

Long Face Syndrome

Facial form and risk for sleep apnea

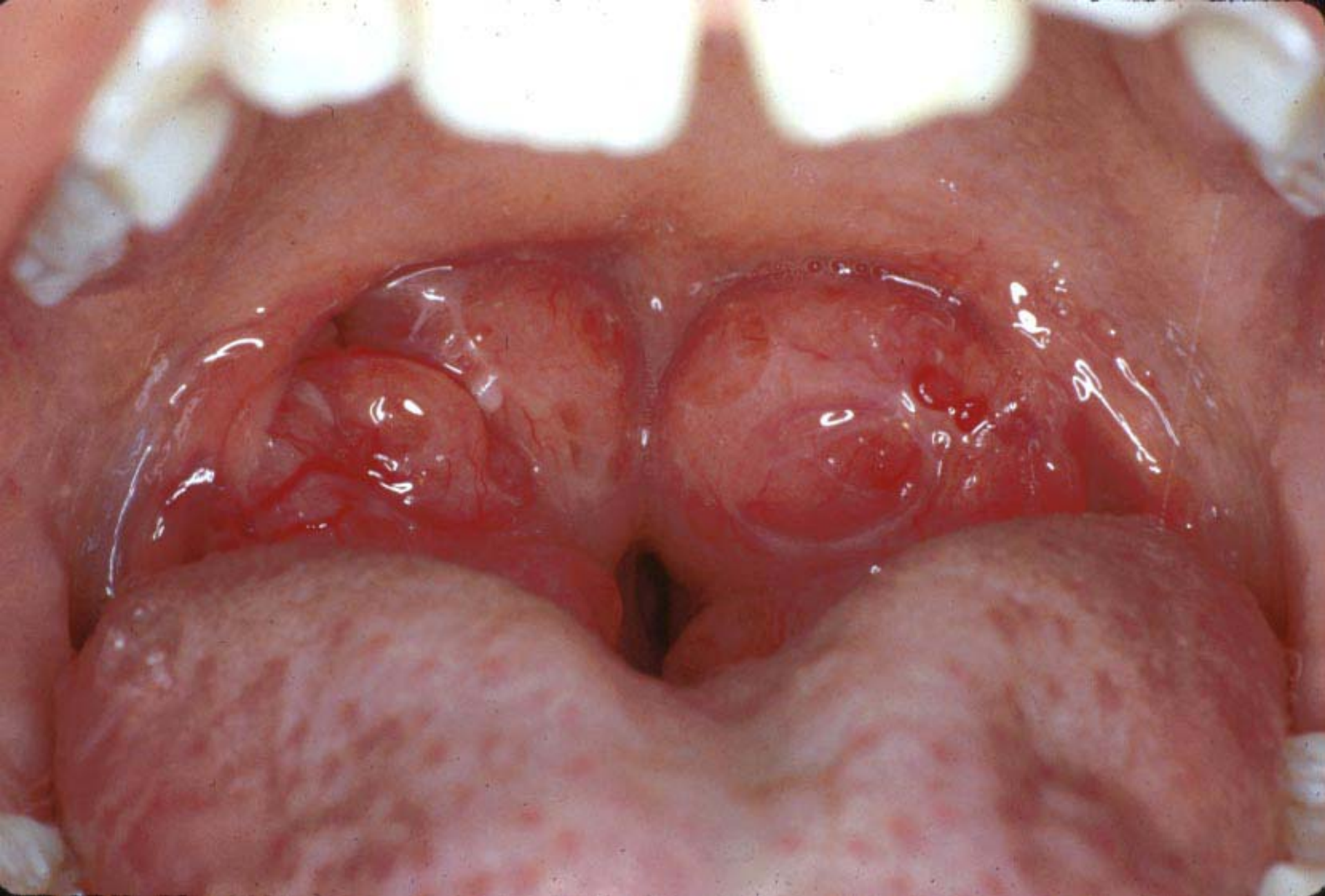
- Craniofacial features can be a strong indicator of risk for the development of obstructive sleep apnea syndrome (OSAS).

Guilleminault C, Parinen M, Lollman K, Powell N, Stoohs R. Familial aggregates in obstructive sleep apnea syndrome, *Chest* 1995, 107:1545-1551.



D3

Test yourself. Hold your nose and see what happens.

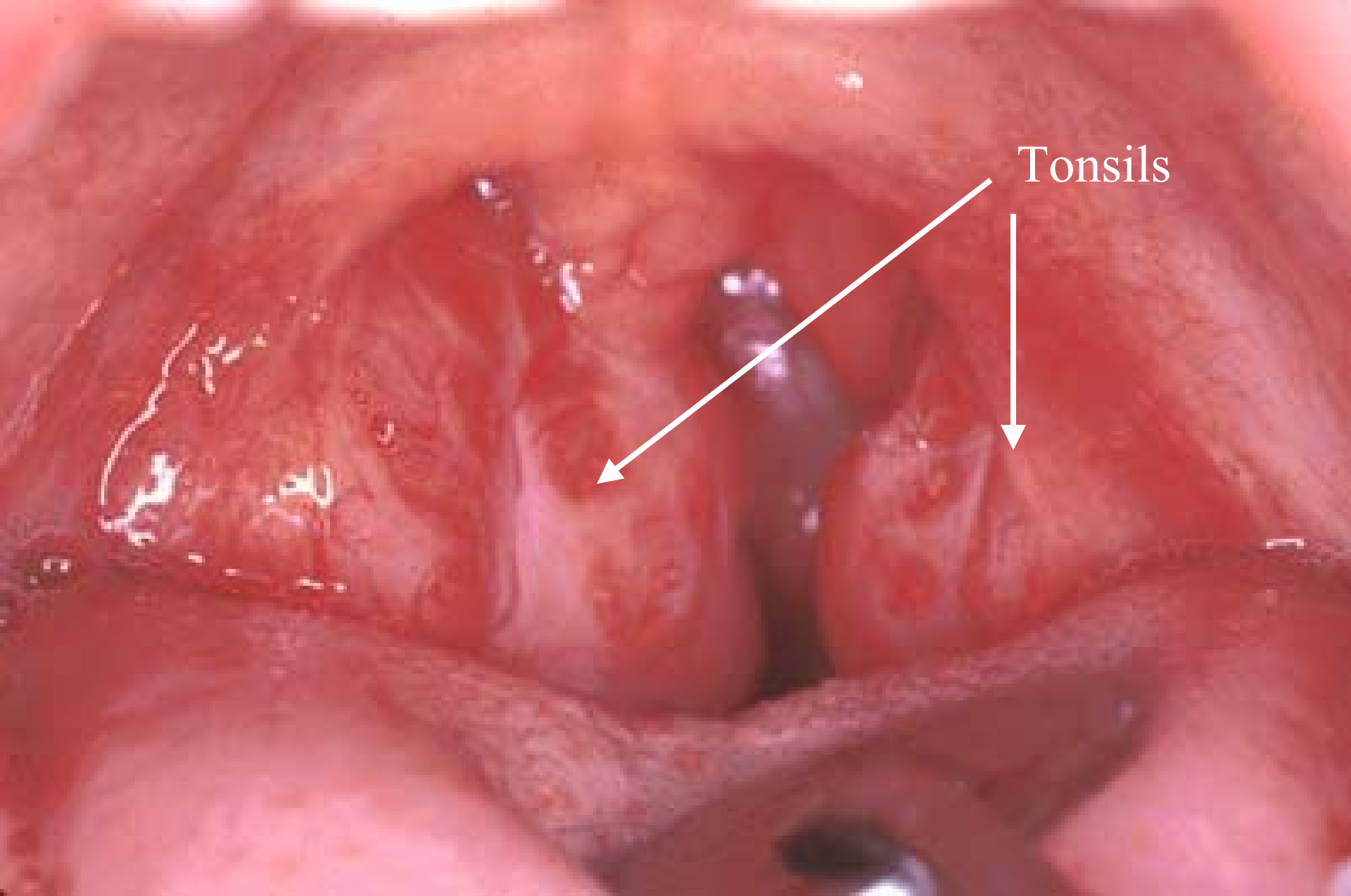


D4

Massive tonsils can obstruct the airway (Age 12).

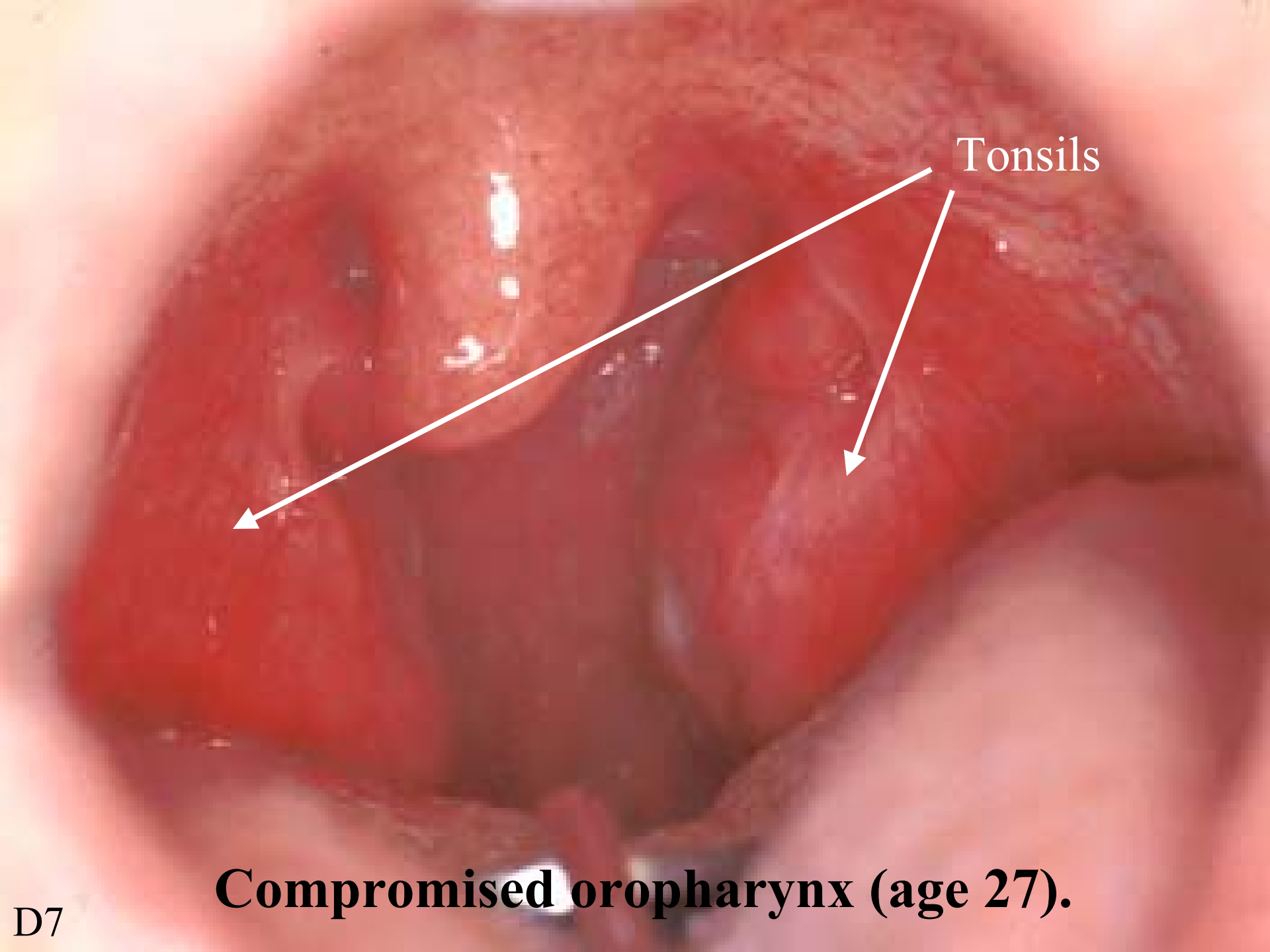


D5 Oropharynx of previous child after tonsils removed.



Tonsils

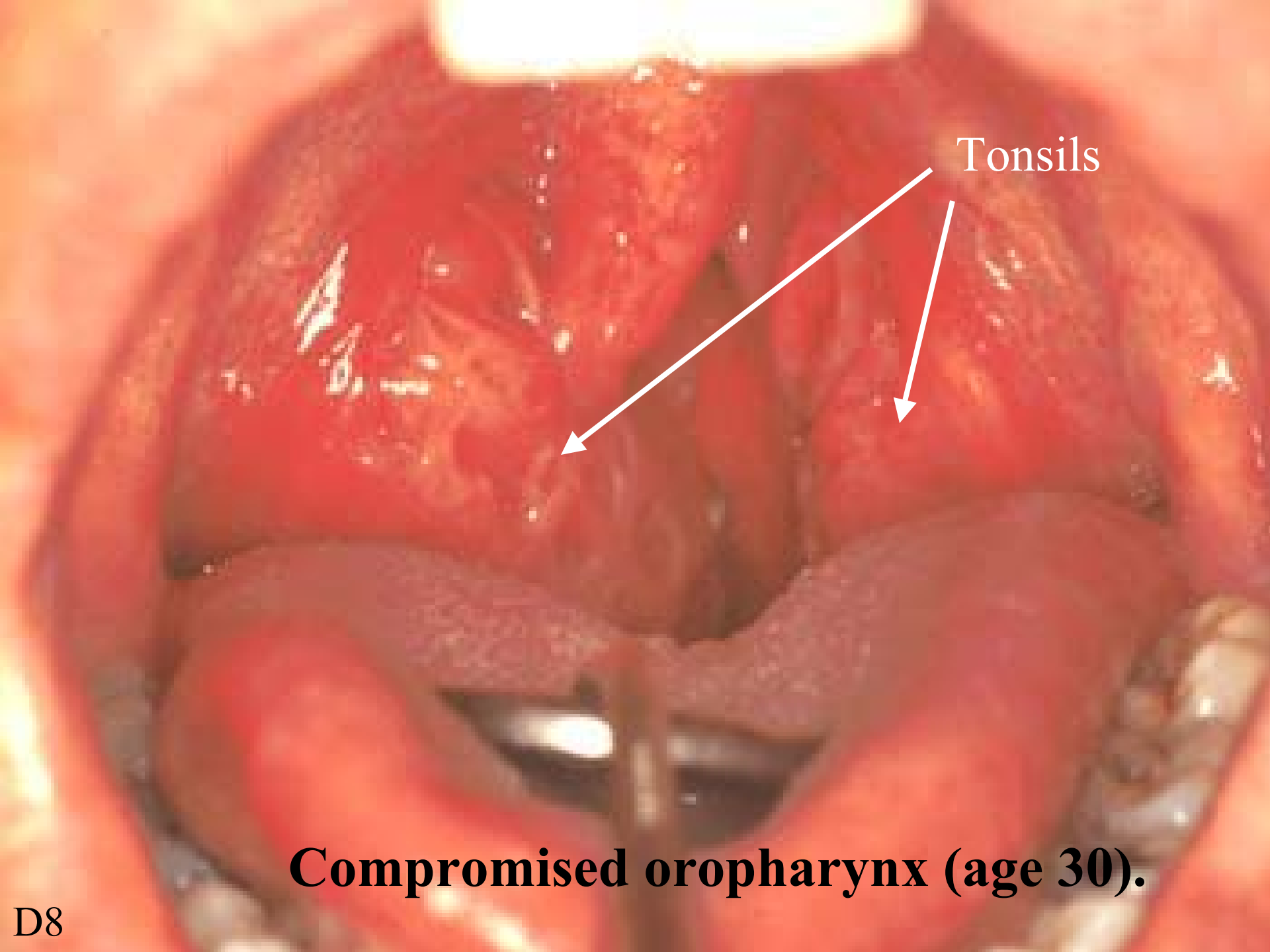
D6 Compromised oropharynx (age 7).



Tonsils

Compromised oropharynx (age 27).

D7



Tonsils

Compromised oropharynx (age 30).

D8



Long face syndrome (age 14).

Oropharynx of 14 year old with long face syndrome.





Anterior occlusion. Note spaces between teeth and redness around some of his front teeth. (Result of mouth breathing).



D12

Note his tongue thrust (arrows).



Note long face. Also note shape of mouth - similar to excessive thumb sucker.



D14 Significant malocclusion on previous patient.



D15 Thrust that caused the spacing and malocclusion.



Adult with sleep apnea.
Also has long face.



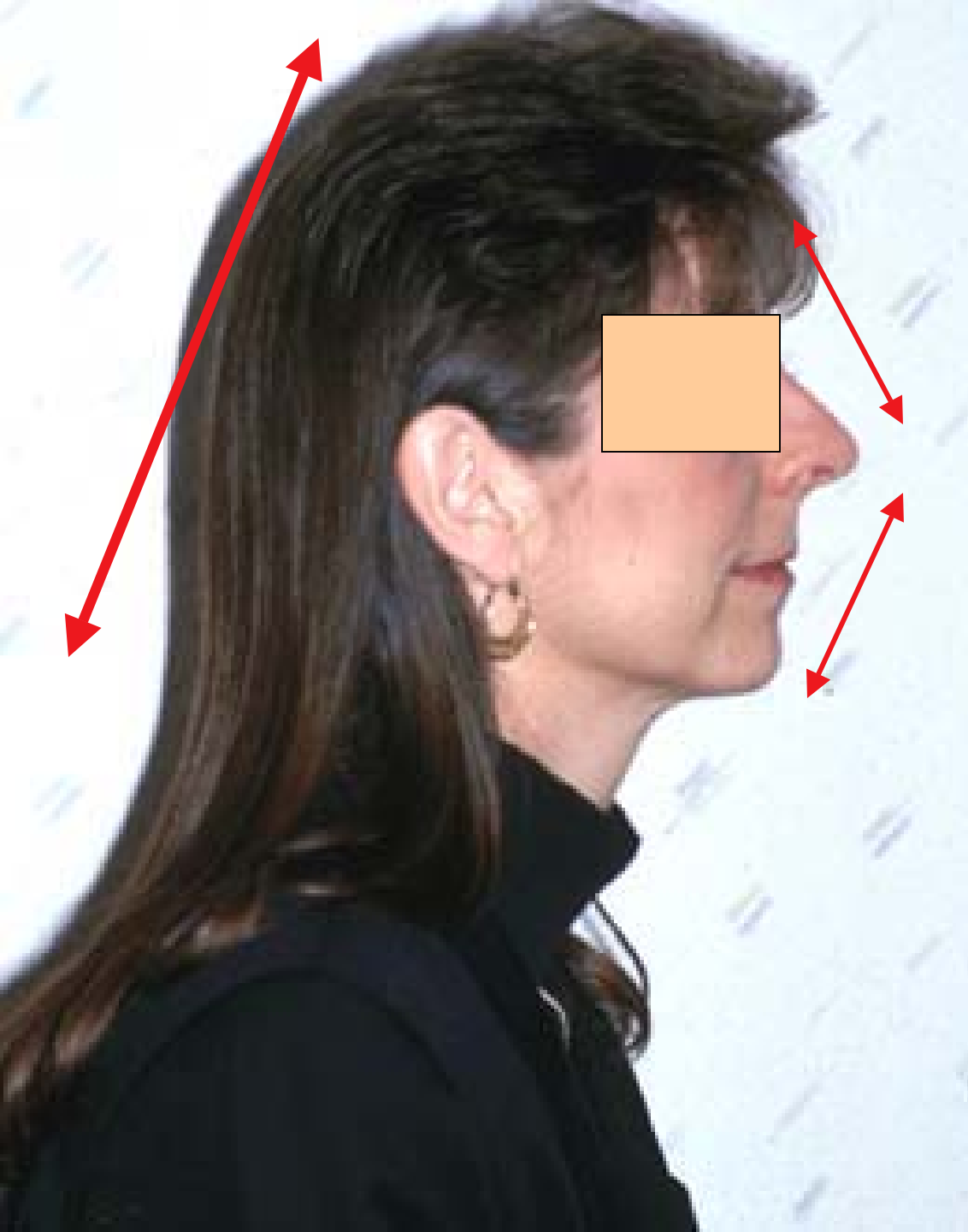
3 18 93

D17

Previous patient - also has large tongue.



Compromised oropharynx and battered throat (redness) from snoring.



Typical forward angulation of head of a person with Long Face Syndrome. Forward angulation of the head makes it easier to breathe - ie - like in CPR.

Many times also has pointed prominence of nose.

Long Face Syndrome

- Maintenance of the airway is closely related to craniocervical posture.
- The larynx of the newborn is distinctive in its form, proportion and structure. The tip of the epiglottis approximates the uvula.
- The muscles that maintain the airway are important elements in the motor mechanisms by which we achieve vertical posture.

James Bosma. Functional anatomy of the upper airway during development. Chapter 3, p47-84 in book, Respiratory Function of the Upper Airway. 1988, Marcel Decker.

Contributing factors to illness:

- Not receiving mother's immune system
- Decreased airway size due to:
 - edema, obstructions, genetics, etc.
- Day care contacts
- Hygiene practiced / contaminated pacifiers
- Environmental pollution
- Viral / bacterial outbreaks
- Stress
- Nutrition
- Economics

Most common infant allergy foods

- Eggs
- Peanuts
- Milk
- Soy
- Fish
- Wheat

Annick Gaye, 1996 ILCA Conference, KC, MO

Principles involved in airway collapse

- Vacuum
- Gravity
- Venturi principle
- Bernoulli principle

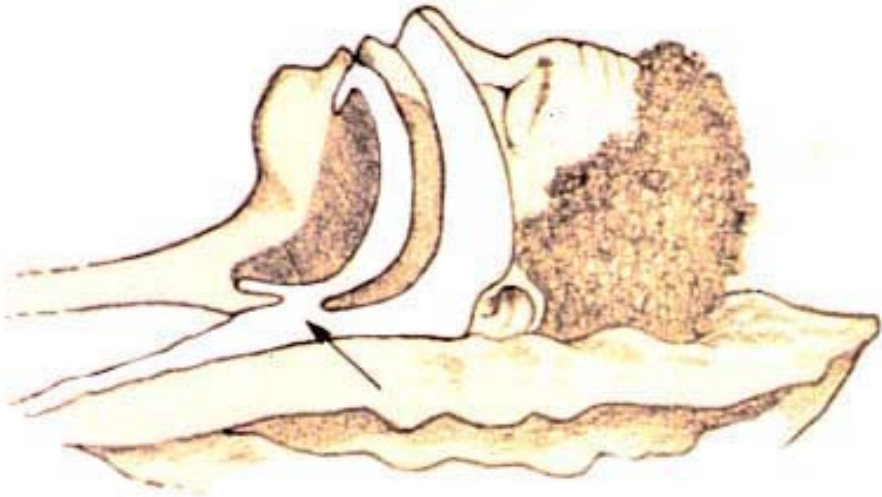
Vacuum



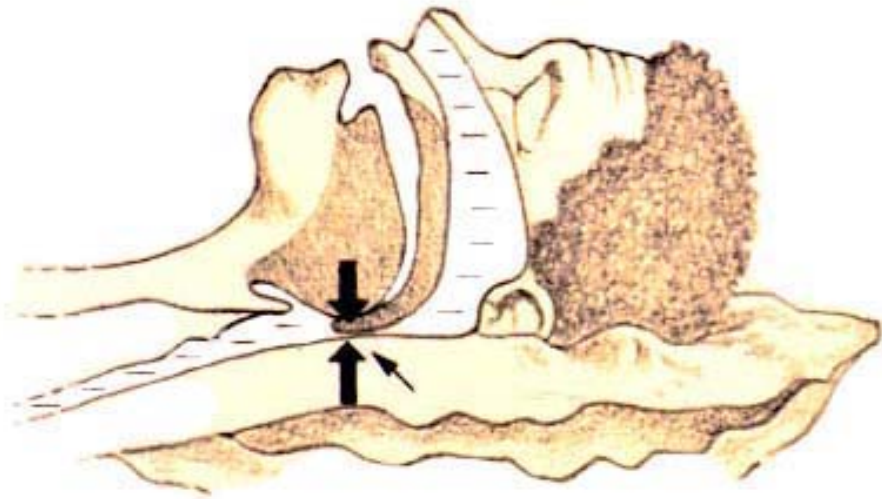
A vacuum can create an inward collapse of the oral cavity, throat and airway.

Gravity

Jaw and tongue are forward while awake.



While asleep, muscles relax and gravity can drop the tongue back and block off the airway.



NASA Research

Conclusion of research in space:

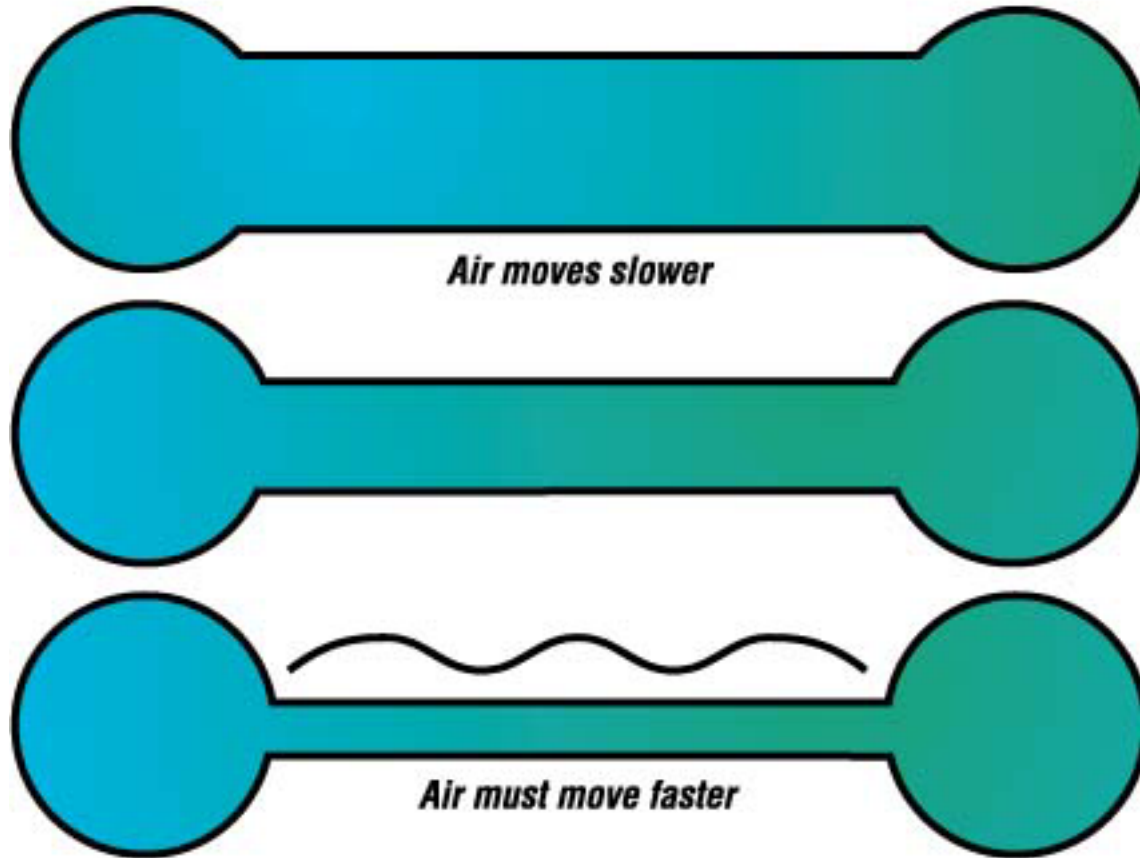
“This is the first direct demonstration that gravity plays a dominant role in the generation of apneas, hypopneas, and snoring in healthy subjects.”

Elliott AR, Shea SA et al. Microgravity reduces sleep-disordered breathing in humans, 2001. *Am J Respir Crit Care Med*; Vol. 164:478-485.

Venturi Principle

Air must pass through a small tube faster than through a large tube, if the volume of air and time to pass through are equal.

VENTURI PRINCIPLE



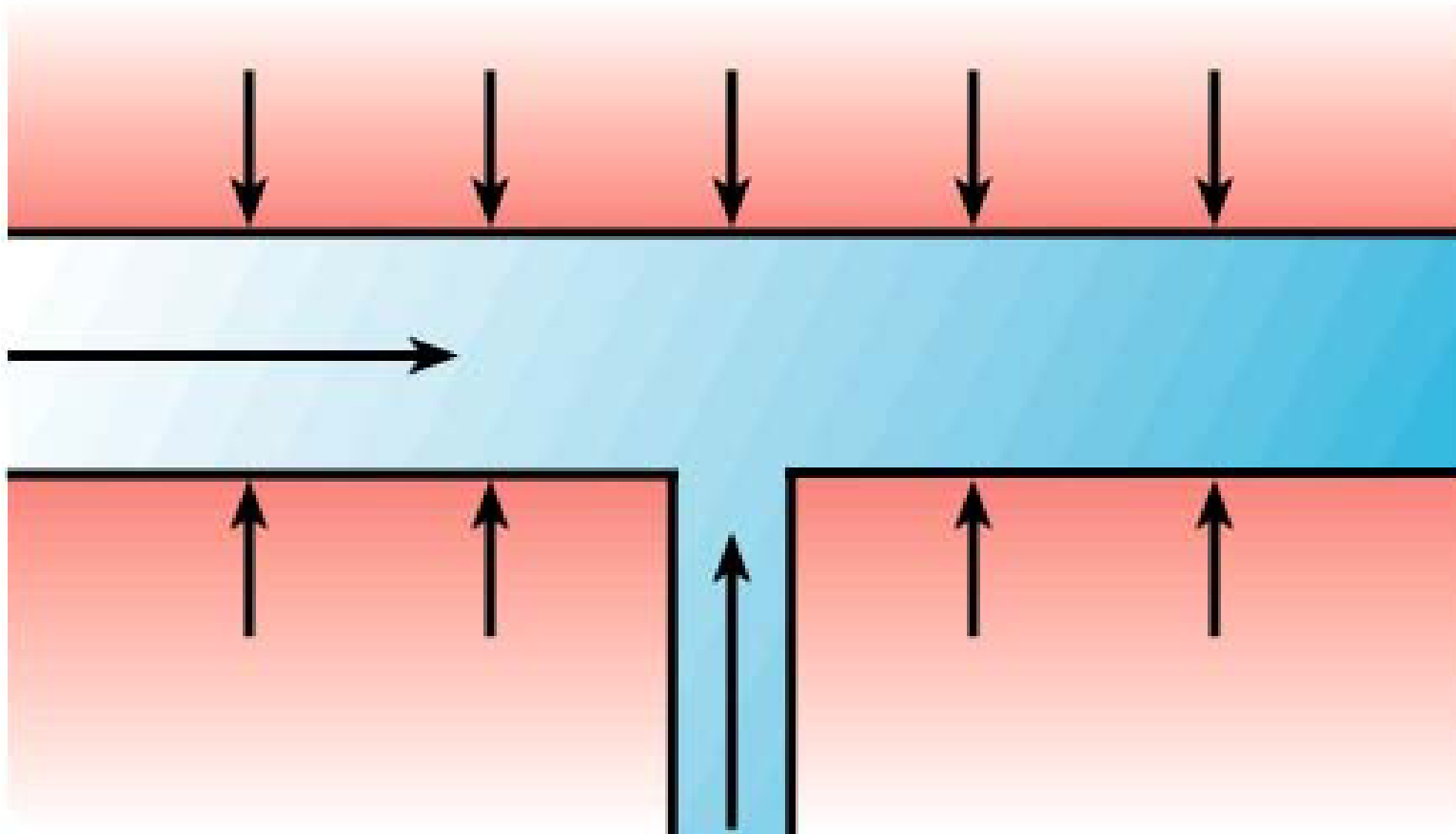
Bernoulli Principle

- Principle used in atomizers & carburetors.
- Causes an inward collapsing of a soft tube.
- Could cause an elongation of any stretchable material inside the tube.

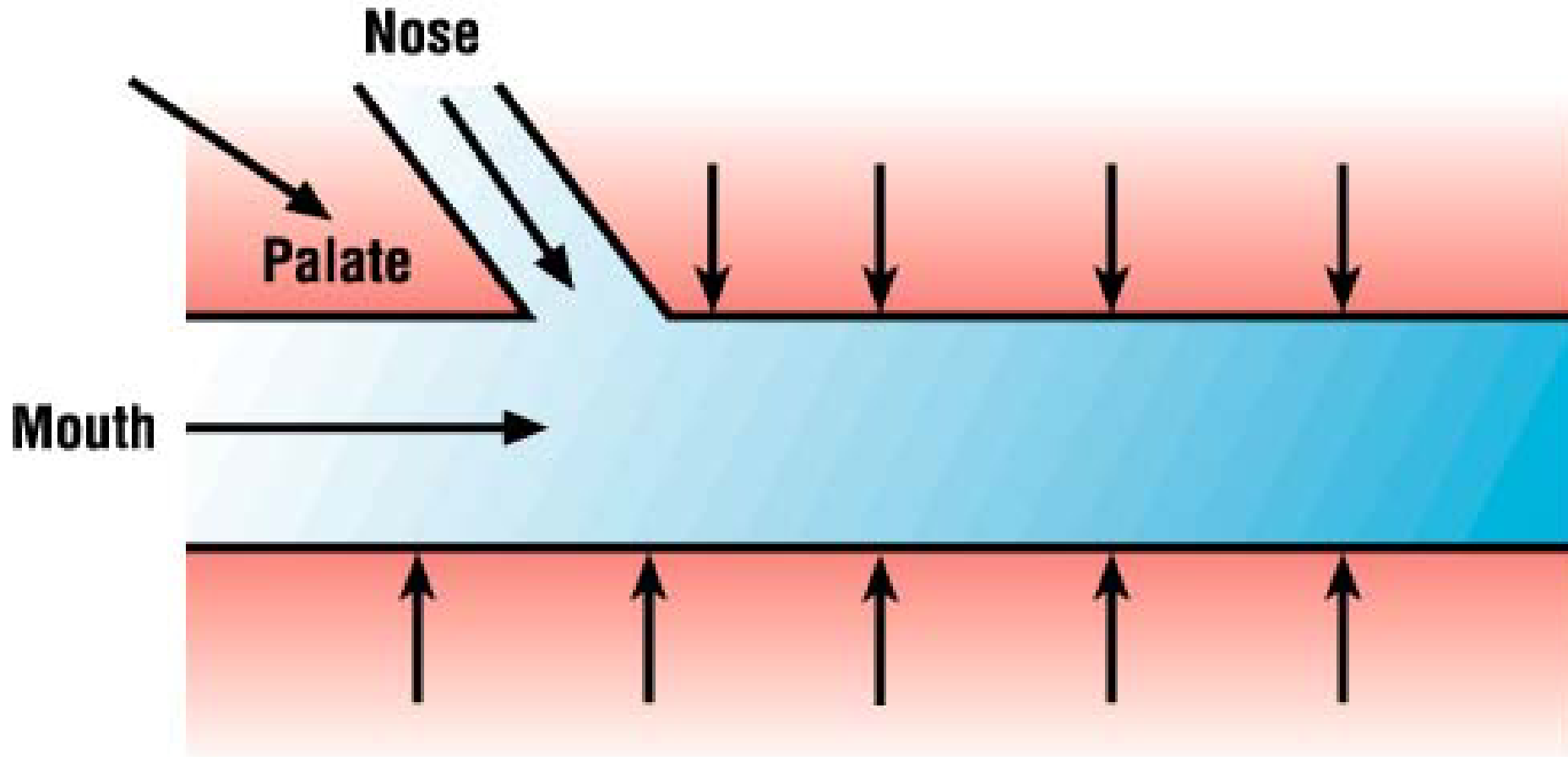


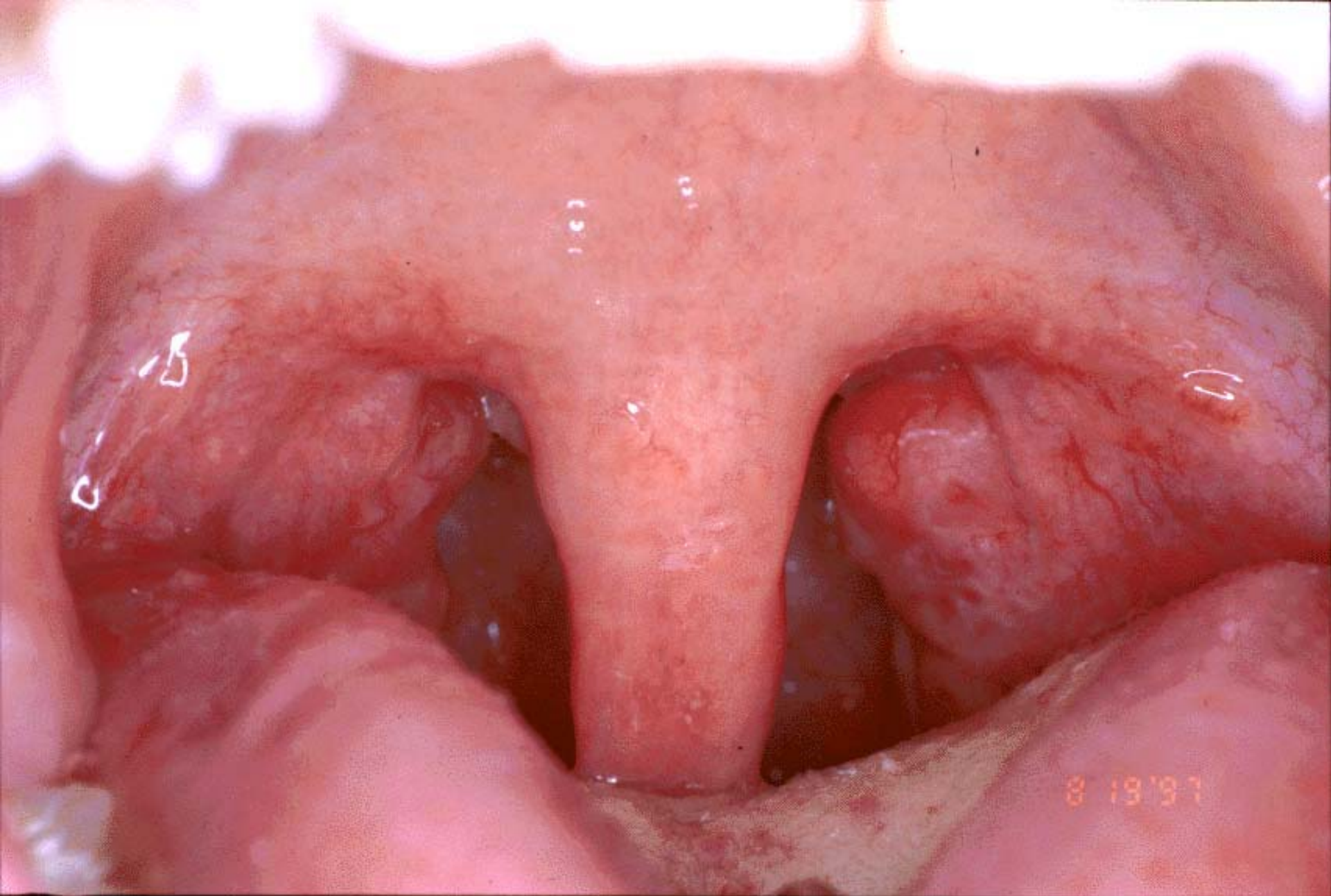
D30 Atomizer uses Bernoulli principle.

Bernoulli Principle



Bernoulli Principle

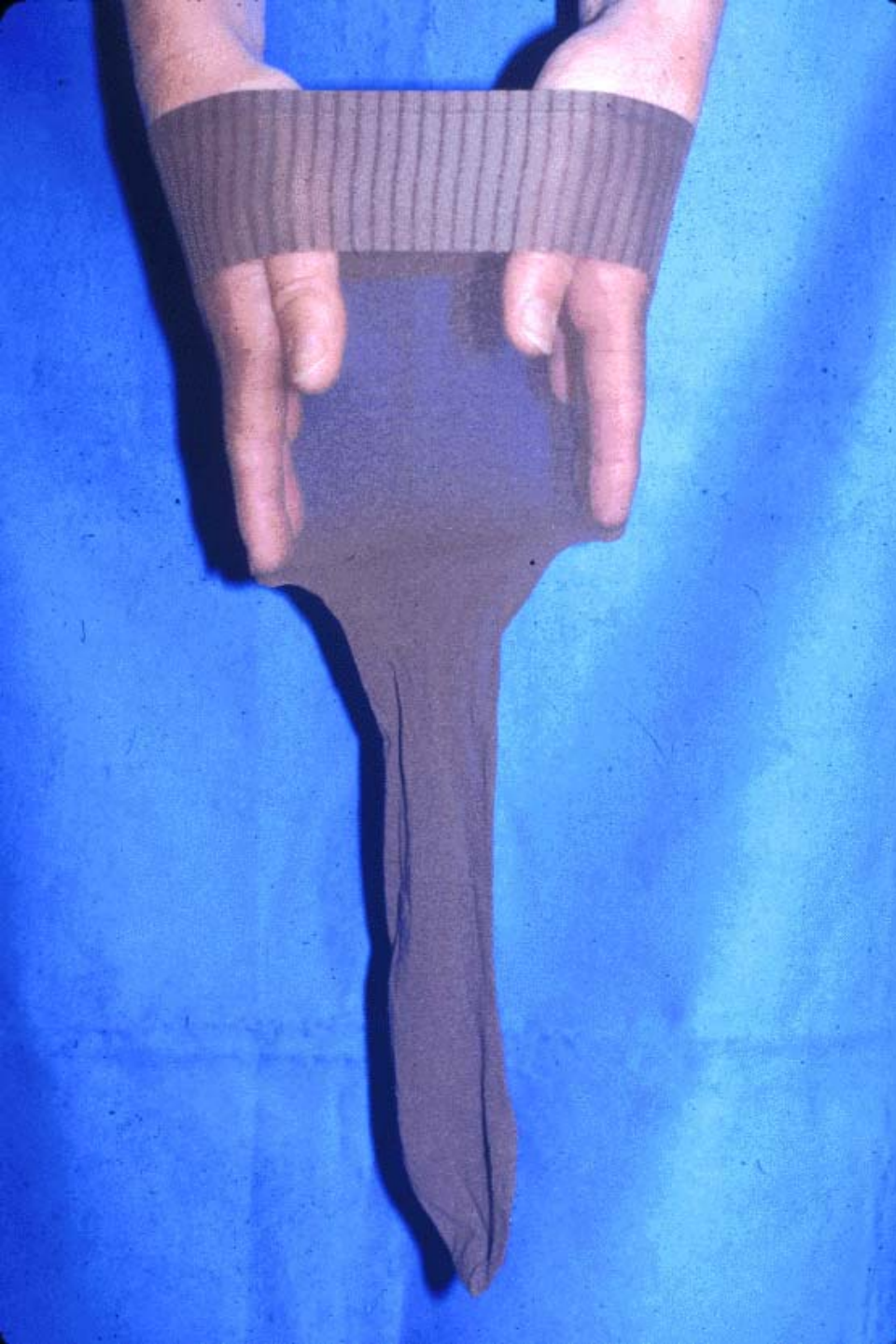




Elongated palate and uvula of a 14 year old with compromised airway.
D33



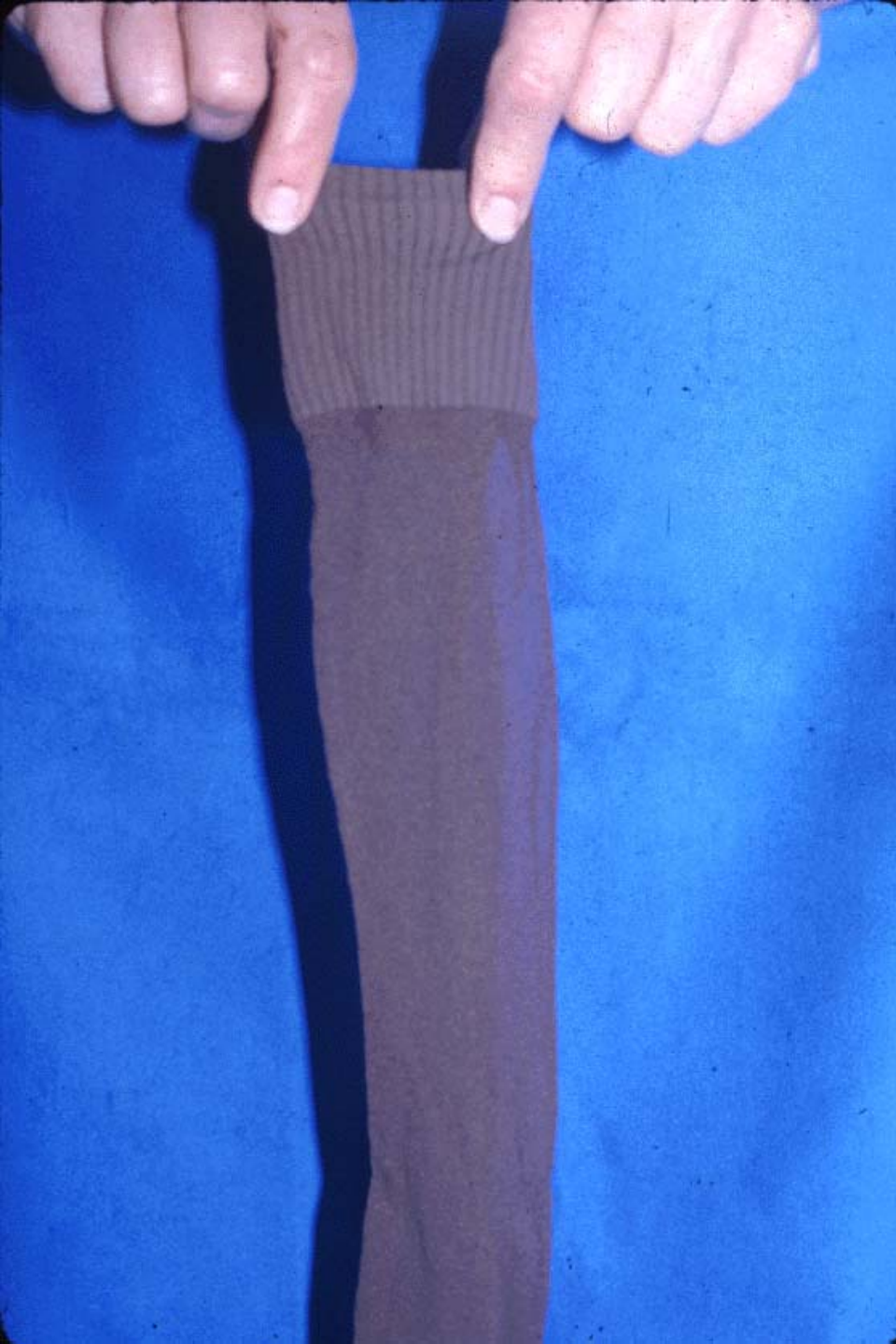
Prehistoric skull with wide palate and large posterior nasal aperture. There is also good width between the pterygoid plates. This allows for a wide beginning of the airway.



The wider the beginning of the airway, the less risk for collapse of the airway.

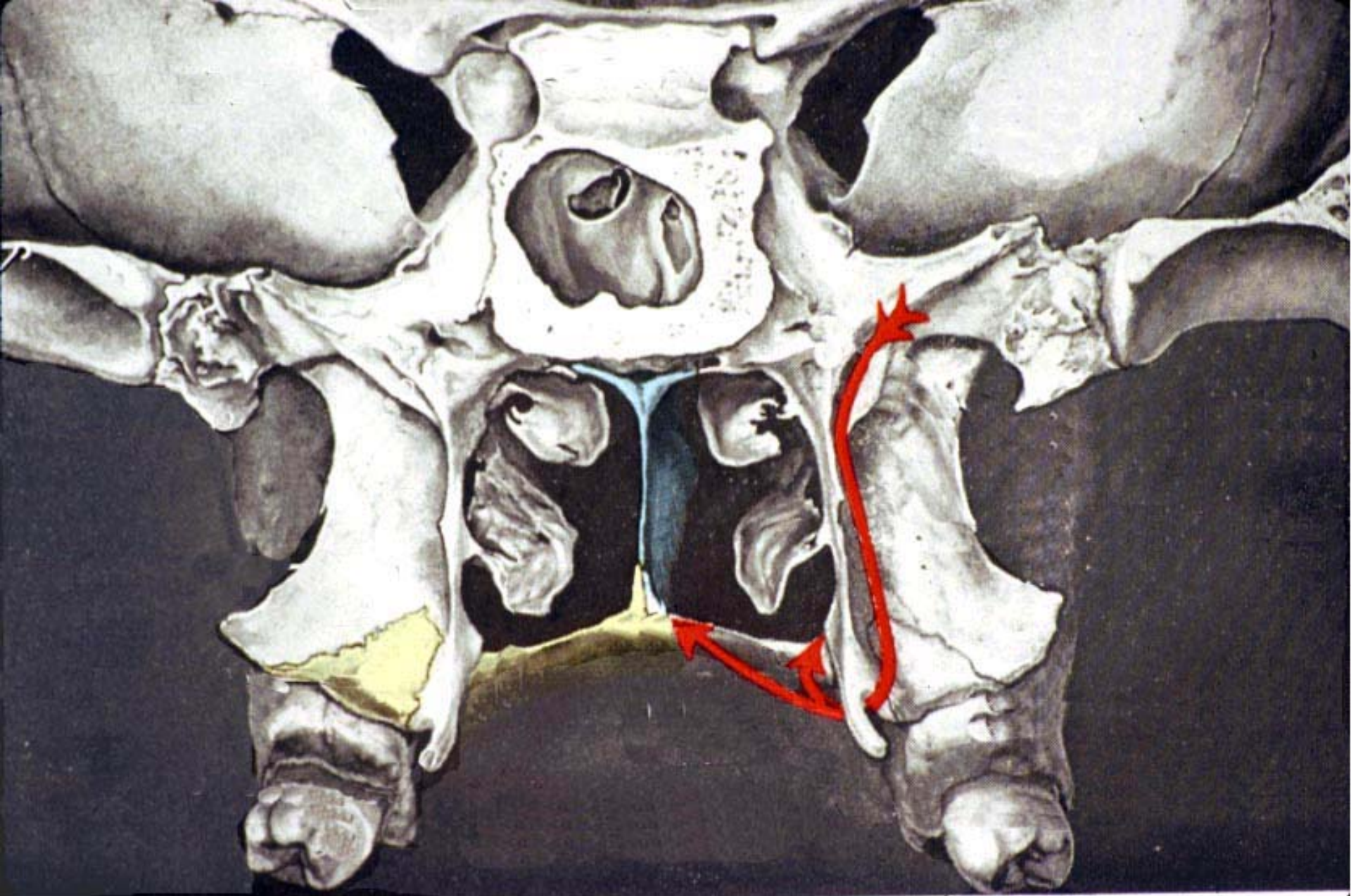


Skull from the 1940s demonstrating a high palate and narrow maxillary arch. Note small nasal aperture and less width between the pterygoid plates. This results in a narrow beginning of the airway - which creates a greater risk of airway collapse.



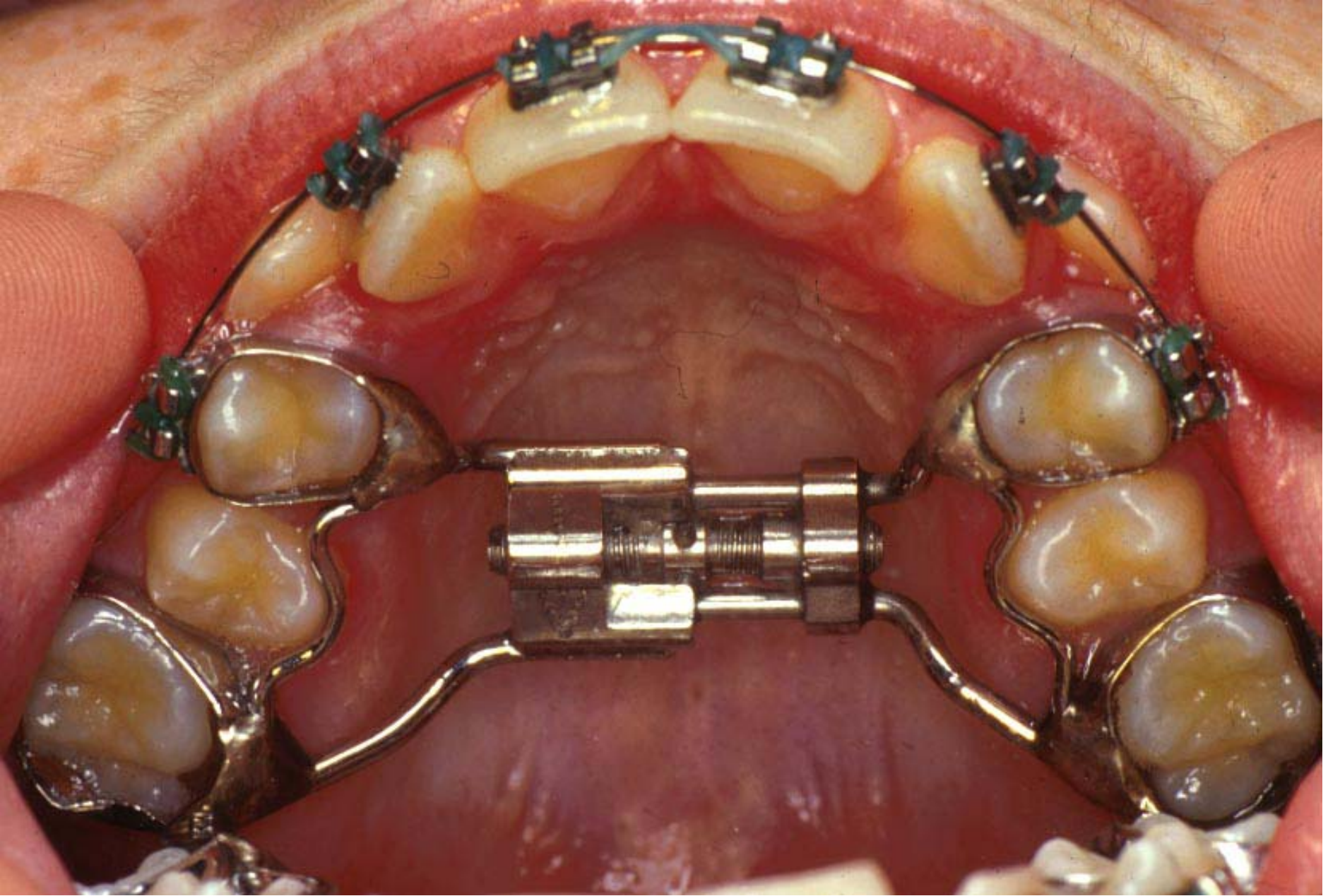
The narrower the beginning of the airway, the greater the risk for collapse.

For example, a narrow skinny straw collapses a lot easier than a wide straw when drinking a milk shake.

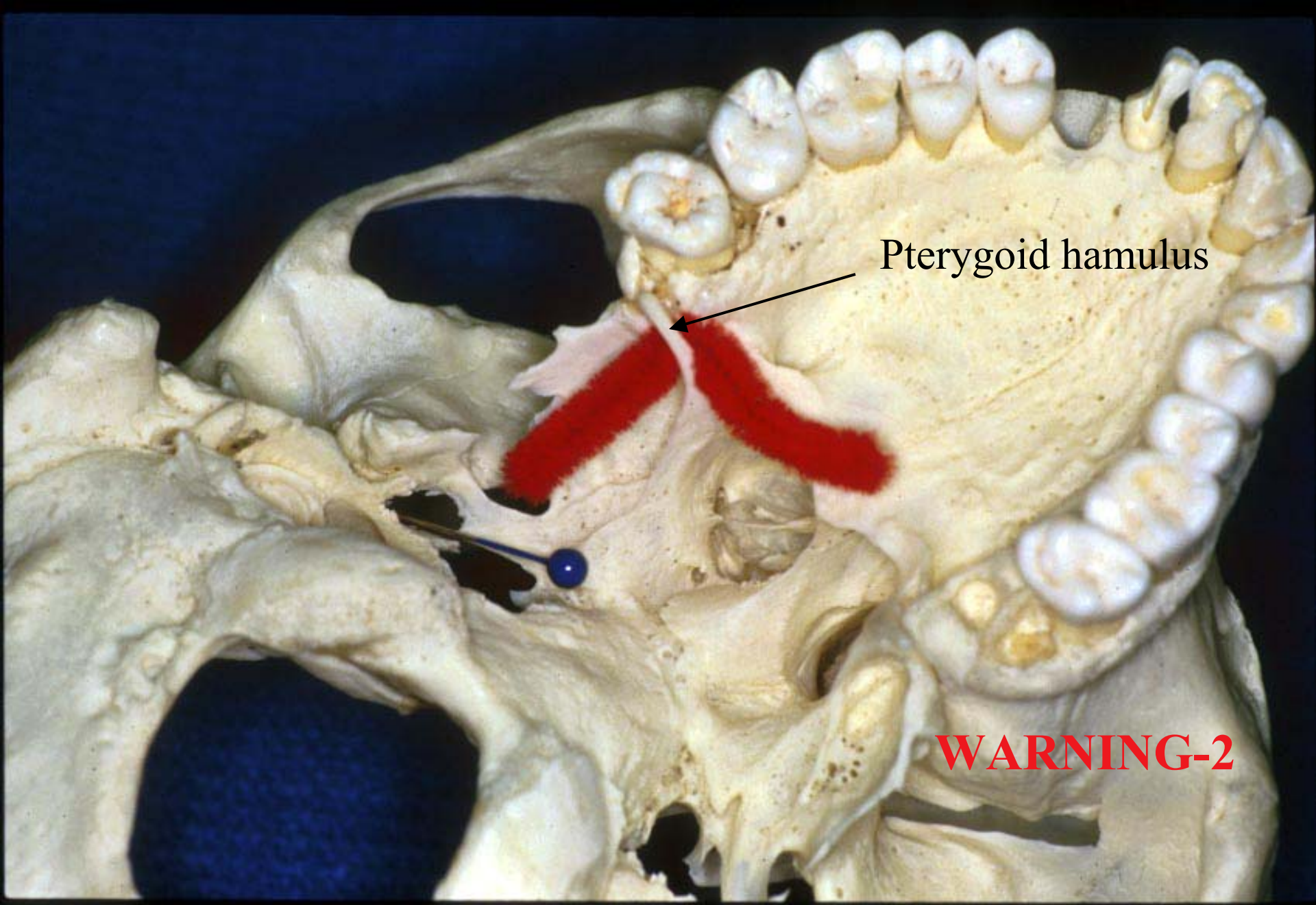


D38

Path of Tensor palatini m. around Pterygoid hamulus. Tensor arises from the canoe-shaped scaphoid fossa. (Grant's Atlas)



D39 Rapid palatal expansion also expands the pterygoid plates.

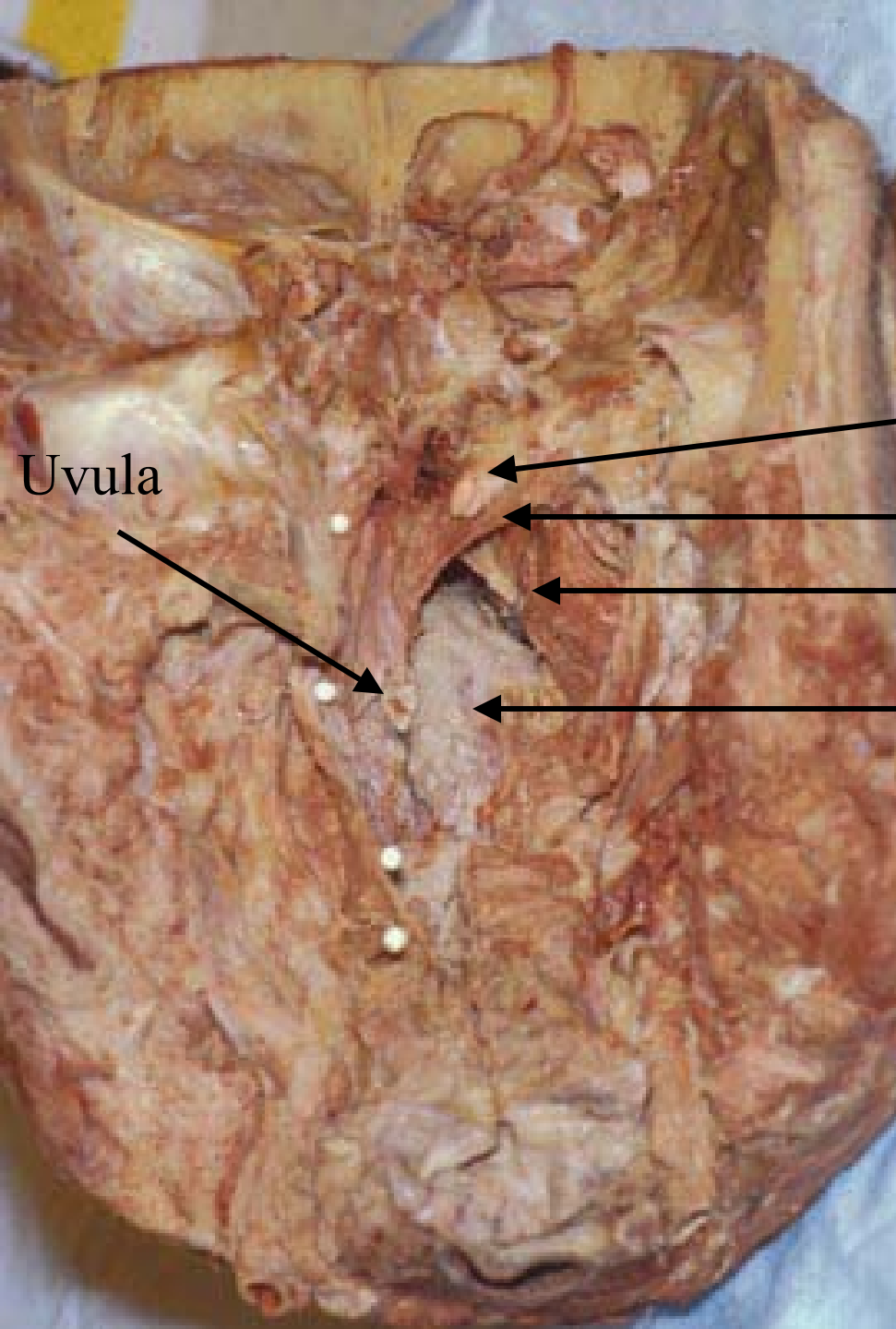


Pterygoid hamulus

WARNING-2

D40 Path of Tensor palatini m. around the Pterygoid hamulus.

Dissection of adult head from behind.



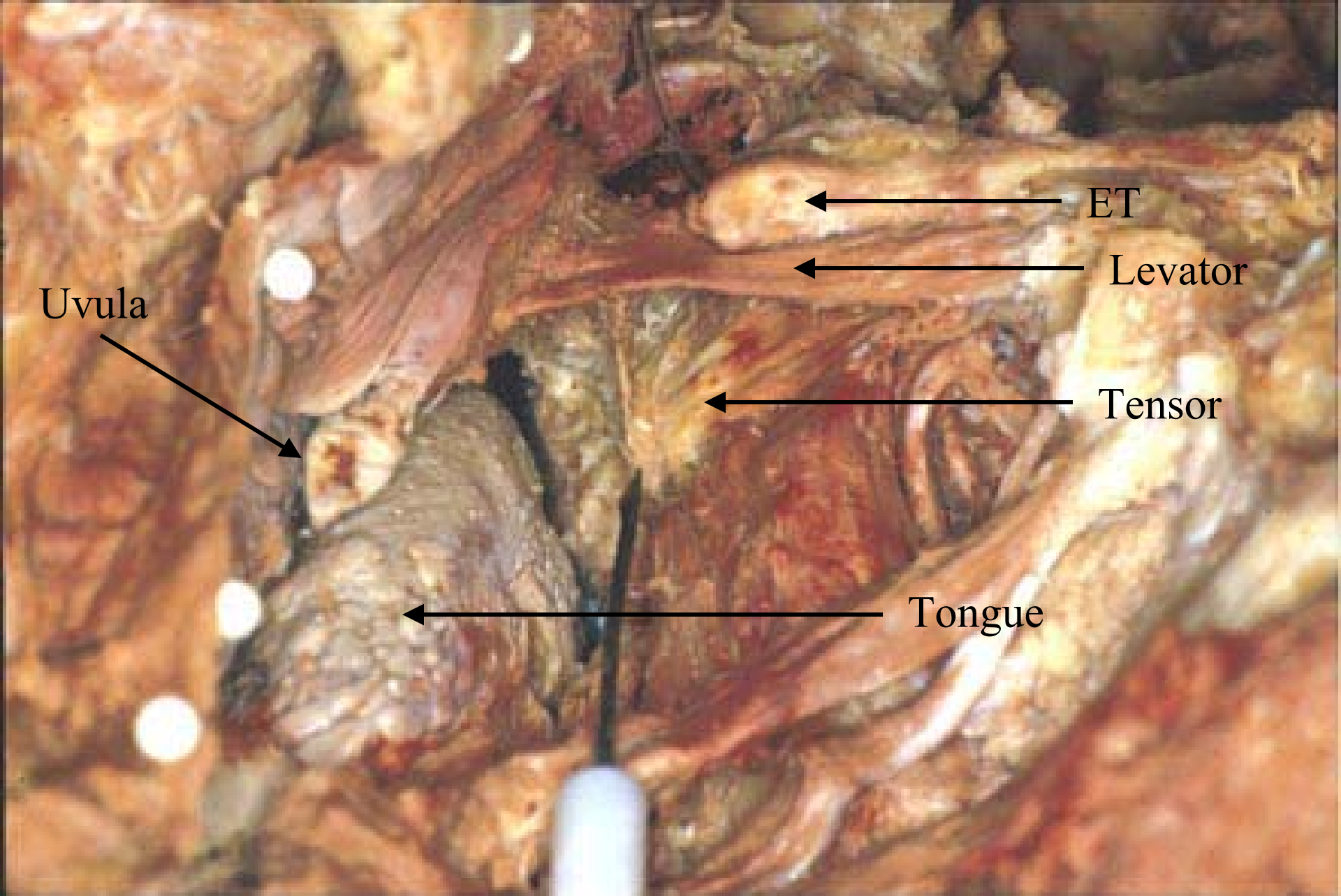
Eustachian tube (ET)

Uvula

Levator palatini m.

Tensor palatini m.

Tongue



Uvula

ET

Levator

Tensor

Tongue

Zooming in on Tensor palatini, Levator palatini, and ET.

Pointer is on Pterygoid hamulus.

In Summary

Reasons for the collapse of the Oral Cavity and Airway Space

- Improper feeding - artificial bottles and nipples.
- Noxious habits - pacifiers, excessive digit sucking, lip sucking, blanket sucking, etc.
- Grossly enlarged tonsils, adenoids.
- Macroglossia and ankyloglossia.
- Facial-skeletal growth abnormalities.
- CNS dysfunctions affecting facial muscles.
- Drugs - sugar might be considered in this category.

"Prevention of SDB should be a public health priority...A good understanding of the underlying mechanisms associated with the development of sleep-disordered breathing may allow early detection and, possibly, correction of anatomical risk factors."

"Current goals are to improve the early detection of SDB and to develop a preventive strategy. Prevention requires identification of the genetic factors associated with SDB."

Claude Gaultier, Christian Guilleminault. *Genetics, control of breathing, and sleep-disordered breathing: a review.*
Sleep Medicine 2 (2001) 281-295.

I agree there may be some genetic factors - but I strongly believe the main factors are: not breastfeeding, using bottles and pacifiers, and exposing children to disease causing conditions and allergens.

Basic Principle:

Overall health

is directly related to the

EASE OF BREATHING

ABC's of Emergency Care

- Airway
 - Breathing
 - Circulation
-
- 4-6 minutes - Brain damage possible if not breathing.
 - 6-10 minutes - Brain damage likely.
 - Over 10 minutes - Irreversible brain damage certain.

Community CPR - American Red Cross

Hypothesis: Prehistoric man did not have OSA

In prehistoric skulls you rarely find:

- High palates
- Narrow arches
- Overjets
- Non pathologic malocclusions

You do find, however:

- Large posterior nasal apertures or choanae.

Hypothesis

Breastfeeding reduces the risk of OSA:

- By influencing ideal facial form and the proper development of oral cavity and airway.
- By receiving nutrients and the mother's immune system through the breastmilk the infant is more resistant to infections.
- Infant's sucking needs are better met on the breast than on the pacifier - also impacts proper tongue action during swallow.
- Less risk of obesity due to variable fat content of mother's breastmilk.

“Modern,
non-breastfeeding nurturing,
is having a negative impact
on our health and
evolutionary destiny.”

Brian Palmer, D.D.S., 1998

Prevention is better than treatment!

Early diagnosis and treatment
is the best prevention of
obstructive sleep apnea (OSA)
and sleep disordered breathing
(SDB).



My brother had a stroke in 1995. One of the main contributing factors was his untreated obstructive sleep apnea. He needed a tracheotomy. He no longer has the tracheotomy, but he is in a long term care facility and will never get out.

This one case of untreated OSA has cost thousands of dollars to the health care industry.

Do not let this happen to you or any of your loved ones!

My Dream:

1. Have others **accept my research** as scientific and continue on with further research using this research for a basis.
2. **Challenge my research** and try to prove that it is unscientific – I know it will be accepted as scientific with time.
3. Don't let what happened to me happen to your loved ones. Best to prevent.

There is no one ideal treatment for OSA. A tracheotomy is the only 100% cure for the condition. Nearly all current treatments have unwanted side effects. The best and cheapest form of treatment is prevention.

Breastfeeding is the best way to prevent OSA.

Therefore: Breastfeeding is the best and cheapest form of health care!

Brian Palmer, D.D.S., 2001

“Knowledge is most meaningful
when shared with others.”

Brian Palmer, DDS

June 4, 2004

Please share this presentation with others.

www.brianpalmerdds.com

Have a Great Day!

Brian Palmer, DDS

Kansas City, MO

June 4, 2004