BASIC OF CRANIOMETRY & CEPHALOMETRY

the branch of physical anthropology dealing with the study and measurement of dry skull after removal of its soft part

Craniometry

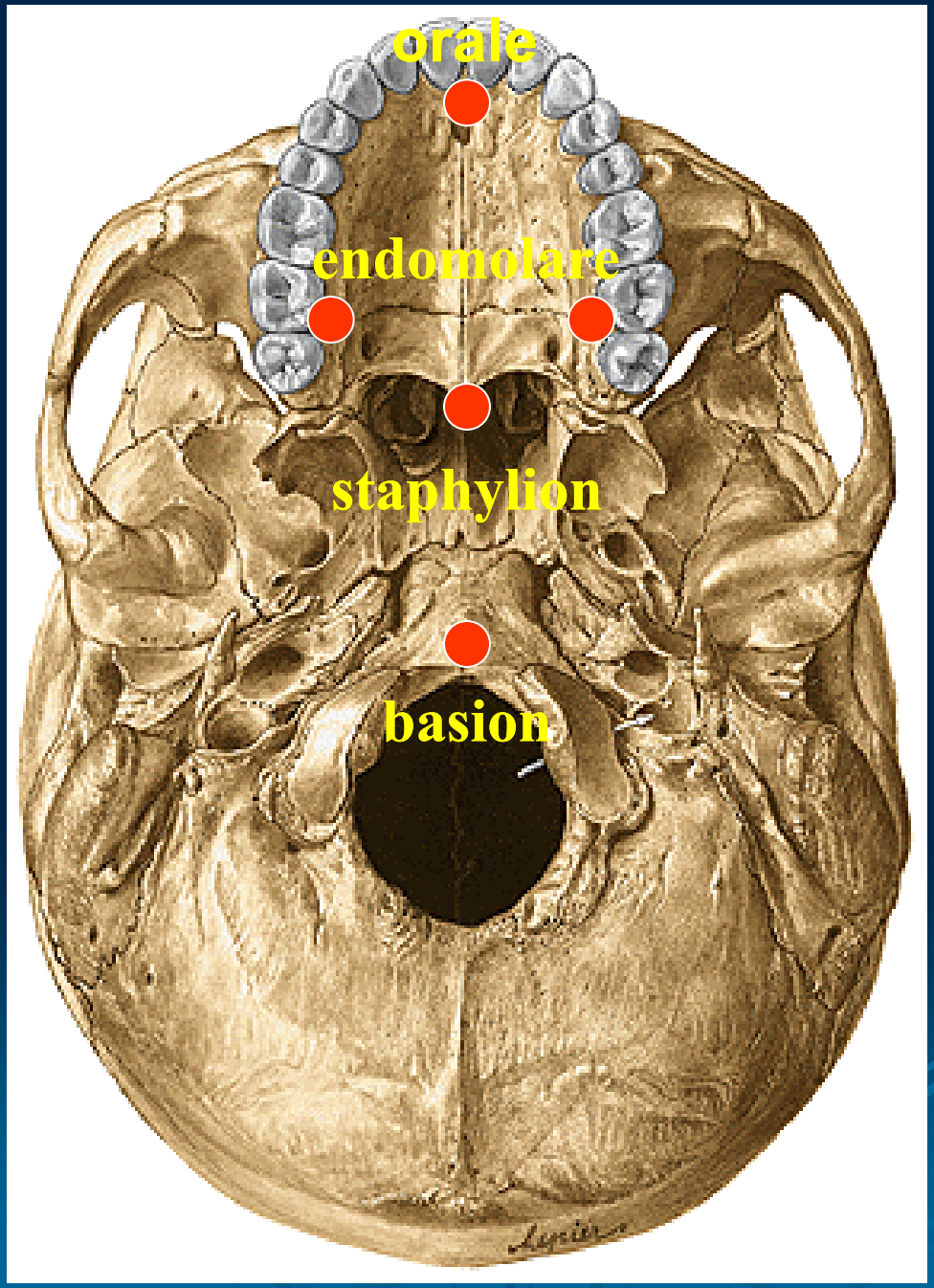
technique used to measure the skull and determine human characteristics

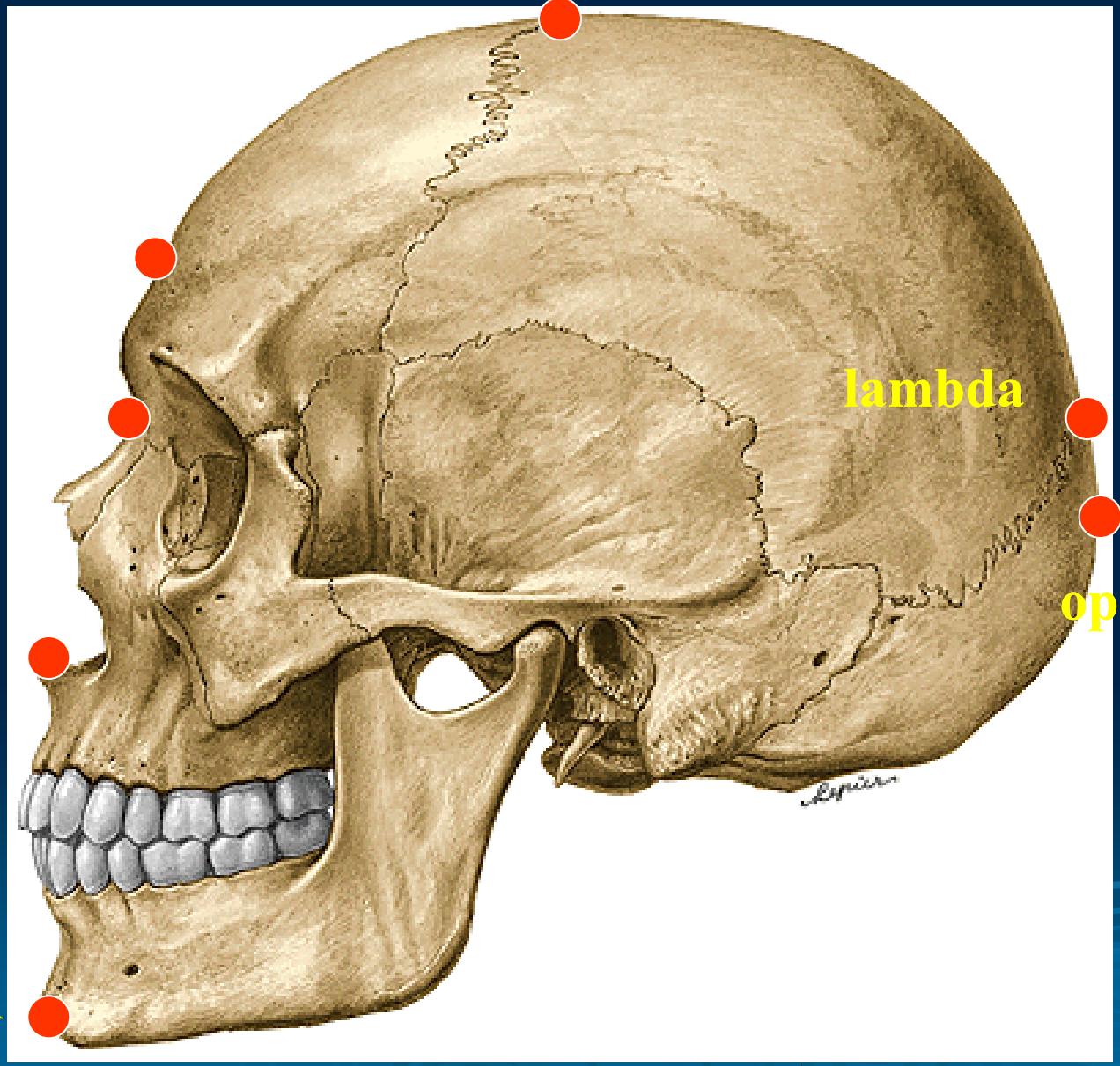
Cephalometry

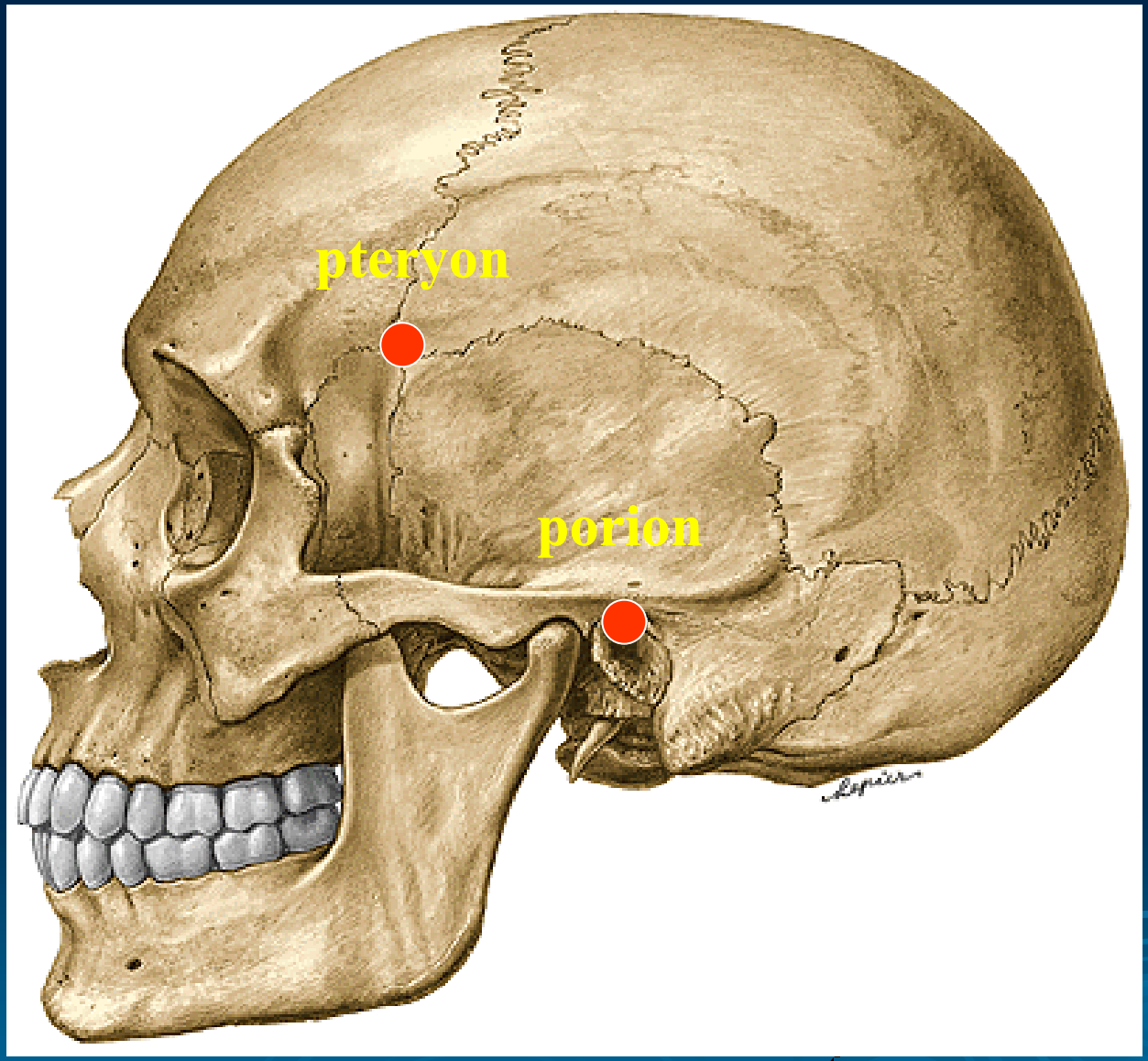
is used in dentistry, and especially in orthodontics, to gauge the size and special relationships of the teeth, jaws, and cranium. This analysis informs treatment planning, quantifies changes during treatment, and provides data for clinical research

Craniometric Point

a landmark on the skull from which craniometric measurements can be taken


orale
endomolare
staphylion
basion

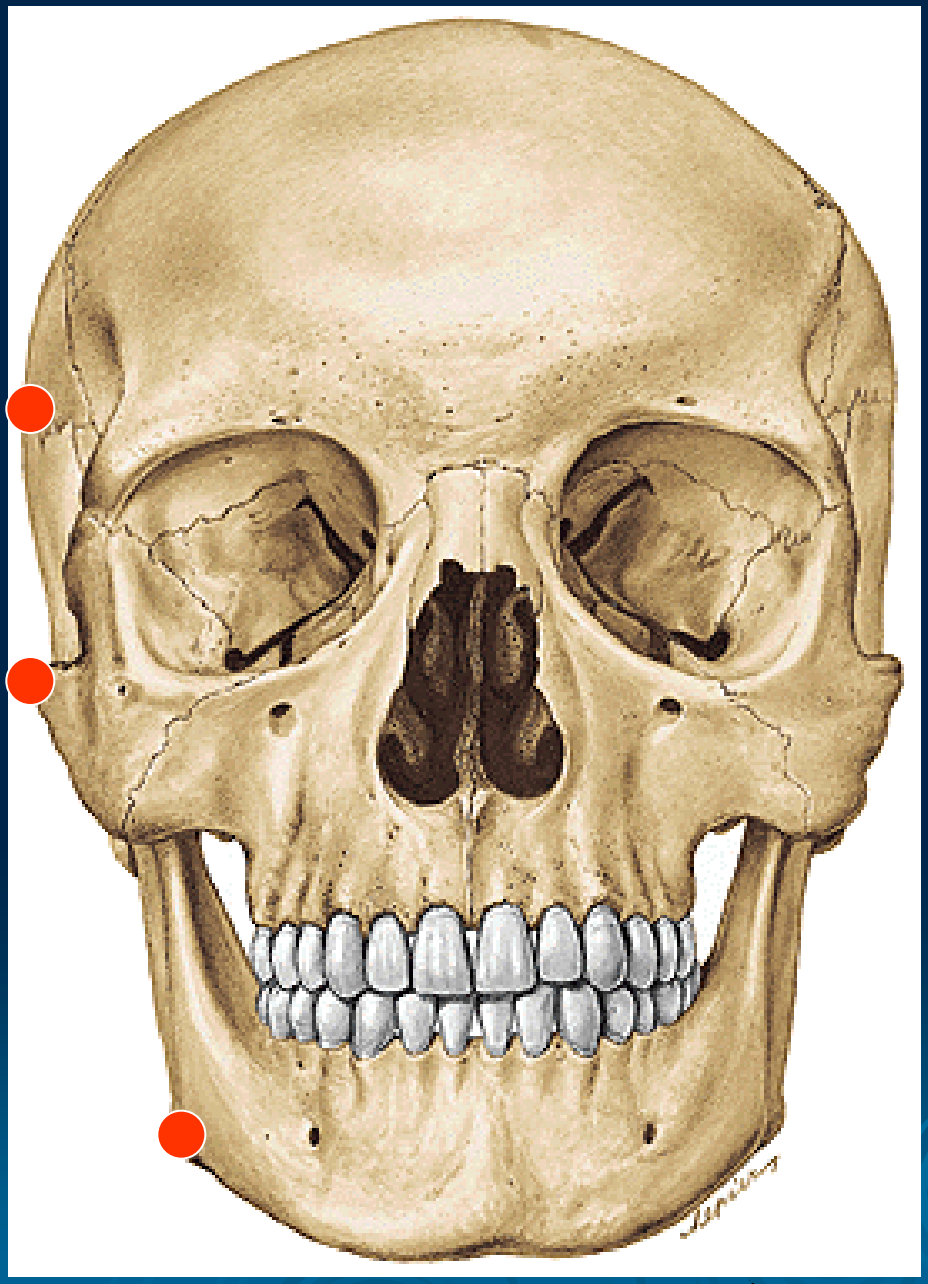

bregma
glabella
nasion
lambda
opistocranion
akanthion
gnathion


pteryon
porion

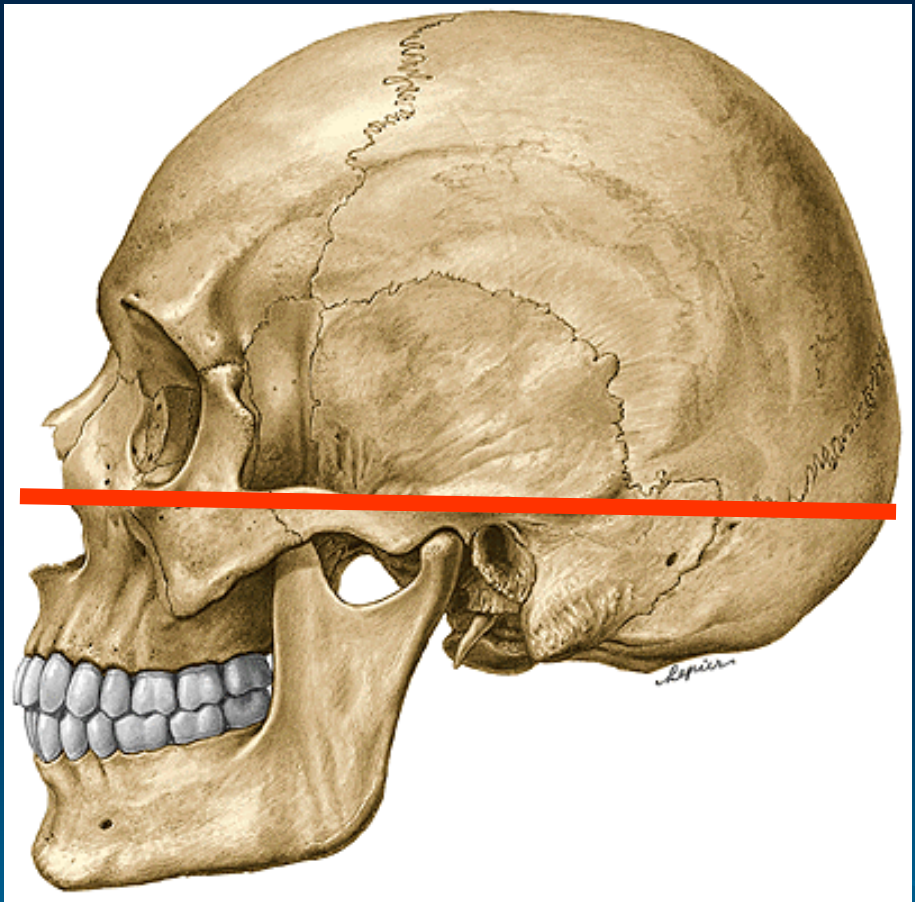
euryon

zygion

gonion

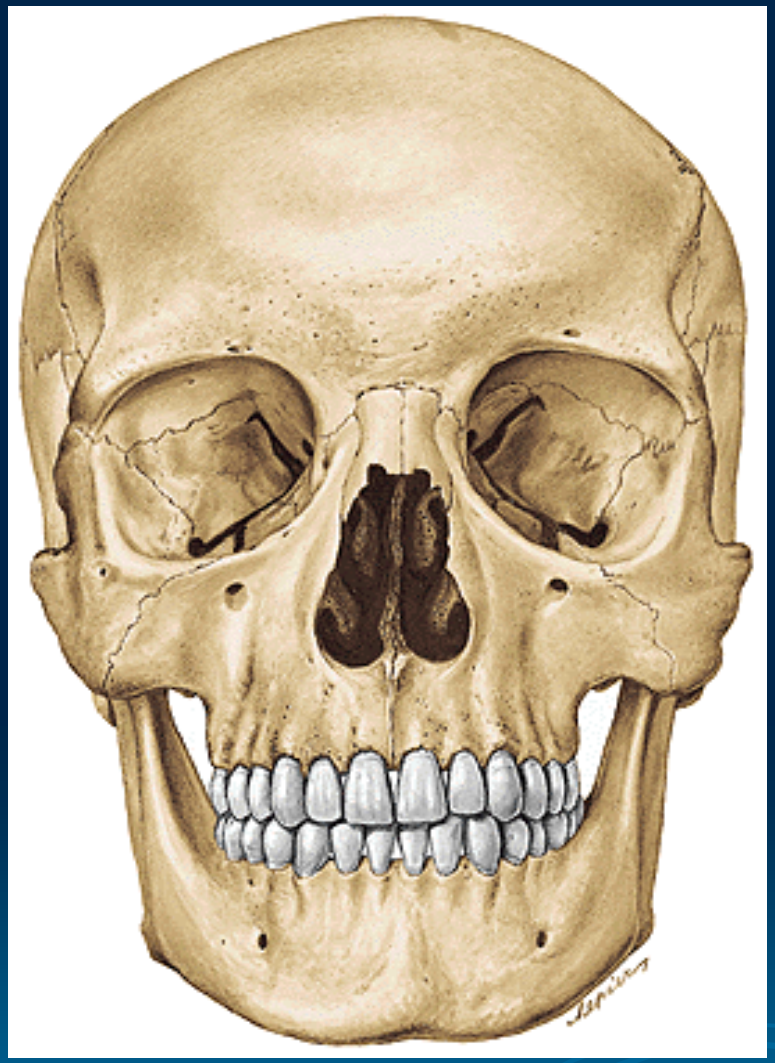


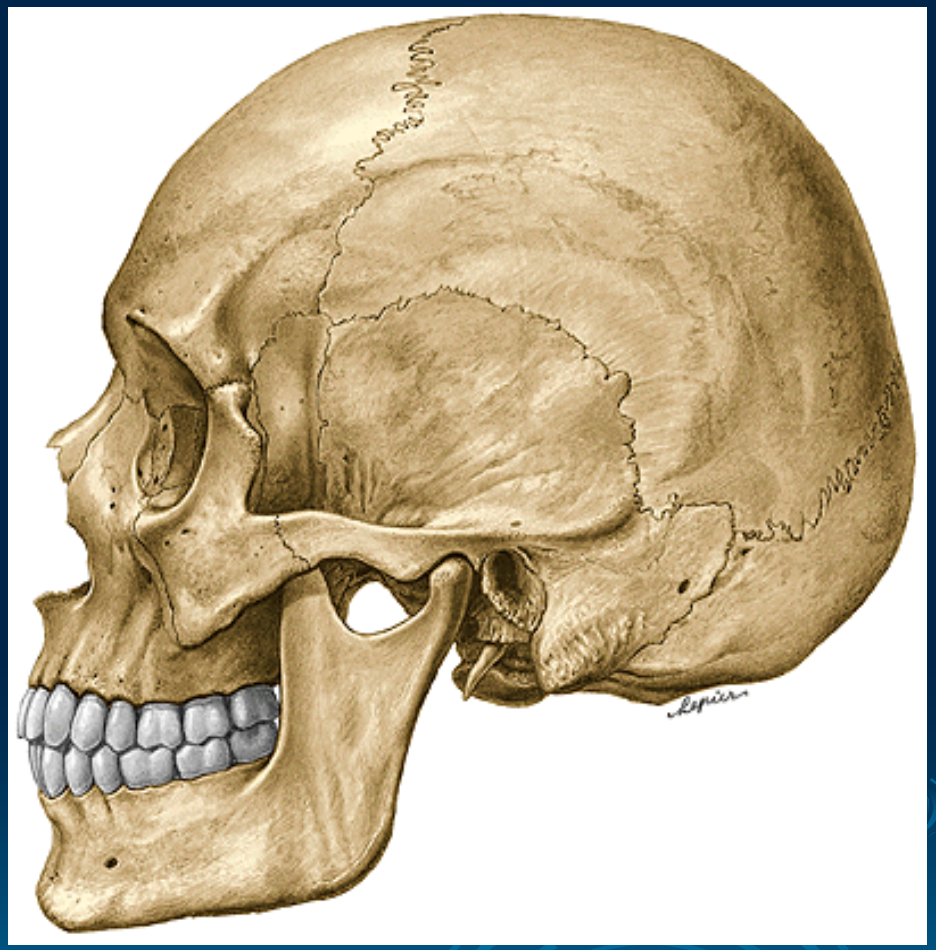
Frankfort horizontal plane

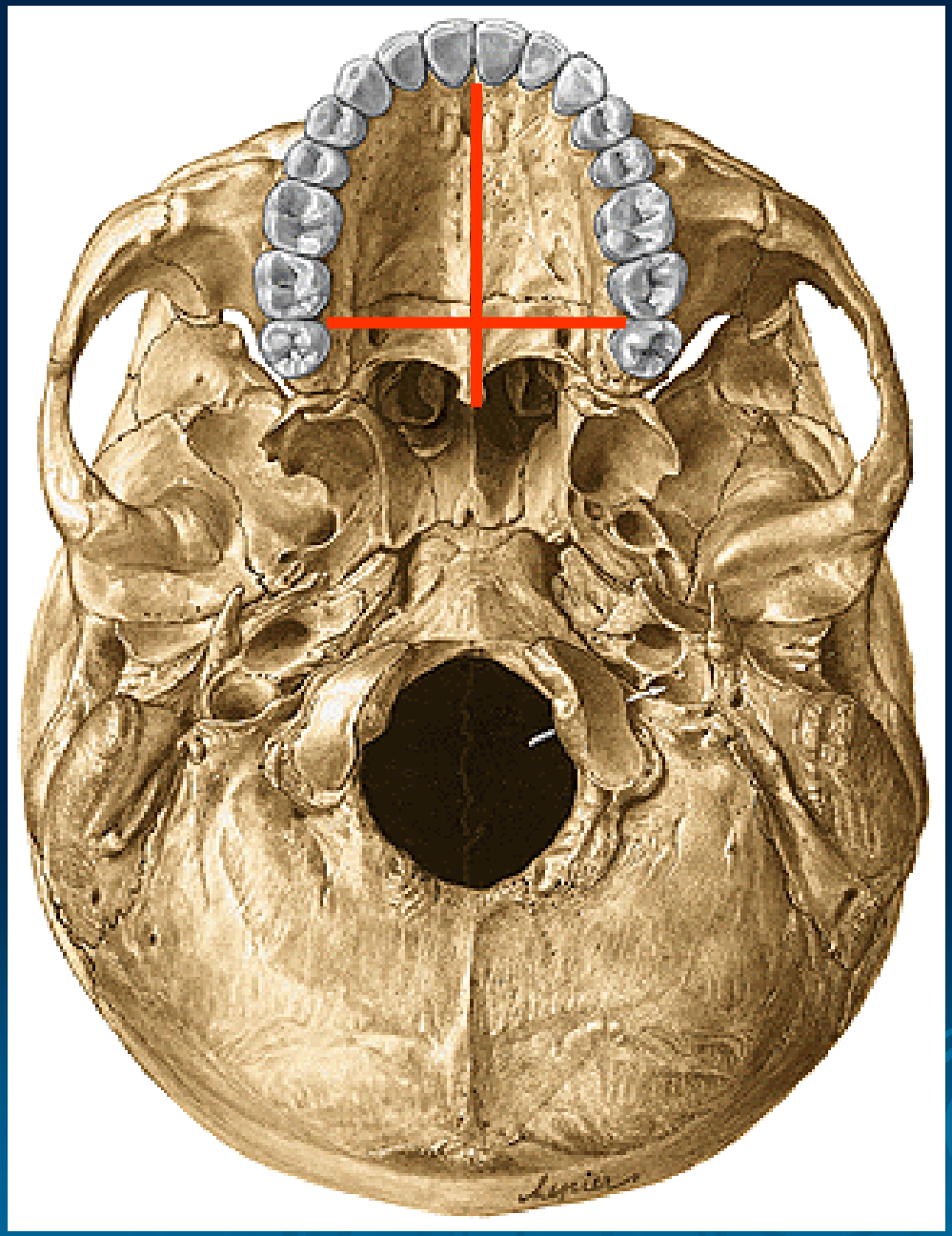


a horizontal plane represented in profile by a line between the lowest point on the margin of the orbit to the highest point on the margin of the auditory meatus

The Size Of The Human Skull







	FROM	TO
Length	glabella	opisthocranion
Width	euryon	euryon
Height	bregma	basion
Facial length	nasion	gnathion
Facial width	zygion	zygion
Palatal width	endomolare	endomolare
Palatal length	orale	staphylion

Cephalic index (CI)

the ratio of the maximum width of the head multiplied by 100 divided by its maximum length

Facial index (FI)

the ratio multiplied by 100 of the breadth of the face to its length

Palatomaxillary index (PMI)

the ratio of the length of the hard palate to its breadth multiplied by 100

CI	**Dolichocephalic**	**x - 74,9** *(long-headed)*
	Mesocephalic	**75,0 - 79,9** *(medium-headed)*
	Brachycephalic	**80,0 - x** *(short-headed)*
FI	**Leptoprosopic**	**90,9 - x** (long narrow face)
	Mesoprosopic	**85,0 - 89,9** *(average width face)*
	Euryprosopic	**x - 84,9** *(short broad face)*
PMI	**Leptostaphylic**	**x - 79,9** *(narrow palatum)*
	Mesostaphylic	**80,0 - 84,9** *(average width)*
	Brachystaphylic	**85,0 - x** *(broad palatum)*

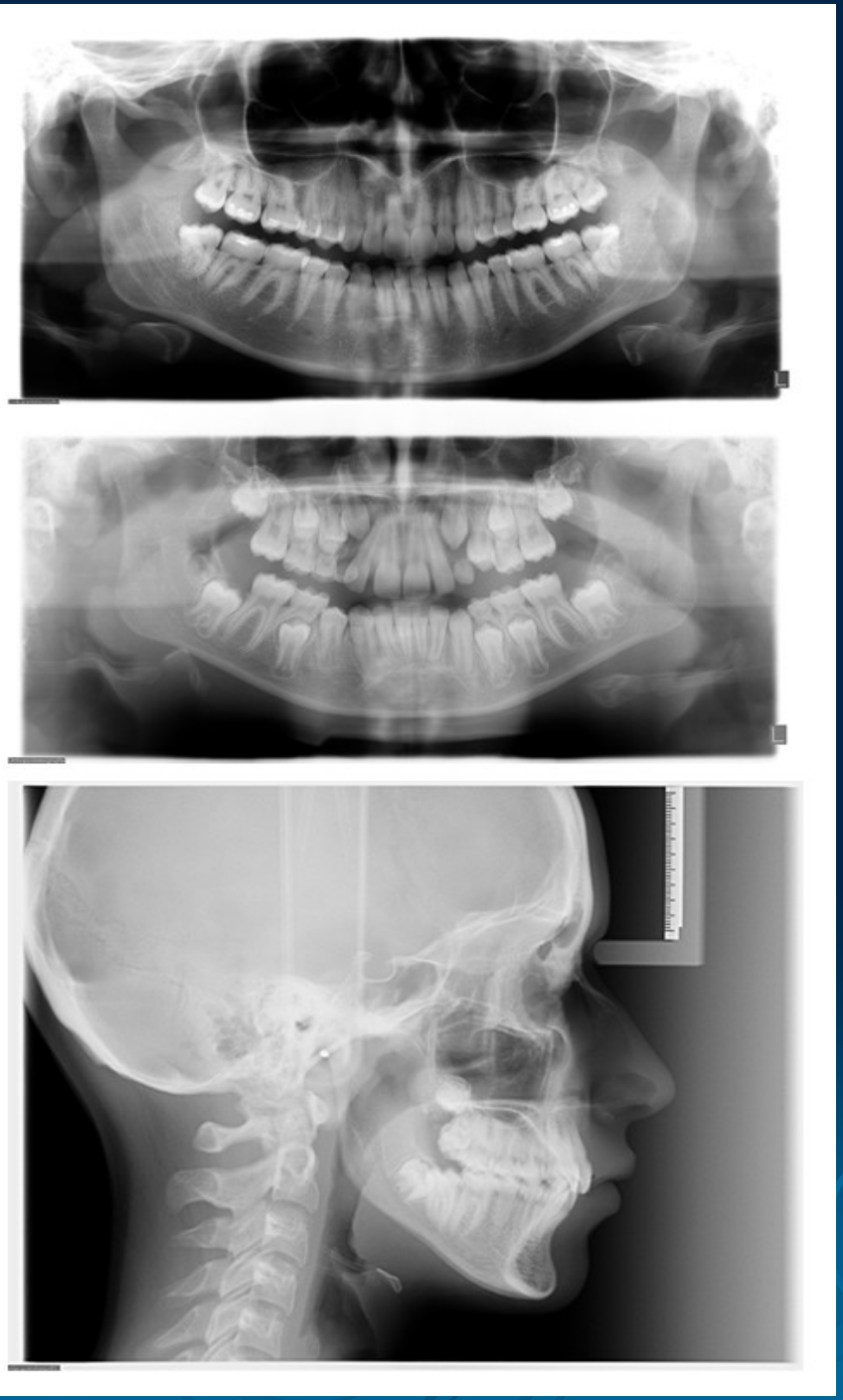
Clinical Diagnosis of Orofacial Anomalies

- Anamnesis (patient´s medical history)
- Examination of orofacial region:

  - Intraoral

  - Functional

  - Others: X-rays, photographs (en face, profile), impressions, analysis of models, orthopantomogram (OPT), teleroentgenogram for cephalometric analysis



Cephalometric Analysis

S Sella mid point of sella turcica

N Nasion most anterior point on fronto-nasal suture

Or Orbitale most inferior anterior point on margin of orbit

Po Porion upper most point on bony external auditory meatus

ANS anterior Nasal Spine

PNS posterior Nasal Spine

Go Gonion most posterior inferior point on angle of mandible

Me Menton lower most point on the mandibular symphysis

A point deepest concavity on anterior profile of maxilla

B point deepest concavity on anterior profile of mandibular symphysis

Frankfort Plane Po - Or Equivalent to the true horizontal when patient is standing upright

Maxillary Plane PNS - ANS Gives inclination of maxilla relative to other lines/planes

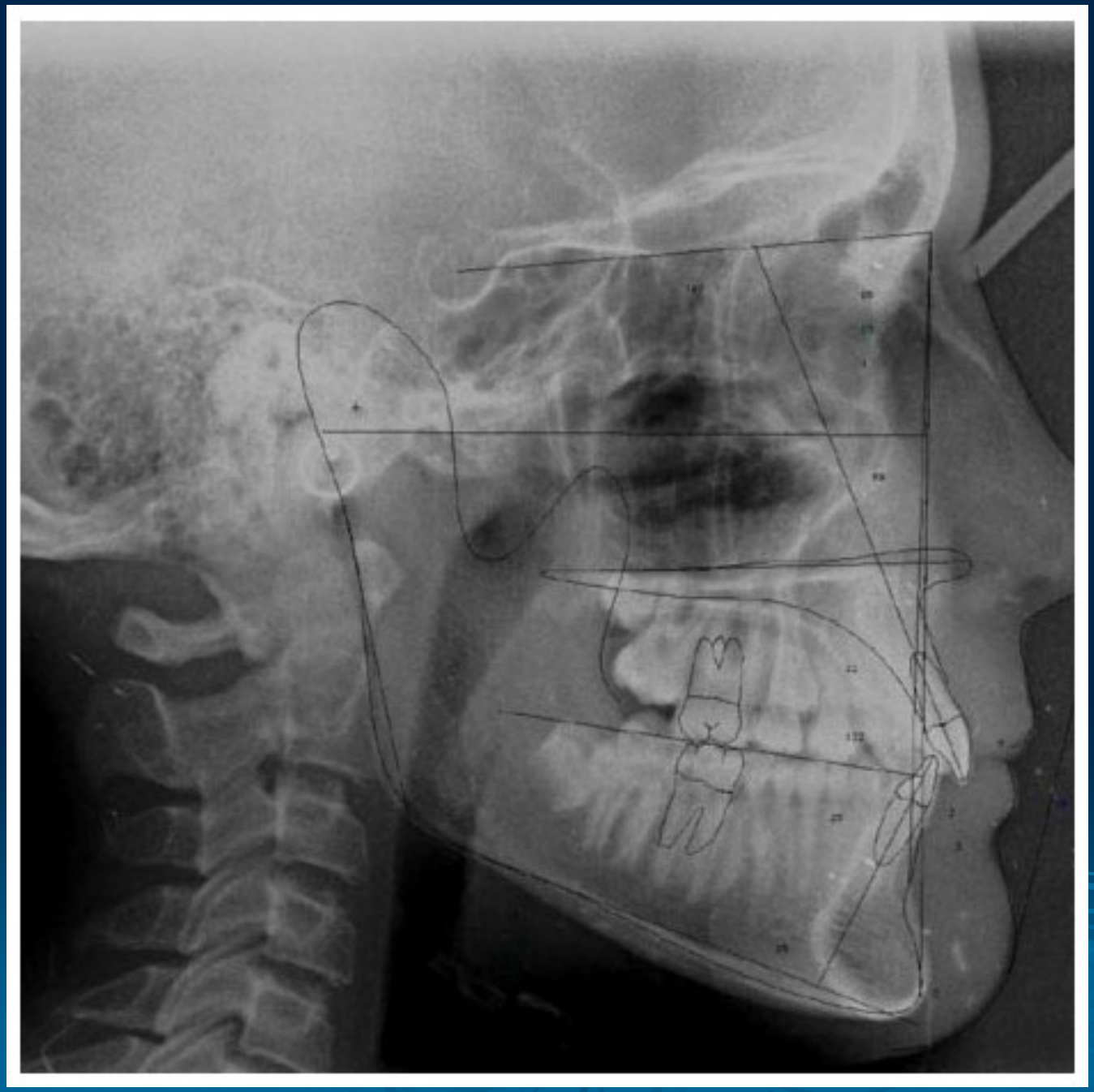
Mandibular Plane Go - Me Gives inclination of mandible relative to other lines/planes

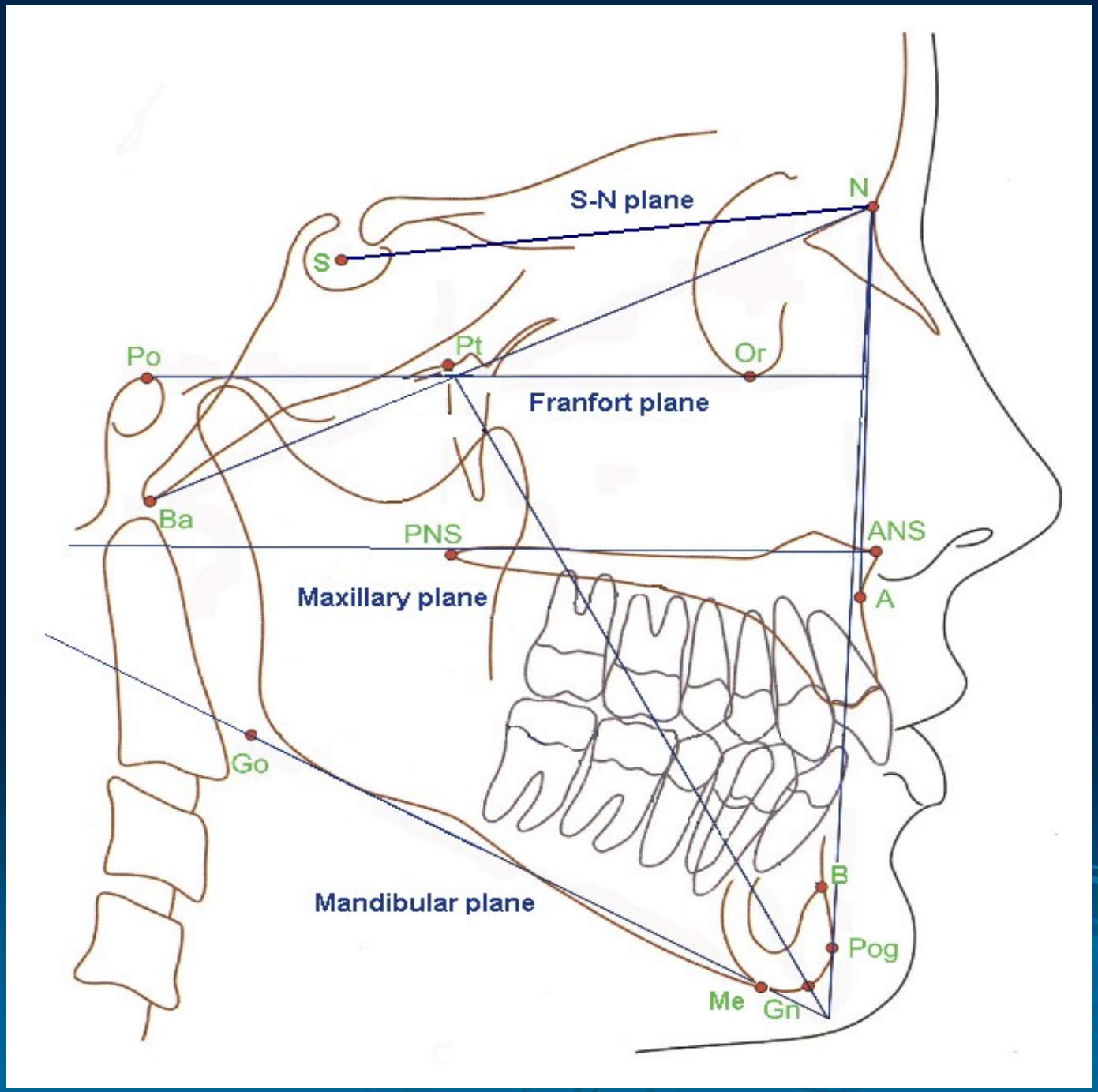
S - N Line indicates orientation of anterior cranial base

N - A indicates relative position of maxilla the cranial base

N - B indicates relative position of maxilla the cranial base

The angles SNA; SNB; ANB indicate relative position of maxilla or mandible to each other and to the cranial base




S-N plane
N
S
Po
Pt
Or
Franfort plane
Ba
PNS
ANS
Maxillary plane
A
Go
B
Mandibular plane
Pog
Me
Gn