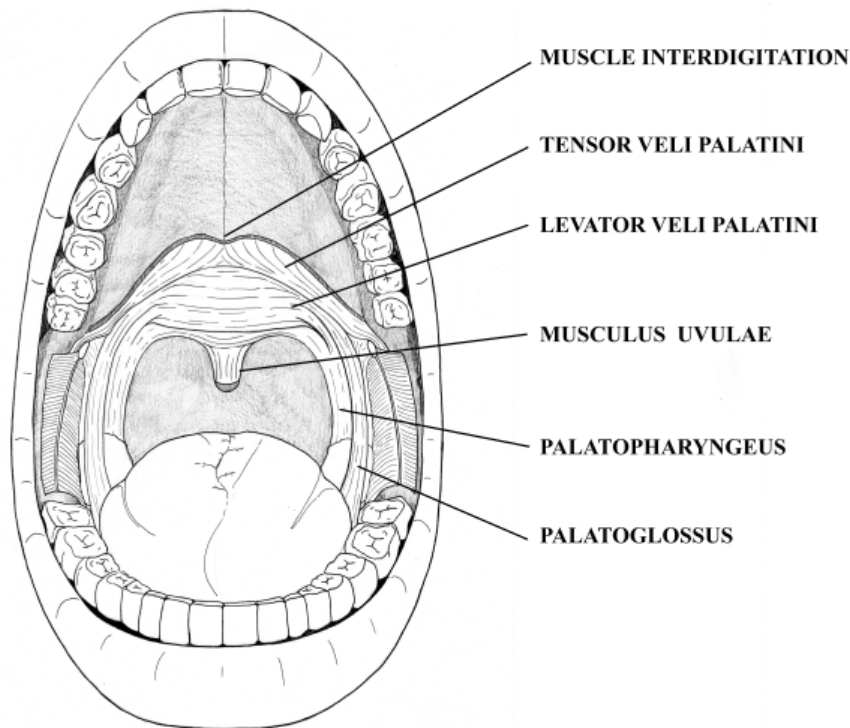
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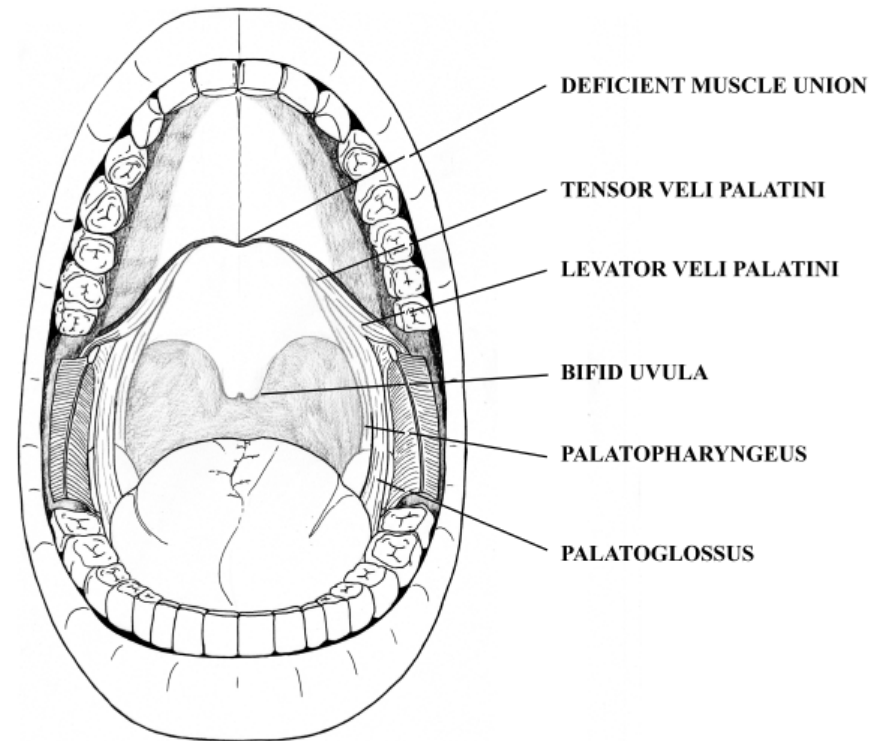
Submucous Cleft Palate

Congenital defect with deficient union of the muscles that normally cross the velum and aid in soft palate elevation

A. NORMAL PALATE



B. SUBMUCOUS CLEFT PALATE



Submucous Cleft Palate

- Overt submucous cleft palate has obvious external anatomic landmarks, and an estimated prevalence of 0.02% to 0.08%.
- Occult submucous cleft palate prevalence is difficult to estimate as patients lack external anatomic deficits.
- Studies suggest occult submucous cleft palate may be far more prevalent than currently recognized.



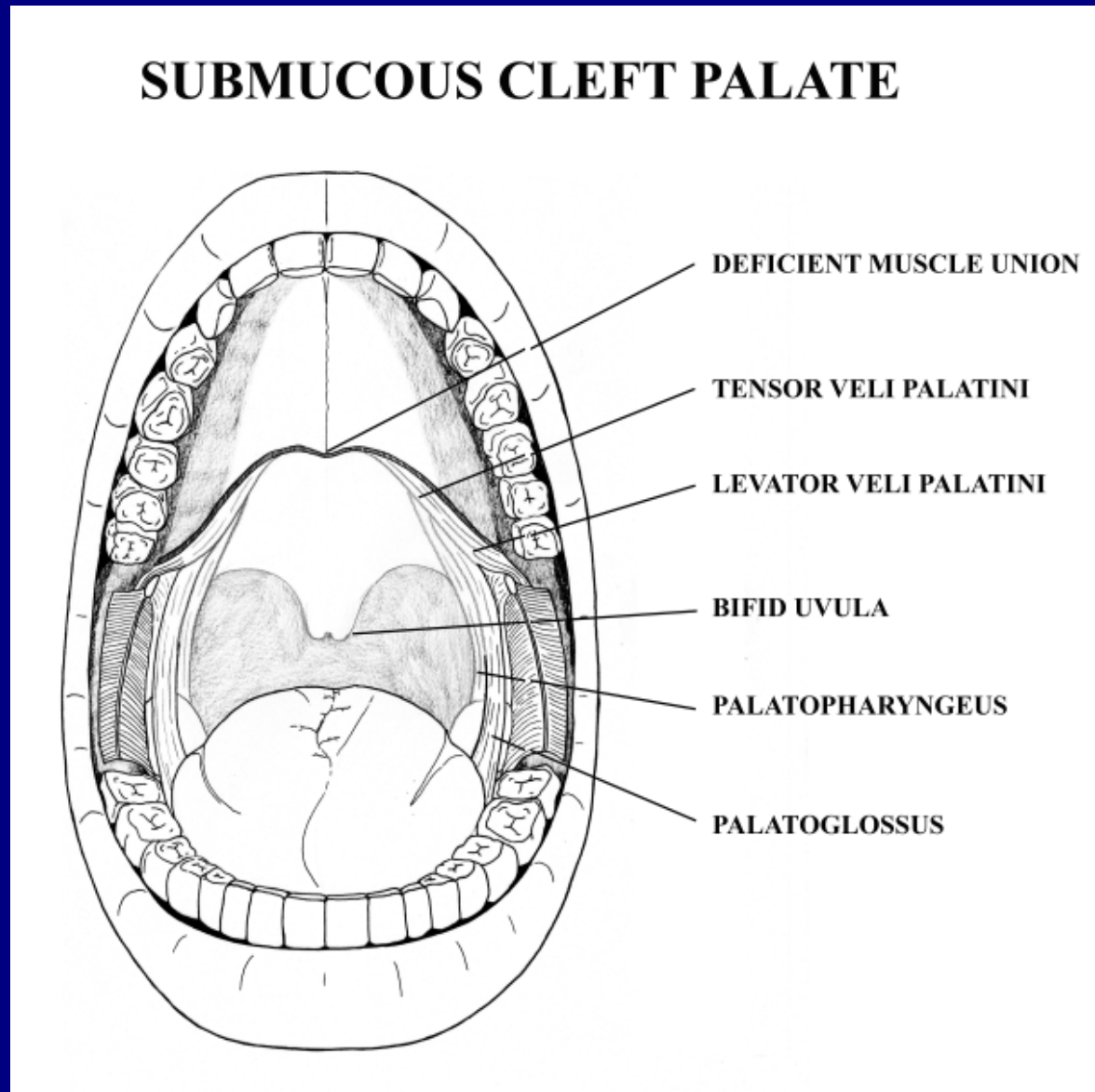
Need for Pre-operative Diagnosis

- Oropharyngeal surgery on patients with undiagnosed submucous cleft palate can result in iatrogenic velopharyngeal insufficiency (VPI).
- VPI causes hypernasal speech, air emission, nasal regurgitation and difficulty swallowing.
- 5-50 % of patients with submucous cleft palate have VPI at baseline.



Need for Pre-operative Diagnosis

- The absence of external anatomic markers makes the diagnosis of occult submucous cleft difficult, and dependent on ancillary tests.

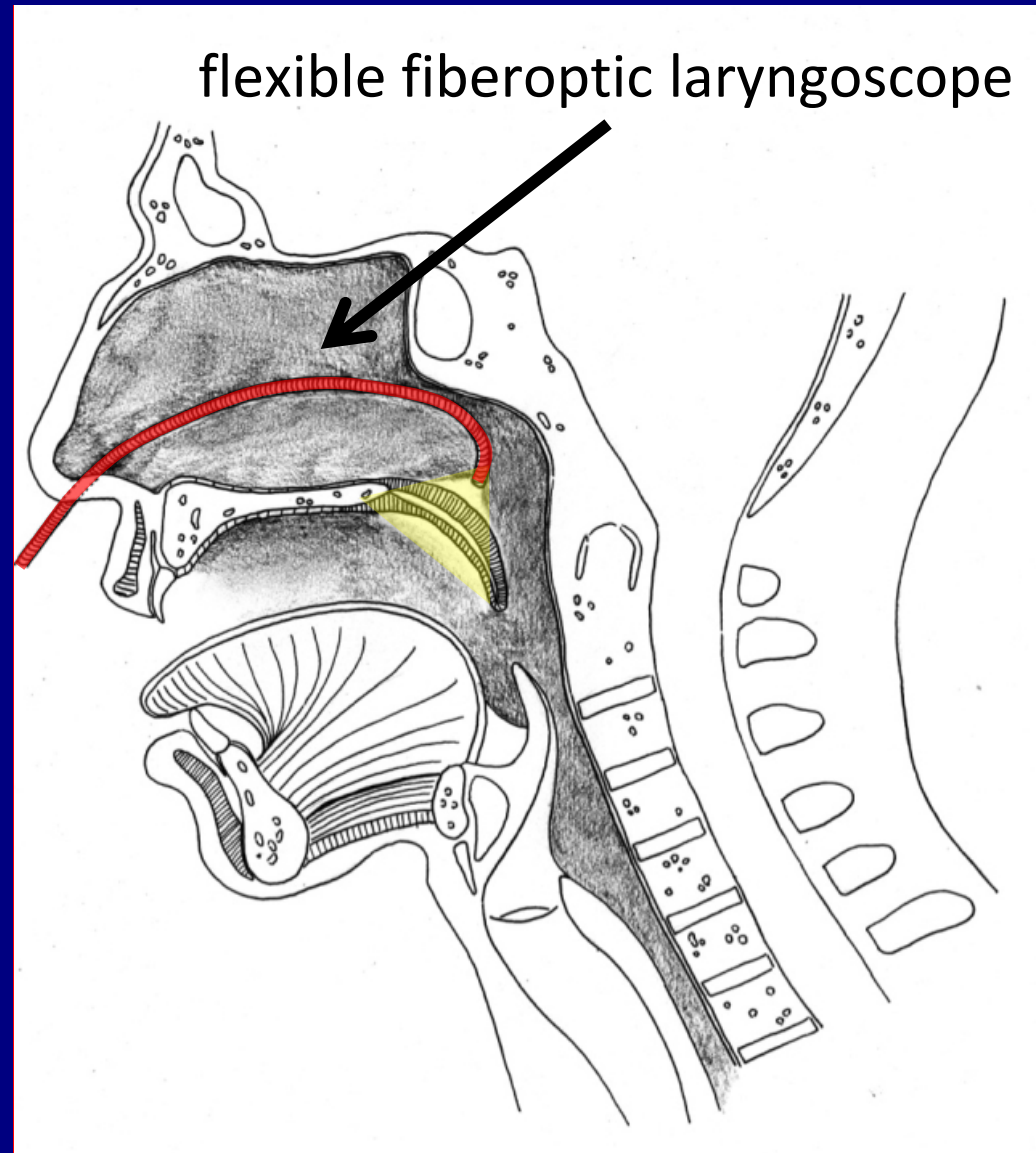


Current Diagnostic Methods

	Expensive	Requires Multiple Visits	Cannot Detect Abnormal Movement	Cannot Detect Abnormal Anatomy
Physical Exam				X
MRI	X	X	X	
Fluoroscopy	X	X		X
Nasoendoscopy				X
Ultrasound	X			

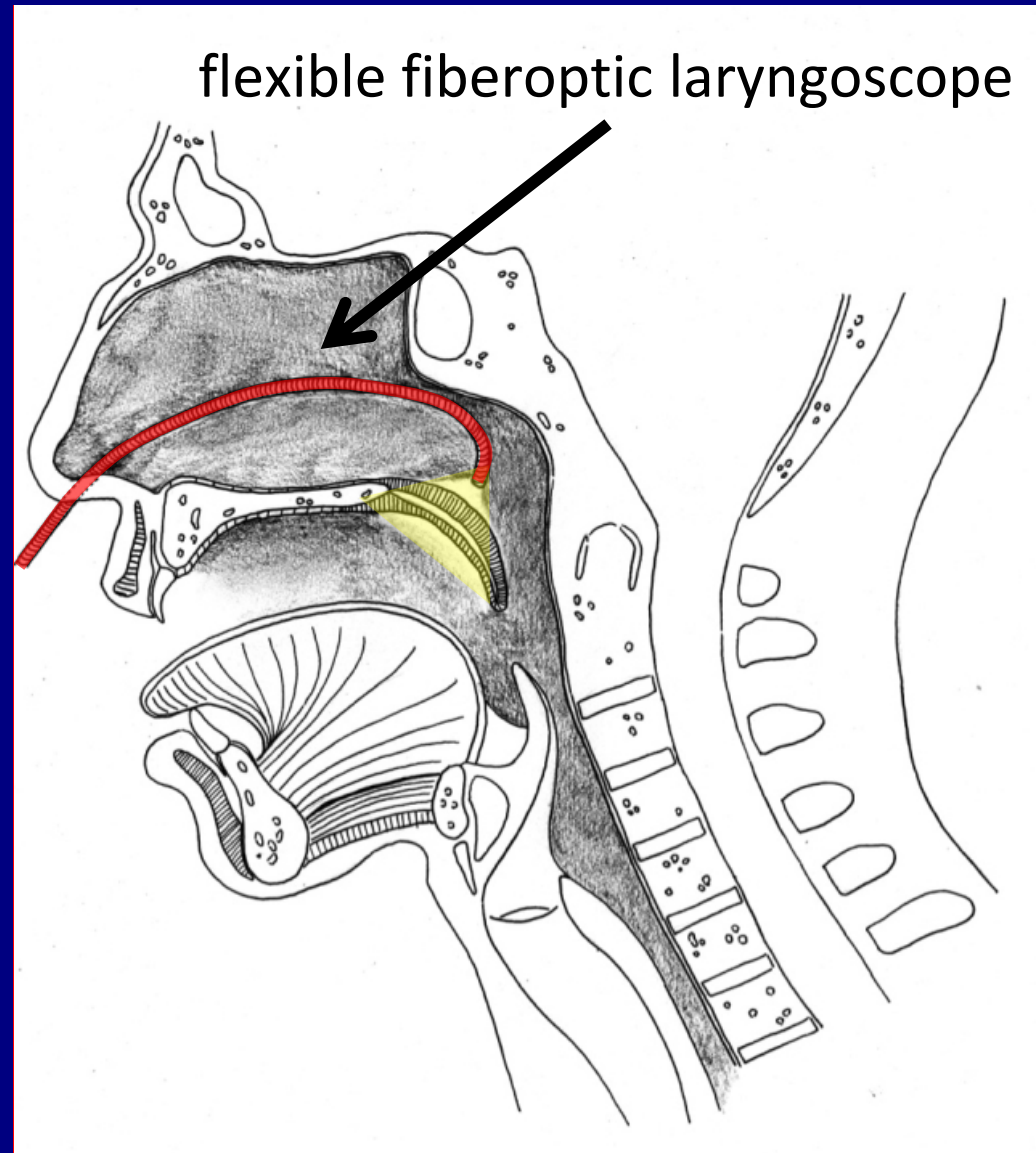
Transillumination Technique

- Flexible fiberoptic laryngoscopy is already commonly used in peri-operative workup of craniofacial surgery patients.
- Scope is introduced through patient's nose or mouth, then angled anteriorly to transilluminate the velum.



Transillumination Benefits

- Employs tools already routinely used by craniofacial surgeons.
- Easily integrated into practice.
- Inexpensive
- Quick

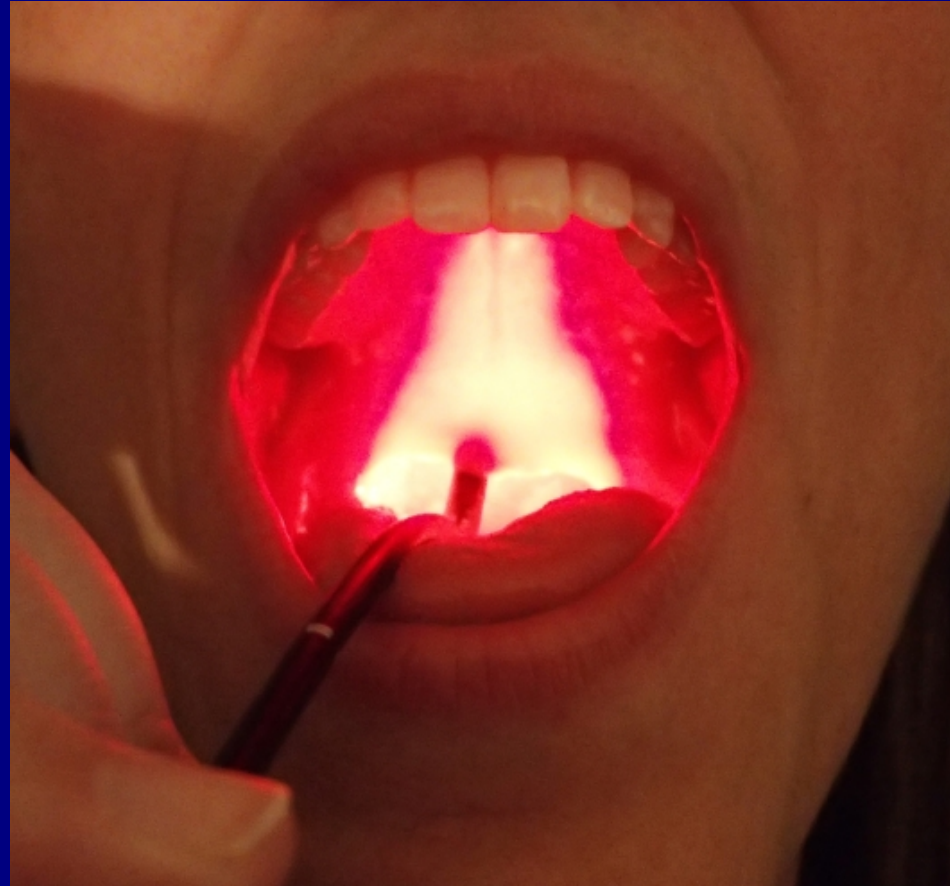


Transillumination Results

Normal patient



Patient with occult
submucous cleft palate



Transillumination Findings

Normal patient

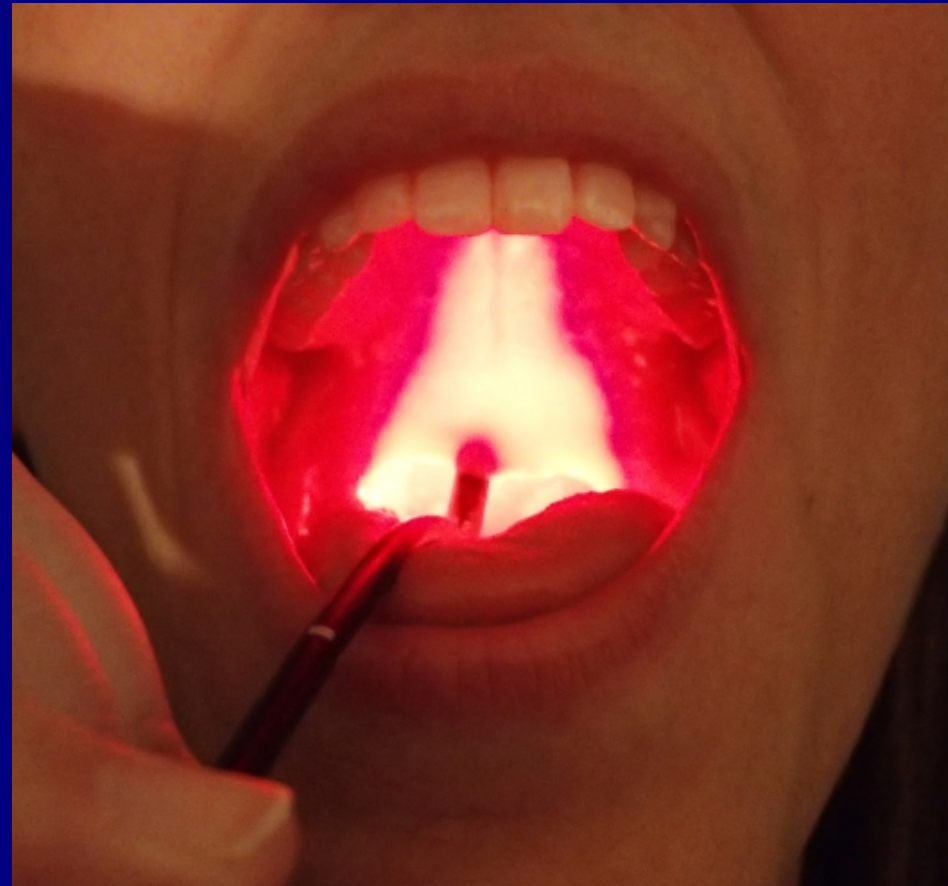


- Homogenous velum, with no anterior lucency.
- Transilluminated velar musculature continues to midline.
- No notching of hard palate.

Transillumination Findings

Patient with occult
submucous cleft palate

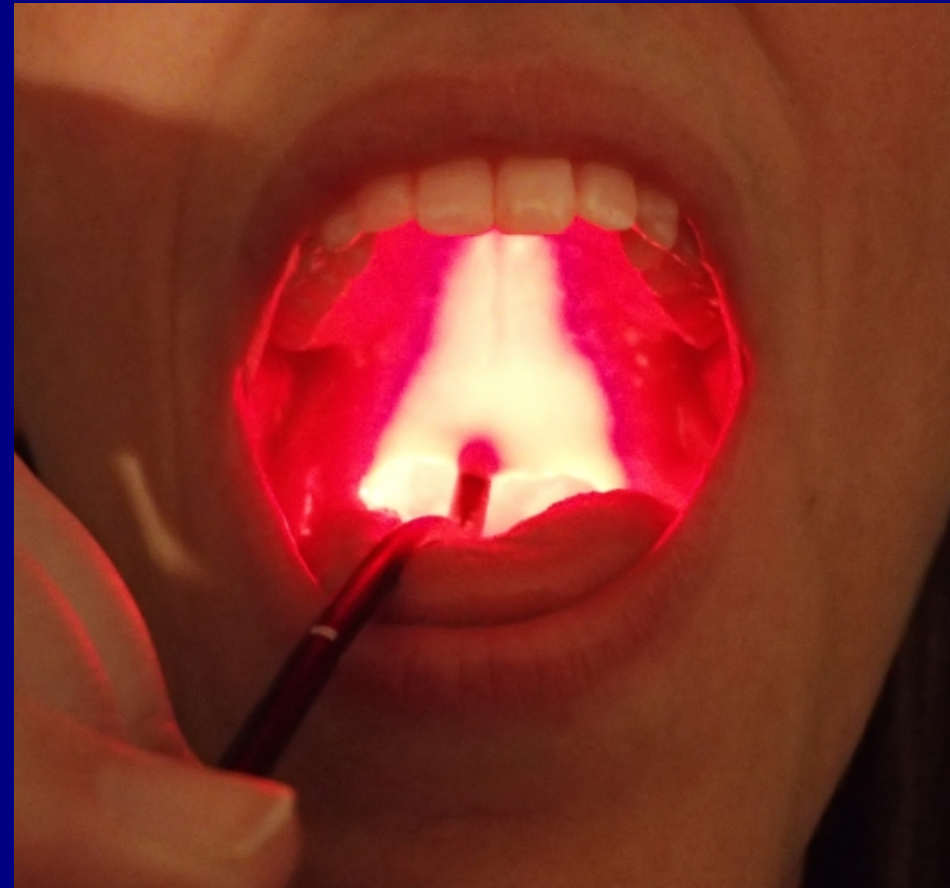
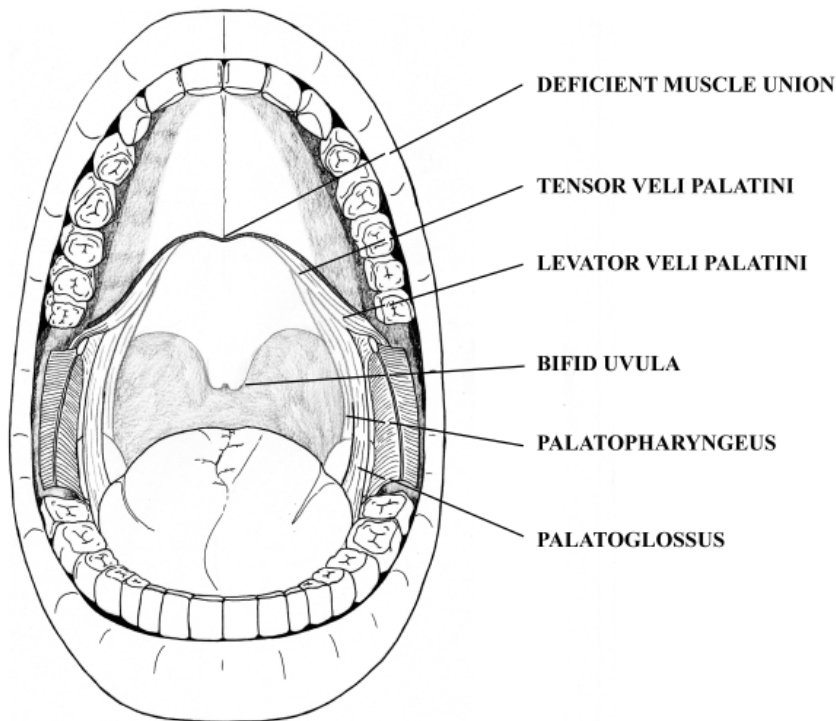
- Pronounced central and anterior lucency.
- Deficient median interdigitation of velar musculature.
- Notching of hard palate.



Conclusions

Transillumination is an inexpensive, quick, and easily incorporated technique to screen for undiagnosed occult submucous cleft palate.

SUBMUCOUS CLEFT PALATE



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