Soft Tissue Paradigms

TMJ, Temporomandibular joint

Angle VS Soft Tissue Paradigms

Parameter	Angle Paradigm	Soft Tissue Paradigm	Face Aesthetics (Future)
Primary treatment goal	Ideal dental occlusion	Normal soft tissue proportions and adaptations	Proportion Symmetry frame of face (Curvilinear)

Angle VS Soft Tissue Paradigms

Parameter	Angle Paradigm	Soft Tissue Paradigm	Face Aesthetics (Future)
Secondary goal	Ideal jaw relationships	Functional occlusion	Combine both

Angle VS Soft Tissue Paradigms

Parameter	Angle Paradigm	Soft Tissue Paradigm	Face Aesthetics (Future)
Hard and soft tissue relationships	Ideal hard tissue proportions produce ideal soft tissues	Ideal soft tissue proportions define ideal hard tissues	- proportion symmetry - Face farmwork

Angle VS Soft Tissue Paradigms

Parameter	Angle Paradigm	Soft Tissue Paradigm	Face Aesthetics (Future)
Diagnostic emphasis	Dental casts, cephalometric radiographs	Clinical examination of intraoral and facial soft tissues	Totality agree

Angle VS Soft Tissue Paradigms

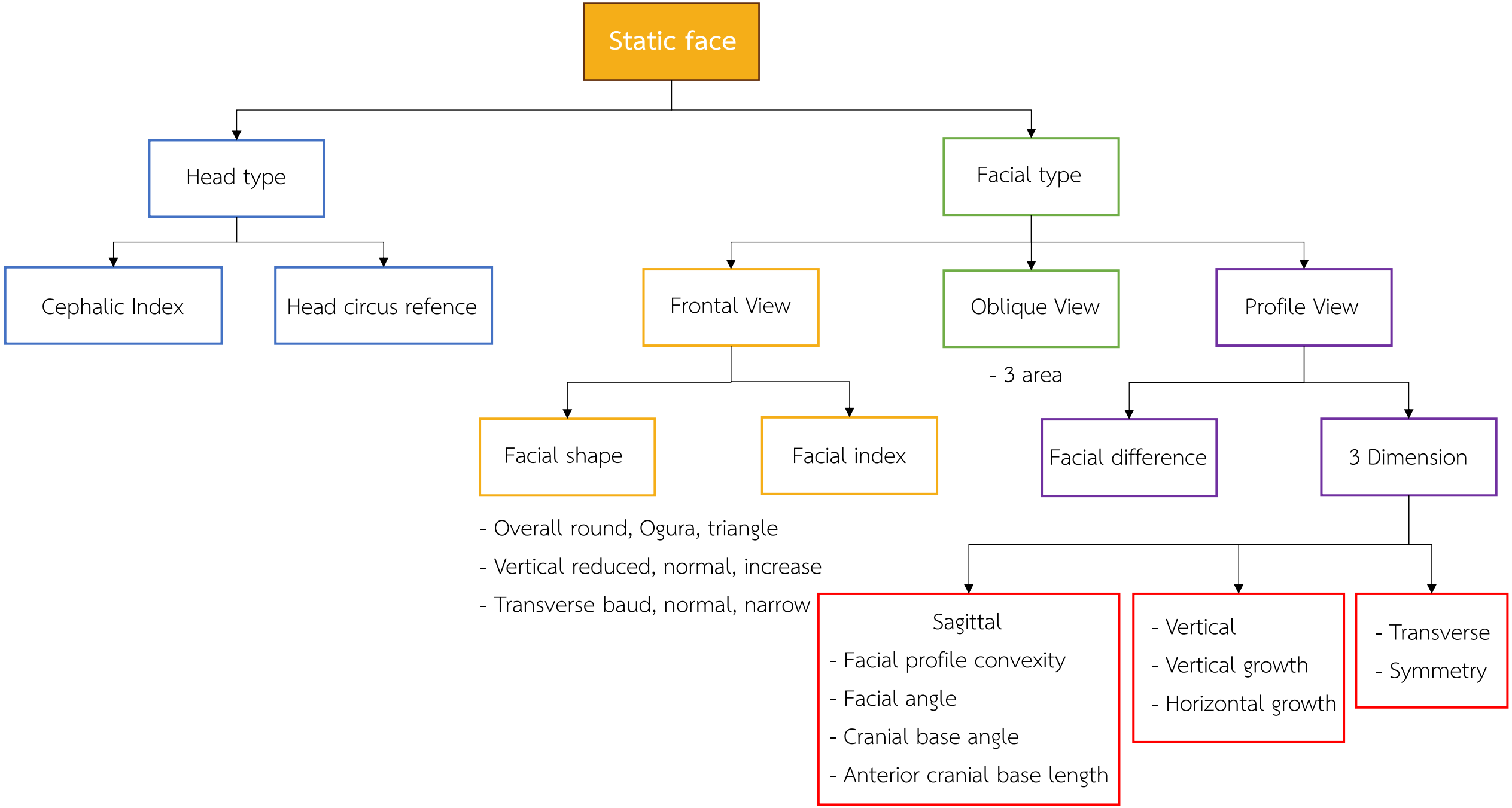
Parameter	Angle Paradigm	Soft Tissue Paradigm	Face Aesthetics (Future)
Treatment approach	Obtain ideal dental and skeletal relationships, assume the soft tissues will be all right	Plan ideal soft tissue relationships and then place teeth and jaws as needed to achieve this	Similar to chicken and egg

Angle VS Soft Tissue Paradigms

Parameter	Angle Paradigm	Soft Tissue Paradigm	Face Aesthetics (Future)
Function emphasis	TMJ in relation to dental occlusion	Soft tissue movement in relation to display of teeth	Both

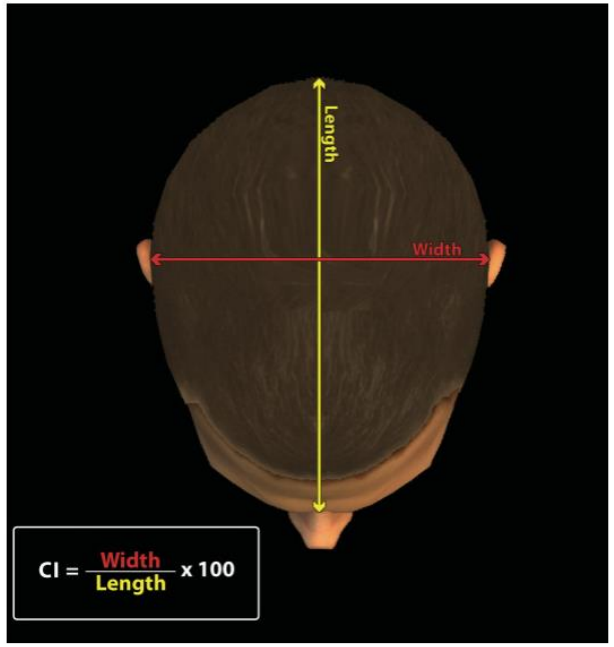
Angle VS Soft Tissue Paradigms

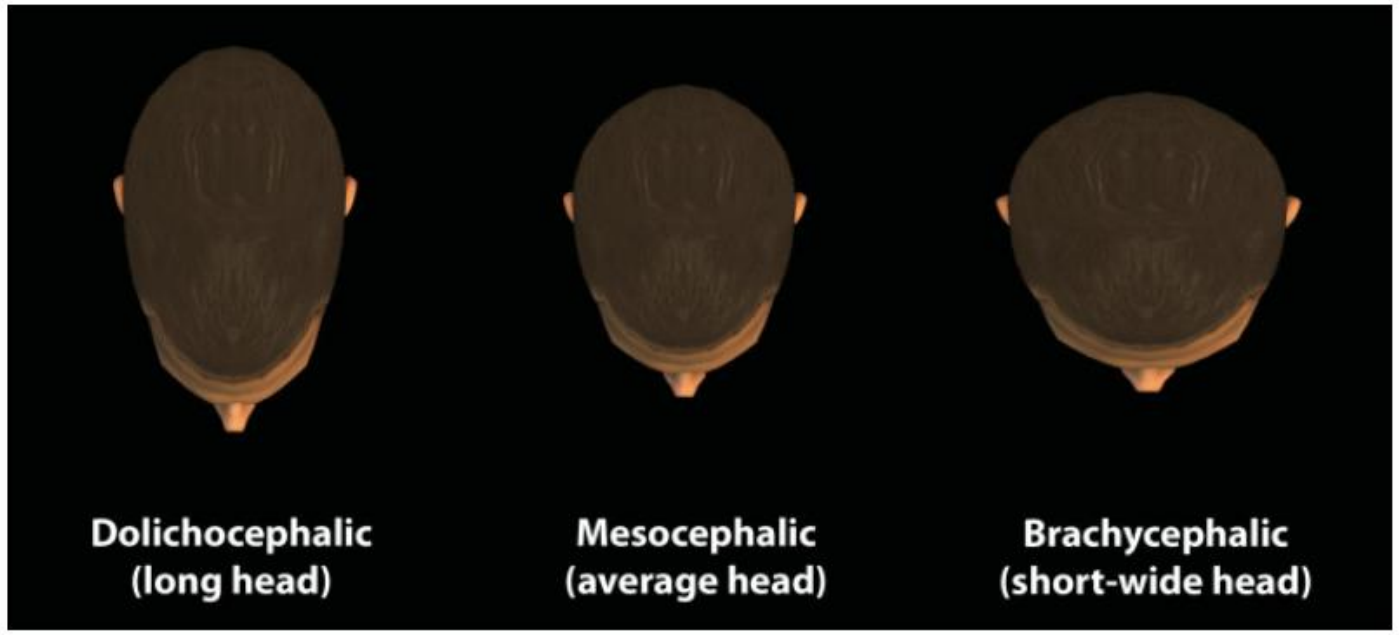
Parameter	Angle Paradigm	Soft Tissue Paradigm	Face Aesthetics (Future)
Stability of result	Related primarily to dental occlusion	Related primarily to soft tissue pressure and equilibrium effects	Both


Static face
Head type
Cephalic Index
Head circus refence
Facial type
Frontal View
Facial shape
Facial index
- Overall round, Ogura, triangle
- Vertical reduced, normal, increase
- Transverse baud, normal, narrow
Oblique View
- 3 area
Profile View
Facial difference
3 Dimension
Sagittal
- Facial profile convexity
- Facial angle
- Cranial base angle
- Anterior cranial base length
- Vertical
- Vertical growth
- Horizontal growth
- Transverse
- Symmetry

Head type

- Head type
  - Cephalic Index
  - Head circumference





Head type

Table 8.2 Cephalic index of three ethnic groups

Ethnic group	Head width (Eu-Eu) (mm)	SD (mm)	Head length (G'-Op) (mm)	SD (mm)	Cephalic index	SD
North American white Caucasian:						
Male	153	6	194	8	79	5
Female	144	5	185	7	78	4
African American:						
Male	149	7	199	6	75	4
Female	141	6	187	6.5	75	4
Chinese:						
Male	158	5	182	6	87	4
Female	152	5	173	6	88	4

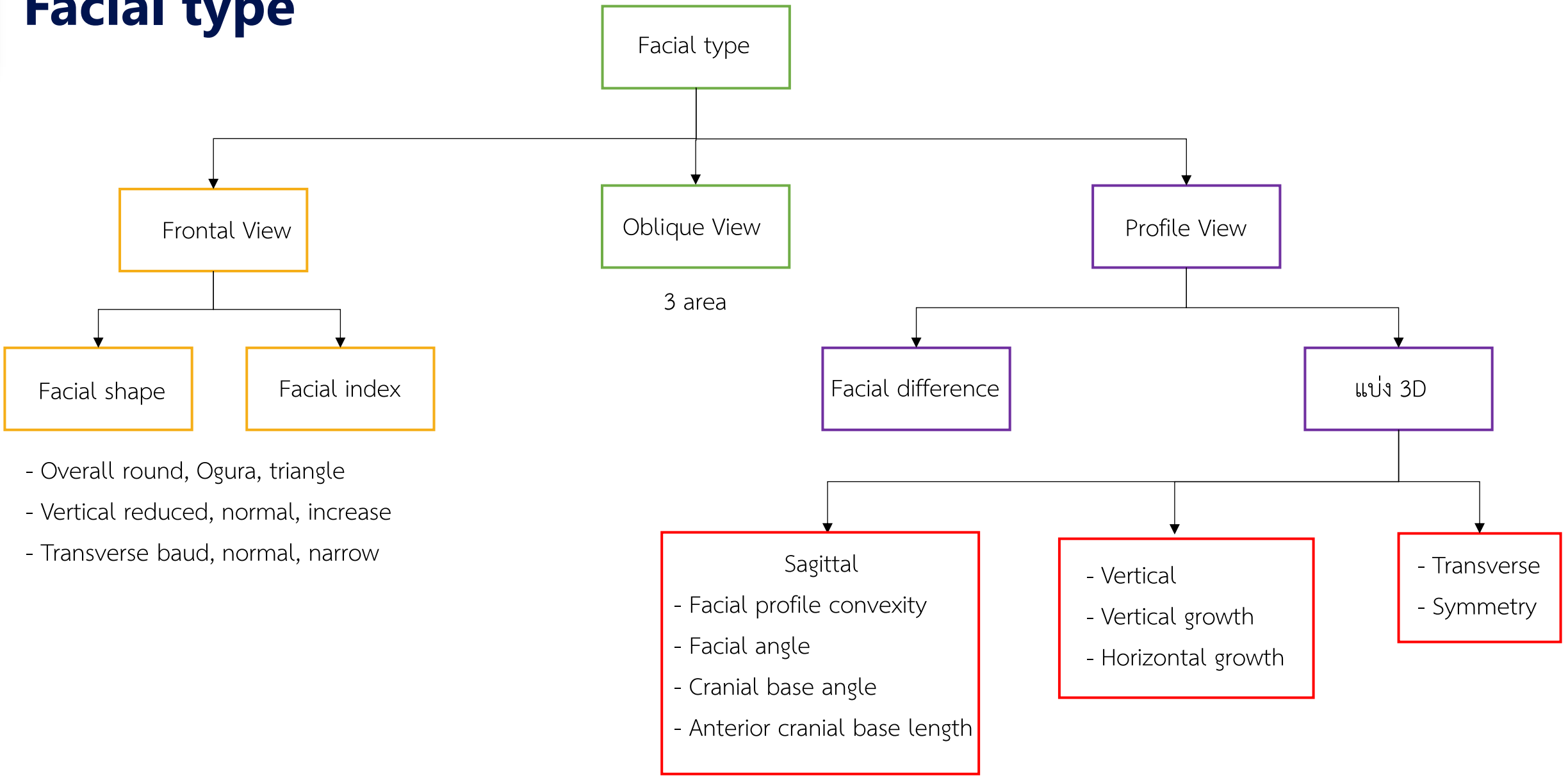
SD, standard deviation.
Data modified from Farkas.[6]

Table 8.3 Head circumference of three ethnic groups

Ethnic group	Head circumference (mm)	SD (mm)
North American white Caucasian:		
Male	569	16
Female	544	15
African American:		
Male	574	16
Female	547	16
Chinese:		
Male	560	14
Female	535	15.5

SD, standard deviation.
Data modified from Farkas.[6]

Facial type


Facial type
Frontal View
Oblique View
Profile View
3 area
Facial shape
Facial index
Facial difference
แบ่ง 3D
- Overall round, Ogura, triangle
- Vertical reduced, normal, increase
- Transverse baud, normal, narrow
Sagittal
- Facial profile convexity
- Facial angle
- Cranial base angle
- Anterior cranial base length
- Vertical
- Vertical growth
- Horizontal growth
- Transverse
- Symmetry

Frontal View

Frontal View

Facial shape

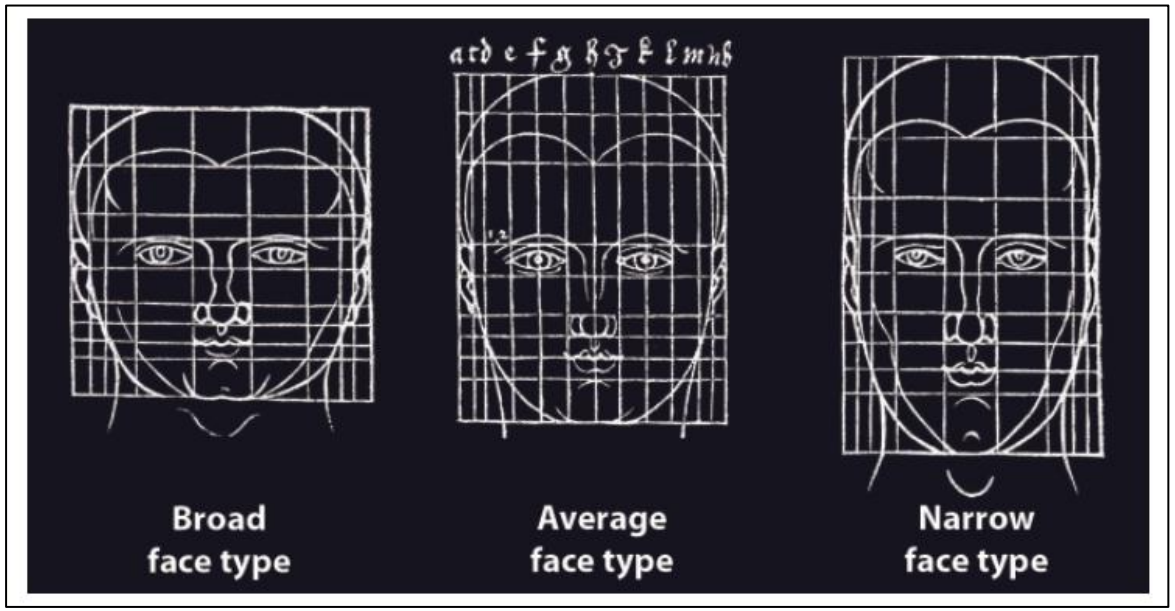
3D – Overall round, Ogura, triangle

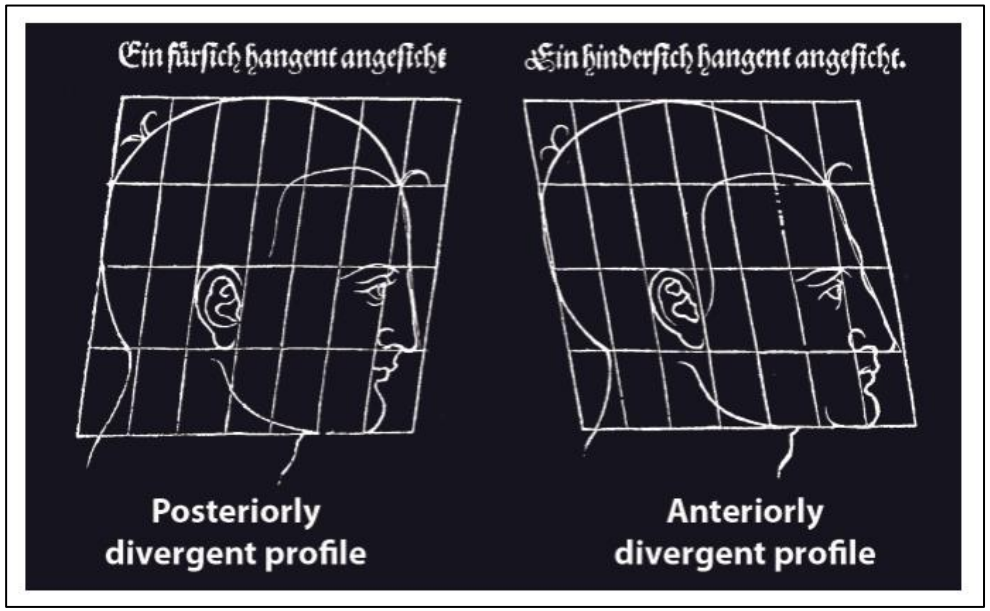
- Vertical reduced, normal, increase
- Transverse baud, normal, narrow

Facial index

The facial index (FI) is calculated by the formula:

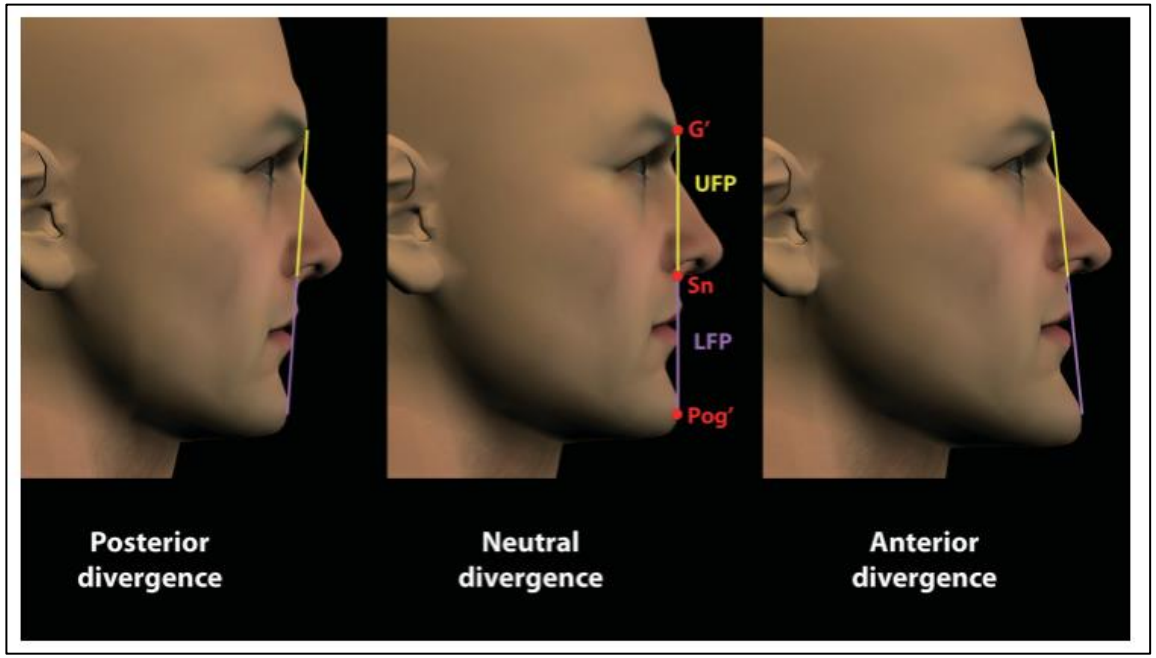
$$FI: \frac{\text{Facial height (N′-Me′)} \times 100}{\text{Bizygomatic face width}}$$



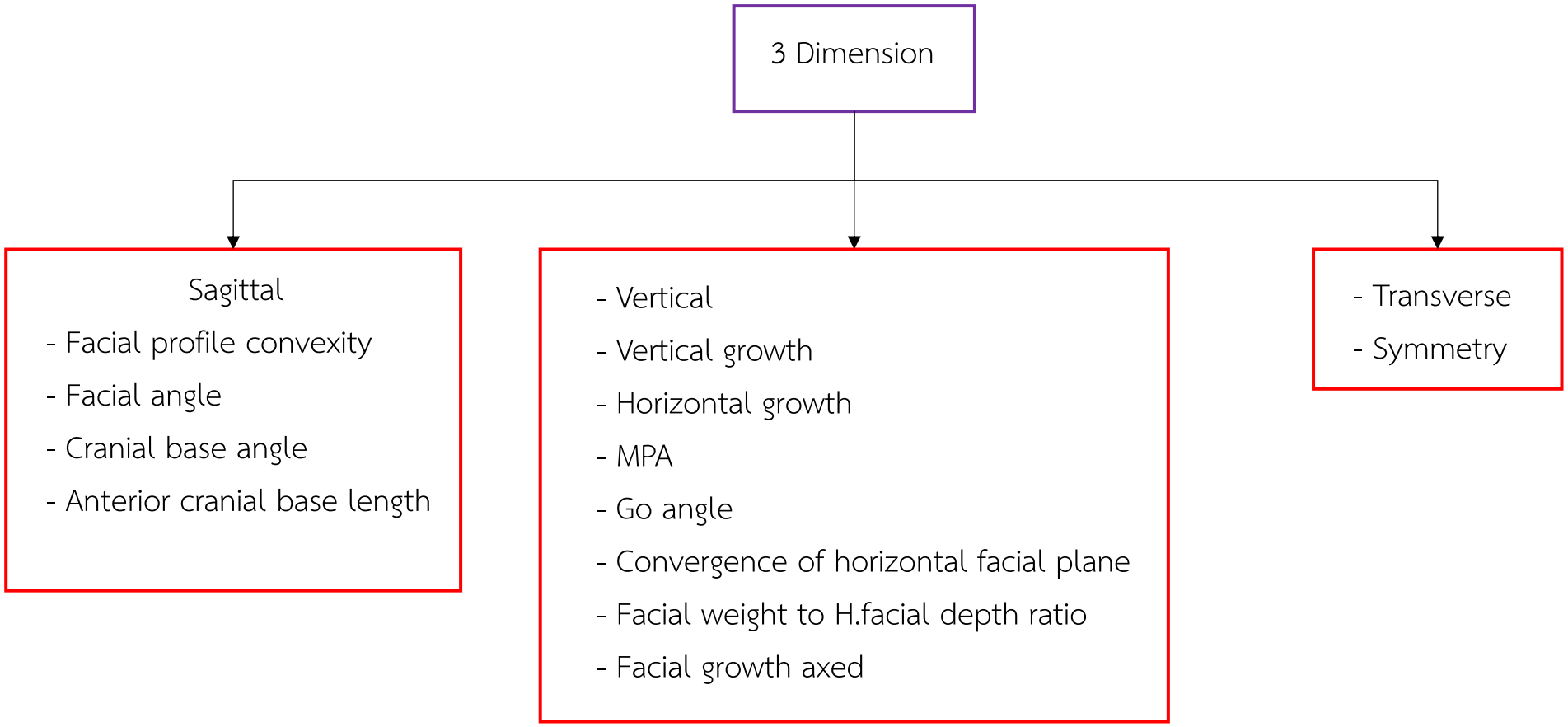


Profile View

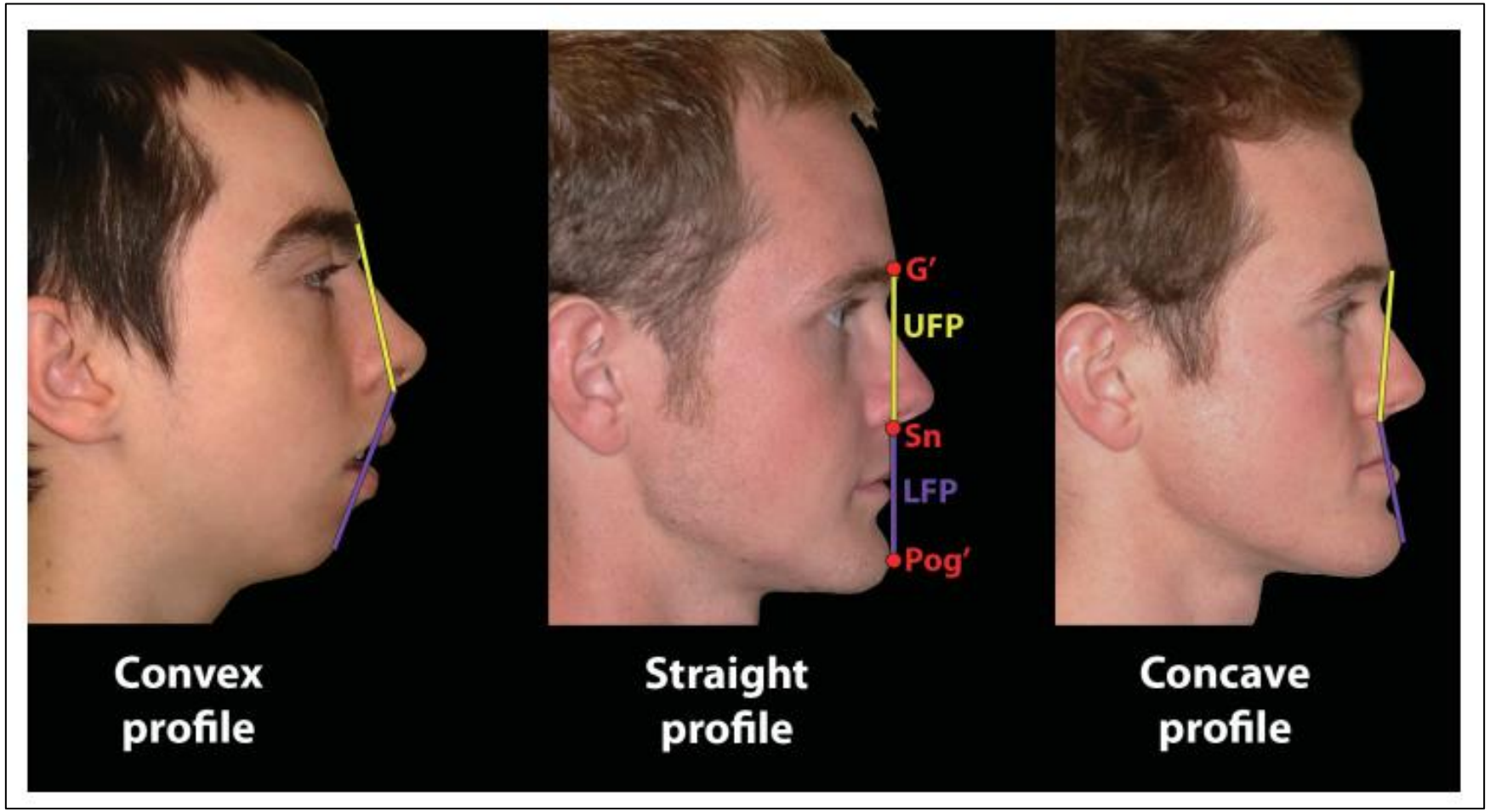
- Profile View
  - Facial divergence
  - 3 Dimension
    - Sagittal
      - Facial profile convexity
      - Facial angle
      - Cranial base angle
      - Anterior cranial base length
    - Vertical
      - Vertical growth
      - Horizontal growth
    - Transverse
      - Symmetry



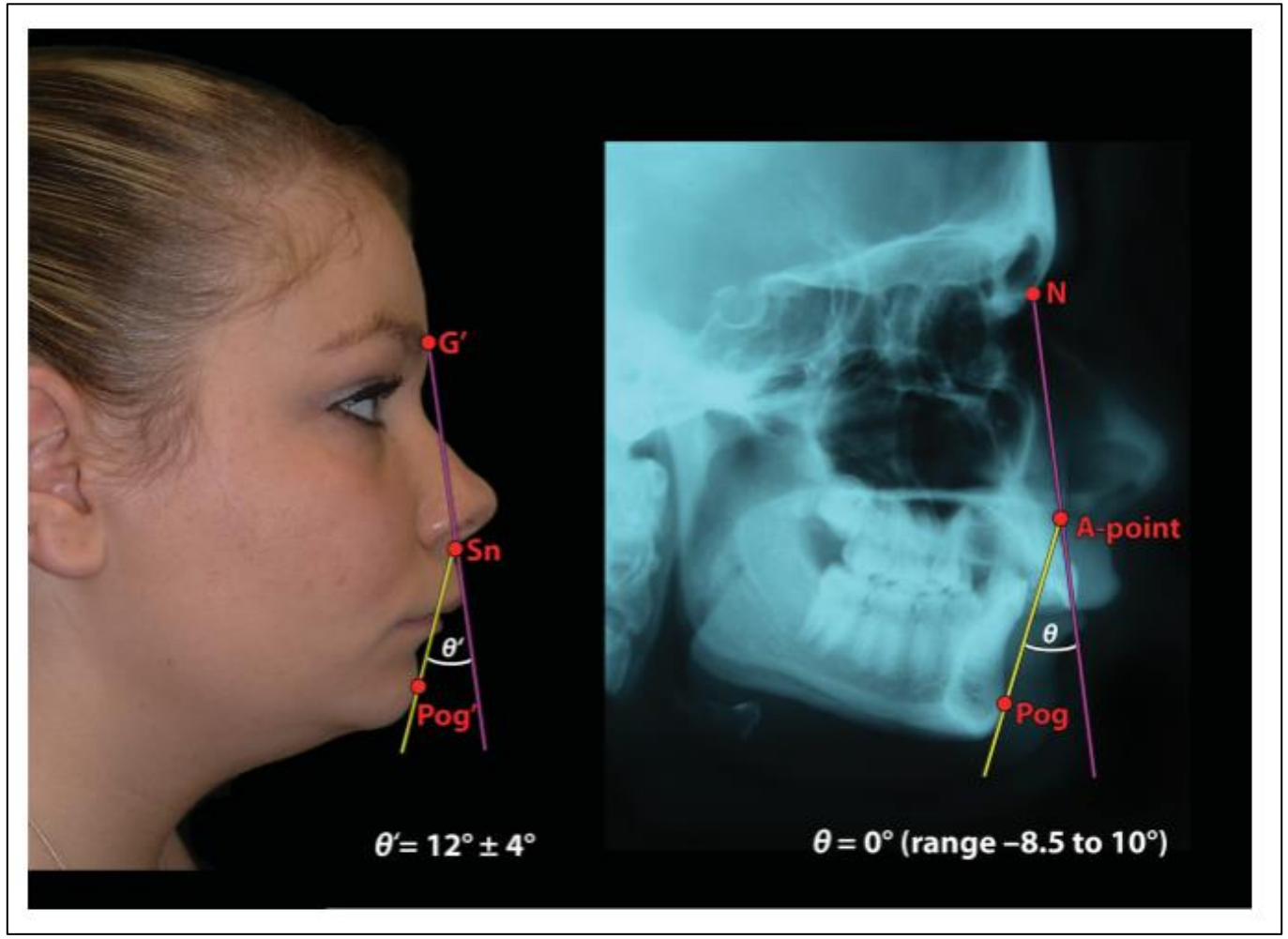
3 Dimension


3 Dimension
Sagittal
- Facial profile convexity
- Facial angle
- Cranial base angle
- Anterior cranial base length
- Vertical
- Vertical growth
- Horizontal growth
- MPA
- Go angle
- Convergence of horizontal facial plane
- Facial weight to H.facial depth ratio
- Facial growth axed
- Transverse
- Symmetry

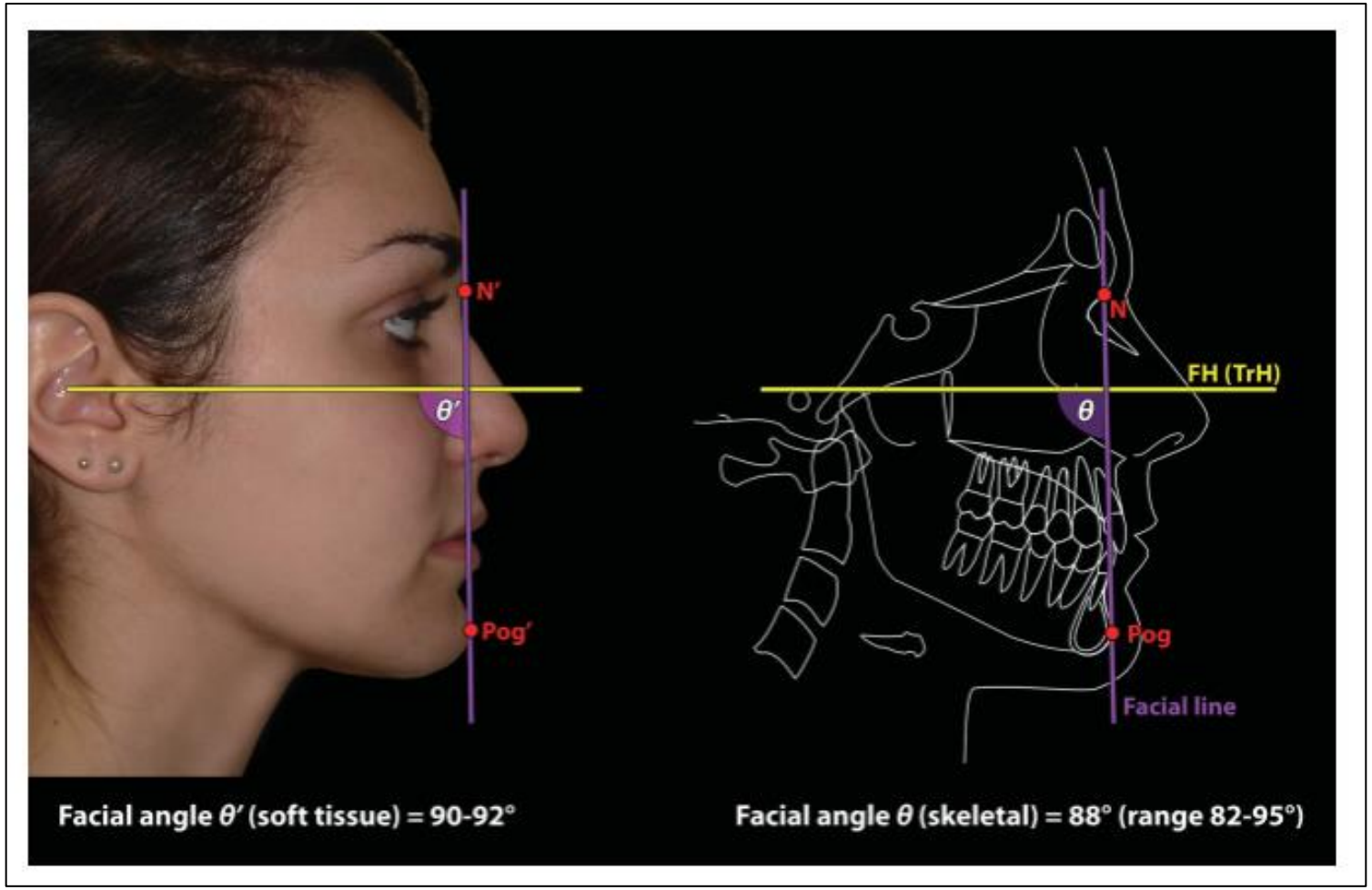
Sagittal facial profile contour



Facial profile convexity



Facial angle



Vertical growth

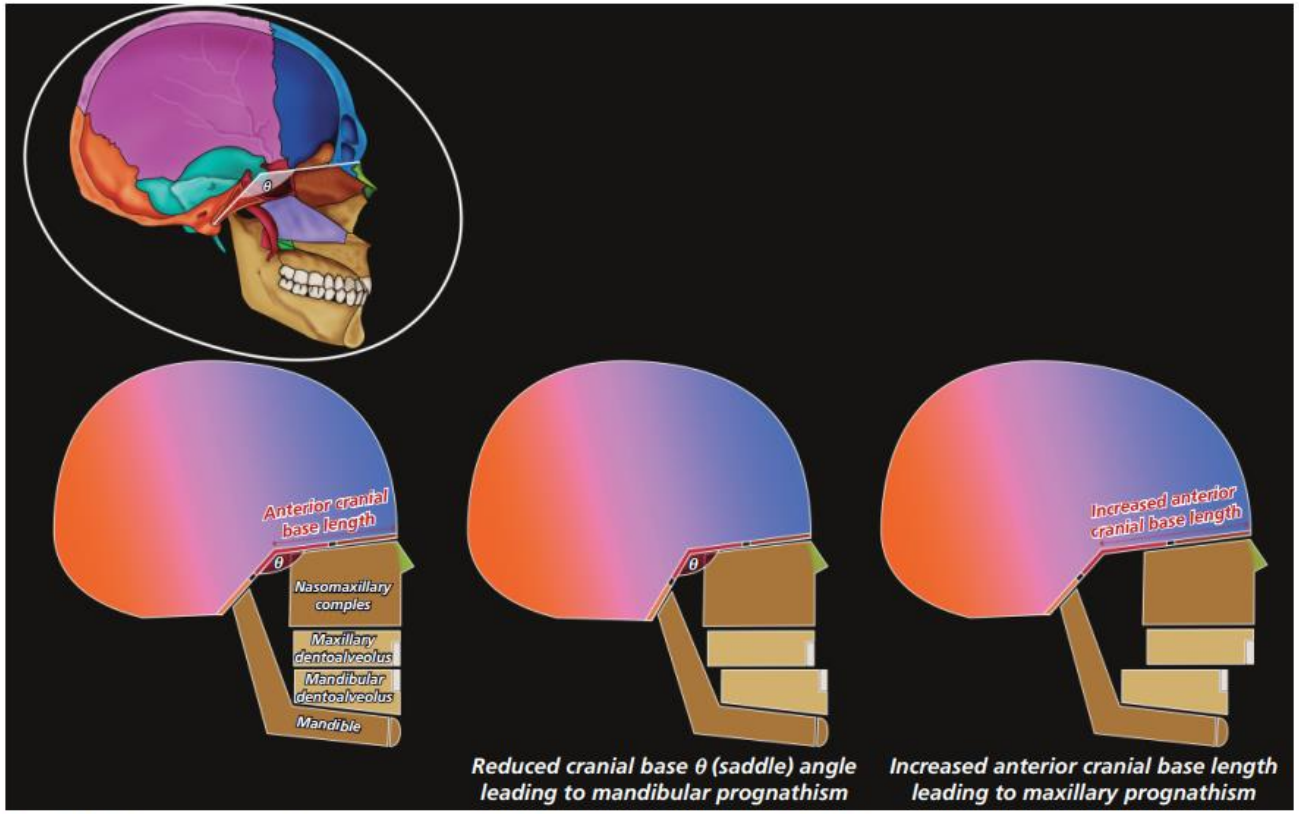


Figure 8.13 The relationship of the cranial base angle (saddle angle) and anterior cranial base length on the jaw relationship.

Vertical growth

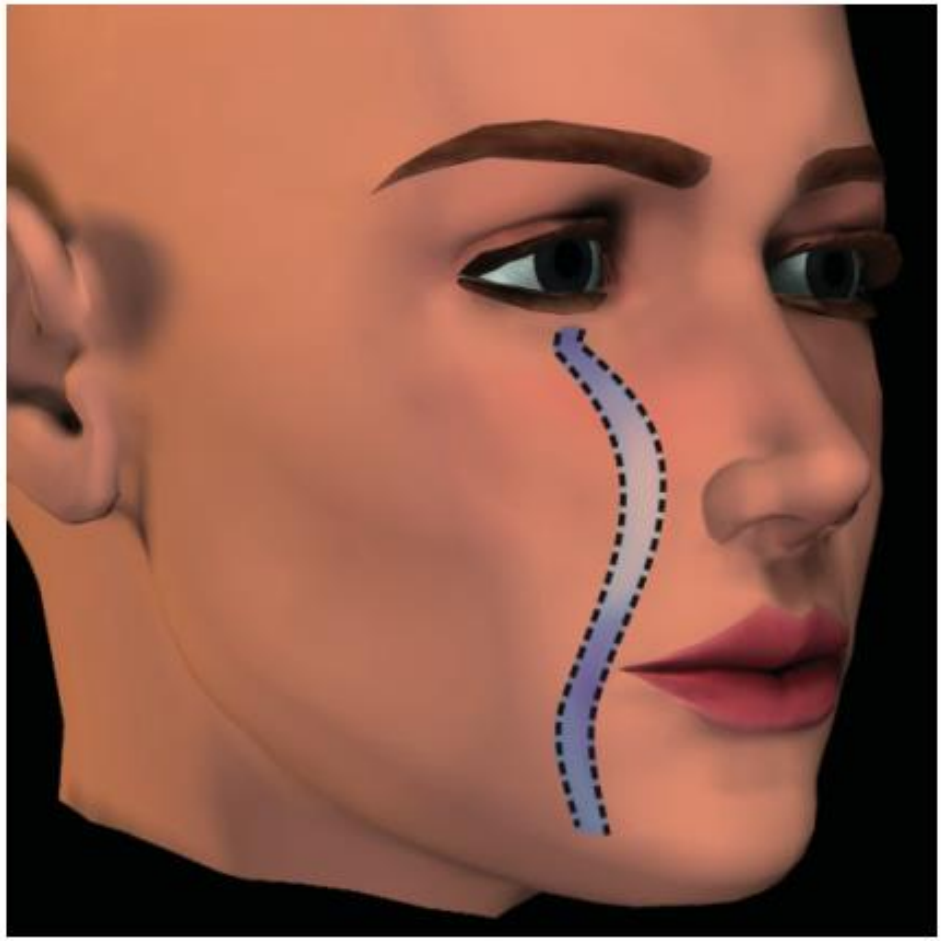
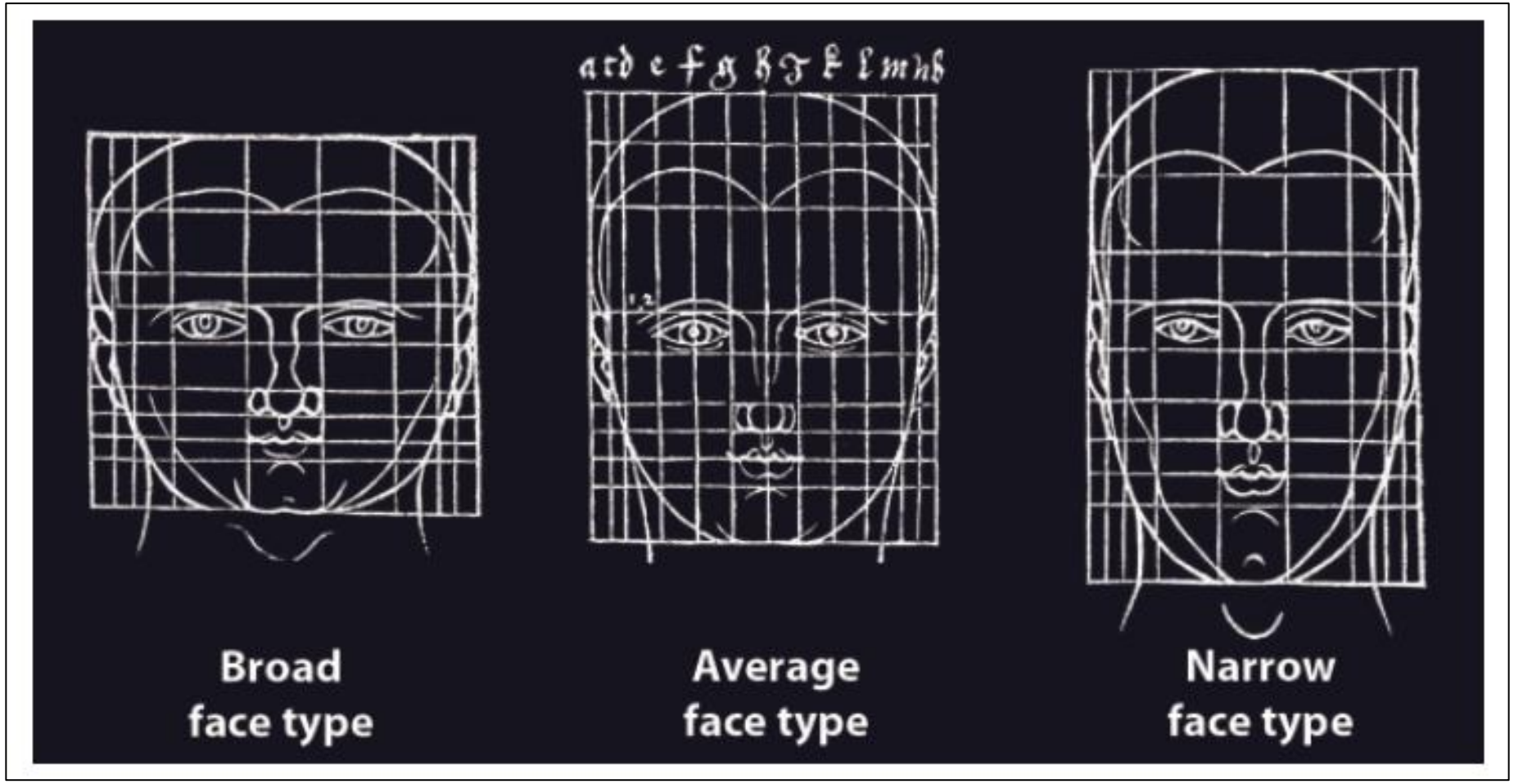


Figure 8.14 Parasagittal profile contour.

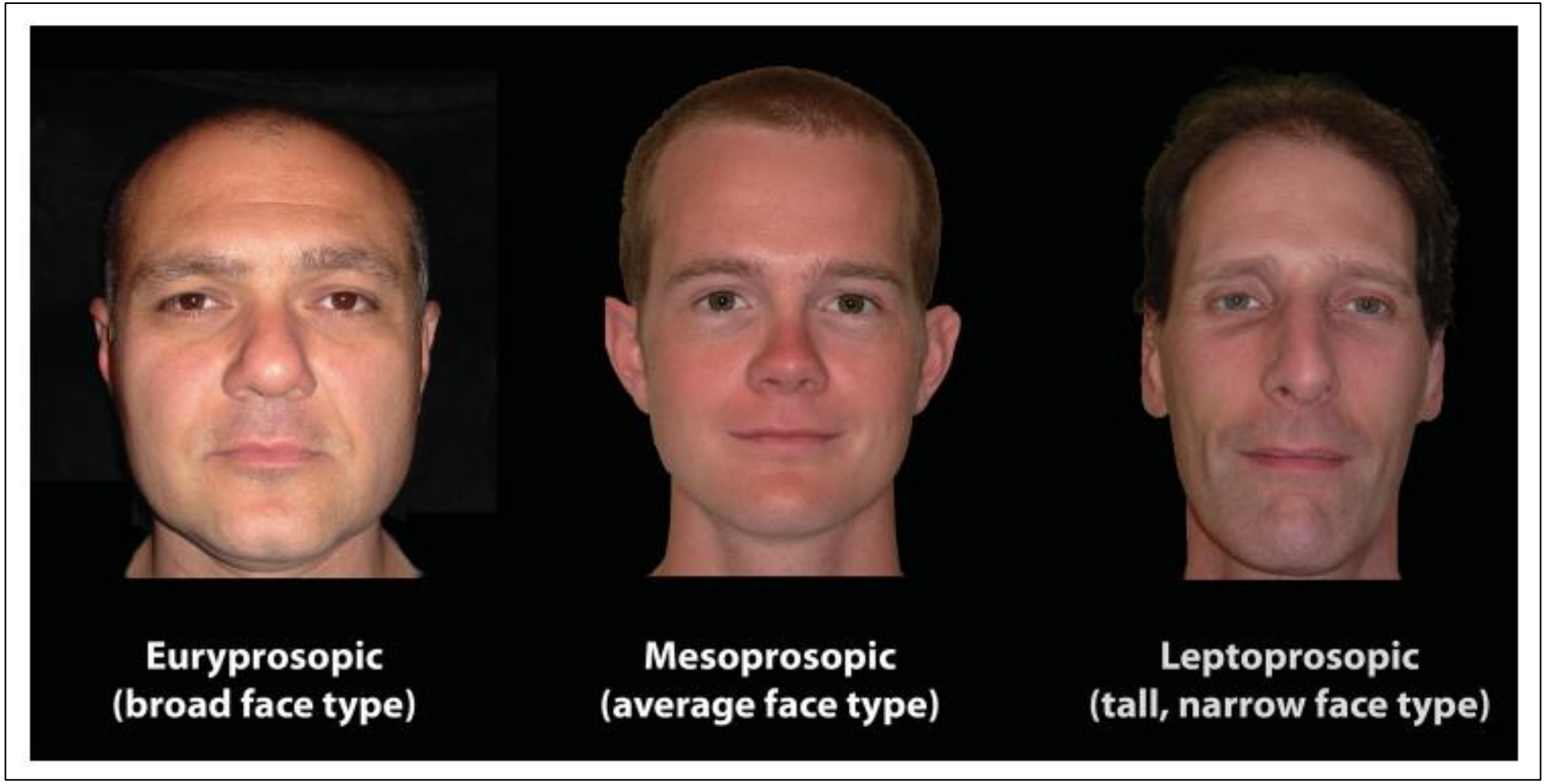
Vertical growth

Horizontal growth

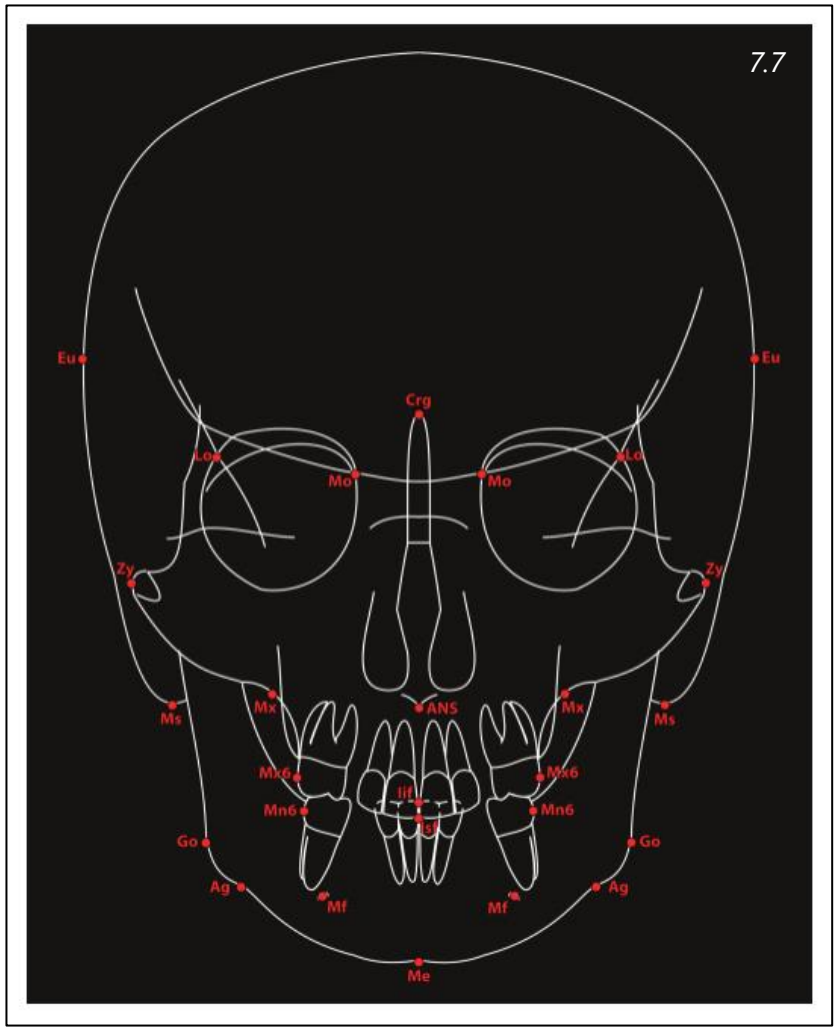
Facial types according



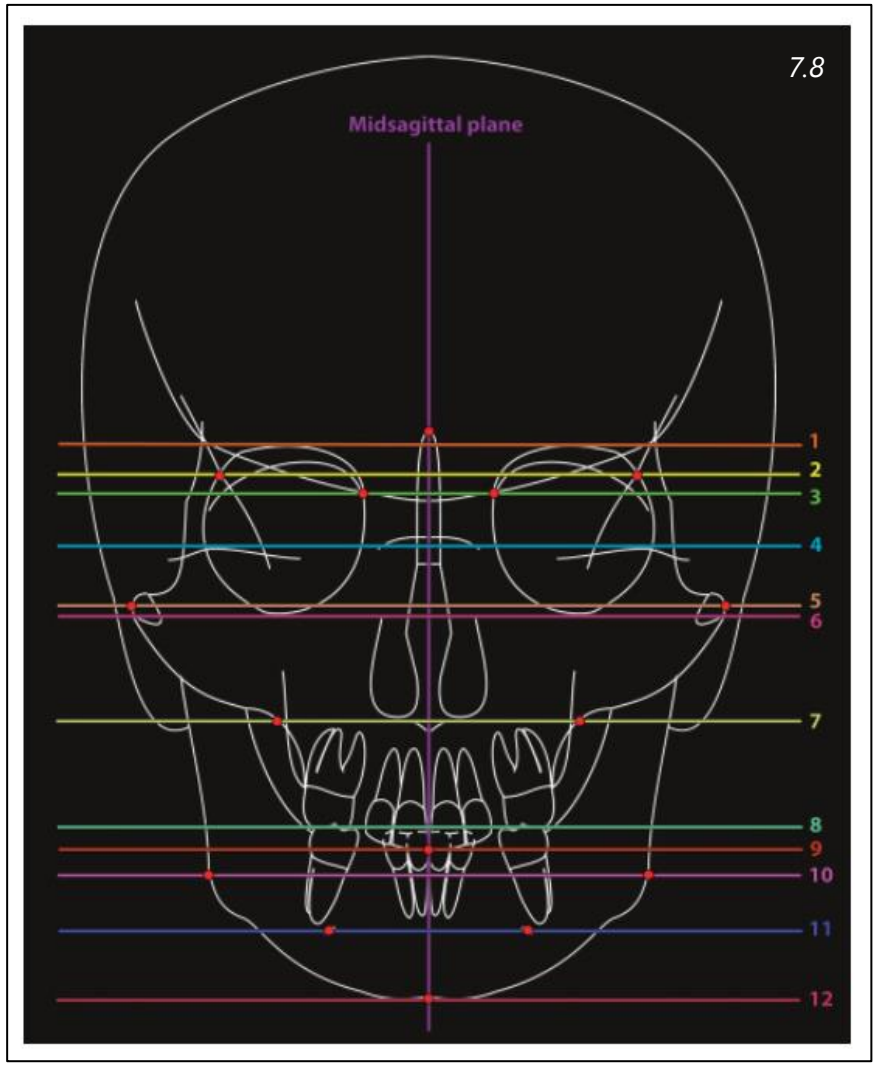
Facial types



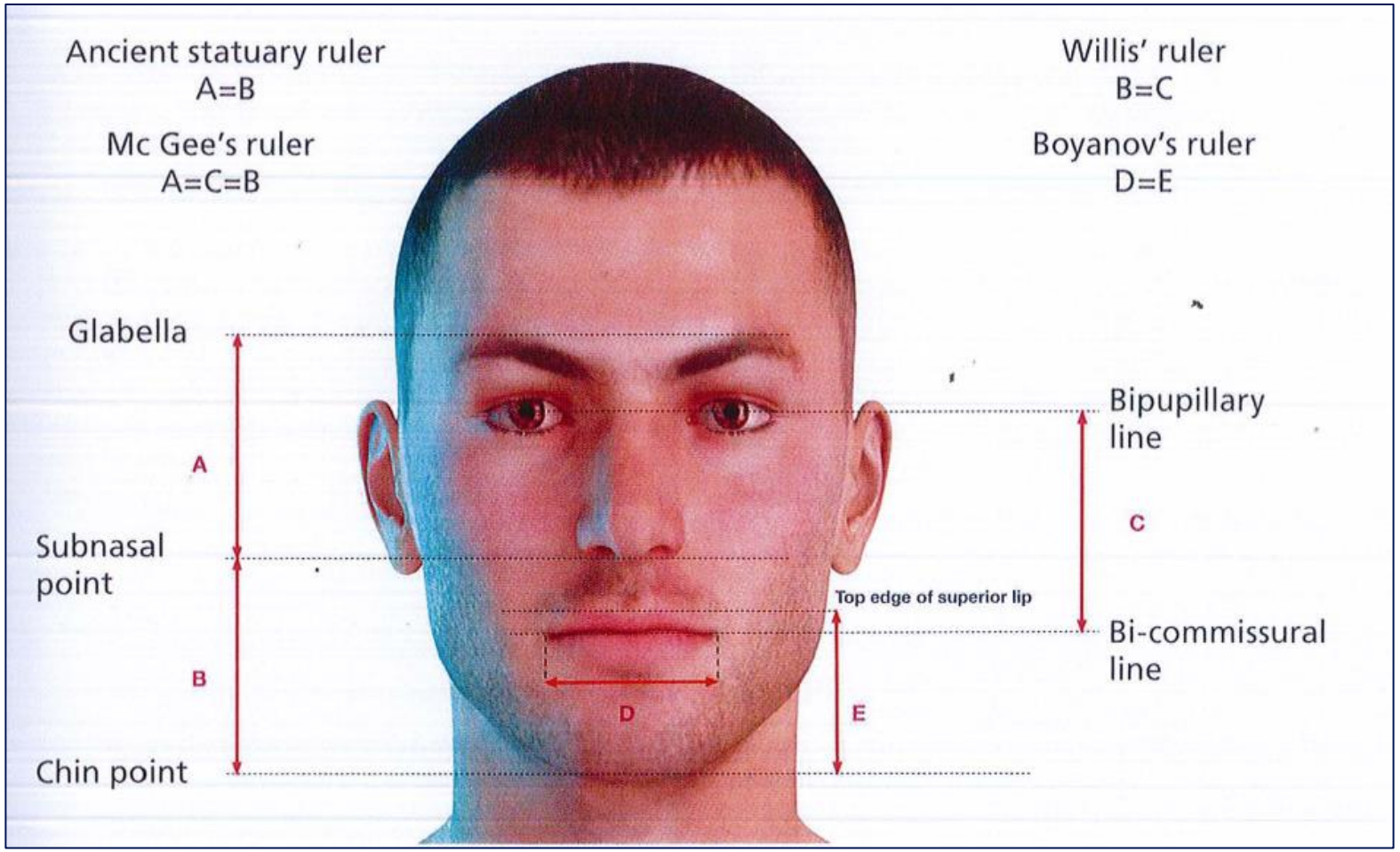
Hard tissue posteroanterior (PA)



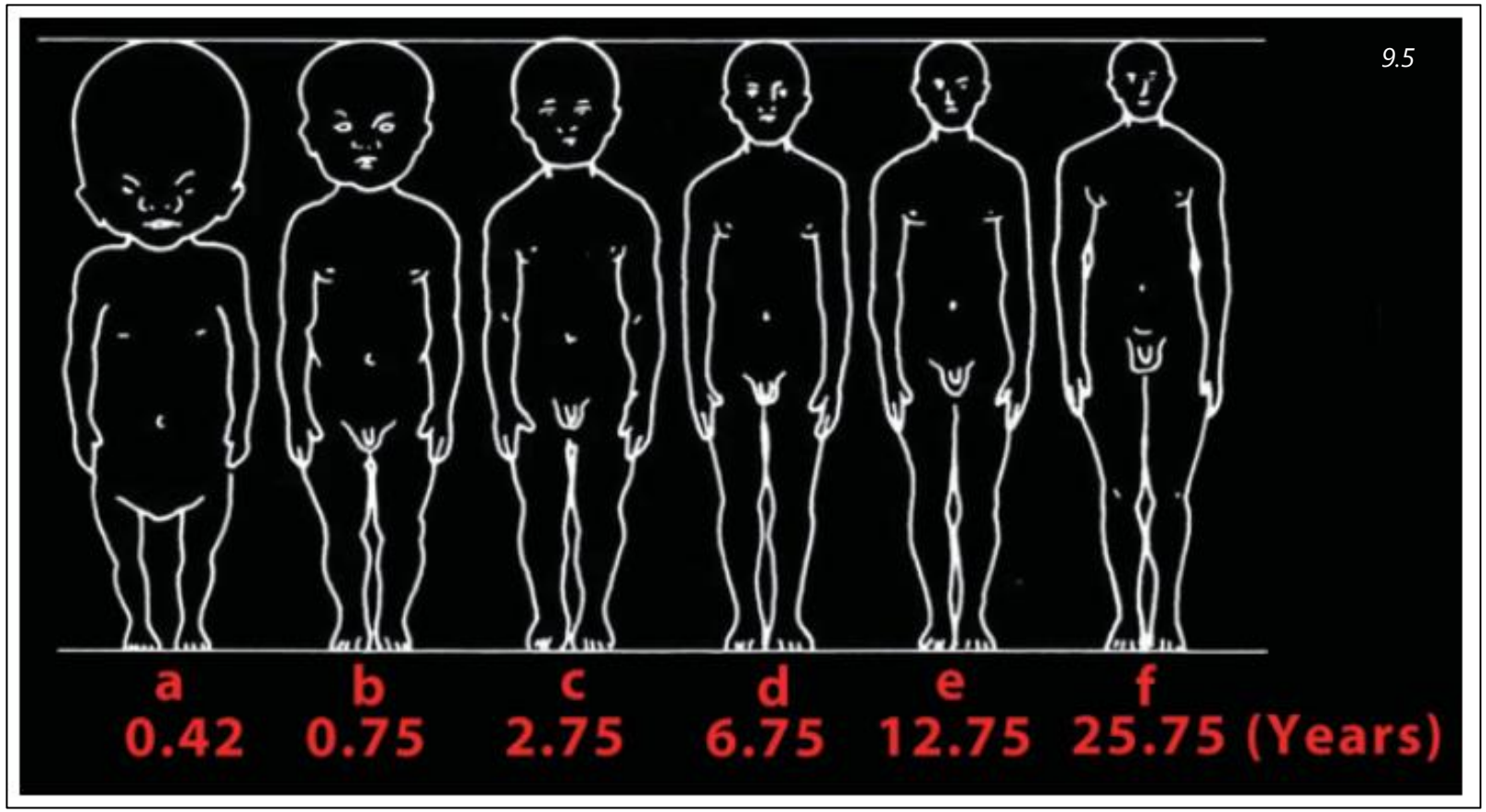
Hard tissue posteroanterior (PA)



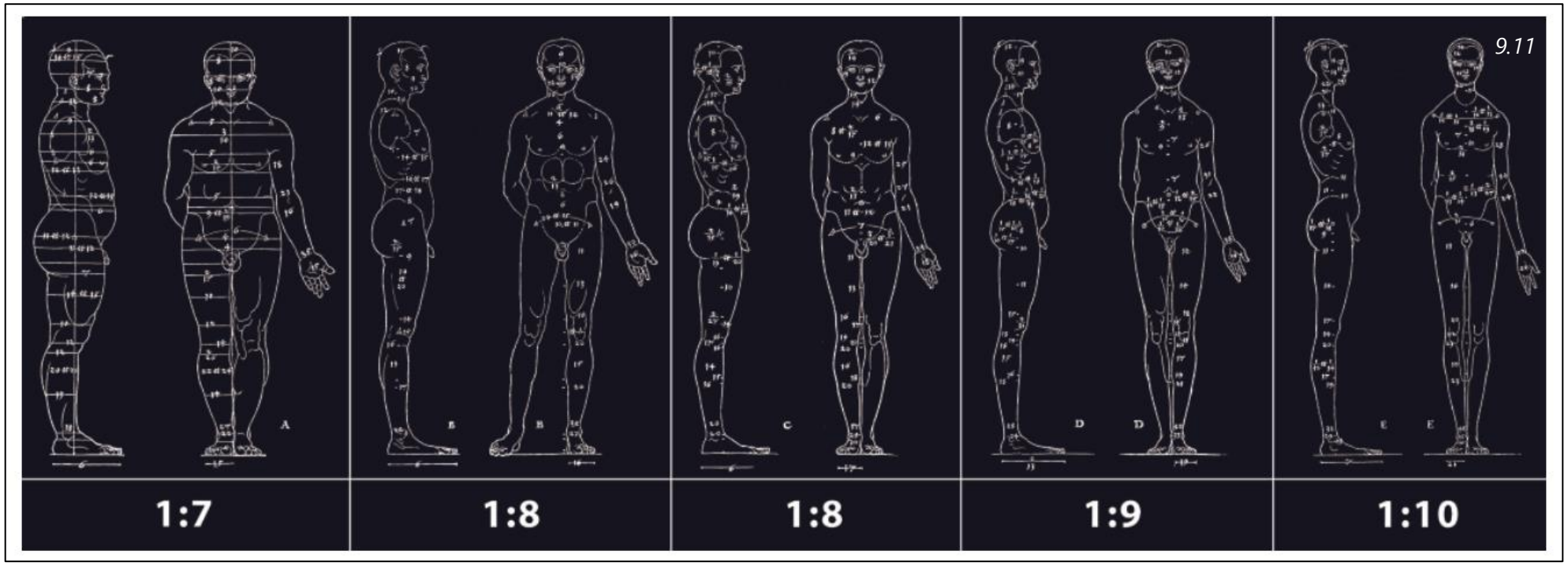
OVD are only approximate clinical benchmarks



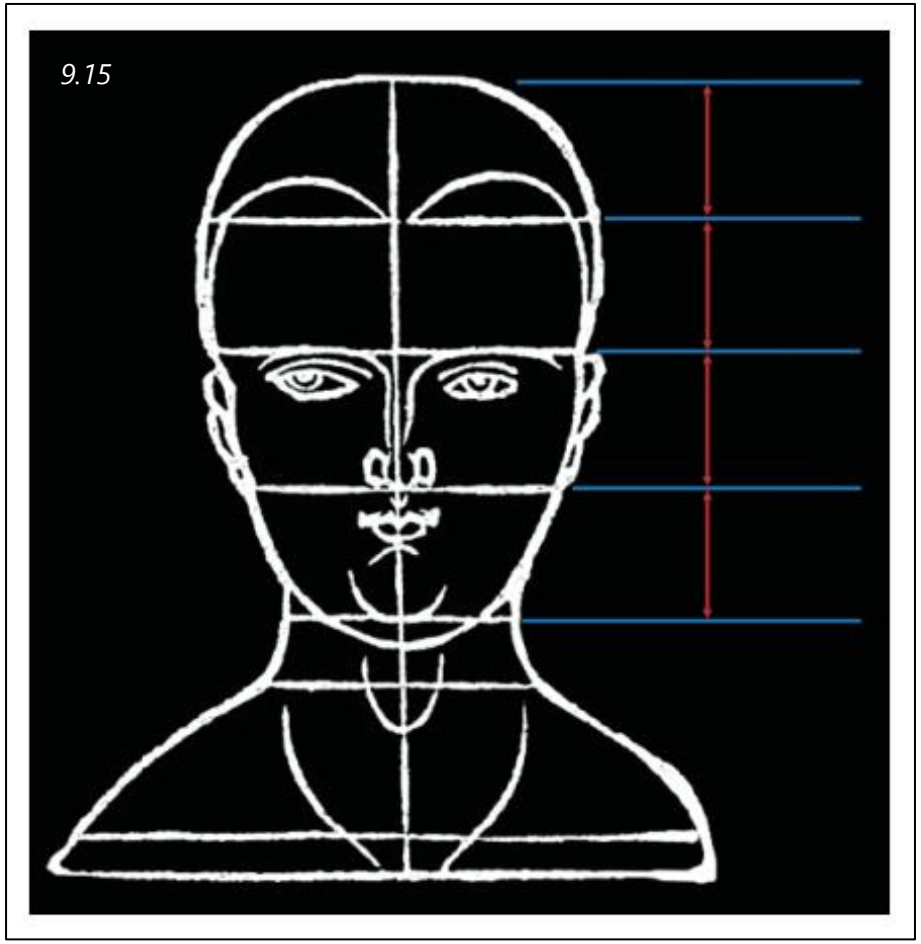
Schematic changing proportion



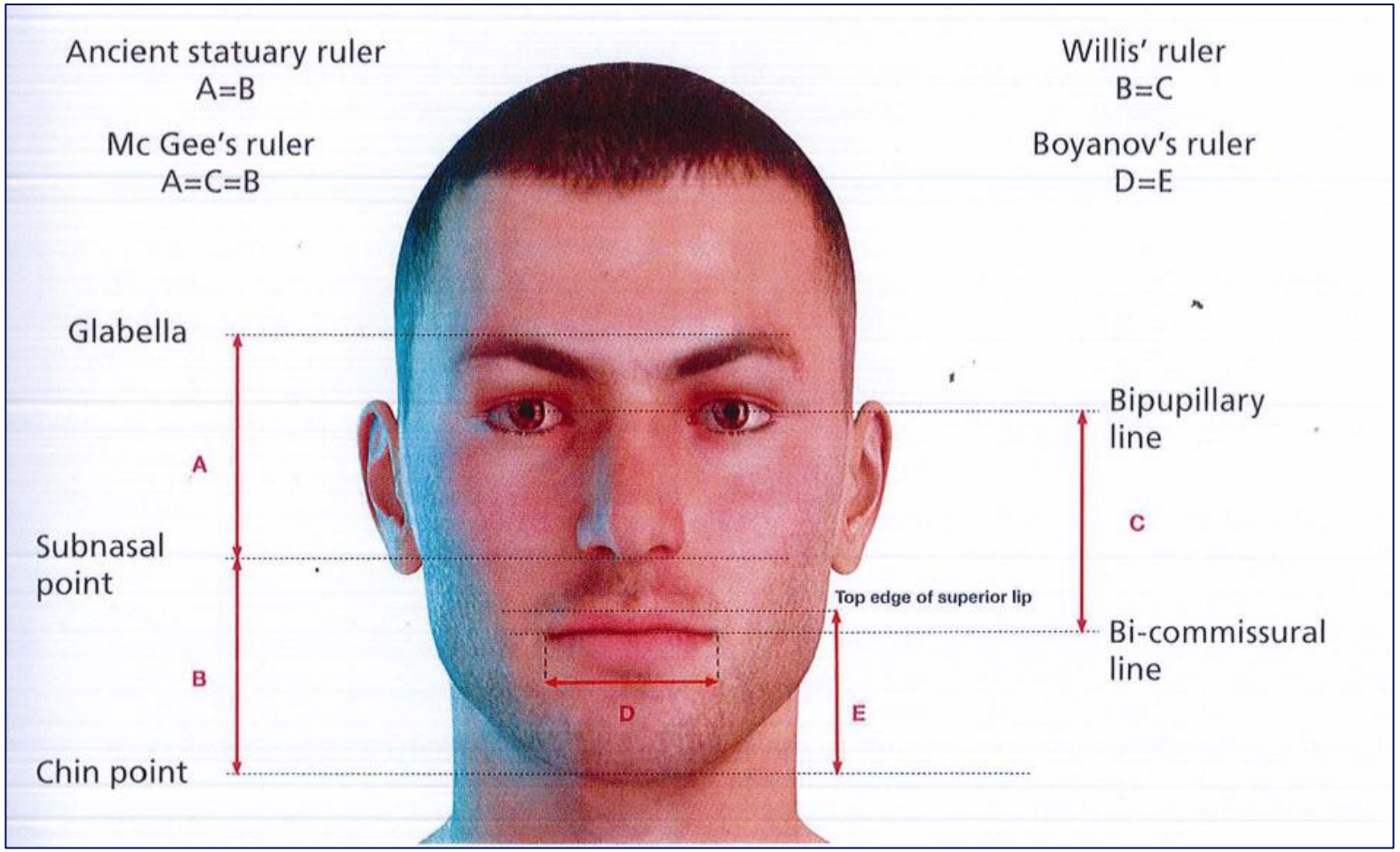
Craniofacial height



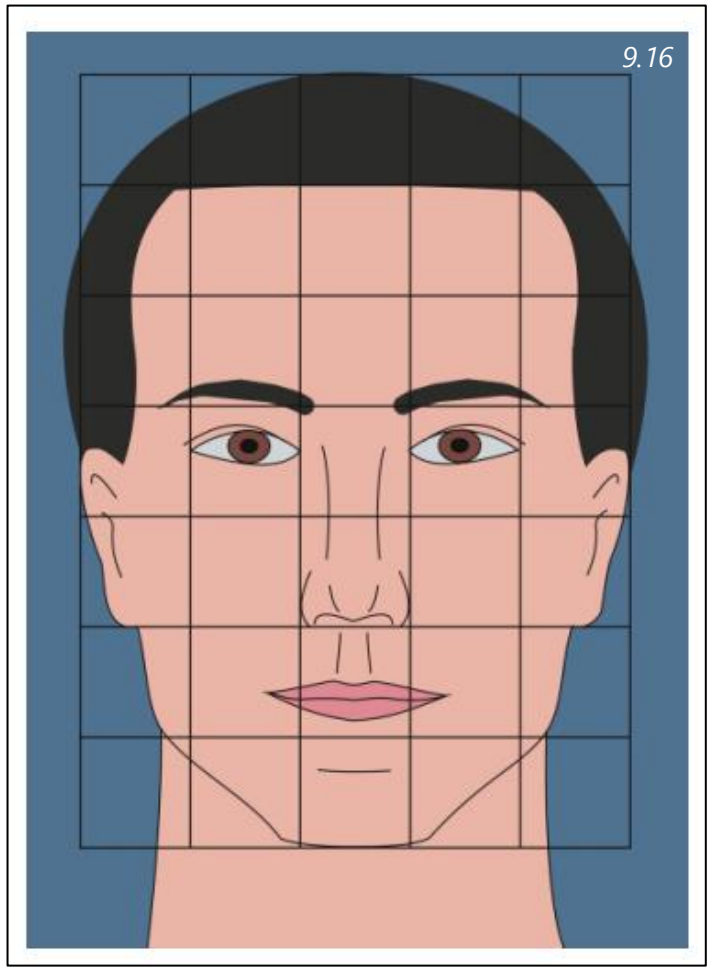
Vertical craniofacial tetrasection



OVD are only approximate clinical benchmarks



The artist ′ s facial grid



Validity of proportional canons

Craniofacial bisection

Craniofacial tetrasection

- Only 10% fitted the canon
- In 80% the upper half was on average 12 mm taller (range: 2 – 29 mm)
- In 10% the lower half was on average 6 mm taller (range: 4 – 9 mm)

Craniofacial bisection

Craniofacial tetrasection

- None of the subjects fitted the canon.

Craniofacial bisection

Craniofacial tetrasection

- In 100% the lower anterior face height (subnasale - menton) was on average 19 mm (range: 2 – 42 mm) greater than the upper head height (vertex - trichion)

Craniofacial bisection

Craniofacial tetrasection

- In 87% the middle anterior face height (glabella - subnasale) was on average 15 mm(range: 2 – 37 mm) greater than the upper head height (vertex - trichion)

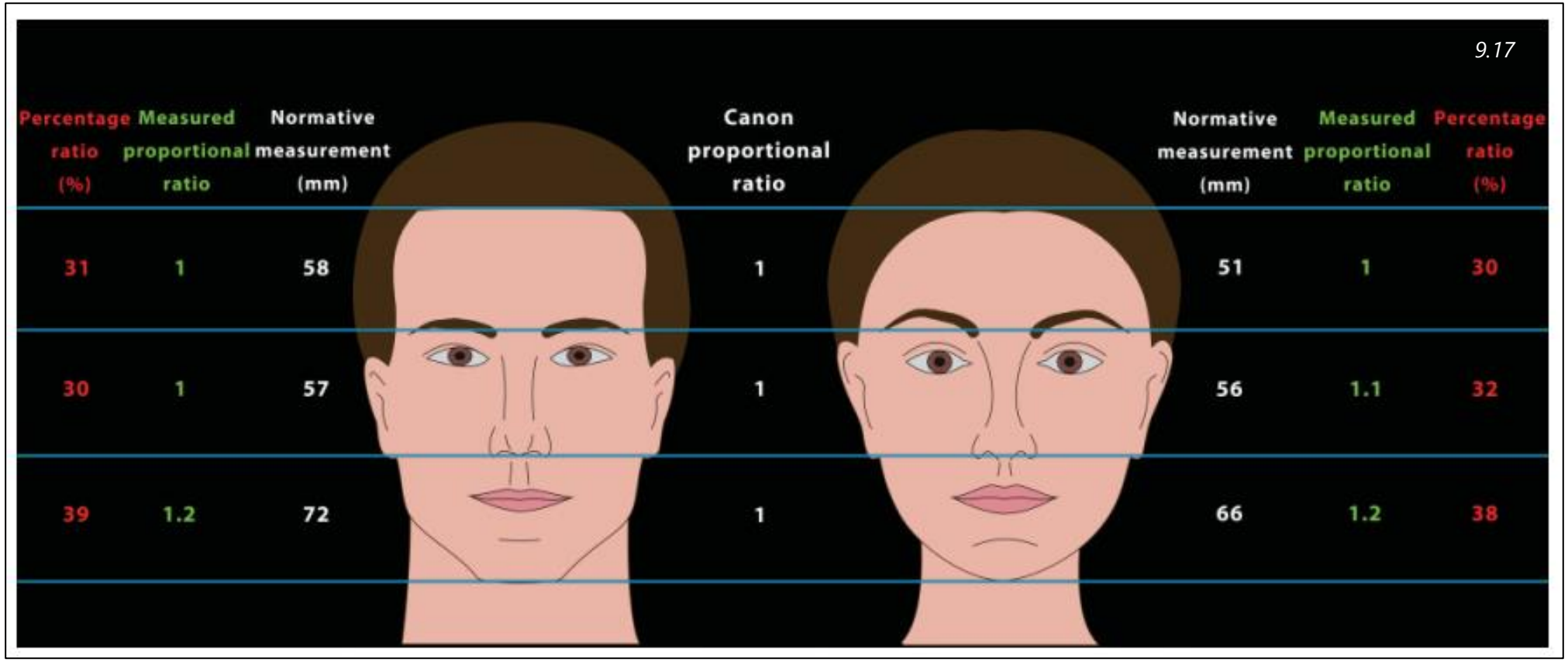
Anthropometric vertical facial measurements

Table 9.1 Anthropometric vertical facial measurements

	Age (years)	Lower anterior face height (LAFH): subnasale – menton (mm)	Middle anterior face height (MAFH): glabella – subnasale (mm)	Upper anterior face height (UAFH): trichion – glabella (mm)	Total anterior face height (TAFH): trichion – menton (mm)
Male	12	65 (SD 5)	55	54 (SD 7)	174 (SD 9)
	18	72 (SD 5)	57	58 (SD 7)	187 (SD 8)
Female	12	65 (SD 4)	54	50 (SD 6)	169 (SD 7)
	18	66 (SD 5)	56	51 (SD 6)	173 (SD 8)

SD, standard deviation.
Figures are calculated and modified from original data by Farkas, [12] based on adult North American white Caucasian Norms.
Middle anterior face height data not provided by Farkas, [12] therefore calculated: MAFH = TAFH – (LAFH + UAFH).

The facial trisection



Comparison of proportional canons with modern measured proportional