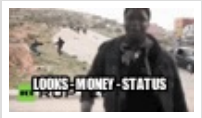




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Natural head position and the true horizontal line

Thread Modes



heilsa

Mega Super Poster



Posts: 3,008
Threads: 98
Joined: Jun 2015
Reputation: **20**

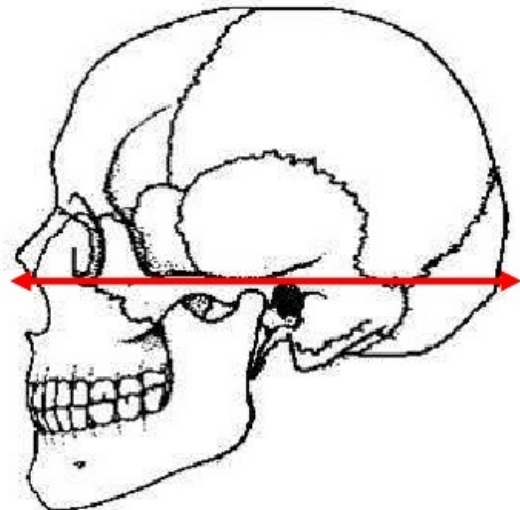
07-16-2015, 10:16 PM (This post was last modified: 07-16-2015, 10:20 PM by heilsa.)

#1

When it comes to facial analysis reference planes like the so called frankfurt horizontal line are used to analyse the face

Frankfurt plane

- In the anatomical position, the skull is oriented so that the inferior margins of the orbits and the superior margin of the external acoustic meatus are horizontal, this is called the Frankfurt plane



Dr. Akram Jaffar

[attachment=137]

However this isnt a accurate in many cases due to individual variability.



The deviation of the Frankfort horizontal level is ,
+9degrees,middle 0 degree ,right -7 degree

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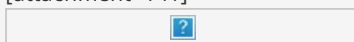
Therefore It is therefore necessary to reduce the limitations of using the Frankfurt plane while maintaining the advantages of the overall concept. This may be achieved by evaluating the patient in natural head position and constructing a true horizontal plane (THP)

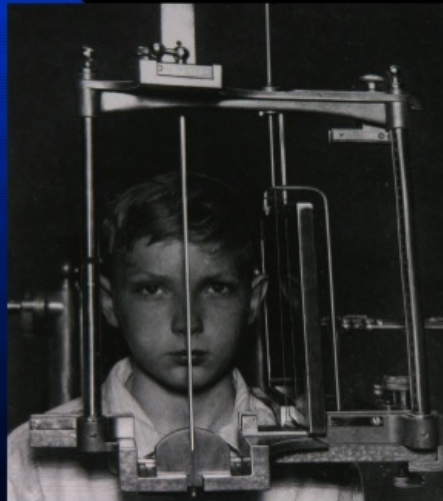
Natural head positon:

Quote:

Natural head position (NHP) was introduced into orthodontics in the late 1950s (Downs, 1956; Bjern, 1957; Moorrees and Kean, 1958). Broca (1862) defined this head position as 'when man is standing and his visual axis is horizontal, he is in the natural position' (cited by Moorees and Kean, 1958). A typical method of registering NHP is based on the work of Solow and Tallgren (1971), who cited Mølhave (1958) in which subjects are asked to stand in an 'orthoposition' and look into their own eyes in a mirror after a series of neck flexion exercises. Other methods of NHP registration include instructing subjects to look at a small light (Cleall, 1965), the use of a fluid level device (Showfety *et al.*, 1983), an operator-estimated 'natural head orientation' (Lundström *et al.*, 1995), and the use of an inclinometer (Preston *et al.*, 1997). NHP can be recorded radiographically (Bjern, 1957; Moorrees and Kean, 1958) or photographically, which is preferred to allow the most freedom in producing a natural position (Lundström and Lundström, 1989).

[attachment=141]





A boy assuming natural head position by looking into the image of his eyes in a small mirror located at the same level as the pupils of his eyes

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Now with the natural head position we are able to determine the true horizontal plane:

Quote:

A plumb line was used to define the vertical plane (VER) on the photographs, and a line connecting soft tissue glabella and pogonion were transferred from the photograph to the lateral telerradiograph. A true horizontal line (HOR) at a right angle to the vertical plane with the intracranial reference Frankfurt horizontal plane (HF) was used to assess the variability in relation between HF and NHP.

[attachment=140]



Quote:

Craniofacial reference planes investigated. HOR, true horizontal constructed perpendicular to the vertical plumb line (VER); FH, Frankfort Horizontal; SN, sella-nasion; StN, sella tangent-nasion (Sassouni, 1955); NHA, neutral horizontal axis (McCarthy and Lieberman, 2001); KW line, Krogman-Walker line (Rothstein and Yoon-Tarlie, 2000); P plane, palatal plane; FML, foramen magnum line; AtPt, anterior tubercle to posterior tubercle of C1; FOP, functional occlusal plane; Md plane, mandibular plane; PM plane, posterior maxillary plane (Enlow and Azuma, 1975); PM vertical, pterygomaxillary vertical (Enlow *et al.*, 1969).

<http://ejo.oxfordjournals.org/content/30/5/532>

http://www.scielo.br/scielo.php?pid=S1415-54192006000100012&script=sci_abstract

<http://lookism.net/showthread.php?tid=228>

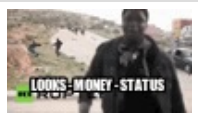
Quote:

This is the story of a man who falls from a 50-storey apartment block. As he falls, he repeats over and over to reassure himself: "So far so good, so far so good, so far so good." But it's not the fall that's important - it's the landing.



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heilsa

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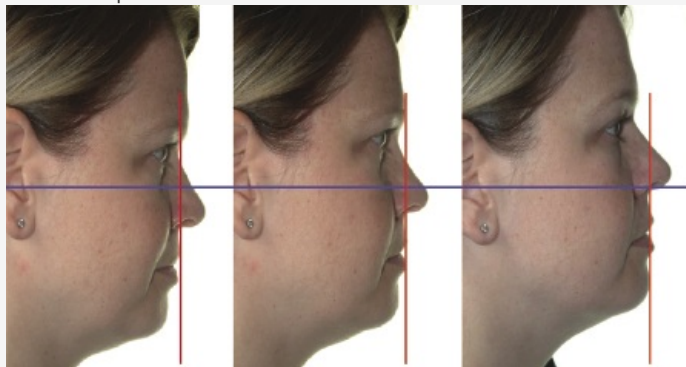
11-07-2015, 02:11 PM

#2

2.3.1 Lateral view

The patient should be seated comfortably with their back in an upright position and asked to adopt their natural head posture (NHP), in which they are generally viewed in everyday life. This can be made easier by asking them to look in a mirror mounted straight ahead of them. The alternative method of positioning the Frankfort Plane (FP) parallel to the floor may place them in an artificial position, since this not a reliable horizontal reference plane in patients with significant facial skeletal discrepancies. It has been shown that NHP is more reliable than FP for orientation of the head. Inappropriate head positioning can result in a false perception of the antero-posterior jaw relationship ([Figure 2.1](#)).

Figure 2.1 The patient's head posture can affect the clinical impression of their antero-posterior jaw relationship.



Habitual tilting of the head to the left or right side should be avoided. However, for patients that have a condition that produces involuntary tilting, such as tortocollis (due to shortening of one of the sterno-mastoid muscles), this should be accepted as their normal posture, as it is unlikely to improve as a result of surgery. It is important for the peri-oral soft tissues to be relaxed, particularly in patients with increased vertical proportions, who may have incompetent lips and will tend to habitually posture them together through mentalis muscle hyper-activity.

Viewing the face from the lateral aspect allows the assessment of:

- Jaw relationship and facial convexity.
- Forehead.
- Infra-orbital rims.
- Nose.
- Para-nasal region.
- Upper lip.
- Lower lip and chin.
- Lower lip to sub-mental plane angle.
- Mandibular plane angle.

Quote:

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