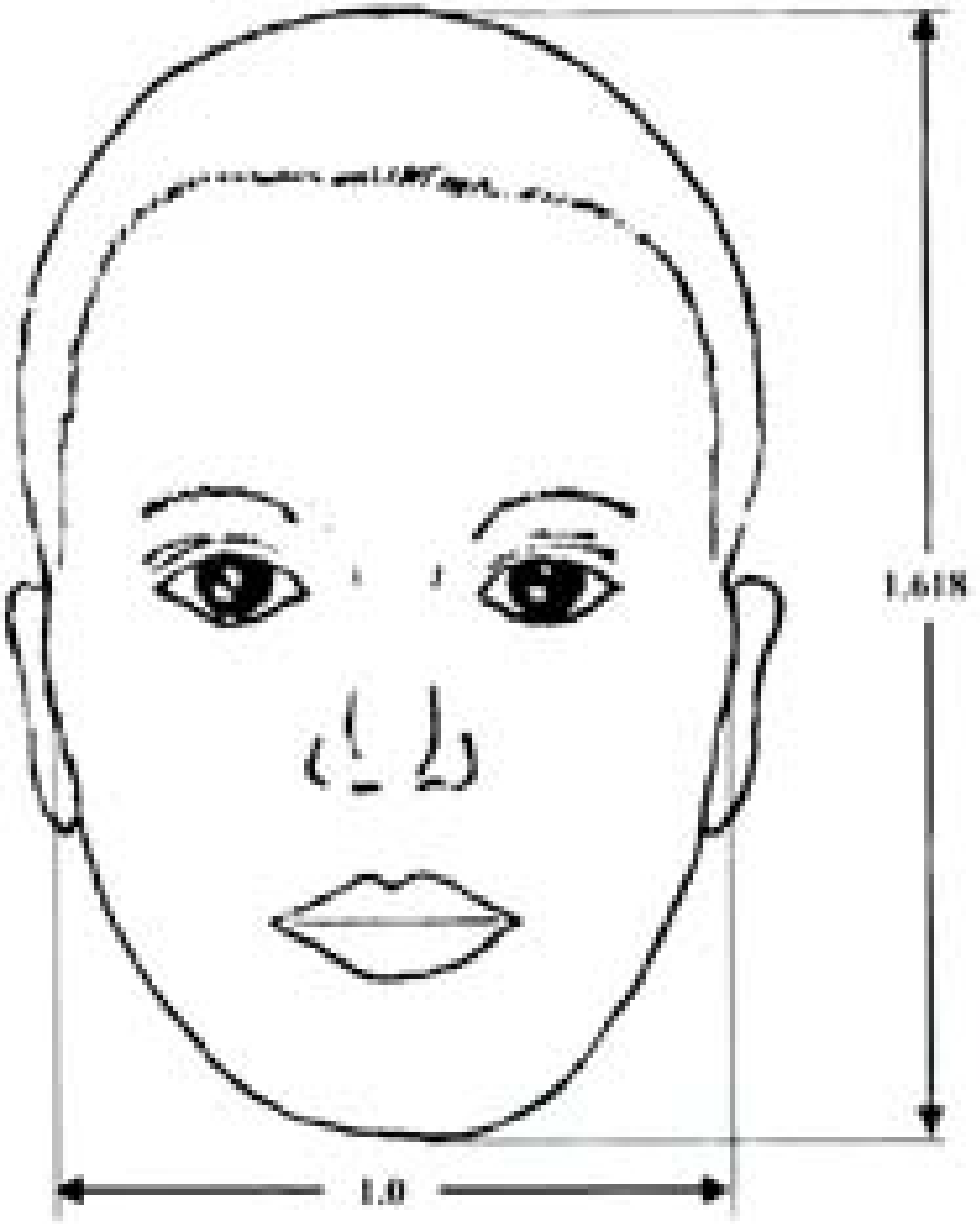
Impact of occlusion on:

Facial form

Long Face Syndrome

E1



Divine Proportion of the face

Natural beauty has a divine proportion ratio of 1.618 / 1.0

Yosh Jefferson. Skeletal Types: Key to unraveling the mystery of facial beauty and its biologic significance. JGO 1996;7(2):7-25.

E2

Formula to determine Golden Proportion or Divine Proportion of the Face:

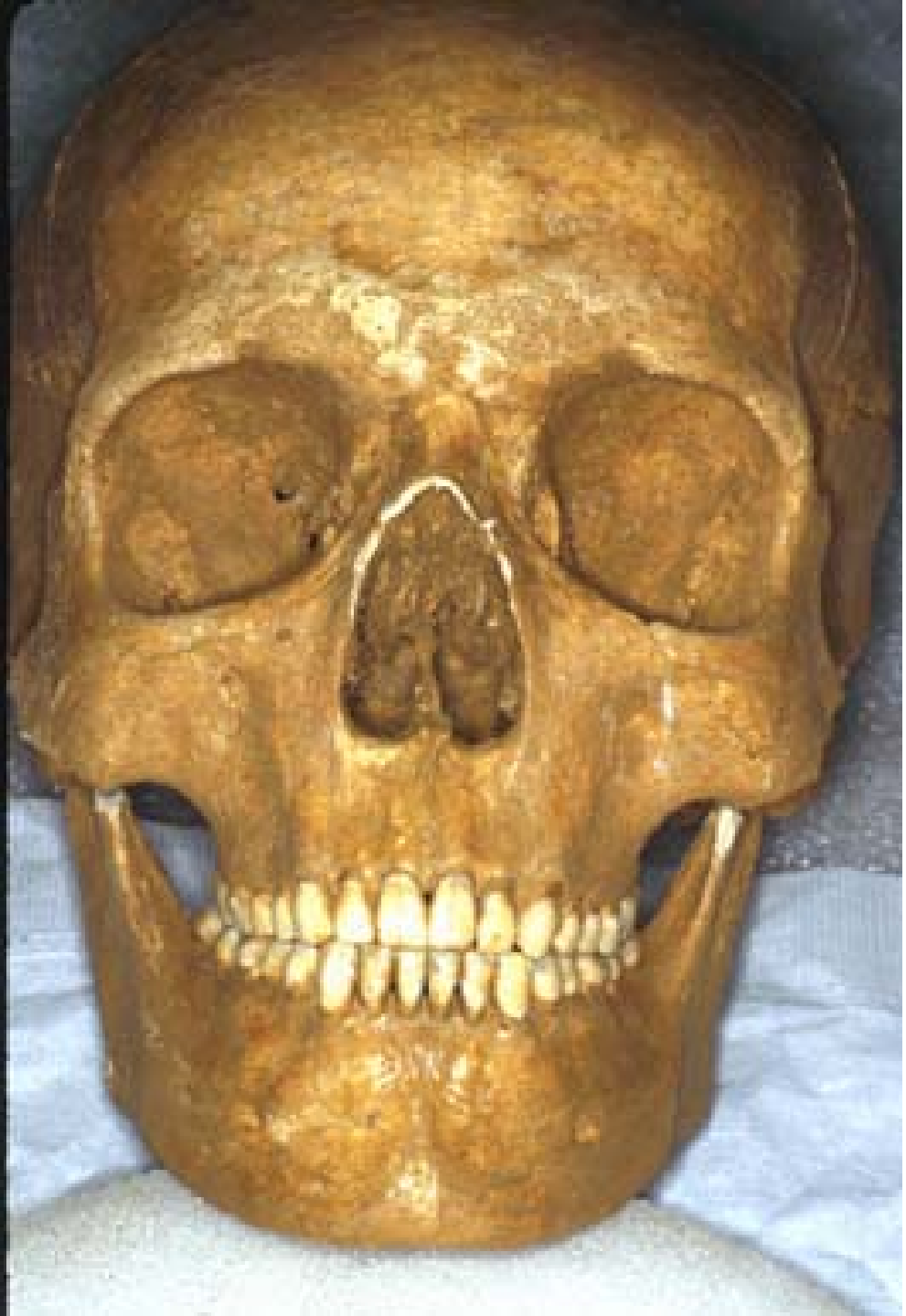
Height (mm) / width (mm) = Ratio

Example:

If height of face is 161.8 mm and

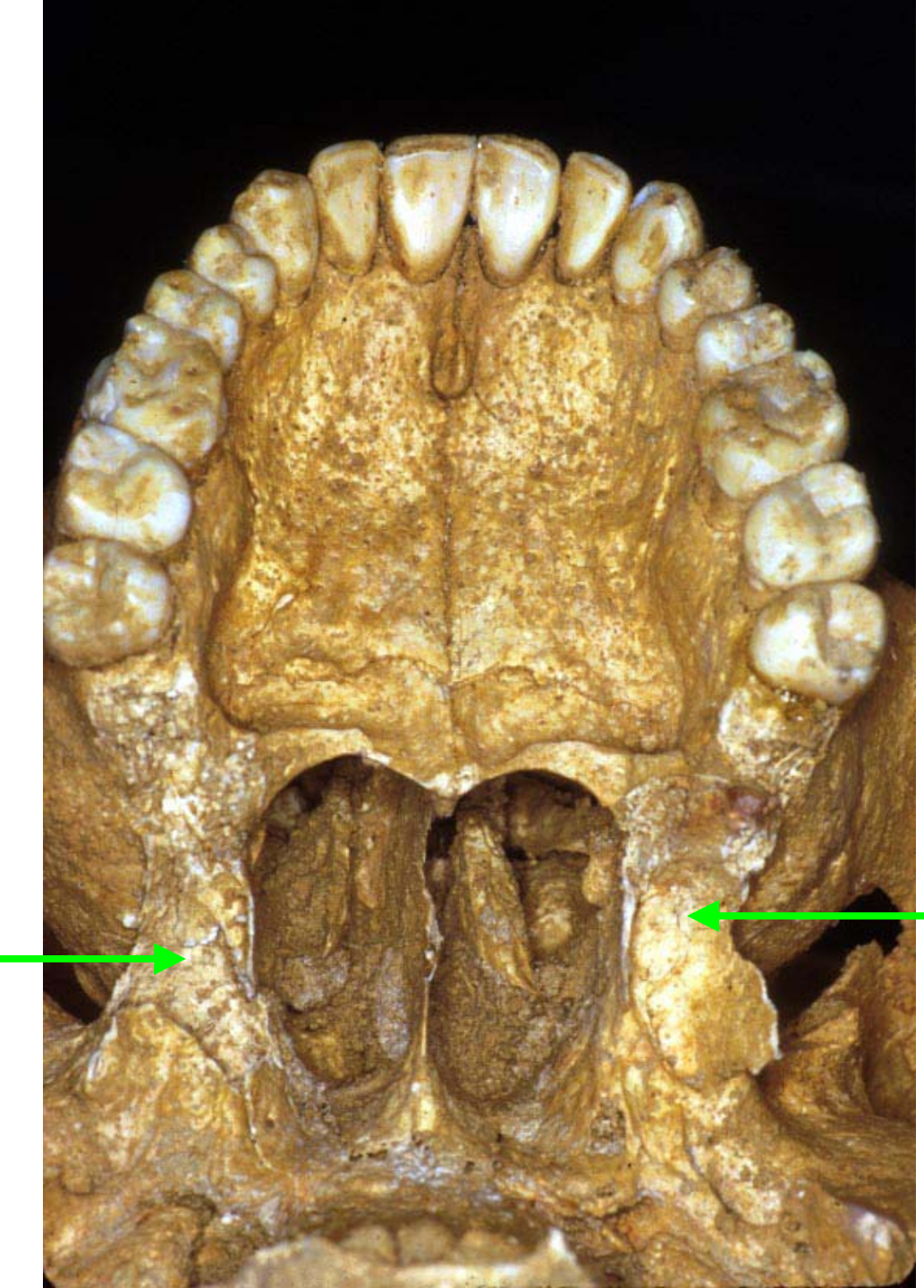
width of face is 100 mm,

ratio is 161.8 / 100 = 1.618



Ideal facial form and occlusion of a prehistoric skull at the Smithsonian.

E5 Close up of teeth of previous skull. Perfect occlusion and no decay.



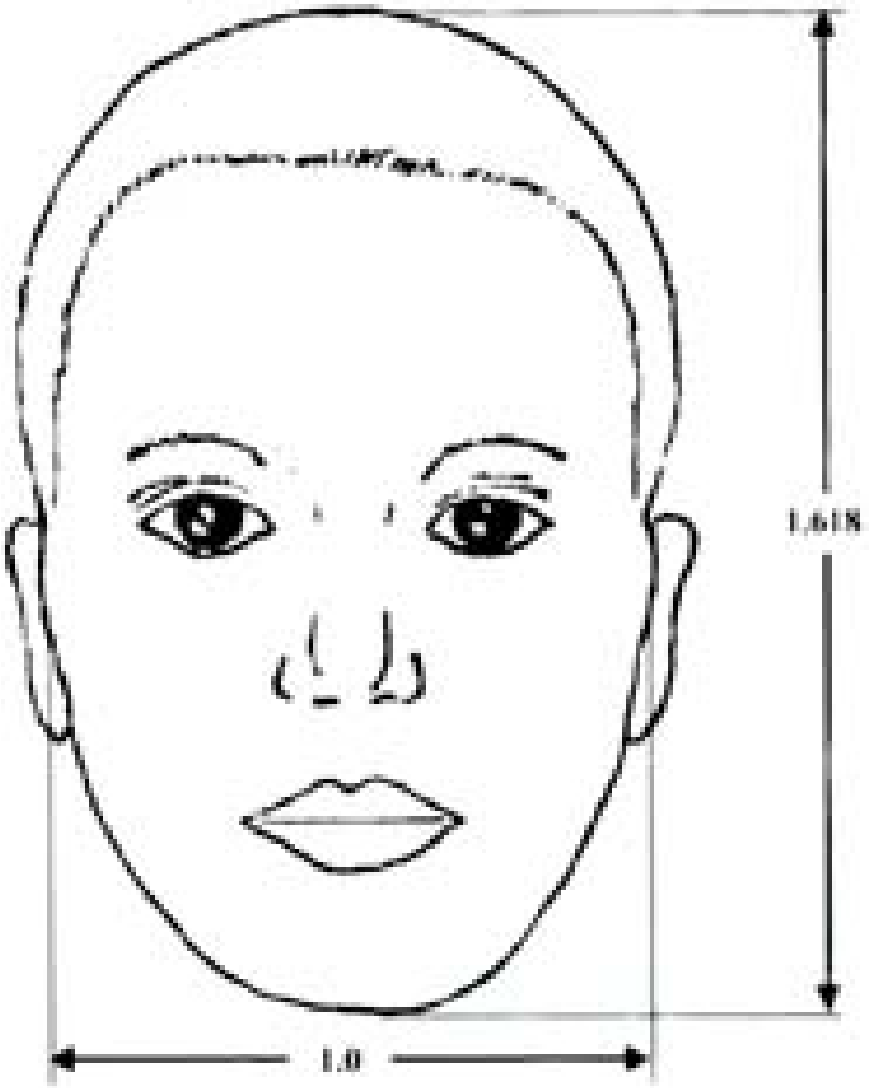
Same skull demonstrating a wide palate and large posterior nasal aperture. Note good width between the butterfly shaped pterygoid plates. This allows for a wide beginning of the airway.

Pterygoid plates

E6

E7

My assistant's well proportioned beautiful face and radiant smile. She was breastfed.



Height = 227mm

Width = 143mm

Ratio = 1.59

E8

Her beautiful smile!

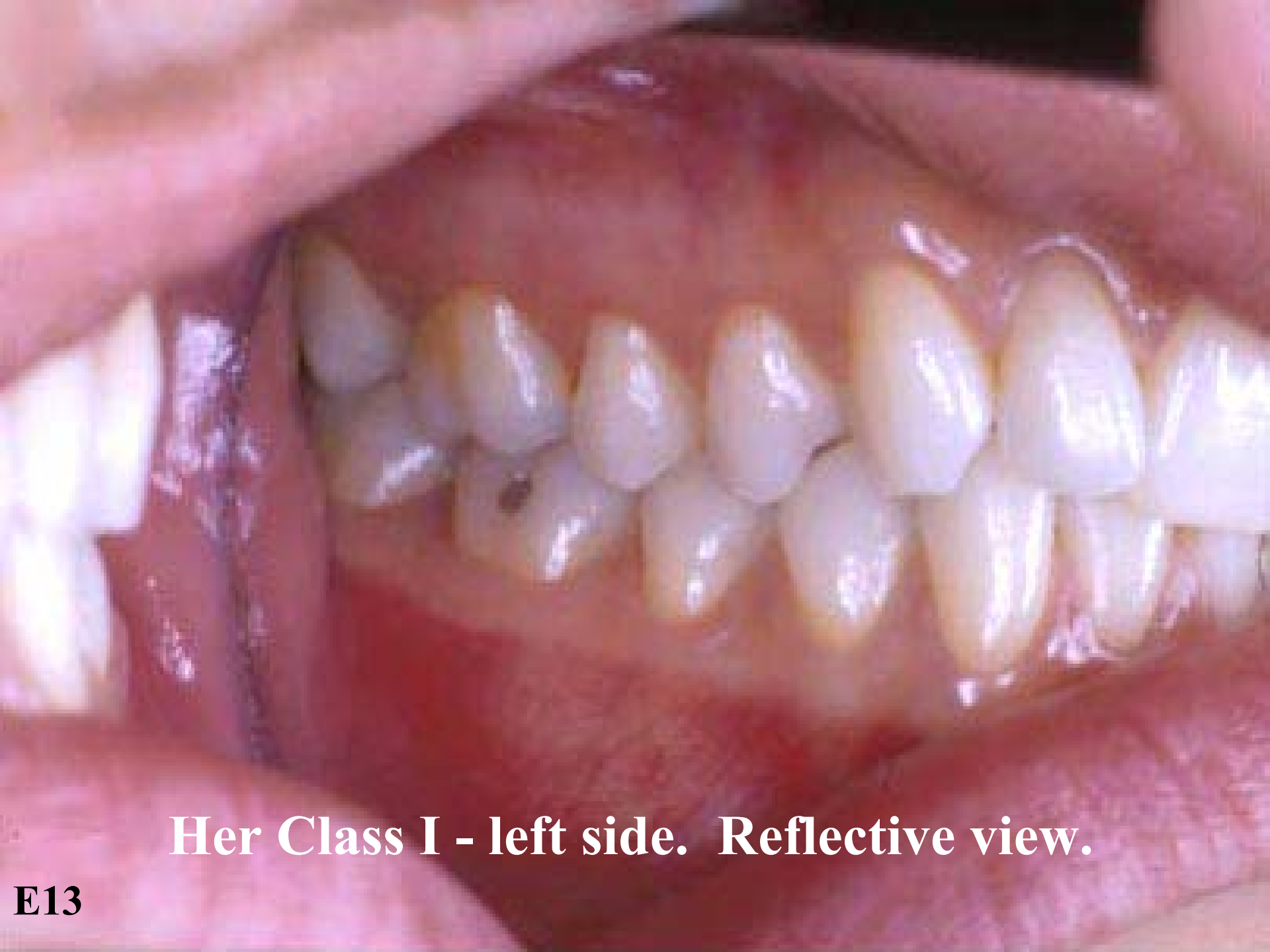
E9

Class I - Right side. - Reflective view.

E10


Her cuspid rise - right side.
E11

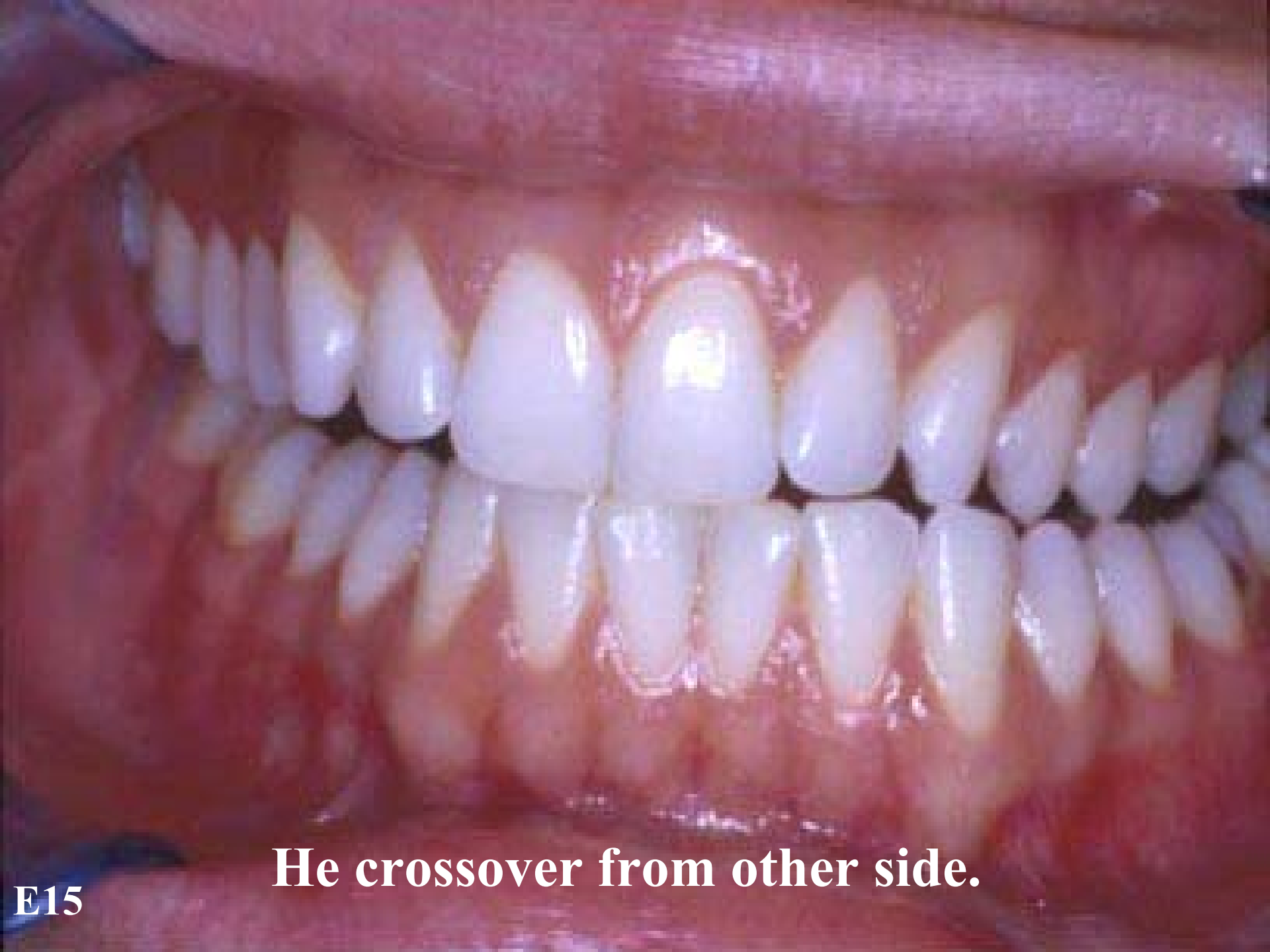

Her crossover - Anterior guidance.
E12



Her Class I - left side. Reflective view.

E13

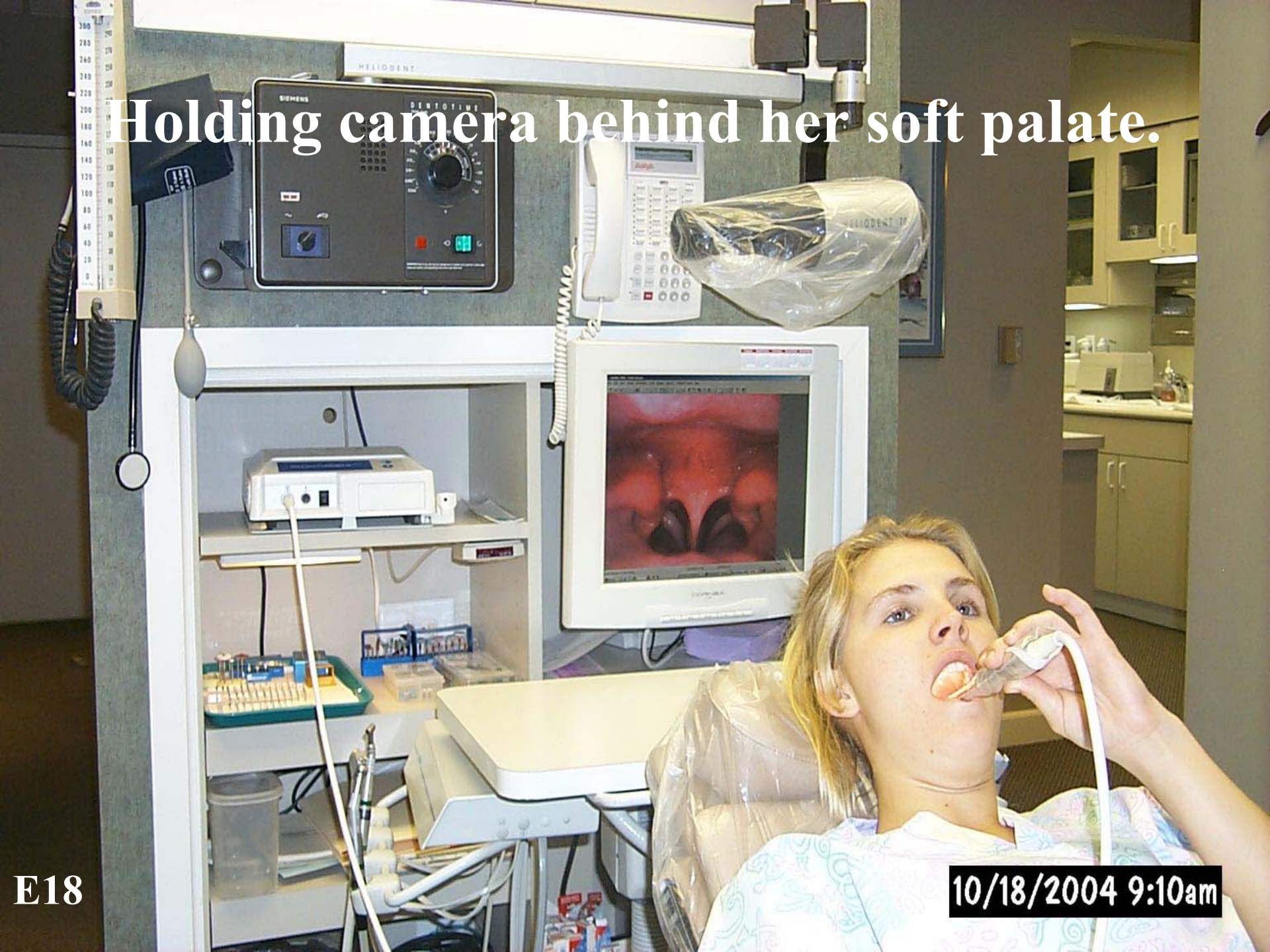

Her cuspid rise - left side.
E14


He crossover from other side.
E15

E16

Her son has well proportioned face and winning smile.

E17


Holding camera behind her soft palate.
E18
10/18/2004 9:10am

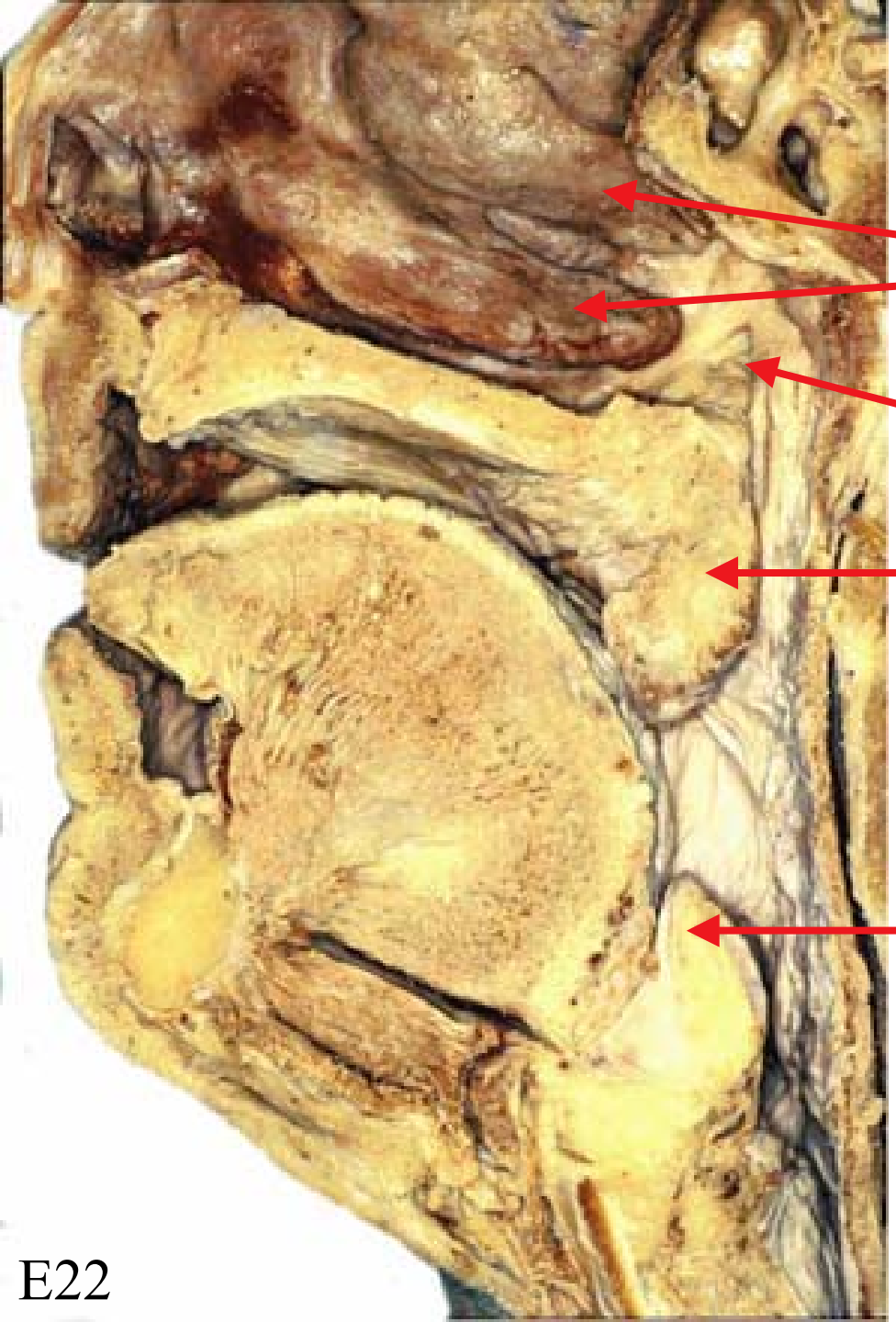
Intra-oral camera.

E19


My view of monitor behind patient.
10/18/2004 9:07am
E20

E21

What patient sees.



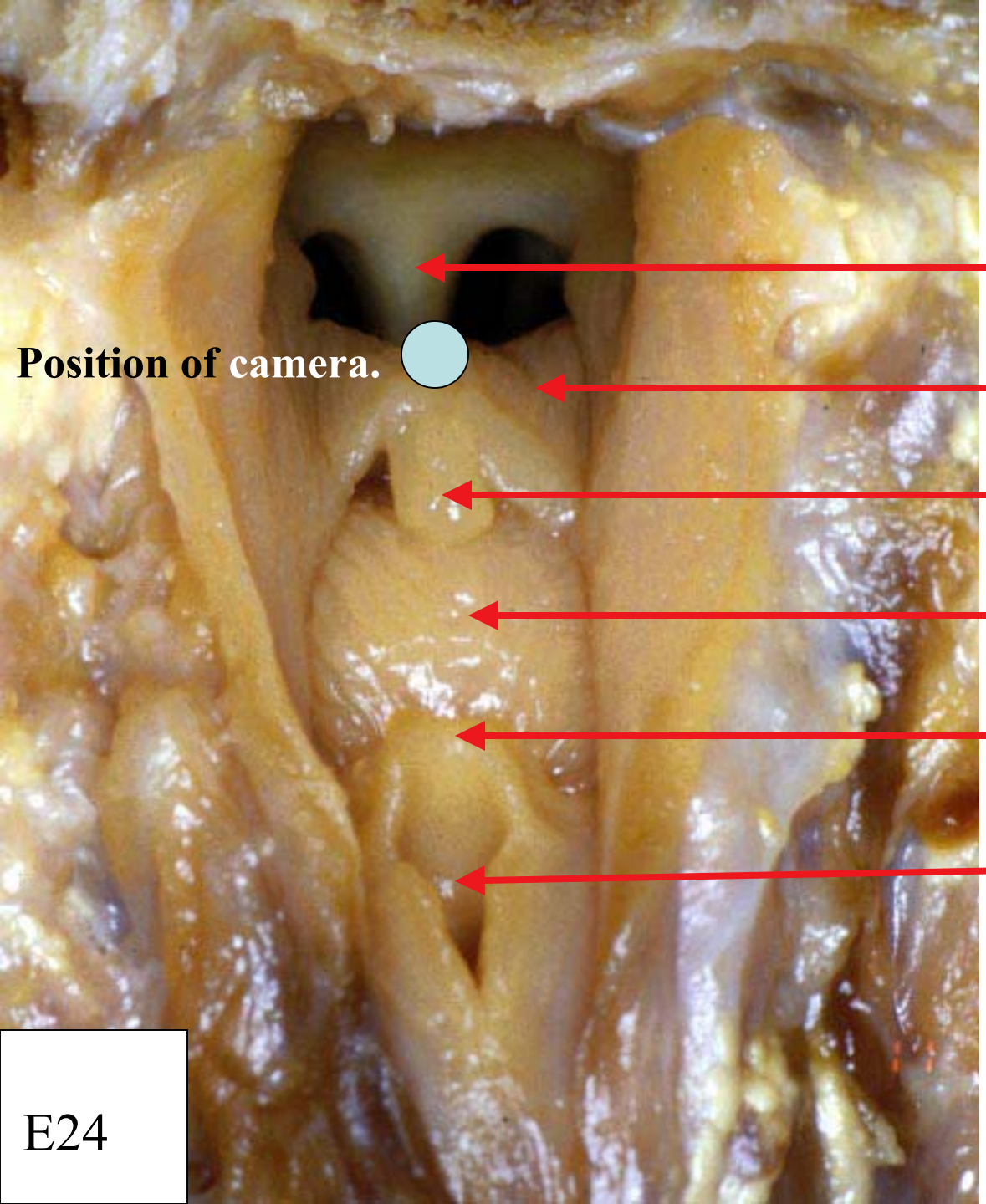
Dissection illustrating parts of nasopharynx.

E22

Camera sitting in area of circle.

E23

Interior dissection of the pharynx from behind.



Nasal septum

Soft palate

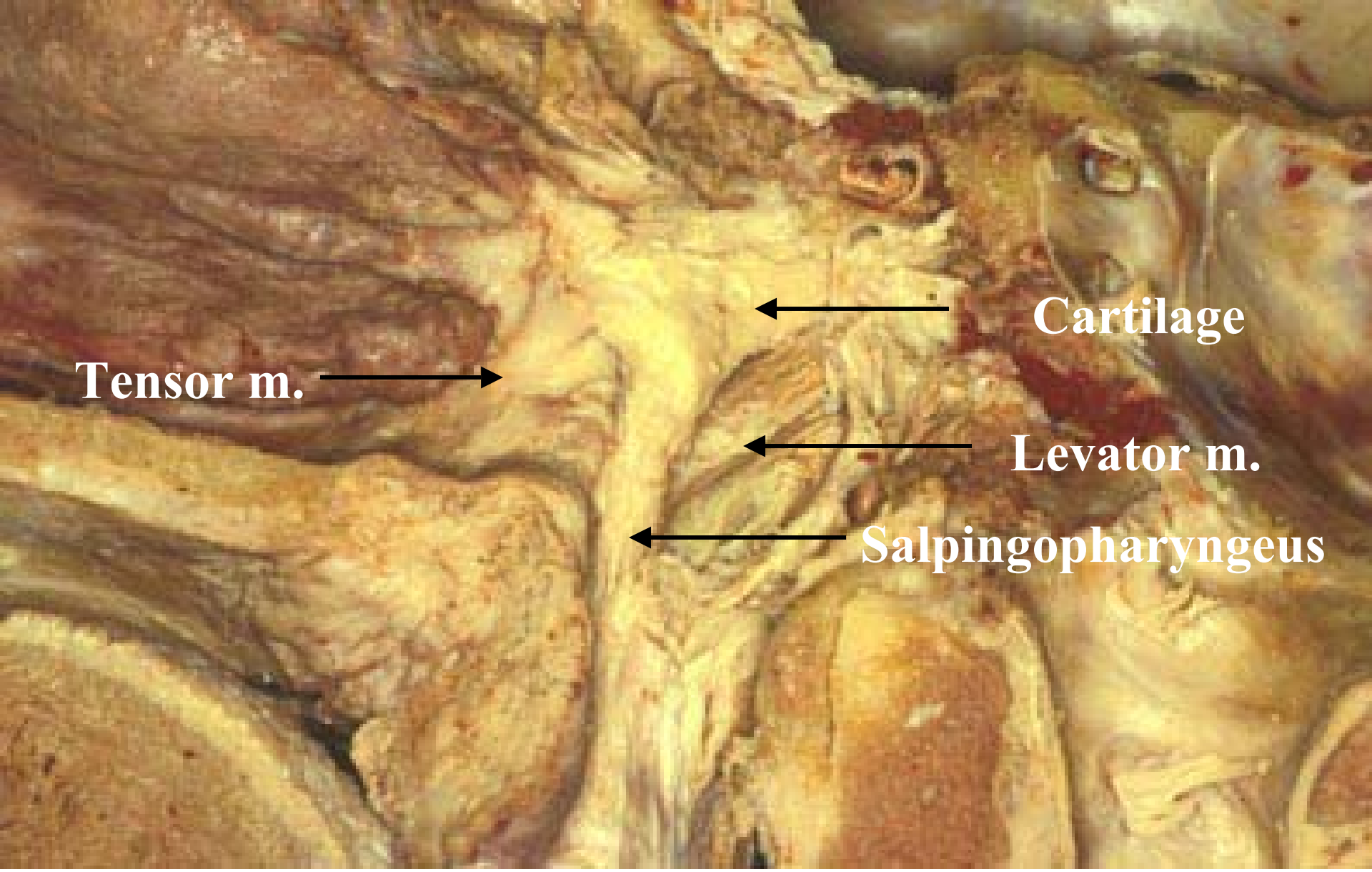
Uvula

Tongue

Epiglottis

Inlet to larynx

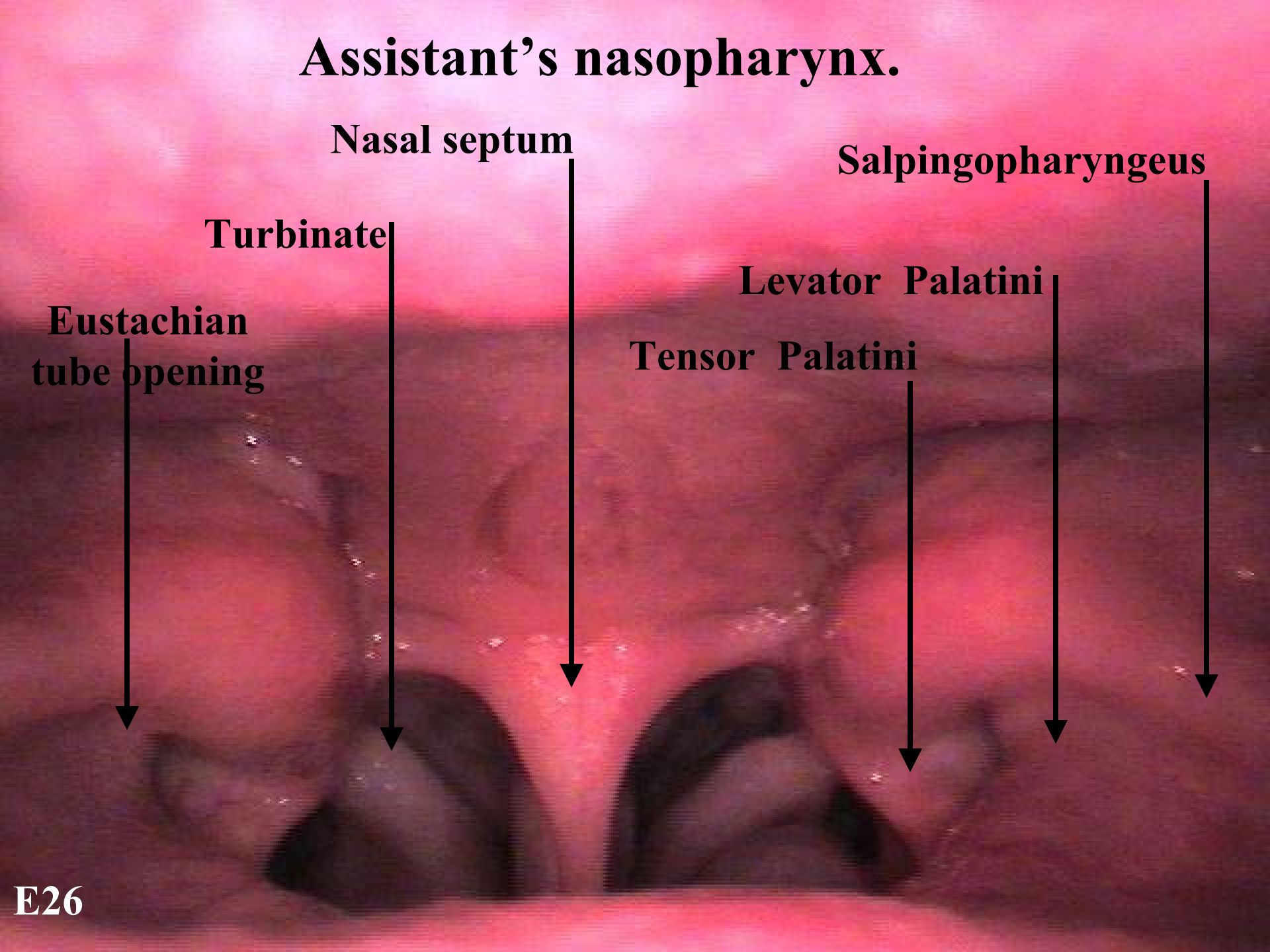
E24



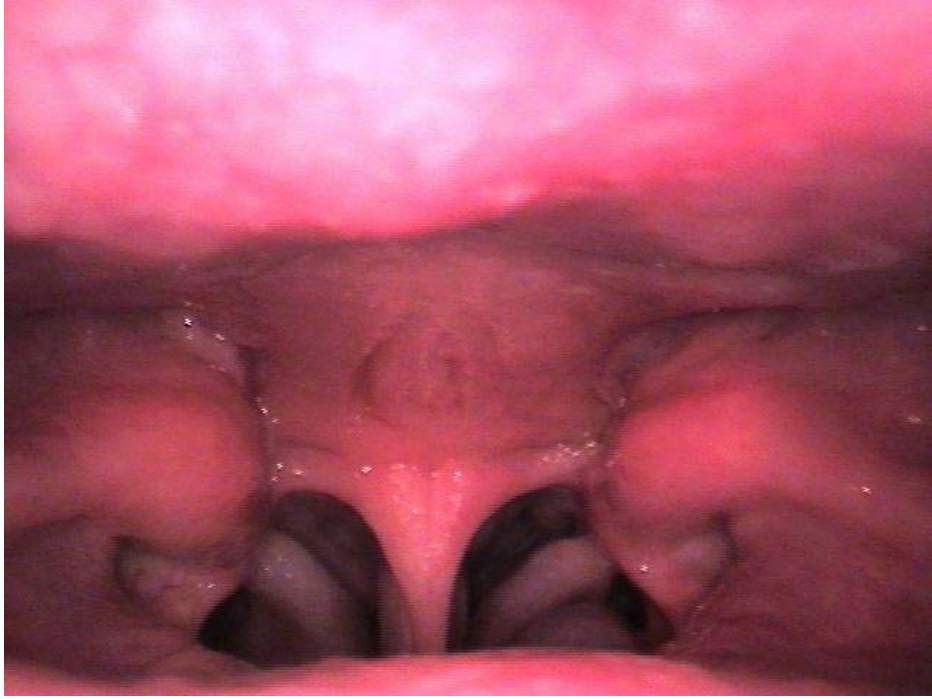
Close up view of Eustachian tube.

E25

Assistant's nasopharynx.



E26



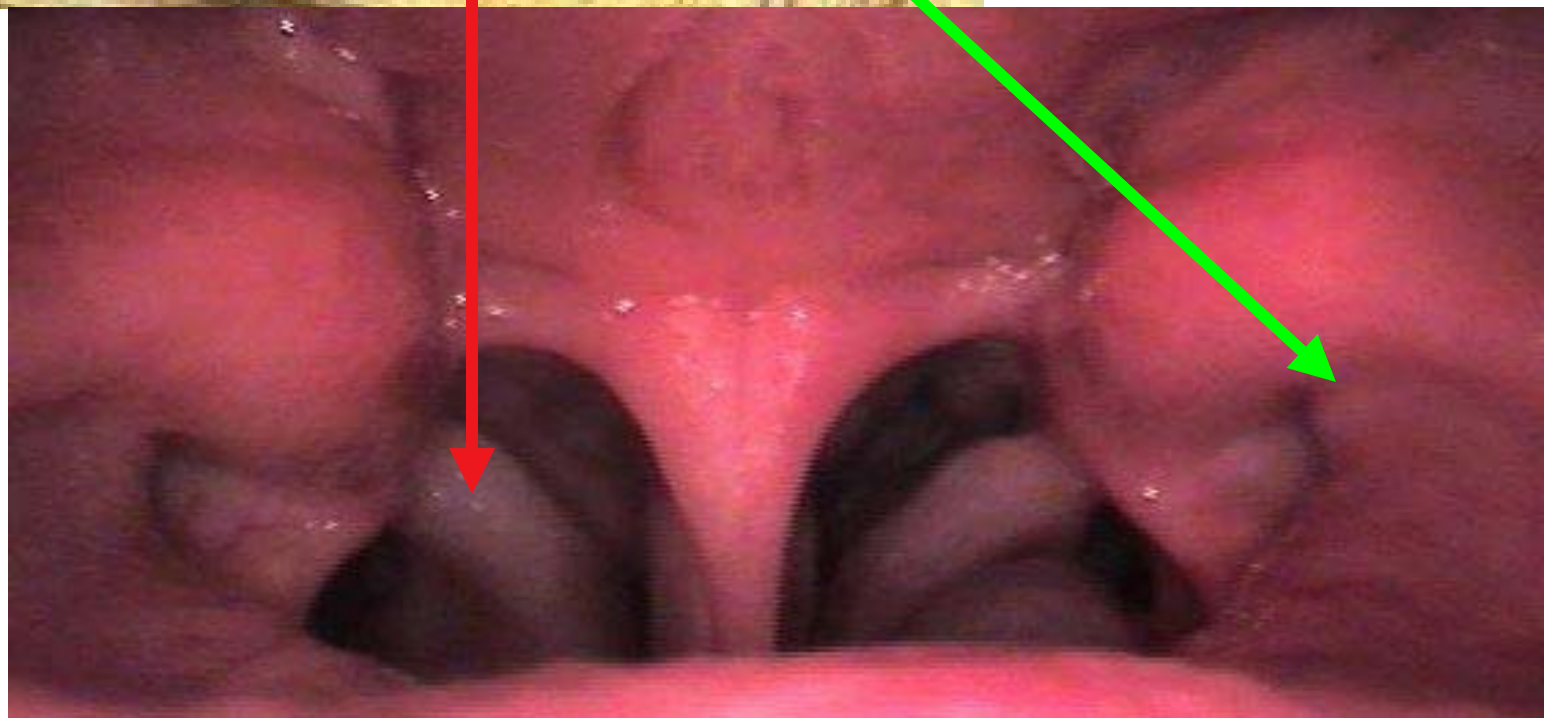
E27

Arrow - direction of view.

KEY ILLUSTRATION

Turbinate.

Eustachian tube.

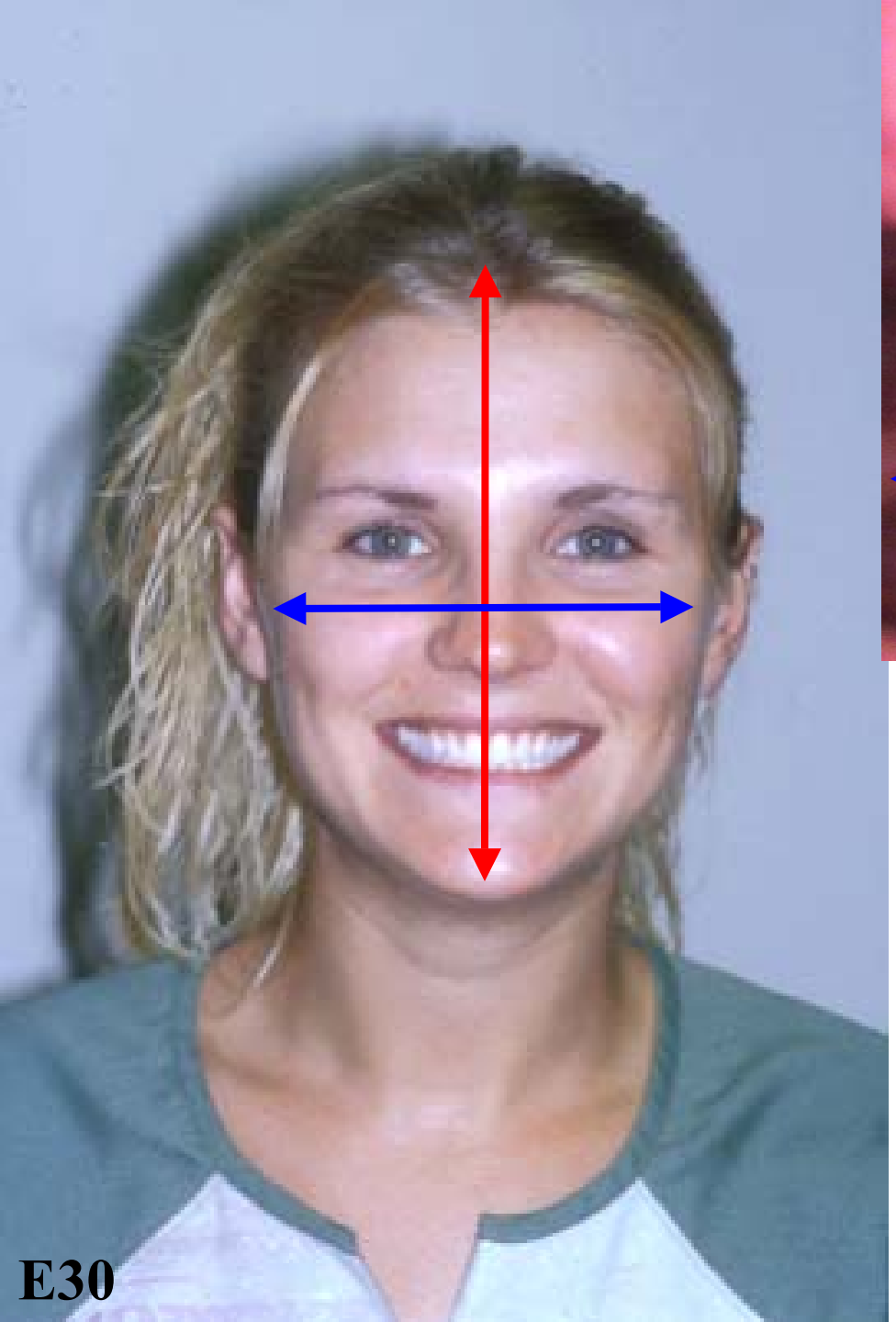


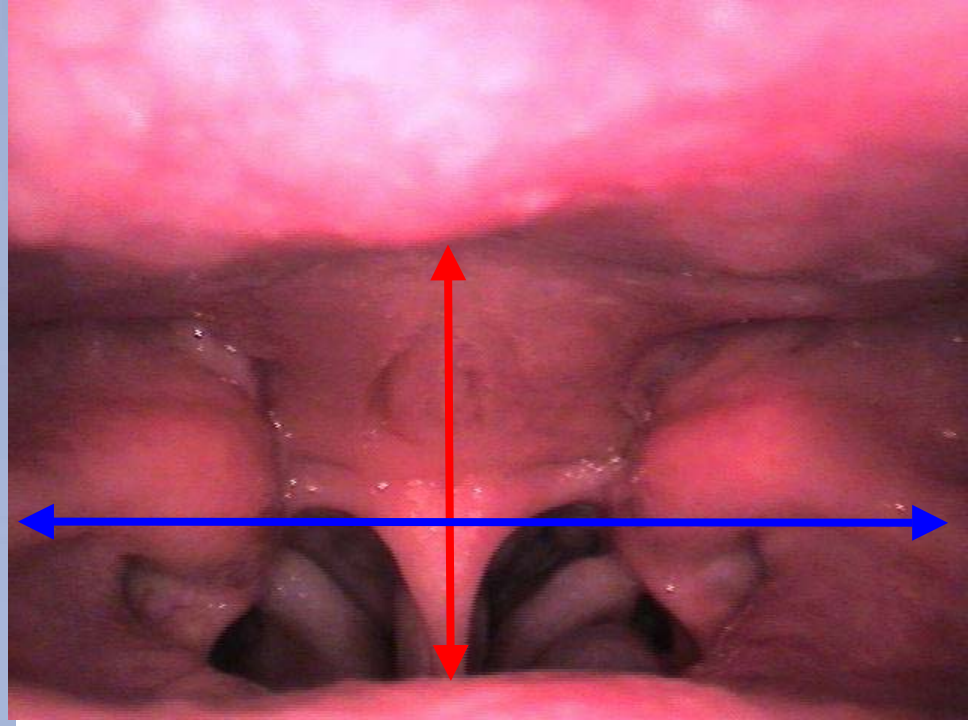
E28

Muscles involved with the opening and closing of the Eustachian tube / Auditory canal

- Lumen **opens** chiefly when attachment of tensor veli palatini muscle pulls wall of tube laterally during swallow.

- Auditory tube **closes** by elastic recoil of cartilage, tissue turgidity and tension of salpingopharyngeus muscle.

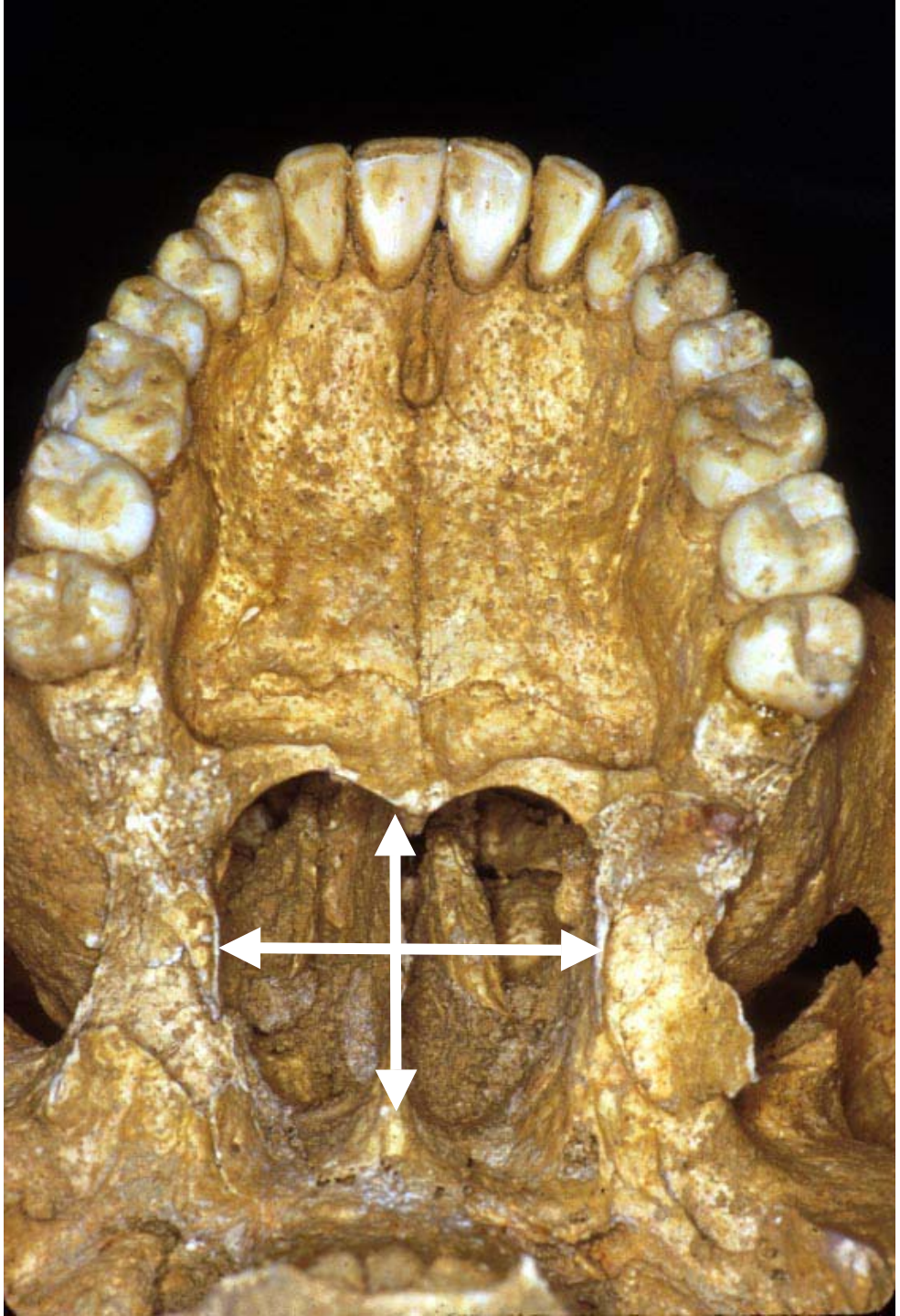




Is there a relationship in this ratio?

If there is, then there is a relationship between facial form and total health!

E30

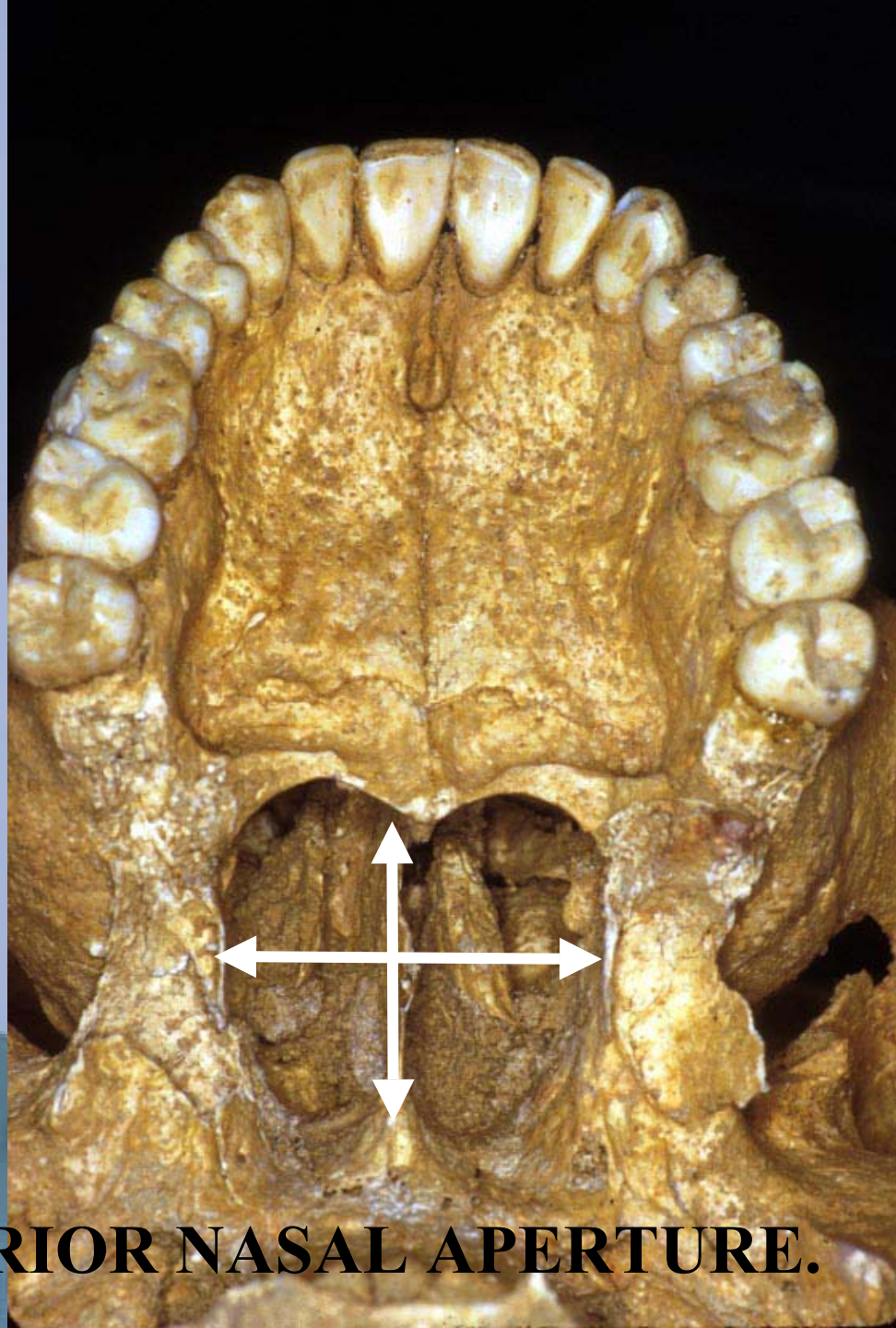


This is really the ratio that is most important to one's ability to breathe.

Can this ratio be related to facial form?

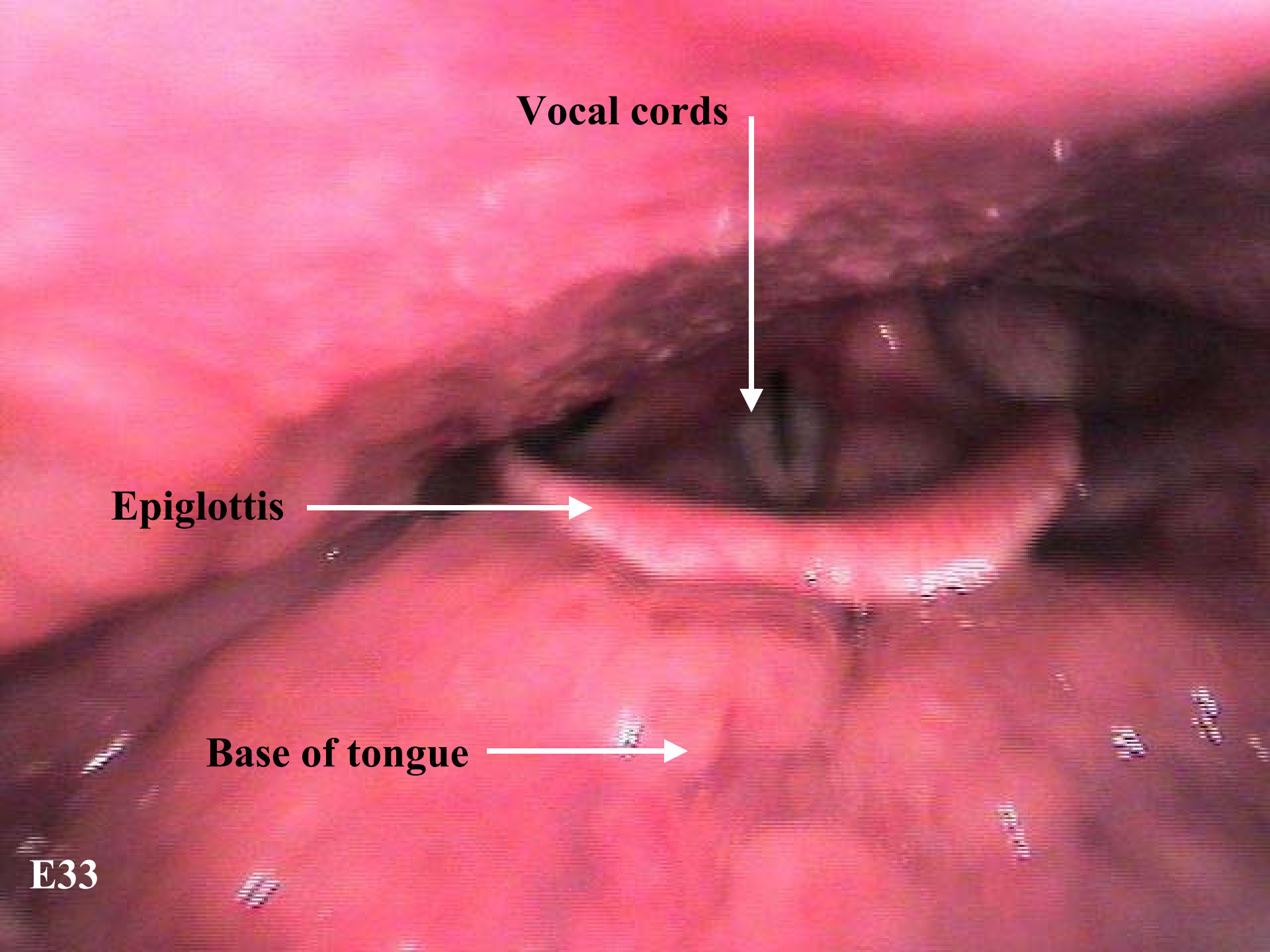
Prehistoric skull with wide palate and large posterior nasal aperture. There is also good width between the pterygoid plates. This allows for a wide beginning of the airway.

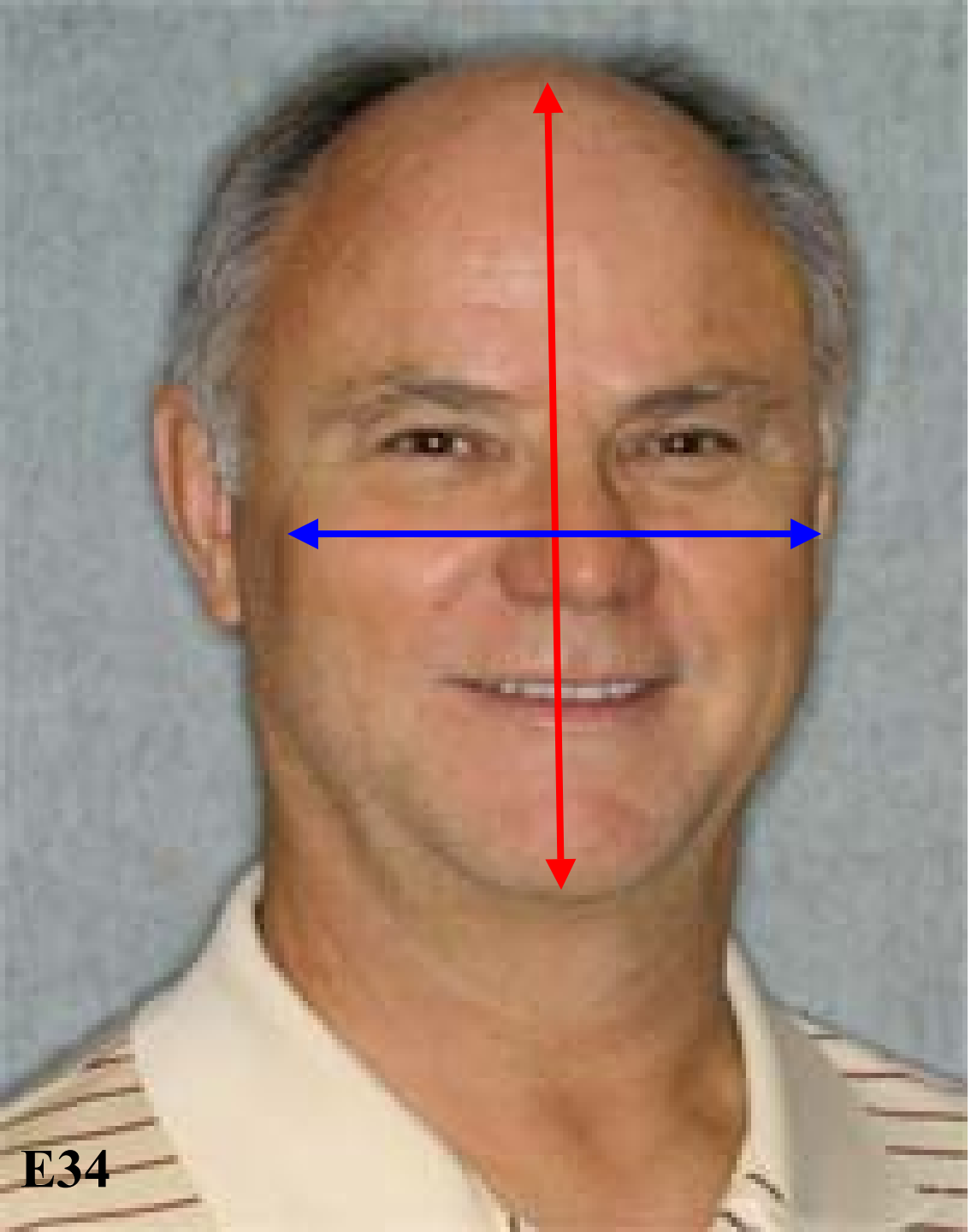
CRITICAL RATIO RELATIONSHIP.



E32

FACIAL FORM / POSTERIOR NASAL APERTURE.


Vocal cords
Epiglottis
Base of tongue
E33



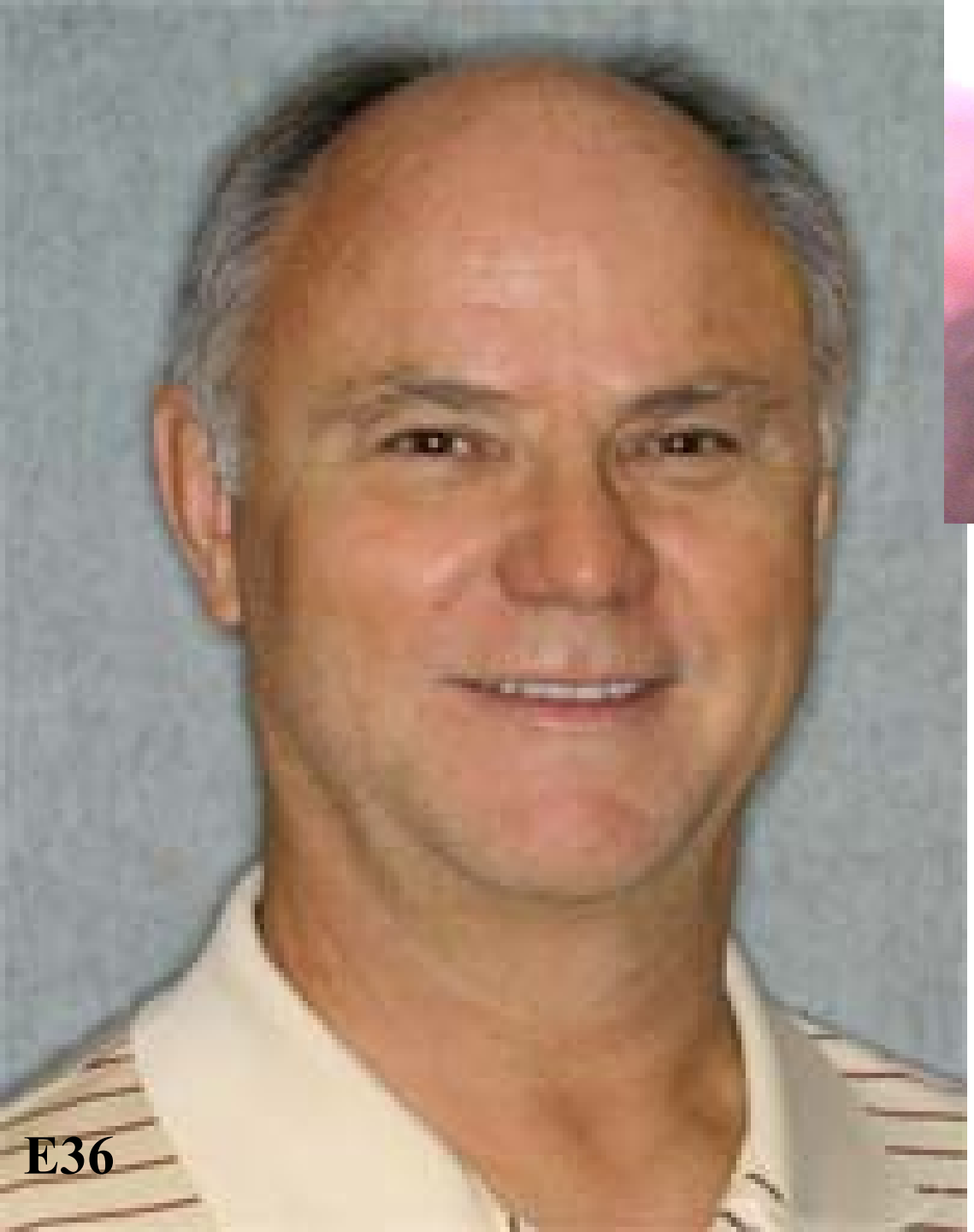
Breastfed.

Proportioned face,
but gray and balding.

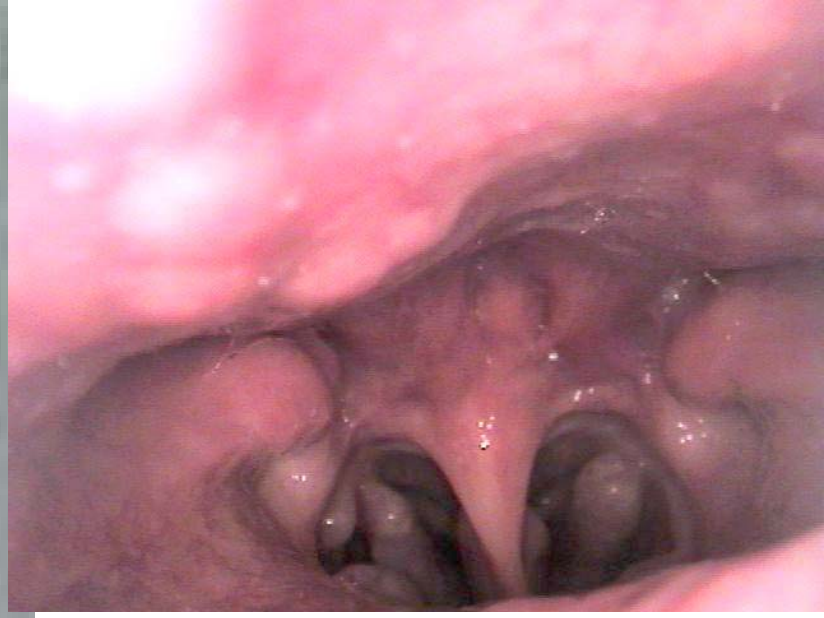
Height = 217mm
Width = 135mm
Ratio = 1.607

My nasopharynx.

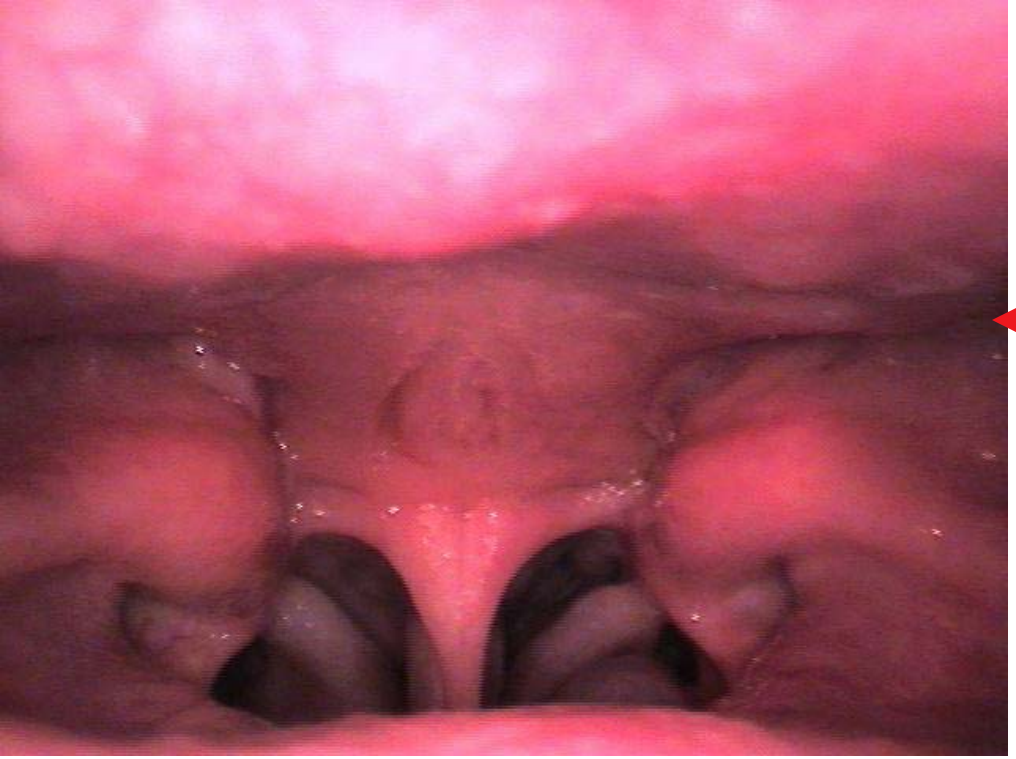
E35



E36

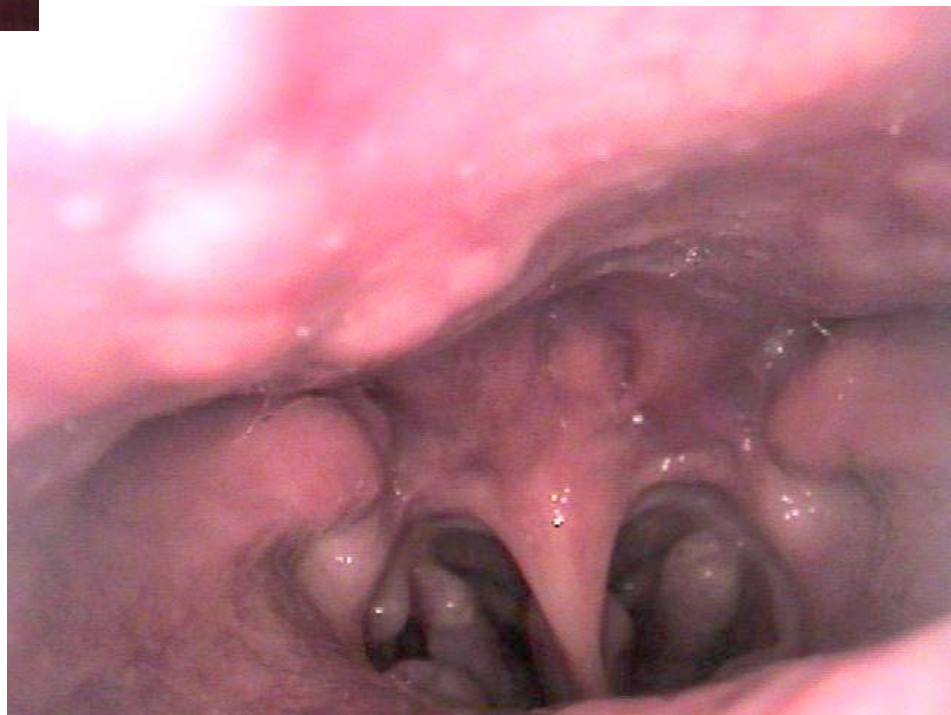


Does a proportioned face normally have a good nasopharynx?



Assistant's nasopharynx

My nasopharynx



E37

Factors Predisposing Bottle-fed Infants to Otitis Media

- Lack of IgA immunity from human breastmilk.
- Bottles propped - infant on back - regurgitates into Eustachian tubes (ETs).

Ruth Lawrence, 1980, "Breast-feeding, a guide for the medical profession."

I add the following factors:

- Confinement of the space in the area of the ETs due to the displacement of soft palate during bottle feeding.
- Altered ability of the tensor palatini to fire properly.

Long face syndrome

E40

Long face syndrome.

He was a preemie
and was bottle-fed.

Same age as
my assistant.

E41

Anterior open bite and tongue thrust.

Close-up of open bite.

E42

Close-up of tongue thrust.

E43

Right side occlusion.

E44

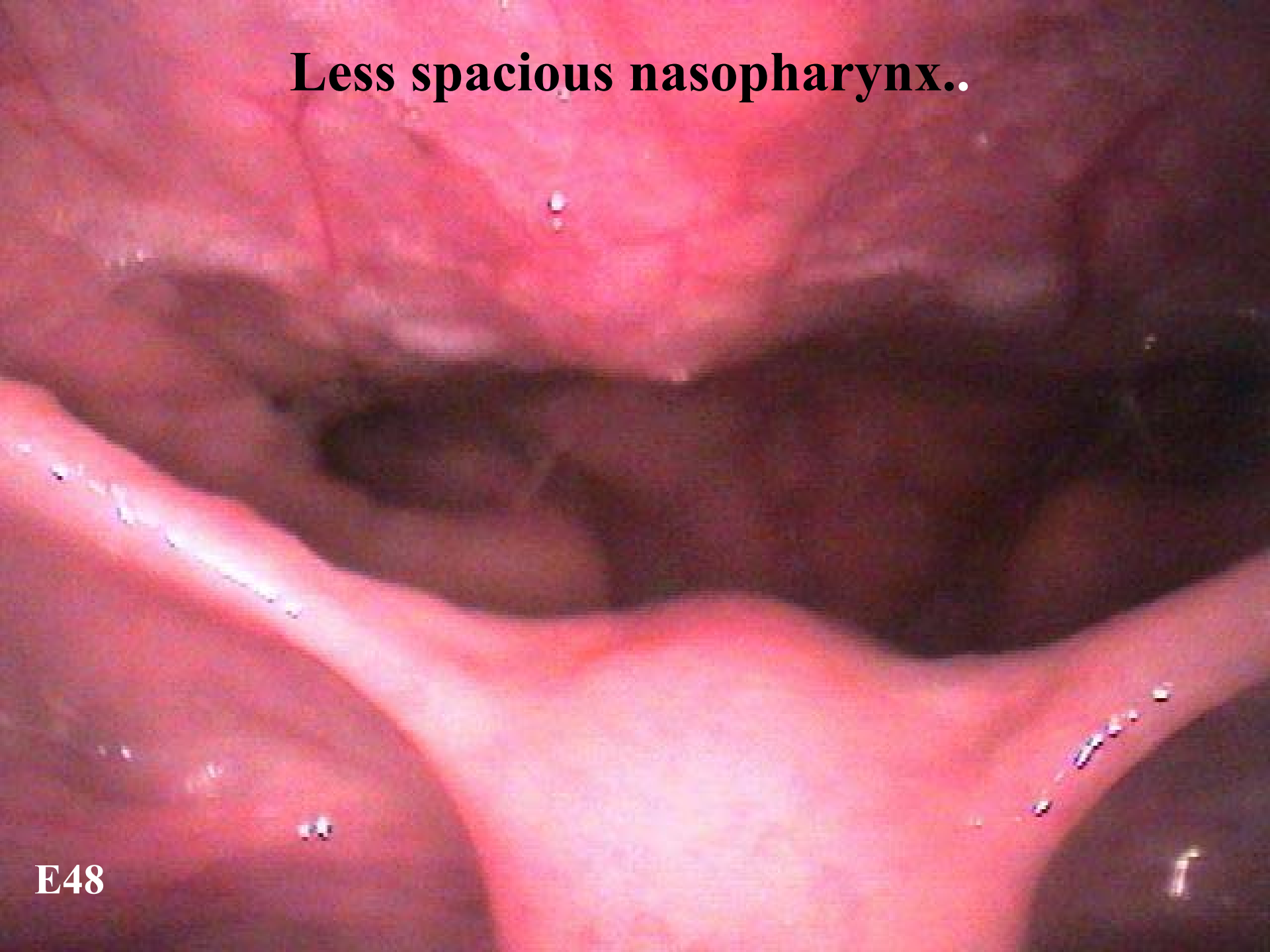
Left side occlusion.

E45


Narrow maxillary arch.
Slightly high palate.
E46

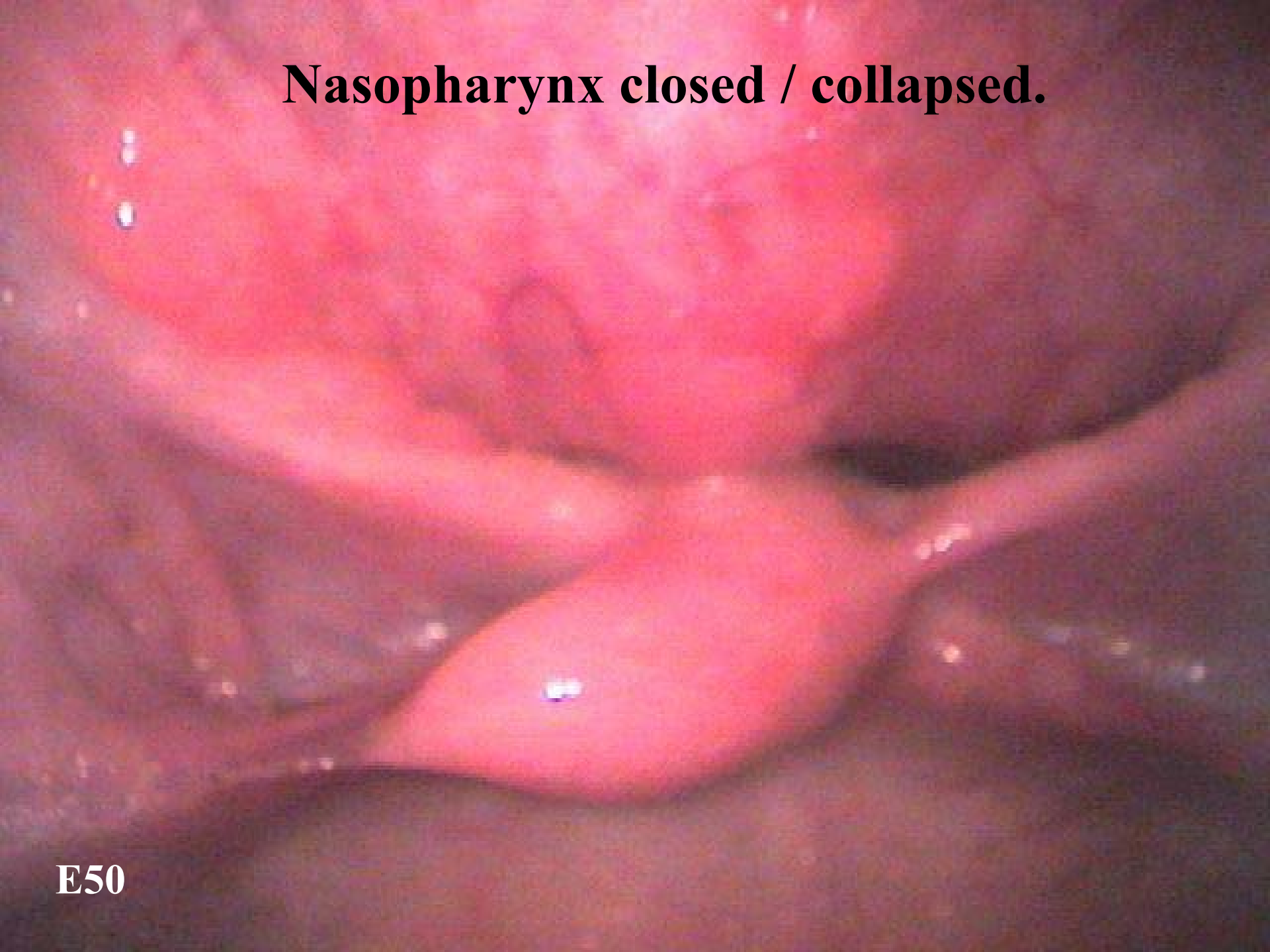
E47

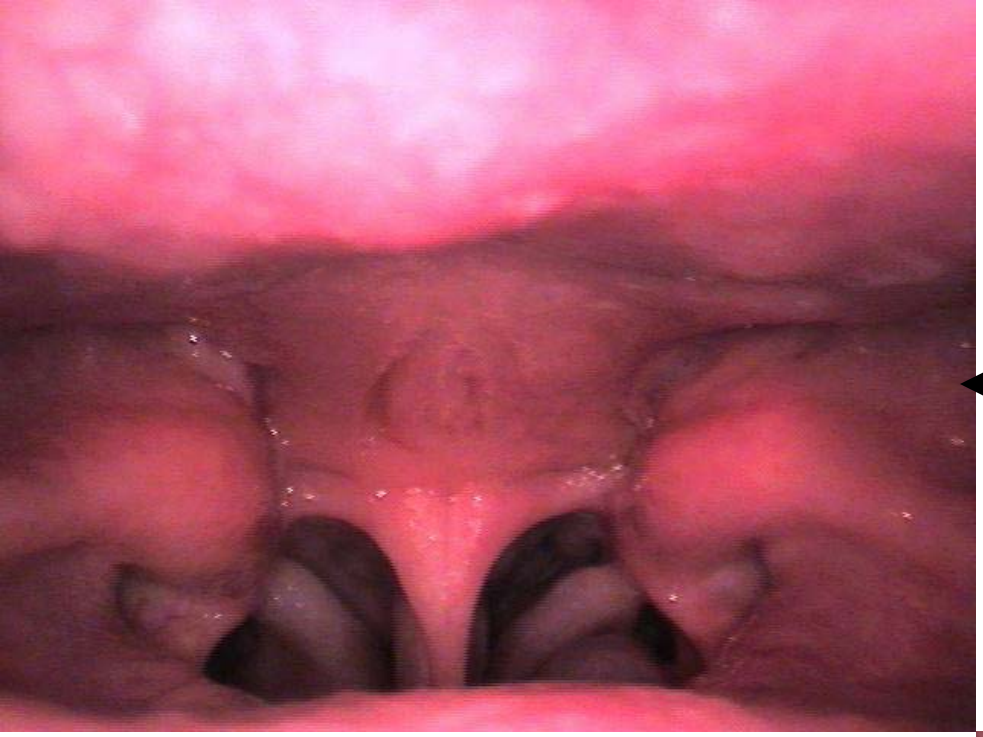
Less spacious nasopharynx..



E48

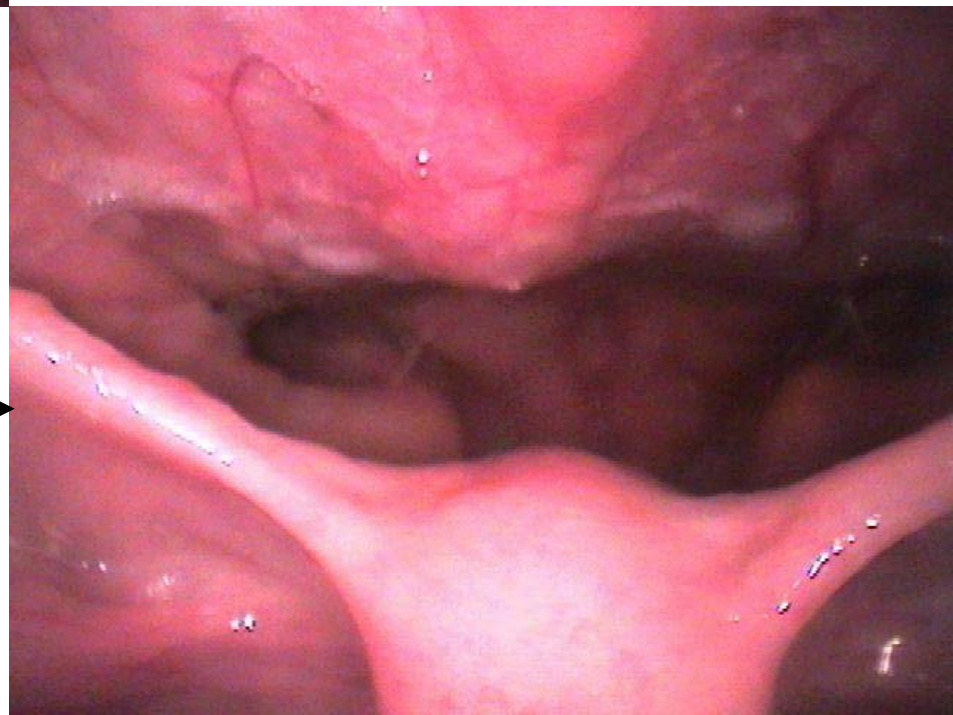

Another view of his nasopharynx..
E49


Nasopharynx closed / collapsed.
E50



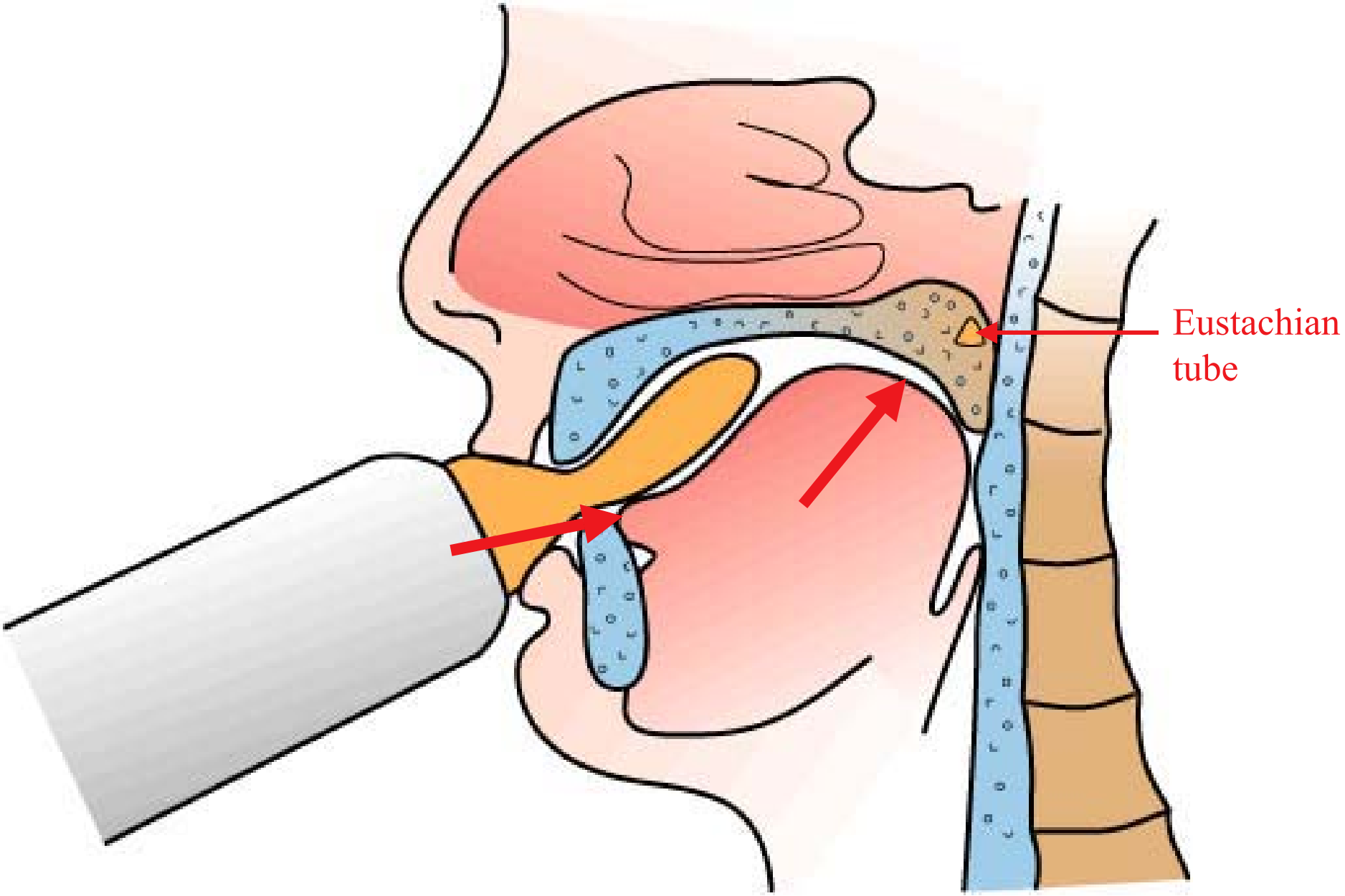
Spacious.

Nasopharynx of person who was breastfed.



Confining - Limiting.

Nasopharynx of person who was bottle-fed.



Bottle feeding forces tongue back. This elevates tongue at back, which in turn can block off Eustachian tubes.

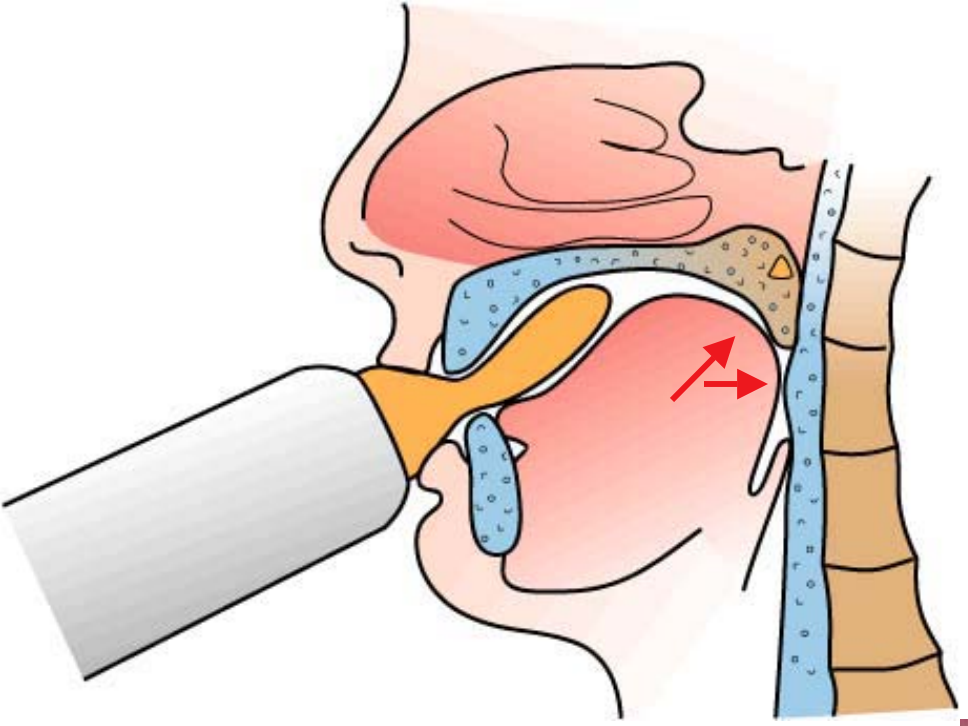
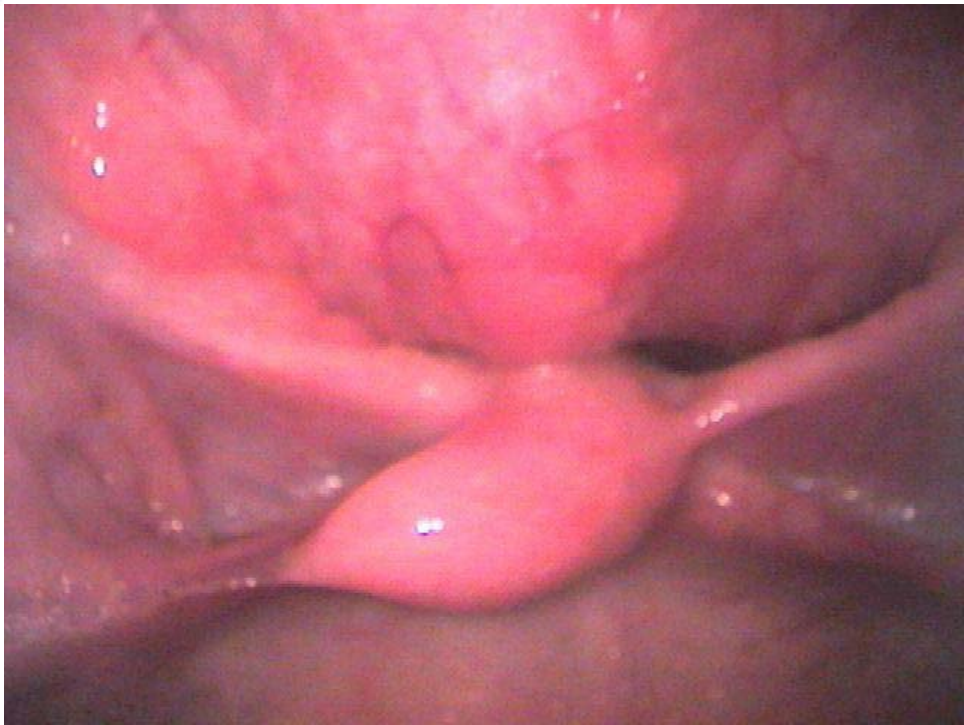


Illustration of how bottle feeding can drive the tongue up and back causing constriction of nasopharynx and oropharynx.

Is this the effect bottle feeding has on the nasopharynx?



E54

Adult who was breastfed as a child. She would not touch a bottle or pacifier. A pretty proportioned face.

Same adult with beautiful smile and teeth. Never had orthodontics (braces).

E55

Lip contour of 4 month old breastfed infant

Same infant at 4 1/2 years. Note natural lip line

E56

Aggressive thumb sucker at 4 months.

Lip contour and tongue position of same aggressive thumb sucker when thumb removed. (4 months)

E57

Same patient at 4 1/2 years of age. Note lip contour and forward position of tongue at rest.

Lips at rest.

Breastfed

Both age 4 1/2 years.

Bottle fed & heavy thumb sucker.

E59

Same patient at age 7 years.
Note long face and open mouth
in resting position.

E60

Open bite on same 7 year old. Note forward position of tongue.

Now age 9 in these pictures.

Compromised oropharynx (throat) of same 7 year old.

E61

Same patient at age 9. Having ortho expansion.

E62

E63 Age 9. In treatment for palatal expansion.

Age 9. Expander in mouth.

E64

Age 9. Expander out of mouth.

E65

E66

Age 11. After expansion phase. Face is a little wider now. Open bite not visible with straight on view.

Age 11. In ortho.

E67

During expansion phase.

During straightening phase.

E68

Age 11. Inferior view of anterior occlusion. Still has open bite.

E69

Still has tongue thrust - has not had myofunctional therapy yet.

E70

Age 11. Face is a little wider since expansion of palate during ortho.

E71

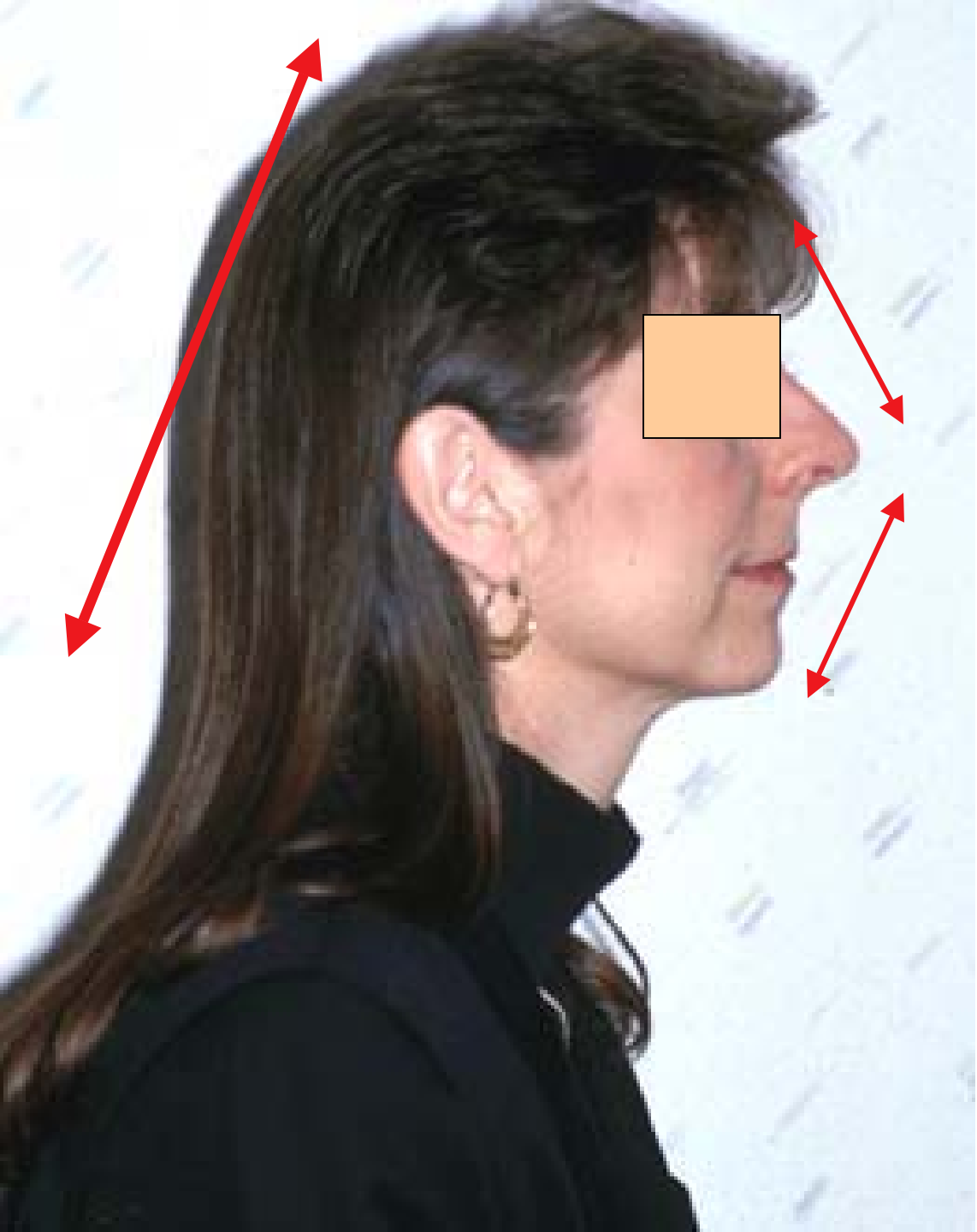
Lip and Facial Contours

Infant exclusively breastfed

Infant who has sucked on a foreign object excessively

Adult with sleep apnea.
Also has long face.

E73



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 long faced individuals have a prominent nose.

E74


She has compromised oropharynx and
battered throat (redness) from snoring.

E75

E76 Throat of a healthy 90 year old gentleman.

Get your rulers out and go measure!

Brian Palmer, DDS
Leawood, Kansas
December 2004.