

Supplemental Digital Content 1. Definition of landmarks

Abbreviation	Variable	Definition
A	A Point	point of maximum concavity in the midline of the alveolar process of the maxilla
AGR/AGL	Antegonial notch	the highest point of the concavity of the lower border of the ramus where it joins the body of the mandible
ANS	Anterior nasal spine	the tip of the median, sharp bony process of the maxilla at the lower margin of the anterior nasal opening
ARR/ARL	Articulare	the most posterior point of the mandibular condyle
B	B Point	point of maximum concavity in the midline of the alveolar process of the mandible
BA	Basion	most inferior and posterior point on the most anterior margin of the foramen magnum
COR/COL	Condylion	most posterosuperior point of each mandibular condyle in the sagittal plane
Corneae R/L	Corneae	the most anterior point of cornea
ES	Ethmo-sphenoid	most superior point of the suture between ethmoid and sphenoid at the midline
FZR/FZL	Frontozygomatic Point	the most medial and anterior point of each frontozygomatic suture at the level of the lateral orbital rim
Gn	Gnathion	halfway between pogonion and menton on the symphysis, it is the most anterior/inferior point of the symphysis of the mandible
GOR/GOL	Gonion	point on the mandibular angle representing the intersection of the lines of the posterior ramus and the inferior border of the mandible
JR/JL	J point	the deepest point in the concavity of the maxilla on both sides
Men	Menton	most inferior midpoint of the chin on the outline of the mandibular symphysis
N	Nasion	Junction of the frontonasal suture at the most posterior point on the curve at the bridge of the nose
NcR/L	Nasal cavity point	nasal cavity widest points
OFR/OFL	Optic foramen point	the midpoint of the rim of optic foramen
OP	Opisthion	posterior midsagittal point on the posterior margin of foramen magnum
ORR/L	Orbitale	most inferior point of each infraorbital rim
PNS	Posterior Nasal Spine	most posterior midpoint of the posterior nasal spine of the palatine bone.
PoR/L	Porion	most superior point of each external acoustic meatus
Pog	Pogonion	most anterior midpoint of the chin on the outline of the mandibular symphysis
PPmR/mL	Medial pterygoid plate	most anterior point of the medial pterygoid plate at the pterygomaxillary fissure
PPR/L	lateral pterygoid plate	most lateral point of the most inferior portion of lateral pterygoid plate
Ro	Rhinion	the anterior tip at the end of the suture of the nasal bones
S	Sella	center of the hypophyseal fossa
SO	Spheno-occipital Synchronosis	most anterior point on the midline of the occipital bone at the spheno-occipital synchronosis
UORR/L	orbital uppermost point	uppermost points on the roof of the orbit
ZMR/L	Zygomaticomaxillary suture point	point at the zygomaticomaxillary suture on the anterior margin of the inferior orbital rim on each side

ZPR/L

Zygoma peak point

the farrest point to the zygomatic self-base plane. The self-base plane was produced by the 3 midpoints of the 3 sutures around zygoma, the zygomaticomaxillary suture, zygomaticotemporal suture and zygomaticofrontal suture.
