Mammals

• There are 4640 species of mammals. Most are ideal.
  • Humans are but one species.
• Mammals are unique in that they have an epiglottis.
• All species breastfeed their young.
  • Dr. Olaf Oftedal - National Zoological Park.
• Humans are the only mammal with any significant malocclusions or decay in their teeth.
• Wild animals rarely have decay (or malocclusions?).
  • Dr. Peter Emily - Father of Veterinarian Dentistry.
• No processed foods, bottles or pacifiers in the wild.
Modern is not always better!

Facial form and dental occlusion prior to bottles and pacifiers.
Indian skulls studied by Dr. Weston A. Price. Each skull has nice occlusion and no decay.

Peruvians studied by Dr. Weston A. Price showing off their smiles. Note nice “U” shaped arches and no decay.

Torres Strait natives studied by Weston A. Price showing off their beautiful smiles and teeth.

70,000 year old AMUD skull with nice occlusion and no decay.
Ideal facial form and occlusion of a prehistoric skull at the Smithsonian.
Close up of teeth of previous skull. Perfect occlusion and no decay.
Classic prehistoric skull with wide palate and arch
Prehistoric skull with wide palate and large posterior nasal aperture. There is good width between the pterygoid plates. This allows for a wide beginning of the soft tissue portion of the airway.

Pterygoid plates (Butterfly shaped bones on either side of the posterior nasal aperture.)
Prehistoric Native American skull evaluated at the Smithsonian.
Full “U” shaped palate of previous skull. No decay.
Prehistoric Native American Indian skull from South Dakota
Prehistoric adult mandible with nice arch form and no decay.
Prehistoric infant skull examined at Smithsonian Natural Museum.
Prehistoric infant skull - no decay
Prehistoric infant skull - no decay
Prehistoric infant skull - no decay
Defective teeth - skull from the 1930’s.
Skull demonstrates how a high palate and narrow arch can result in a small posterior nasal aperture.

Skull from 1940s.
Close-up of small posterior aperture (1940).
The connection:

- Bottle-feeding
- Excessive thumb sucking
- Pacifier use
- Snoring
- Sleep apnea

Similar signs and symptoms
AAPD Vision Statement - 1996

• “89% of youth, ages 12 - 17 years, have some occlusal disharmony.”

• “16% of youth have a severe handicapping malocclusion that requires mandatory treatment.”

Pacifier use

- 85% of children in her study used pacifiers by age one month. Children weaned from breastfeeding early use a pacifier more often than those who are breastfed longer.

Incidence of malocclusions in infants

Malocclusion was found in 35% of 3-year-old children
- anterior open bites in 27%
- unilateral cross bites in 8%

Labbok / Hendershot article:

- **Principle finding** - the longer the duration of breastfeeding, the lower the incidence of malocclusion.

- Bottle feeding leads to a habit of forward tongue thrusting and a weakened development of the orbicularis muscles.

- There is a significant decrease in tongue thrusting with an increased duration of breastfeeding.

Impact of infant sucking habits

- Digit and dummy sucking resulted in increased tendency to tongue thrust.
- Tongue thrust related to: open bites, overjet, and Class II malocclusion.
- Sucking habits influence the etiology of malocclusion.

Craniofacial Development

- Largest increase occurs within the first 4 years of life.
- Is 90% complete by 12 years of age.


***TREATMENT/PREVENTION OF OSA/SDB MUST BE STARTED EARLY IN LIFE!***
Article traces the development of the adult human pharynx from air-breathing vertebrates other than man, through the evolutionary development of modern man and through maturation from infancy to adulthood.  A must read article.


References Dr. Edmund Crelin’s research.
Edmund S. Crelin, Ph.D., D.Sc.

- Faculty member at Yale, 1951-1988
- Professor of Anatomy, Dept. of Surgery.
- Chairman: Human Growth & Development.
- Author of 168 research articles
- Author of 3 books.
- Author of 5 CIBA Clinical Symposia.
- 3 awards at Yale as “outstanding teacher”.
Key statement by Dr. Crelin: “The tongue (T) is located entirely within the oral cavity”.

Figure 56. Right half of the head of a full-term human newborn male infant cut in the midplane. The epiglottis (arrow) is in direct contact with the soft palate (S) because the larynx is locked into the nasopharynx. The tongue (T) is located entirely within the oral cavity. Original symphysis of the mandible (M).
The epiglottis is in direct contact with the soft palate. The tongue is located entirely within the oral cavity. (Crelin)
During passive breathing, the epiglottis and soft palate are in close proximity in a newborn.
Atlas picture demonstrating similar relationship of epiglottis and soft palate. (Rohen/Yokocki)
Frontal view of fetus cadaver. Note lips.
Note forward position of tongue.
Mid-sagittal dissection.
Cadaver dissection demonstrating habitual anterior tongue posture and relationship between the soft palate and epiglottis.
Newborn with epiglottis and soft palate touching during quiet respiration and mouth closed.

Crelin ES. Development of the Upper Respiratory System, Clinical Symposia, Vol. 28, No. 3, 1976
During the act of breastfeeding, Dr. Crelin states the larynx can be elevated so that the epiglottis can slide up behind the soft palate to lock the larynx into the nasopharynx. This allows the infant to both swallow and breathe at the same time (Obligate).
Illustrates interlocking of soft palate with epiglottis and faucium channels through which the breastmilk flows.

Faucium channel

Crelin ES, Scherz RG, Can the cause of SIDS be this simple? Patient Care, March 15, 1978, Vol. 12, No 5:234-241
“Maturational descent of the epiglottis, found to occur between 4 and 6 months of age, is verified by cineradiography.”

“This period, interestingly coincides with the peak incidence of SIDS, which similarly occurs at 3 to 5 months of age.”

As the epiglottis descends, the tip of the tongue falls back into the mouth to an adult position.
Adult throat.

- Auditory canal / Eustachian tube
- Soft palate
- Posterior 1/3 of tongue is now anterior wall of oropharynx
- Neck of epiglottis

Separation of soft palate and epiglottis is necessary in order for humans to speak.
Throat of a very healthy 90 year old. Demonstrates one of the functions of the uvula - funneling secretions down the middle of the throat.
In order to have this:

You must have this:
Mammals

as

obligate nose breathers

Note interlocking of soft palate and epiglottis in each illustration.
Adult chimpanzee. (Crelin)
Adult dog. (Crelin)
Adult cat. (Crelin)
Adult stumptail macaque. (Crelin)
Adult spider monkey. (Crelin)