

Smt. NHL MUNICIPAL MEDICAL COLLEGE,

AHMEDABAD.

**DEPARTMENT OF
FORENSIC MEDICINE & TOXICOLOGY**

PRACTICAL RECORD BOOK

UNIVERSITY ROLL NO.: _____

CERTIFICATE

This is to certify that Mr. / Miss / _____

having Roll No. _____ has satisfactorily completed and

presented the Practical Record Book for the University Practical Examination to

be held in the months of _____ in the year _____.

Signature & Date

**Assistant Professor/Teacher
Dept. of Forensic Medicine
Smt. NHLMMC,
Ahmedabad – 06.**

Signature & Date

**Professor & Head
Dept. of Forensic Medicine
Smt. NHLMMC,
Ahmedabad – 06.**

N.B.: Appeared for preliminary examination.

Signature & Date

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EXERCISE NO. 1 DYING DECLARATION

Competency No. FM14.20

To record and certify dying declaration in a simulated/supervised environment.

[Core Competency, Domain - Shows, Level - Knows How]

SLO No.	SPECIFIC LEARNING OBJECTIVE	Domain	Level
FM14.20.1	The student should be able to describe the differences between dying declaration & dying deposition and its implementation in a medico legal case correctly.	K	KH
FM14.20.2	The student should be able to enumerate all the pre-requisites for recording dying declaration.	S	KH
FM14.20.3	The student should be able to certify compose mentis before recording dying declaration correctly.	S	KH
FM14.20.4	The student should be able to record the dying declaration procedure (including detailed knowledge about No oath, language, leading question, content, and signature) of dying declaration correctly.	C & S	KH
FM14.20.5	The student should be able to describe the medico legal importance of dying declaration correctly.	S	KH

FM14.20.1 Enumerate differences between

	Dying declaration	&	Dying deposition.
1. recorded by:	magistrate, doctor, police or village headman		Judicial officer
2. oath:	not required		required
3. presence of accused and his lawyer:	not present		yes
4. cross examination:	not done		yes
5. type of evidence:	documentary		oral
6. prevalence in India:	yes		no
7. legal value:	yes but less than legal value of D.deposition		more
8. if patient survives?:	ceases value		retains legal value

FM14.20.2 Enumerate pre requisites for recording dying declaration.

1. Doctor must certify that the declarant is mentally fit i.e. compos mentis to make a statement.
2. Must be in vernacular of the declarant. Where the statement was in Urdu and the magistrate recorded it in English but the precaution was taken in explaining every statement to the deceased by another person, it was held that the statement was the valid dying declaration.
3. Leading questions are not permitted.
4. Statement must be on facts, not on judgment or opinion.
5. Oath is not necessary.

FM14.20.5 Medico legal importance of dying declaration.

1. The statement relating to the cause of death or circumstance of the death is admissible.
2. It is the example of the hearsay evidence. However it is admissible in the court.
3. The statement by SMS or Email is also admissible as a dying declaration.

4. If patient survives D.D. is inadmissible. The declarant can be used as a witness in the court against the accused.
5. Dying declaration must be admitted as whole.
6. If two dying declarations given by the patient/deceased differ, none has its legal value. Multiple dying declarations can be relied upon without corroboration if there is consistency in all the dying declaration. If all the dying declarations are similar to each other than it can be admissible. If all the dying declaration does not match, then the court will examine the facts of the case with the dying declaration or examine the witnesses.
7. The victim should not be under any expectation of death.

FM14.20.3 & FM14.20.4: Recording of DYING DECLARATION

Patient Name: XYZ Sex: female Age: 28yrs

Address: *****

Reg. No.:### MLC No.##### P.S.: ***

Provisional Diagnosis: burn

Time & Date of admission:
9.00 am 1/1/2021

Location of patient: (ward & hospital)

ward 1 /bed 1

Identification marks:

- 1. Linear 3 cm long vertical brown scar on right cheek, 2 c lateral to right angle of mouth.
- 2. Tattoo depicting XYZ with black ink on about mid of ventral aspect of right forearm

Compos Mentis: Pulse: 88/m Blood Pressure: 110/88 mm of Hg

Temp: 97.8 F Respiratory Rate 14/min, GCS: 15 out of 15.

Orientation to time, place and person:

Ability to speak: yes, Ability to hear: yes

Ability to move head, neck and hands: yes

Time & date of Commencement of recording of statement:

11.00 am 1/1/2021

Mode of statement: writing / speech/ gesture/ other

Body of statement: (in patients' own words only)

Early in the morning at about 7 a.m. today i.e. 1/1/2021 while making tea on kerosene stove , stove burst and kerosene poured on sari and sari caught flame. She was alone at home and she shouted and rushed out of home. Neighbors quenched the fire with water and called the ambulance to get her admitted.

Early in the morning at about 7 a.m. today i.e. 1/1/2021 while making tea on kerosene stove , stove burst and kerosene poured on sari and sari caught flame. She was alone at home and she shouted and rushed out of home. Neighbors quenched the fire with water and called the ambulance to get her admitted.

(Read over the contents to patient and seek confirmation of contents)

Signature / Thumb impression

Time & date of Completion of recording of statement:
11.55 a.m. 1/1/2021

Compos Mentis: Pulse: 88/m Blood Pressure: 110/88 mm of Hg

Temp: 97.8 F Respiratory Rate 14/min, GCS: 15 out of 15.

Orientation to time, place and person:

Ability to speak: yes, Ability to hear: yes

Ability to move head, neck and hands: yes

Name of RMP: ABC

Reg No.: %%%%

Signature:

Date: 1/1/2021

Seal of Designation:

NB: The statement is sealed and labeled condition to be handed over to concerned police and acknowledgment of receipt to be taken and to be maintained with records.

EXERCISE NO. 2 LEGAL PROCEDURES

Competency No. FM14.22

To give expert medical /medico-legal evidence in Court of law.

[Core Competency, Domain - Skill, Level - Knows How]

SLO No.	SPECIFIC LEARNING OBJECTIVE	Domain	Level
FM14.22.1	The student should be able to describe all the contents of the summons issued to a doctor to appear in the court of law with its legal importance for giving expert evidence in simulated environment.	S	KH
FM14.22.2	The student should be able to take oath properly before giving evidence in simulated environment.	S	P
FM14.22.3	The student should be able to describe the all the designation of the personnel present in the court of law during evidence recording and their functions in simulated environment.	S	P
FM14.22.4	The student should be able to carry out all his duties during examination in chief, cross examination, re-examination and court questions in simulated environment.	S	P

a) Fill up following details from specimen summons provided:

How this summons shall be received?

-Every summon shall be served by a **police officer**, or by an officer of the court issuing it or any other public servant. The summon shall if practical, be served personally on the person summoned, by delivering or tendering to him one of the duplicates of the summons.

Type of the case: criminal

Name & Type of the court: Bhadra, Ahmadabad session court no3

Date & Time of testimony: 1/1/2021 at 11.00 am

Sections under which the crime is registered: 302 IPC

b) What is Examination in chief? First, the party that called the witness examines him, this process is called examination-in-chief as mentioned under Section 137 of the Indian Evidence Act, for the purpose of eliciting from the witness all the material facts within his knowledge which tend to prove the party's case.

c) What is Cross examination? After the completion of the examination-in-chief, if the opposite party wants to, they can take over the witness and cross-question him about his previous answers. The opposite party may ask him any question regarding all the relevant facts and not merely the facts discussed during the examination-in-chief. This process has been described in Section 137 of the act as **cross-examination to test the credibility of statements made during direct examination.**

d) What is Re Examination? If the party that called the witness sees the need to examine the witness again after cross-examination, they may examine the witness one more time. This has been laid down as **re-examination** in Section 137 of the Indian Evidence Act, 1872. Section 138 states that the re-examination must be directed by the Court for explaining matters referred to in cross-examination. The section further states that if any new fact or issue arises during re-examination, the opposite party can further cross-examine the witness on that fact or issue.

EXERCISE NO. 3 EXAMINATION OF BONES AND TEETH

Competency No. FM3.1

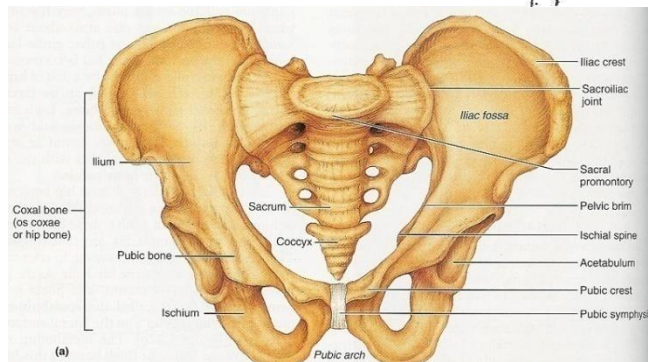
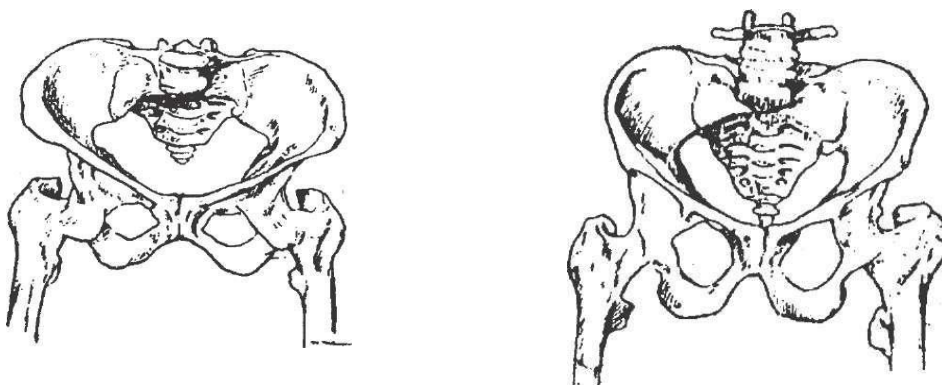
IDENTIFICATION: Define and describe Corpus Delicti, establishment of identity of living persons including race, sex, religion, complexion, stature, age determination using morphology of teeth eruption, decay, bite marks, bones – ossification centers, medico legal aspects of age.

[Core Competency, Domain - knowledge, Level - Knows How]

SLO No.	SPECIFIC LEARNING OBJECTIVE	Domain	Level
FM3.1.1	The student should be able to define and describe Corpus delicti & describe importance of establishment of identity of living person in criminal & civil cases correctly.	K	KH
FM3.1.2	The student should be able to describe identification of race from stature, complexion, hair color, iris and bones etc., correctly.	K	KH
FM3.1.3	The student should be able to describe identification of sex by general physical examination with examination of secondary sexual characteristics and bones correctly.	K	KH, SH
FM3.1.4	The student should be able to describe identification of age by general physical examination, secondary sexual characteristics, dental examination (eruption & decay) and radiological examination of various bones for ossification correctly.	K	KH, SH

FM3.1.3

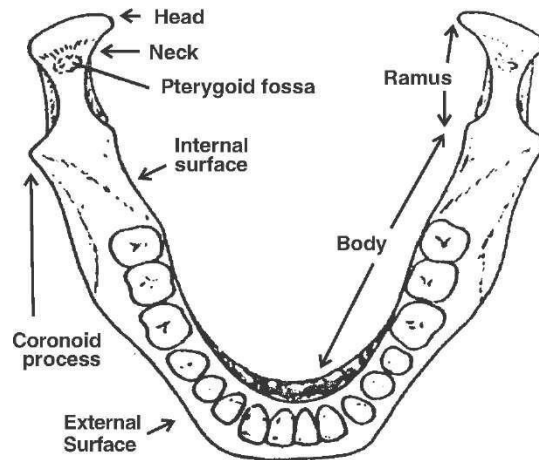
[a] Label visible parts of bone in the sketch.



← Answer. FM3.1.3[a]

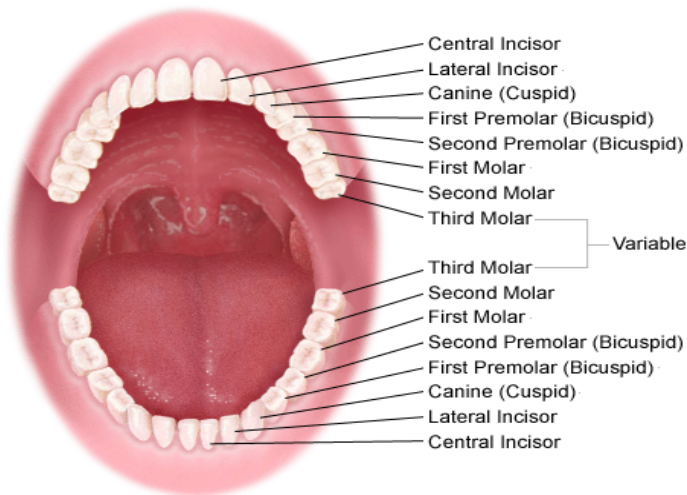
[b] Enumerate specific traits of dimorphism in:

	MALE PELVIS	FEMALE PELVIS
General ,size, wall, surface, muscle, capacity	larger, heavier, massive, rigged, rough surface, capacity 1500-1550 ml, thick wall	smaller, lighter, less massive, smooth surface, capacity 1350-1400ml, thin wall
Forehead	less round	full and round
Glabella	prominent	less prominent
Nasal Angulation	distinct angle	simple curve
Orbits	smaller, lower level, square shape, round margin	larger, upper level, round, margins sharp
Nasal Aperture	upper level, narrow	lower level, broader
bony ridge along upper border of Ext Auditory Meatus	prominent	less prominent
Supraorbital Ridge	prominent	less prominent
Zygomatic Arch	prominent, laterally arched	less prominent, more compressed
Frontal Eminence	small, round	large, prominent
Parietal Eminence	small, round	large, prominent
Frontal Sinuses	more developed, larger	less developed, smaller
Maxillary Sinuses	more developed, larger	less developed, smaller
Occipital Protrubence	prominent	less prominent
Occipital Condyles	larger	smaller
Mastoid	larger, tip blunt, M type	smaller, tip pointed, F type
Digastric Groove	deeper	shallower
Palate	larger, broader, U shaped	narrower, smaller, Parabolic shape
Foramina	larger	narrower
Foramen Magnum	larger, oblong	smaller , round
Teeth	larger	smaller



FM 3.1.4 [a] Label each permanent tooth in the sketch above.

Teeth



← Answer:3.1.4 [a]

[b] Mention age of eruption of permanent teeth.

Answer:

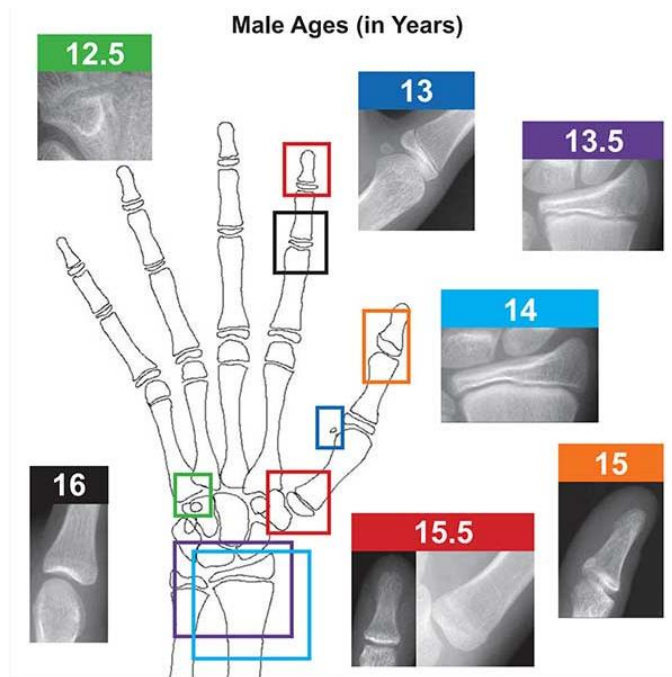
name of tooth	age in years
1 st molar	6
central incisor	7
lateral incisor	8
1 st premolar	9
2 nd premolar	10
canine	11
2 nd molar	12-14
3 rd molar	17-25

[c] X-Ray reporting: -

i) Wrist joint:



Answer: See key Below



Answer: Pisiform bone has appeared.[9-12 years]. Distal end of radius is not fused with shaft.[16-17 years]. non closure of thumb metacarpal and physis of phalanges [13-15]. So age is between 9 to 13 years.



Exercise:1

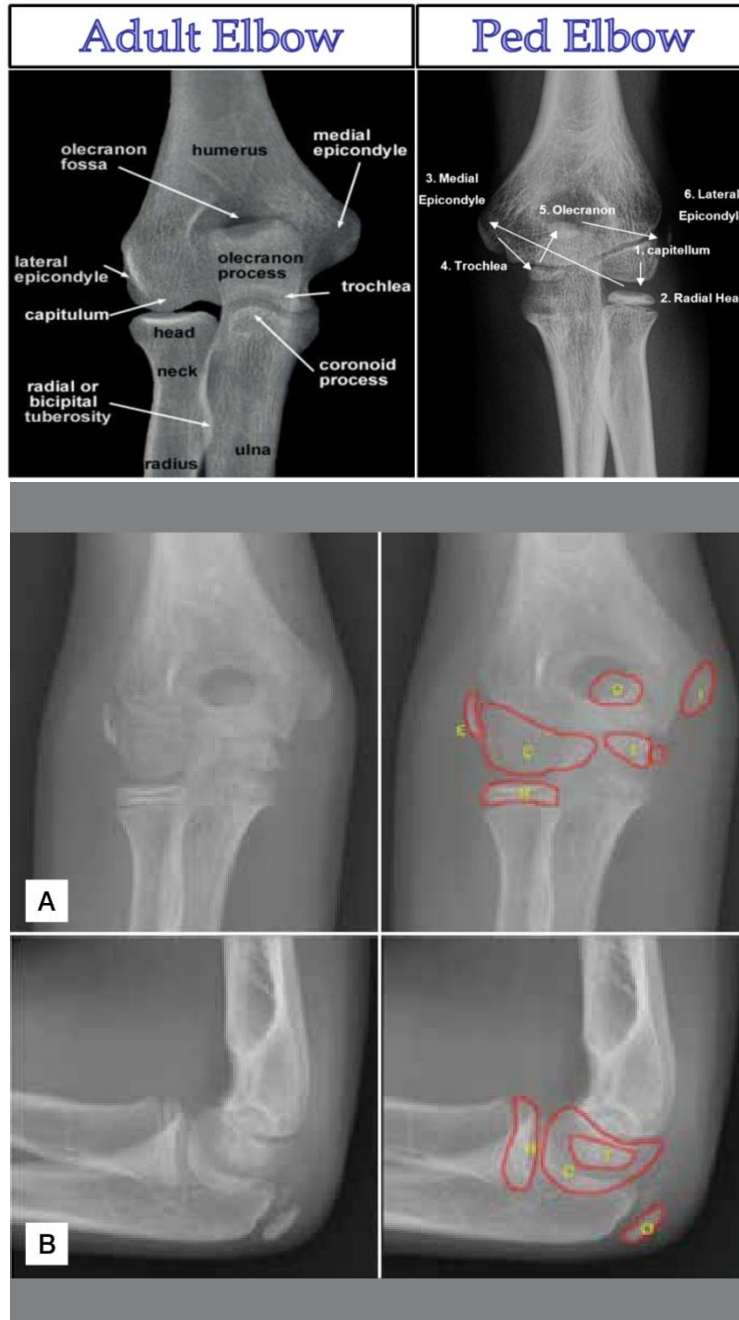
Answer: Pisiform bone has appeared.[9-12 years]. Distal end of radius is not fused with shaft.[16-17 years]. non closure of thumb metacarpal and physis of phalanges [13-15]. So age is between 9 to 13 years.



Exercise:2

Answer : Pisiform bone has appeared.[9-12 years]. Distal end of radius and ulna fused with their respective shaft. shaft.[16-17 years]. Age is more than 16 years.

ii) Elbow joint: See Keys below.



Anterior-posterior (A) and lateral (B) elbow radiographs of a boy with 11 years and six months old. Elbow ossification centers were identified by: C-Capitulum; R-Radius head; I-Medial epicondyle; T-Trochlea; O-Olecranon; E-Lateral epicondyle.

Elbow Ossification Centers

Capitellum: **1** Y
Radial head: **5** Y
Int. epicondyle: **5** Y
Trochea: **10**Y
Olecranon: **9** Y
Ext. epicondyle: **11** Y

Mnemonic: "CRITOE"

M: medial / internal epicondyle
 L: Lateral / external epicondyle



Mnemonic: CRITOE

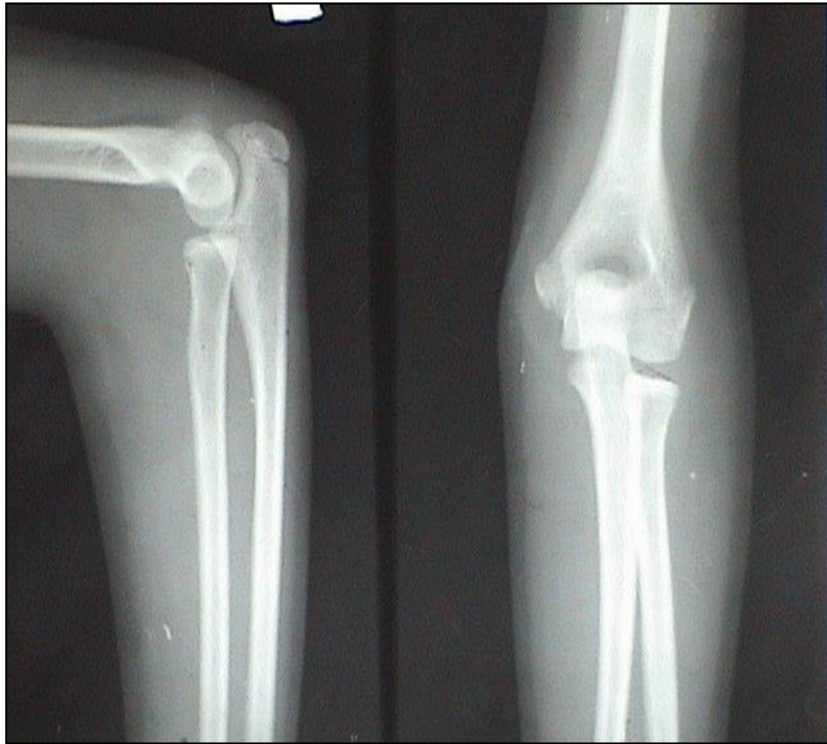


figure above shows union of conjoint epiphysis with shaft [at 14 in F and 15 in M] but Olecranon not united with shaft [13to 15 in F, 15 to17 in M]: age is between 14 to 15 years[F]/ 16to17[M].

Memory: Two counting methods are taught to help remember the ages at which the ossification centers appear: 1-3-5-7-9-11 (simple) and 1-5-7-10-10-11 (more accurate).

- Capitulum: 1 Year
- Radial Head: 3 Years
- Internal Epicondyle: 5 Years
- Trochlea: 7 Years
- Olecranon: 9 Years
- External Epicondyle: 11 Years

Mnemonic: CRITOE



Fig 1: Age 2: C

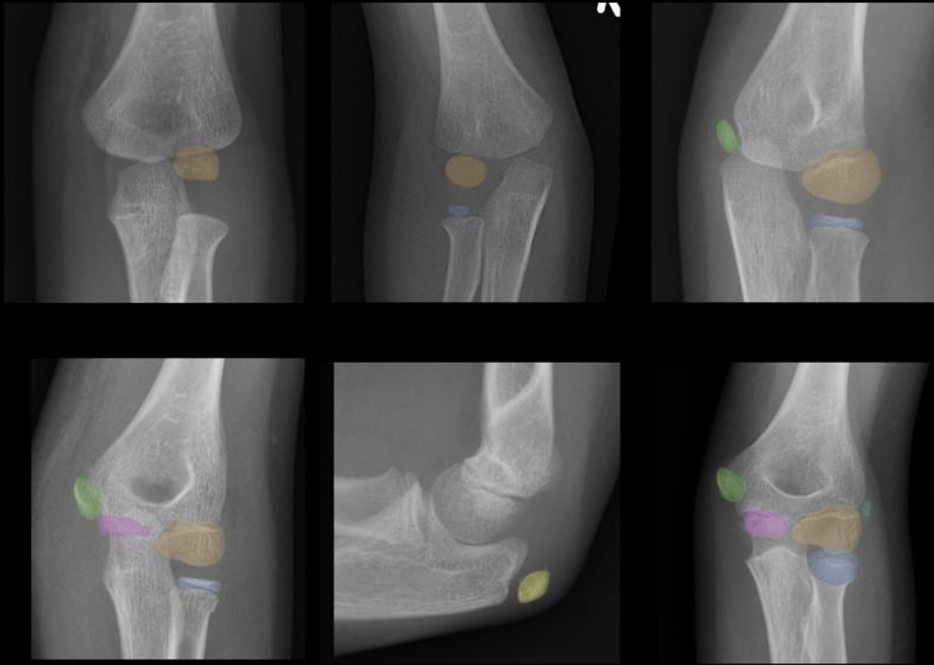
Fig 2: Age 4: CR

Fig 3: Age 5: CRI

Fig 4: Age 9: CRITO

Fig 5: Age 11: CRITOE

Ossification centers of elbow



C ◦ R ◦ I ◦ T ◦ O ◦ E

Capitulum humeri

Radius head

Internal/medial epicondylus

Trochlea humeri

Olecranon

External/lateral epicondylus

iii) Hip joint: Answer: head and greater trochanter are not united with the shaft of femur. Age is less than 17 years in a female or 19 years in a male.



iv) Knee joint:

Fig 1[below]: Lower end of femur and upper end of tibia and fibula not united with their respective shaft. Age is less than 18 years in a female or 22 years in a male.



Fig 2 [below] : Lower end of femur and upper end of tibia and fibula not united with their respective shaft. Age is less than 18 years in a female or 20 years in a male.



Fig 3 [below] : Lower end of femur and upper end of tibia and fibula found united with their respective shaft. Age is more than 18 years in a female or 20 years in a male.



Fig 4: Distal femoral epiphysis: [a] Stage 1, epiphysis is not fused; [b] Stage 2, epiphysis is fused, and epiphyseal scar is clearly visible, fully spreading on the whole length in a mediolateral direction, where lateral sides may not be completely ossified; [c] Stage 3, epiphysis is fully ossified and the traces of epiphyseal scar may be visible.



Fig 5 [above]: Lower end of tibia and fibula are not united with shaft [16 in F, 18 in M]

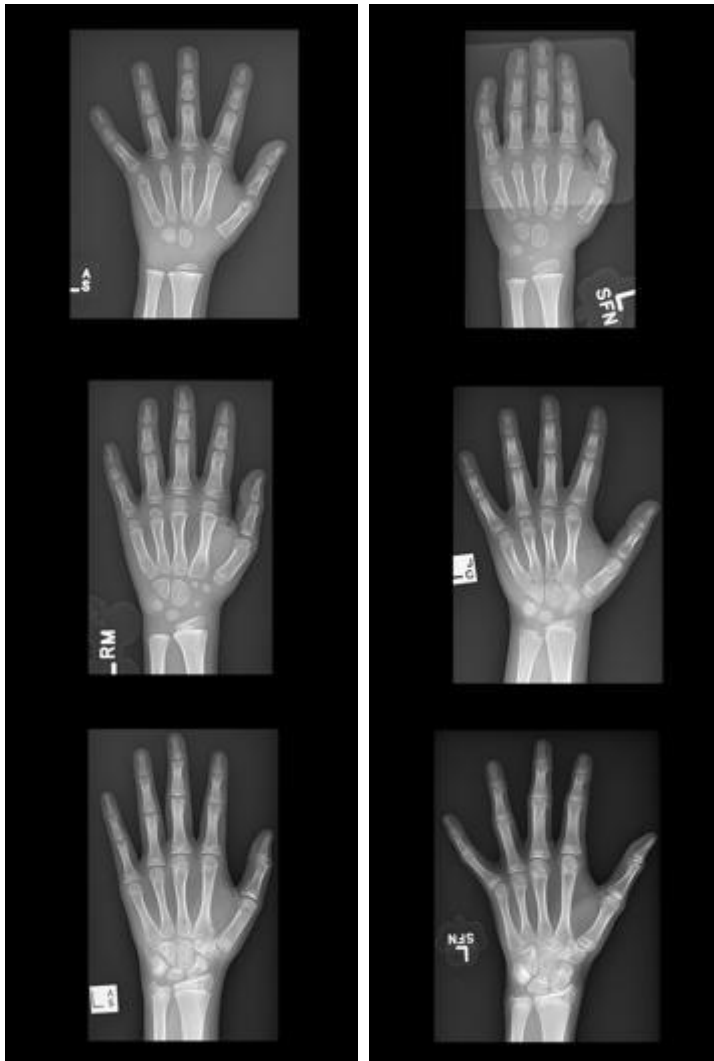


Figure 1: age 3mth, Figure 2: age 4 mth, Figure 3: age 8, Figure 4: age 10, Figure 5: age 13, Figure 6: age 15

Excluding the pisiform, a handy way to remember the order of ossification is to start at the capitate then move in an counterclockwise direction on the volar surface of the right carpus. At birth, there is no calcification in the carpal bones. Although there is great individual variability, approximate ossification times are as follows (visible on x-ray):

- capitate: 1-3 months
- hamate: 2-4 months
- triquetral: 2-3 years
- lunate: 2-4 years
- scaphoid: 4-6 years
- trapezium: 4-6 years
- trapezoid: 4-6 years
- pisiform: 8-12 years

Secondary ossification centers

- metacarpal heads: 1-2 years and fuse at 14-19 years
- phalangeal bases: 1-3 years and fuse at 14-19 years



Fig: plain chest radiograph, the arrow shows the non-ossified epiphyseal cartilage

EXERCISE NO. 4 AGE ESTIMATION

Competency No. FM14.4

Conduct and prepare report of estimation of age of a person for medico legal and other purposes & prepare medico-legal report in a simulated/supervised environment.

[Core Competency, Domain - Skill, Level - Knows How]

SLO No.	SPECIFIC LEARNING OBJECTIVE	Domain	Level
FM14.4.1	The student should be able to document all the preliminary data of the case of age estimation and should be able to take consent of the subject & document two identification marks of case of age estimation in a simulated/supervised environment.	C	KH
FM14.4.2	The student should be able to describe general physical examination with secondary sexual characteristics in case of age estimation & deduce the approximate age from it in a simulated/supervised environment correctly.	S	KH
FM14.4.3	The student should be able to describe dental examination with its charting & deduce the approximate age from it in case of age estimation in a simulated/supervised environment correctly.	S	KH
FM14.4.4	The student should be able to analyze and decide to order relevant radiological examination, interpret the radiographs & deduce the age from the radiographs in a simulated/supervised environment correctly.	S	KH
FM14.4.5	The student should be able to incorporate findings of general physical examination, secondary sexual characteristics, dental parameters and radiological findings to estimate age of an individual in a simulated/supervised environment correctly.	S	KH
FM14.4.6	The student should be able to infer the opinion with particular date, signature, Name, designation, seal,) in a simulated/supervised environment correctly.	S	KH

a. Age estimation in Male

MLC No :

Place:

Time :

Date:

Sex :

Ref.No.:

Name :

Age as alleged:

Address :

Brought & Identified by (i)

(ii)

Consent (of Examinee / guardian):

Marks of Identification: 1.

2.

Height..... Weight..... General build & appearance.....

Chest Circumference.....

[A] Physical Examination: Scalp hair:

Moustache: Beard:

Pubic hair:

Chest hair:

Axillary hair:

Pomum adami:

Voice:

Arcus senilis:

Development of the external genitalia:

[B] Dental Examination (Palmer's Notation)

Temporary teeth

Permanent teeth

[C] X-ray investigations and findings:

Opinion: From physical, dental & radiological examination of,

I am of the opinion that the individual named as above is aged about Years.

Place:

Signature & Name of the

Dated:

Medical Officer

(a) Age estimation in Male

MLC No : Place:
Time : Date:
Sex : Ref.No.:
Name : Age as alleged:
Address :

Brought & Identified by (i)
(ii)

Consent (of Examinee / guardian):

Marks of Identification: 1.
2.

Height..... Weight..... General build & appearance.....
Chest Circumference.....

[A] Physical Examination: Scalp hair:

Moustache: Beard:

Pubic hair:

Chest hair:

Axillary hair:

Pomum adami:

Voice:

Arcus senilis:

Development of the external genitalia:

[B] Dental Examination (Palmer's Notation)

Temporary teeth

Permanent teeth

[C] X-ray investigations and findings:

Opinion: From physical, dental & radiological examination of,

I am of the opinion that the individual named as above is aged about years.

Place:

Signature & Name of the

Dated:

Medical Officer

(b) Age estimation in Female

MLC No : Place :
Time : Date :
Sex : Ref.No. :
Name : Age as alleged:
Address :

Brought & Identified by (i)
(ii)

Examined in the present of: (Female attendant) Name & Signature

Consent (of Examinee /guardian):

Marks of identification : 1.
2.

Height..... Weight..... General build & appearance.....

[A] Physical Examination

Development of breasts :

Date of menarche :

Date of L.M.P :

Hair: Axillary :

Pubic :

[B] Dental Examination (Palmer's Notation)

Temporary teeth :

Permanent teeth :

Any additional findings:

[C] X-ray investigations and findings:

Opinion: From physical, dental & radiological examination of.....

I am of the opinion that the individual named as above is aged about Years.

Place:

Signature & Name of the

Dated:

Medical Officer

(b) Age estimation in Female

MLC No : Place :
Time : Date :
Sex : Ref.No. :
Name : Age as alleged:
Address :

Brought & Identified by (i)

(ii)

Examined in the present of: (Female attendant) Name & Signature

Consent (of Examinee /guardian):

Marks of identification : 1.

2.

Height..... Weight..... General build & appearance.....

[A] Physical Examination

Development of breasts :

Date of menarche :

Date of L.M.P :

Hair: Axillary :

Pubic :

[B] Dental Examination (Palmer's Notation)

Temporary teeth :

Permanent teeth :

Any additional findings:

[C] X-ray investigations and findings:

Opinion: From physical, dental & radiological examination of.....

I am of the opinion that the individual named as above is aged about Years.

Place:

Signature & Name of the

Dated:

Medical Officer