PUBERTY STATUS RECORDING FORM

Site **Skeleton:**

Age:

Sex:

Puberty Status: Pre Acc PHV Dec Mat Post PHV Menarche reached Y/N

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1. Sex Assessment

Using features of the humerus, pelvis and mandible, estimate the sex of the individual. Three areas need to agree for sex to be assigned to an individual with an unfused innominate (nr=not recordable):

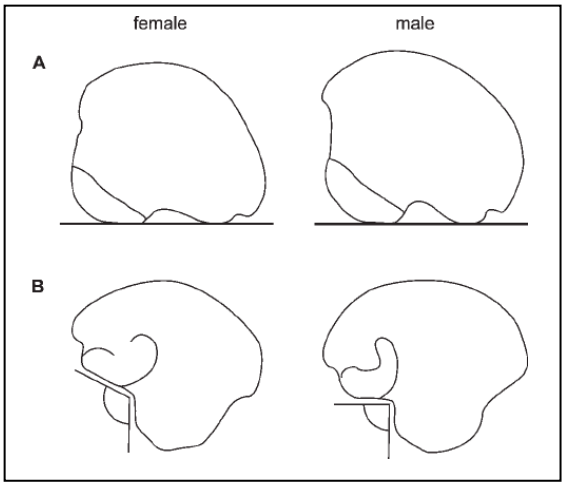
PELVIS	Male	Male?	?	Female?	Female	nr
Sciatic notch depth						
Sciatic notch angle						
Auricular elevation						
Pubis morphology						

SKULL	Male	Male?	?	Female?	Female	nr
Mental prominence						
Skull (over 17 yrs)						

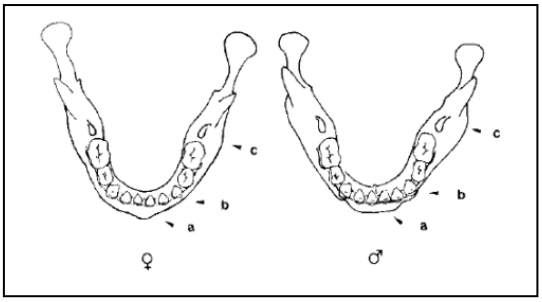
HUMERUS	Male	Male?	?	Female?	Female	nr
Trochlear symmetry						
Olecranon fossa						
Medial epicondyle						

Sex assessment: _____

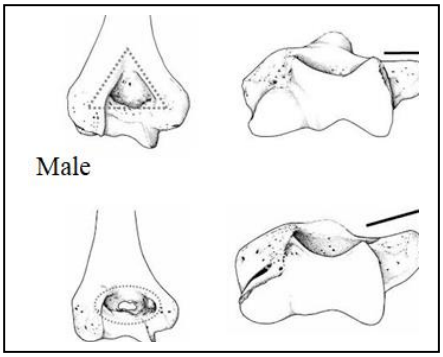
Method	M	F	Reference
Ilium			
Greater sciatic notch depth	shallow	deep	Schutkowski (1993)
Greater sciatic notch angle	under 90°	Over 90°	Schutkowski (1993)
Auricular surface elevation	Flat compared to retroauricular area	Same level as retroauricular area	Weaver (1980)
Humerus			
Olecranon fossa shape	triangle	oval	Rogers (2009)
Trochlear symmetry	asymmetrical	symmetrical	Rogers (2009)
Medial epicondyle	Parallel with table	Raised above table	Rogers (2009)
Mandible			
Chin shape	Square/flat	pointed	Schutkowski (1993)



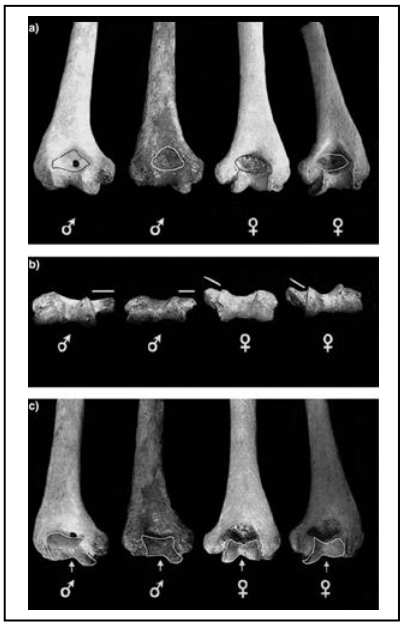
Source: Vlak D, Roksandic M and Schillaci, M (2008) Greater sciatic notch as a sex indicator in juveniles. AJPA 137(3): 310.



Source: Schutkowski H. (1993) Sex determination of infant and juvenile skeletons: I. Morphognostic features. AJPA 90(2): 199-205.



Source: Vance V, Steyn M and L'abbé, E. (2011) Nonmetric sex determination from the distal and posterior humerus in black and white South Africans. Journal of forensic sciences 56(3): 710-4.



Source: Falys et al. 2005. The distal humerus – a blind test of Rogers' sexing technique using a documented collection. JFS 50(6): 1290

2. Independent age assessment

Assign a dental or skeletal age based on the methods below.

DENTAL AGE	Developmental stage of mandibular dentition
Observed teeth (Moorrees et al. 1963, 1964)	
M3 (Liversidge and Marsden, 2010)	

SKELETAL AGE (Schaefer et al. 2009)	Unfused (1)	Fusing (2)	Complete (3)	nr
Annular rings (t)				
Annular rings (L)				
Sacrum S1-2				
Medial clavicle				
Acetabular epiphysis				
Ischial epiphysis				

Age assessment: _____

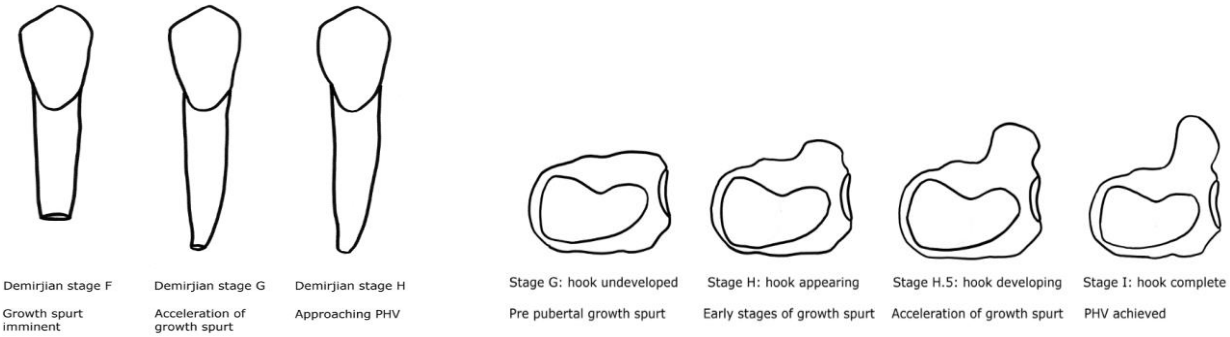
3. Pubertal stage Assessment

To assess pubertal stage apply each individual method using the diagrams below for (nr=not recordable):

- Mandibular canine calcification
- Hook of hamate development
- Fusion of the hand phalanges
- Fusion of the distal radius and humerus
- Fusion of the proximal ulna
- Presence and fusion of the iliac crest
- Morphology of the cervical vertebral body

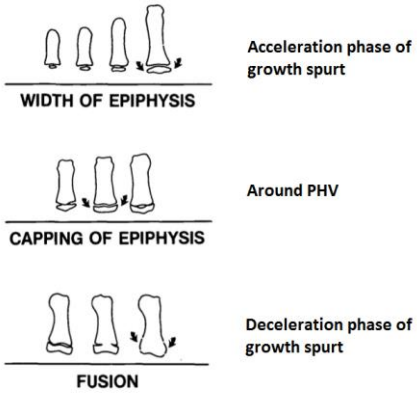
Hamate development: G H H.5 I nr

Canine root development: E F G H nr

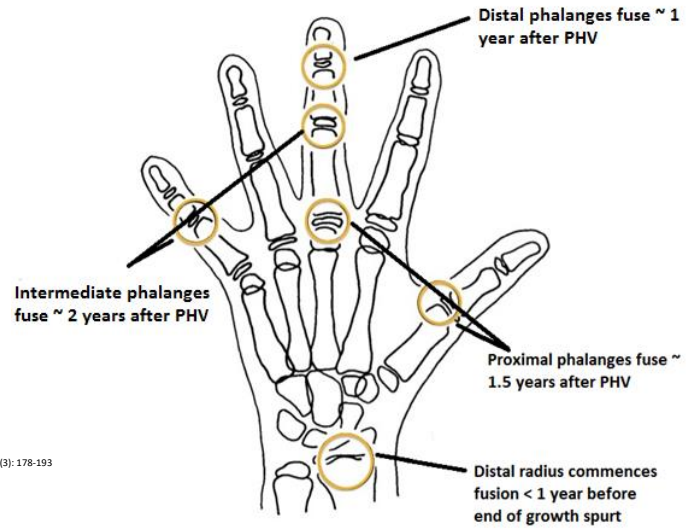


WRIST, ELBOW	Unfused (1)	Fusing (2)	Complete (3)	nr
Distal radius				
Proximal ulna				
Capitulum of humerus				

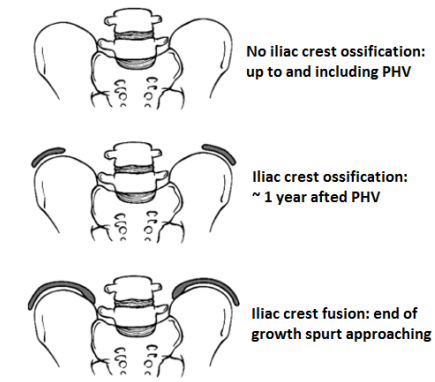
HAND	Unfused (1)	Fusing (2)	Complete (3)	Equal width	Capped	nr
Proximal Phalanges						
Middle Phalanges						
Distal Phalanges						
MC1						
MC 2-5						



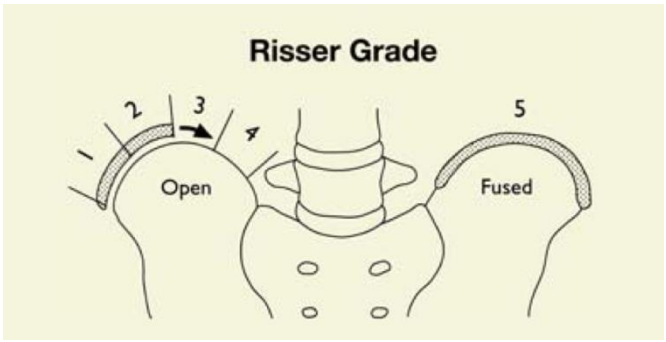
Source; both images from Fishman L (1987) Maturational Patterns and Prediction During Adolescence. The Angle Orthodontist 57 (3): 178-193



PELVIS	Unfused (1)	Fusing (2)	Complete (3)	nr
Iliac crest				



Adapted from: Birang (2008) Estimation of chronological age according to Risser's sign. Iran J. Radiol



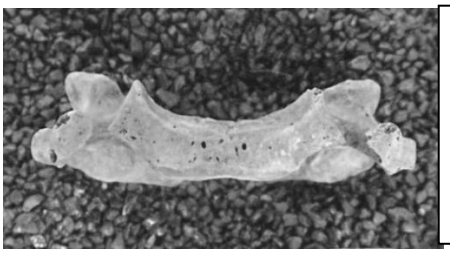
Source: https://www.scoliosis-australia.org/policies-programs/role-of-the-radiologist/

The ossification of the iliac crest correlates with menarche in girls. BUT absence of the iliac crest cannot be taken as evidence of a lack of ossification, as this epiphysis may not survive or be missed during excavation.

Iliac crest ossified but unfused epiphysis? Y/N

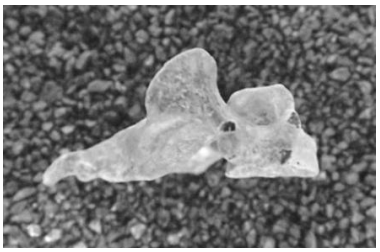
CVM	Developmental Stage
C3	
C4	
C5	

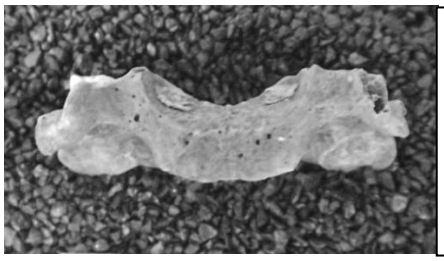
Dry bone examples and description of each CVM stage in C3 (Shapland and Lewis, 2014)



Stage 1: Initiation

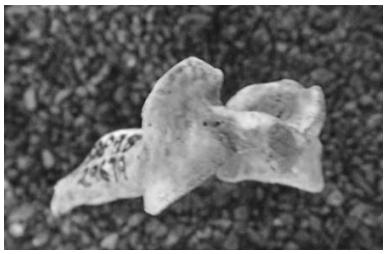
Inferior border flat, vertebral body wedge shaped

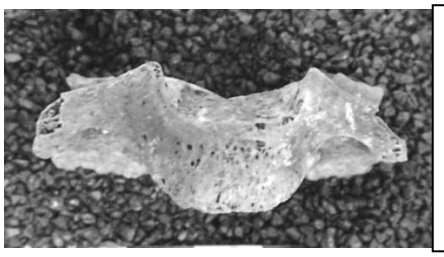




Stage 2: Acceleration

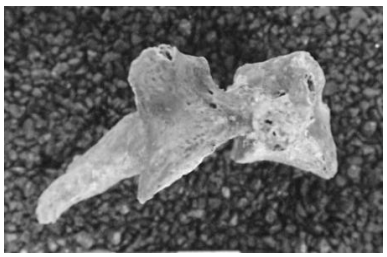
Concavity appearing in inferior border, body nearly rectangular in shape





Stage 3: Transition

Concavity developing in inferior border, body rectangular in shape



Stage 4: Deceleration

Distinct concavity in inferior border, body nearly square in shape

Stage 5: Maturation

Accentuated concavity in inferior border, body square in shape

Stage 6: Completion

Deep concavity in inferior border, body taller than it is wide