Maxillary prognathism is often associated with *Cornelia de Lange Syndrome*; however, so-called false prognathism or false projection of the upper jaw. [https://en.wikipedia.org/wiki/Cornelia_de_Lange_Syndrome](https://en.wikipedia.org/wiki/Cornelia_de_Lange_Syndrome)

When maxillary prognathism is associated with LOW PIGMENTED EYE it may be due to a genetic condition affecting the intelligence.

Mild and moderate cases of maxillary skeletal protrusion could be treated successfully by orthodontic means alone.

What causes prognathism? 6 possible conditions
1. **Acromegaly:** This condition occurs when your body produces too much growth hormone (GH), which causes your tissues to enlarge. Your lower jaw ends up sticking out as it becomes larger. According to the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), it affects about 60 out of every one million people (NIDDK, 2012).
2. **Basal Cell Nevus Syndrome:** This is a rare inherited condition that causes abnormal facial characteristics, such as a broad nose, eyes that are too far apart, and a heavy brow. Prognathism occurs in some cases.
3. **Acrodysostosis:** This is a very rare condition that people are born with. It can cause shortened arms and legs, hearing problems, a short nose, a protruding jaw, and mental retardation.
4. **Prognathism** is a term used to describe the positional relationship of the mandible and/or maxilla to the skeletal base where either of the jaws protrudes beyond a predetermined imaginary line in the sagittal plane of the skull. In general dentistry, oral and maxillofacial surgery and orthodontics this is assessed clinically or radiographically (cephalometrics). The word prognathism derives from Greek pro (forward) and gnathos (jaw). One or more types of prognathism may result in the common condition of malocclusion (including overbite), where an individual's top teeth do not align with the lower teeth.

**Origins of Prognathism**
The vast majority of prognathism in humans is due to normal variation among phenotypes, i.e. it is an inherent racial characteristic.

In human populations where prognathism is not the norm, it may be
- a malformation,
Prognathism is considered a disorder **only if it affects mastication**, speech or social function as a byproduct of severely affected aesthetics of the face.

Clinical determinants include soft tissue analysis where the clinician assesses nasolabial angle, the relationship of the soft tissue portion of the chin to the nose, and the relationship between the upper and lower lips; also used is **dental arch relationship assessment** such as Angle's classification.

**Cephalometric analysis** is the most accurate way of determining all types of prognathism as it includes assessments of skeletal base, occlusal plane angulation, facial height, soft tissue assessment and anterior dental angulation. Various calculations and assessments of the information in a cephalometric radiograph allow the clinician to objectively determine dental and skeletal relationships and determine a treatment plan.

Maxillary prognathism is a protrusion of the maxilla, and is also a common feature of **many populations**. It is not to be confused with micrognathism, although combinations of both may be found. It affects the middle third of the face, causing it to jut out, thereby increasing the facial area. Mandibular prognathism is a protrusion of the mandible, affecting the lower third of the face. Alveolar prognathism is a protrusion of that portion of the maxilla where the teeth are located, in the dental lining of the upper jaw. Prognathism can also be used to describe ways that the maxillary and mandibular dental arches relate to one another, including malocclusion (where the upper and lower teeth do not align). When there is maxillary and/or alveolar prognathism which causes an alignment of the maxillary incisors significantly anterior to the lower teeth, the condition is called an overjet. When the reverse is the case, and the lower jaw extends forward beyond the upper, the condition is referred to as retrognathia (reverse overjet).

**Alveolar prognathism**, caused by thumb sucking and tongue thrusting in a 7 year old girl.

Harmful habits such as thumb sucking or tongue thrusting can result in or exaggerate an alveolar prognathism, causing teeth to misalign. Functional appliances can be used in growing children to help modify bad habits and neuro-muscular function, with the aim of correcting this condition. Alveolar prognathism easily can be corrected also with fixed orthodontic therapy. However, relapse is quite common, unless the cause is removed or a long term retention is used.
Alveolar prognathism and Race
Significant differences can be observed in progonathism among different ethnic groups

Maxillary prognathism
In disease states, maxillary prognathism is associated with *Cornelia de Lange Syndrome*; however, so-called false maxillary prognathism, or more accurately, retrognathism, where there is a lack of growth of the mandible, is by far a more common condition.

Prognathism, if not extremely severe, can be treated in growing patients with orthodontic functional or orthopaedic appliances. In adult patients this condition can be corrected by means of a combined surgical/orthodontic treatment, where most of the time a mandibular advancement is performed. The same can be said for mandibular prognathism.

Mandibular prognathism (progenism)
Pathologic mandibular prognathism is a potentially disfiguring, genetic disorder where the lower jaw outgrows the upper, resulting in an extended chin.

[http://en.rightpedia.info/w/Prognathism](http://en.rightpedia.info/w/Prognathism)

The condition colloquially is known as Habsburg jaw, Habsburg lip or Austrian Lip (see House of Habsburg) due to its prevalence in that bloodline.[4] The trait is easily traceable in portraits of Habsburg family members.[5] This has provided tools for people interested in studying genetics and pedigree analysis. Most instances are considered polygenetic.[6]
It is alleged to have been derived through a female from the princely Polish family of Piasts, its Masovian branch. The deformation of lips is clearly visible on tomb sculptures of Mazovian Piasts in the St. John's Cathedral in Warsaw. However this may be, there exists evidence that the trait is longstanding. It is perhaps first observed in Maximilian I (1459–1519).

Traits such as these that were common to royal families are believed to have been passed on and exaggerated over time through royal intermarriage which caused acute inbreeding. Due to the large amount of politically motivated intermarriage among Habsburgs, the dynasty was virtually unparalleled in the degree of its inbreeding. Charles II of Spain is said to have had the most pronounced case of the Habsburg jaw on record. His jaw was so deformed that he was unable to chew.

Notable people with abnormal prognathism

European royalty

- Cymburgis of Masovia, Piast princess through whom (supposedly) the condition was brought into the Habsburg family
- Frederick III, Holy Roman Emperor
- Maximilian I, Holy Roman Emperor
- Philip I of Castile
- Charles V, Holy Roman Emperor (Charles I of Spain)
- Ferdinand I, Holy Roman Emperor
- Mary of Austria (1505-1558)
- Philip II of Spain
- Philip III of Spain
- Philip IV of Spain
- Maria Theresa of Spain
- Leopold I, Holy Roman Emperor
- Charles II of Spain suffered from the condition to such a severe extent that he was unable to chew as a result.
- Marie Antoinette
- Pedro II of Brazil
- Alfonso XIII of Spain

The history of patients with Cornelia de Lange syndrome (CdLS) may include the following:

- **Intrauterine growth retardation (68%)** Average birth weight is 2221 g (4 lb 12 oz) for boys and 2145 g (4 lb 10 oz) for girls. In most patients, growth occurs at rates lower than those on normal growth curves throughout life. Height velocity is equal to the reference range, but pubertal growth is slowed. Weight velocity is lower than the reference range until late adolescence. Average head circumferences remain less than the second percentile.
- **Prematurity (31%)**
- **Developmental delay and mental retardation**
- **Most initial developmental skills are moderately delayed.**
- **Severe speech delay is typical.** Approximately one half of patients aged 4 years or older combine 2 or more words into sentences, one third have no words or only 1-2 words, and only 4% have normal or low-normal language skills. Children who have severe speech impairment are likely to have intrauterine growth retardation, hearing impairment, upper-limb malformations, poor social interactions, and severe motor delays.
- **Most affected individuals have mild-to-moderate mental retardation (intelligence quotient [IQ] of 30-85, with an average of 53).** Patients with IQs higher than this tend to have a relatively high birth weight and head circumference.
- Visual-spatial memory and perceptual organization skills are **strengths**. Perceptual organization, which involves the use of fine motor skills and which incorporates visual-spatial memory, is also on a higher level than that of other facets.

- In patients with **mild Cornelia de Lange syndrome**, psychomotor retardation is **less severe** and prenatal and postnatal growth deficiency is milder than in severe Cornelia de Lange syndrome. In addition, **major malformations are absent** or surgically correctable. Children with mild disease may have classic facial findings at birth but develop intellectual outcomes better than those expected in classic Cornelia de Lange syndrome. As an alternative, their typical facial changes may develop during the first 2-4 years of life. Although individuals with mild Cornelia de Lange syndrome function at the low-normal range and although they have certain characteristics of the syndrome, their disease is occasionally not diagnosed until they have a child with classic findings.