Identification

DR MOUSAMI SINGH
ADDITIONAL PROFESSOR
FORENSIC MEDICINE AND TOXICOLOGY
KGMU
DISCLAIMER

▷ The presentation include images which are either hand drawn or have been taken from Google images or books.

▷ They are being used in presentation only for educational purpose.

▷ The author of the presentation claims no personal ownership over images taken from books or Google images.
Learning objective

▷ Corpus Delicti

▷ Establishment of identity of living persons including race, Sex, religion, complexion, stature

▷ age determination using morphology, teeth-eruption, decay, bitemarks, bones-ossification centres

▷ medico-legal aspects of age
Identification of criminals, unknown persons, dead bodies from the remains-hairs, fibers, teeth

Anthropometry

Dactylography

Footprints

Scars

Tattoos

Poroscopy and superimposition
Dental charting
### FDI Two Digit Notation

#### Permanent Teeth

<table>
<thead>
<tr>
<th>Upper Right</th>
<th>Upper Left</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 17 16 15 14 13 12 11</td>
<td>21 22 23 24 25 26 27 28</td>
</tr>
<tr>
<td>48 47 46 45 44 43 42 41</td>
<td>31 32 33 34 35 36 37 38</td>
</tr>
<tr>
<td><strong>Lower Right</strong></td>
<td><strong>Lower Left</strong></td>
</tr>
</tbody>
</table>

#### Deciduous Teeth (Baby Teeth)

<table>
<thead>
<tr>
<th>Upper Right</th>
<th>Upper Left</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 54 53 52 51</td>
<td>61 62 63 64 65</td>
</tr>
<tr>
<td>85 84 83 82 81</td>
<td>71 72 73 74 75</td>
</tr>
<tr>
<td><strong>Lower Right</strong></td>
<td><strong>Lower Left</strong></td>
</tr>
</tbody>
</table>
AGE DETERMINATION
FROM SECONDARY SEXUAL CHARACTERS
TANNER’S STAGING

- BEST KNOWN STAGING OF SECONDARY SEXUAL CHARACTERS
- SMR or Sexual Maturity Ratings
Tanner’s stages of breast development (girls)
Tanner’s stages of genital development (boys)
Tanner’s stages of pubic hair development (both sexes)
Tanner - 10

I . . . (1) 10 yr.
nothing.

II o (1) 11 yr.
Breast buds form Thelarche

III o (3) gr. 13 yr.
Breast mound forms Thelarche

Stage I is flat (flat appearing chest)

IV . . . (14) yr.
Tubercle, nipple points above areola

V = 15 yr.
Pointy nipple

V-15 adult

One mound again

Aureola flattened.
Tanner’s stages of breast development (girls)
TANNER STAGE'S OF GENITAL DEVELOPMENT (BOYS)

1. nothing
2. grow
3. long
4. wide
5. adult
TANNER STAGE’S OF PUBIC HAIR DEVELOPMENT (BOTH SEXES)
Age estimation from ossification activity
1. Formation of bone collar around hyaline cartilage model.
2. Cavitation of the hyaline cartilage within the cartilage model.
3. Invasion of internal cavities by the periosteal bud and spongy bone formation.
4. Formation of the medullary cavity as ossification continues; appearance of secondary ossification centers in the epiphyses in preparation for stage 5.
5. Ossification of the epiphyses; when completed, hyaline cartilage remains only in the epiphyseal plates and articular cartilages.
Hand and wrist joint
Fig. 441.—The bones of the hand of a child, indicating the general plan of ossification.

- App. 8th wk.
- Unite 18th-20th yr.
- App. 4th-5th yr.
- App. 12th wk.
- Unite 18th-20th yr.
- App. 4th-5th yr.
- App. 10th wk.
- Unite 18th-20th yr.
- App. 3rd-4th yr.
- App. 3rd yr.
- Unite 20th yr.
- App. 8th wk.
- App. 9th wk.
- Unite 20th yr.
- App. 3rd yr.
- App. 3rd yr.
- Trapezium—6th yr.
- Trapeziod—7th-8th yr.
- Capitate—1st yr.
- Scaphoid—6th yr.
- Hamate—2nd-3rd yr.
- Pisiform—10th-12th yr.
- Triquetral—3rd yr.
- Lunate—6th-7th yr.

© www.prohealthsys.com
The image contains a diagram with labels and a clock-like arrangement. Here are the details:

- **Clock-like Arrangement:**
  - 12: Pisiform
  - 1: Capitate
  - 2: Hamate
  - 3: Triquetal
  - 4: Lunate
  - 5: Scaphoid
  - 6: Trapezoid
  - 7: Trapezium

- **Diagram:**
  - The diagram includes a sequence of numbers (1, 2, 3, 4, 5, 6, 7, 9) with arrows connecting them, possibly indicating a process or sequence.
  - The letters CT are highlighted.
  - The number 3 is adjacent to the letters TP.
  - The number 9 is at the bottom right.
METACARPALS
PHALANGES
Fig. 441.—The bones of the hand of a child, indicating the general plan of ossification.

- **Hamate**: 2nd-3rd yr.
- **Pisiform**: 10th-12th yr.
- **Triquetral**: 3rd yr.
- **Lunate**: 6th-7th yr.
- **Scaphoid**: 6th yr.
- **Trapezoid**: 7th-8th yr.
- **Trapezium**: 6th yr.
- **Capitate**: 1st yr.
- **Unite 18th-20th yr.**
- **App. 8th wk.**
- **App. 3rd yr.**
- **App. 3rd-4th yr.**
- **Unite 20th yr.**
- **Unite 18th-20th yr.**
- **App. 3rd yr.**
- **App. 3rd-4th yr.**
- **App. 8th wk.**
- **App. 9th wk.**
- **Unite 20th yr.**
- **App. 8th wk.**
OLECRANON OR ULNAR HEAD
ELBOW JOINT
CRITOL

- C 1
- R 5
- I 6
- T 10
- O 11
- L 12
SHOULDER JOINT
SHOULDER JOINT
HIP BONE
<table>
<thead>
<tr>
<th>NAME /sex</th>
<th>Date of birth</th>
<th>X ray advised</th>
<th>Finding seen</th>
<th>description as per findings</th>
<th>Age inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>X/female</td>
<td>5/9/06</td>
<td>HAND &amp; WRIST</td>
<td>1. Radius lower end appeared and not get fused yet.</td>
<td>in girls it appeared in 1 yrs and fused in 17-18 yrs</td>
<td>&lt;17 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Ulna lower end appeared and not fused.</td>
<td>in girls it appeared in 5-6 yrs and fused in 17 yrs</td>
<td>&lt;17 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Pisiform appeared</td>
<td>in girls it appears in 9-12 yrs</td>
<td>&gt; 9 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. bases of proximal phalanges appeared and not fused</td>
<td>in girls it appeared in 5-7 yrs and fused in 15-17 yrs</td>
<td>&lt;15 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ELBOW JOINT</td>
<td>1. Radius head appeared and not fused</td>
<td>in girls it appeared in 5-6 yrs and fused in 13-14 yrs</td>
<td>&lt;13 yrs</td>
</tr>
<tr>
<td>NAME / sex</td>
<td>Date of birth</td>
<td>X ray advised</td>
<td>Finding seen</td>
<td>description as per findings</td>
<td>Age inference</td>
</tr>
<tr>
<td>------------</td>
<td>---------------</td>
<td>---------------</td>
<td>--------------</td>
<td>-----------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Elbow joint continued..</td>
<td>2. Olecranon appeared and uniting</td>
<td>in girls it appeared in 9-11 yrs and fused in 13-15 yrs</td>
<td>&gt;9 yrs and &lt; 13 yrs as fusion started but completed i.e. around 12 yrs of age</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shoulder Joint</td>
<td>1. head of humerus not fused</td>
<td>in girls it fused in 15-16 yrs</td>
<td>&lt;15 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. acromian process appeared but not fused</td>
<td>in girls it appeared in 12-14 yrs and fused in 13-16 yrs</td>
<td>&gt;12 and &lt;13 yrs</td>
</tr>
<tr>
<td>NAME /sex</td>
<td>Date of birth</td>
<td>X ray advised</td>
<td>Finding seen</td>
<td>description as per findings</td>
<td>Age inference</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
<td>---------------</td>
<td>--------------</td>
<td>-----------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Hip joint</td>
<td>1.greater trochanter not fused</td>
<td>in girls it appeared in 4yrs and fused in 14 yrs</td>
<td>&lt;14 yrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.head of femur is uniting but not completely fused</td>
<td>in girls it fused in 14-15 yrs</td>
<td>&lt;14 yrs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Medicolegal importance of age

- Infanticide/foeticide
- Identification
- Eligibility for employment
- Attainment of majority
- Competency as witness
- Marriage contract
- Criminal responsibility
Judicial punishment
Management of property
Abduction
Rape
Criminal abortion
Infanticide / foeticide
No child who has not completed his 14th year shall be required or allowed to work in any factory.
Attainment of majority

Age of Majority

The age when a person acquires all the rights and responsibilities of being an adult. In most states the age is 18.
Any person is competent to testify as a witness, unless he is incapable of understanding the questions put to him or is unable to give any rational answers to questions asked, because of his tender years, old age, infirmity or disease—whether of mind or body or any other cause—vide sec. 118 of IEA.
Criminal abortion
Rape
Marriage contract
Criminal responsibility

Sec 82 IPC
Indian Railway Act
Sec 83 IPC
Sec 89 IPC
Sec 87 IPC
Judicial Punishment
Abduction
Till this duration decision regarding MTP can be done by one doctor alone. Above 12 wks opinion of 2 doctors is required.
Indications of MTP act covers max this duration. Above 20 wks. pregnancy can be terminated only on the grounds of mother’s life in danger.
28 week of pregnancy (7 lunar months)

- Foetus born after 28 wks, if does not show any sign of life is termed as still born foetus
- This is the age of viability
Till 1 year baby is infant
Killing of such a baby amounts to infanticide
Above 5 y child becomes responsible for his act as per Indian Railway Act
7 years

- Below 7 years child is not responsible for his criminal acts as below this age child is not able to understands the nature and consequences of the act

- Sec 82 IPC
Presumed to be capable of committing an offence if the child has attained sufficient maturity of understanding to judge the nature and consequences of his conduct.

Sec 83 IPC
Can give consent for the act which is done for the benefit of the child, even if the act ultimately causes harm to the child.

Less than 12 y can not give a valid consent to suffer any harm which may result from an act done in good faith for his benefit.
FACTORY ACT states below 14 year is a child and can not be employed in factory jobs
14 to 15 years

Can be engaged in nonhazardous factory jobs during day hours
A person above 15 years of age can be employed in a factory like an adult if he has a fitness certificate.
16 years

- Boy Less than 16 – kidnapping
- A licensed vendor is not permitted to sell the intoxicating drugs to person below 16
18 years

- Attainment of majority but a person who is under the guardian appointed by court attains majority on completion of 21 years.

- A female less than 18 can not contract marriage as per child marriage restraint act 1978

- Sexual intercourse with a woman < 18 years even with consent is rape

- Age for voting in INDIA
Minimum age for contesting for the membership of parliament in Lok Sabha and for the member of any state legislative assembly in Vidhan Sabha
35 years

- Minimum age for appointment as the president of INDIA, vice president of INDIA and governor of any state

- No pre natal diagnostic techniques can be used or conducted in a women less than 35 y as per Prenatal diagnostic techniques (regulation and prevention of misuse) act 1994.