Impact of occlusion on:

Facial form

Long Face Syndrome
Natural beauty has a divine proportion ratio of 1.618 / 1.0

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.
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.
My assistant’s well proportioned beautiful face and radiant smile. She was breastfed.
Height = 227mm
Width = 143mm
Ratio = 1.59
Her beautiful smile!
Class I - Right side. - Reflective view.
Her cuspid rise - right side.
Her crossover - Anterior guidance.
Her Class I - left side. Reflective view.

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Her cuspid rise - left side.
He crossover from other side.
Both breastfed.

Both have well proportioned faces.
Her son has well proportioned face and winning smile.
Holding camera behind her soft palate.
Intra-oral camera.
My view of monitor behind patient.
What patient sees.
Nasal septum removed

Turbinates

Auditory canal / Eustachian tube

Soft palate

Epiglottis

Dissection illustrating parts of nasopharynx.
Camera sitting in area of circle.
Interior dissection of the pharynx from behind.

Nasal septum

Soft palate

Uvula

Tongue

Epiglottis

Inlet to larynx

Position of camera.
Close up view of Eustachian tube.

Tensor m.

Cartilage

Levator m.

Salpingopharyngeus
Assistant’s nasopharynx.

- Nasal septum
- Turbinate
- Eustachian tube opening
- Salpingopharyngeus
- Levator Palatini
- Tensor Palatini

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KEY ILLUSTRATION

Turbinate.

Eustachian tube.
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!
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.

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.

FACIAL FORM / POSTERIOR NASAL APERTURE.
Vocal cords

Epiglottis

Base of tongue
Breastfed.

Proportioned face, but gray and balding.

Height = 217mm
Width = 135mm
Ratio = 1.607
My nasopharynx.
Does a proportioned face normally have a good nasopharynx?
Assistant’s nasopharynx

My nasopharynx

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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
Long face syndrome.

He was a preemie and was bottle-fed.

Same age as my assistant.
Anterior open bite and tongue thrust.
Close-up of open bite.
Close-up of tongue thrust.
Right side occlusion.
Left side occlusion.
Narrow maxillary arch.
Slightly high palate.
Narrow mandibular arch.
Less spacious nasopharynx..
Another view of his nasopharynx.
Nasopharynx closed / collapsed.
Nasopharynx of person who was breastfed.

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?
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).
Lip contour of 4 month old breastfed infant

Same infant at 4 1/2 years.
Note natural lip line
Aggressive thumb sucker at 4 months.

Lip contour and tongue position of same aggressive thumb sucker when thumb removed. (4 months)
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.
Same patient at age 7 years. Note long face and open mouth in resting position.
Open bite on same 7 year old. Note forward position of tongue.

Compromised oropharynx (throat) of same 7 year old.

Now age 9 in these pictures.
Same patient at age 9. Having ortho expansion.
Age 9. In treatment for palatal expansion.
Age 9. Expander in mouth.
Age 9. Expander out of mouth.
Age 11. After expansion phase. Face is a little wider now. Open bite not visible with straight on view.
Age 11. In ortho.

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During expansion phase.

During straightening phase.

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Age 11. Inferior view of anterior occlusion. Still has open bite.
Still has tongue thrust - has not had myofunctional therapy yet.
Age 11. Face is a little wider since expansion of palate during ortho.
Lip and Facial Contours

Infant exclusively breastfed

Infant who has sucked on a foreign object excessively
Adult with sleep apnea. Also has long face.
Typical forward angulation of head of a person with Long Face Syndrome. Forward angulation of the head makes it easier to breathe - i.e. - like in CPR.

Many long faced individuals have a prominent nose.
She has compromised oropharynx and battered throat (redness) from snoring.
Throat of a healthy 90 year old gentleman.
Get your rulers out and go measure!

Brian Palmer, DDS
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December 2004.