

Virginity:

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Virgin (sexually inexperienced woman): female who has not experienced sexual intercourse

Defloration: loss of virginity with associated rupture of hymen.

Hymen: fold of mucus membrane, about 1mm thick, situated at the vaginal outlet

→ average adult hymen consists of folds of membrane having an annular or crescentic shape, the broadest part lying posteriorly.

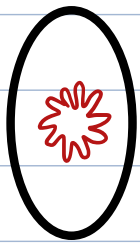
→ Diameter of hymenal orifice: • 1 mm at 1 year

- 2 mm at 2 years, & so on.

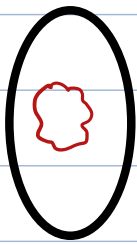
- 10 mm in a prepubertal girl

- >10 mm diameter in a prepubertal girl indicates sexually abused girl.

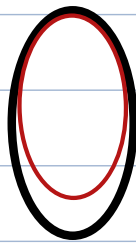
	Fimbriated hymen	Ruptured Hymen
Situation of notches	Present anteriorly. Do not extend to the periphery of hymen.	Present posteriorly (6 o'clock/5 o'clock/7 o'clock positions) & extend to the periphery of the hymen.
Shape & size of notches	Bilaterally symmetrical.	Asymmetrical.
Mucus membrane over notches	Intact	Torn
Cause	Occurs naturally.	Sexual intercourse or introduction of large foreign bodies.



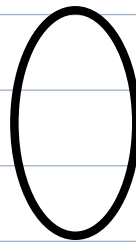
Fimbriated/
Denticulate



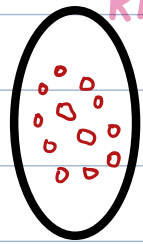
Annular/
Circular



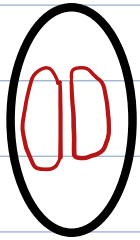
Semilunar



Hymen
Imperforatus



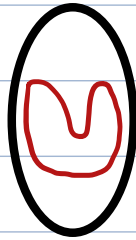
Gibbiform/
Fenestrated



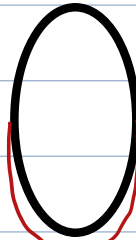
Septate
[Hymen
bifenestratus]



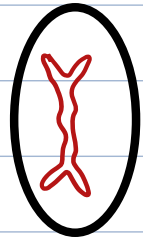
Hymen
trifenestratus



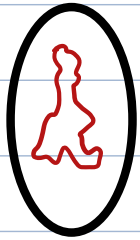
Subseptate



Falciform



Vertical [Hymen
labialis]



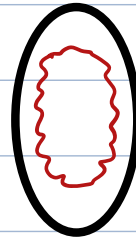
Irregular



Torn
hymen
(at coitus)



Hymen
microperforatus



Carunculae
myrtiformes

Causes of Rupture of Hymen (other than sexual intercourse):

- i) Accident
- ii) Fall on a projecting object
- iii) Separation of thighs forcibly in children
- iv) Bad hygiene → irritation → scratching → torn hymen
- v) Masturbation
- vi) Sanitary tampons
- vii) Surgical operation

Signs of Virginity:

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(1) Genital Signs:

i) Hymen:

- Normal hymen: annular/crescentic
- thickness: 1 mm
- broadest part lies posteriorly
- one finger can be passed through at puberty.

ii) Posterior commissure & fourchette: intact

(usually torn after violent/forcible sexual intercourse or childbirth)

(2) Extragenital Signs: (breasts)

- In virgin ⇒ breasts are firm, elastic & hemispherical
 - ⇒ nipple is small & undeveloped, surrounded by an areola which is pink to dark brown.
- Breasts become large & flabby by frequent handling, manipulation, sexual intercourse, lactation & suckling.
- Single act of coitus does not enlarge breasts.

Medicolegal Aspects of Virginity:

(1) True Virgin vs. False Virgin:

- Classically, presence of unruptured hymen = sign of virginity. But now this is not true.

True virgin:

- woman who has never experienced sexual intercourse
- hymen may/may not be torn

False virgin:

- woman who has experienced sexual intercourse
- hymen is intact

- Rupture of hymen usually occurs at first intercourse.
- Causes of intact hymen after 1st intercourse: if hymen is elastic, fleshy, folded, loose, thick or tough.
- Cosunculae myrtiformes / Cosunculate hymenales: In women used to intercourse \Rightarrow hymen almost disappears (giving rise to small, round projections or tags of tissue at the periphery \Rightarrow hymenal ring)
- (2) Divorce: if a woman was not a virgin at the time of marriage, there is no provision for nullity or divorce under the Hindu Marriage Act, 1955.
- (3) Defamation: a person may be charged for defamation (sec. 499, IPC) if he alleges loss of virginity of a woman & she is found to be a virgin on examination.
- (4) Rape: allegations of rape may be proved if loss of virginity can be shown.
- (5) Nullity of Marriage: If a woman wants her marriage to be declared null & void on account of impotency of husband \Rightarrow she must prove that she has been a virgin & that her husband has been unable to consummate marriage.

	Virginity	Defloration
Hymen	Intact, rigid & inelastic; edges are distinct, smooth & regular; narrow opening (hardly allows a small finger to pass).	may be torn or intact; loose & elastic; wide opening allowing passage of ≥ 2 fingers.
Labia majora	Adjacent to each other, fully developed & completely closes the vaginal orifice.	Not apposed to each other, lower end of vaginal orifice may be seen.
Labia minora	they are in contact & covered by labia majora.	not in contact & are exposed & separated from labia majora.

	Virginity	Defloration
Fourchette	Intact	Torn/intact
Fossa navicularis	Intact	Disappears
Vestibule	Narrow	Wide
Vagina	Narrow, rugae more folded & vault more conical!	After repeated intercourse, it usually grows in length & the rugae are less obvious.

Pregnancy: a condition of having a developing embryo or fetus in the female, when an ovum is fertilized by a spermatozoan.

M.L.I.: Question of pregnancy has to be determined when:

1] When a woman pleads pregnancy to avoid attendance in court as a witness.

[Pregnancy itself is not an excuse, unless it is so far advanced that delivery is likely to occur soon or when the child is likely to suffer risk by such attendance]

2] When a woman sentenced to death, pleads that she is pregnant, to avoid execution. [High Court has the power to postpone the death sentence until 6 months after delivery or to commute it \Rightarrow s. 416 CrPc.]

3] When a woman figns pregnancy soon after death of her husband to claim succession to property

4] When a woman alleges that she is pregnant in order to get greater compensation when her husband dies through the negligence of some person.

- 5] In case of divorce, woman may claim to be pregnant to receive more alimony.
- 6] To assess damage in a seduction or breach of promise of marriage case
- 7] When a woman blackmails a man & accuses that she is pregnant by him, to compel marriage.
- 8] In allegations that an unmarried woman / widow / wife living apart from her husband is pregnant.
- 9] When pregnancy is alleged motive for suicide or murder of unmarried woman / widow.
- 10] In case of alleged concealment of birth / pregnancy / infanticide.

Presumptive Signs of Pregnancy:

1] Amenorrhoea: earliest symptom of pregnancy

→ periods may be missed for sometime in unmarried woman after illicit intercourse from fear & nervousness

→ pregnancy may occur in a woman during lactational amenorrhoea.

2] Breast Changes: more characteristic in primigravidae than in multiparas.

→ tenseness & tingling sensation in breasts in early weeks.

→ After 2 month: Breasts begin to ↑ in size & become nodular due to hypertrophy of mammary alveoli.

• ↑ size → superficial veins visible

→ nipples more deeply pigmented & more erectile

→ areola (pink in virgin) becomes dark brown

→ Sebaceous glands around nipple enlarge ⇒ MONTGOMERY'S TUBERCLES.

→ Colostrum is usually secreted in 3rd month

→ striae are seen after 6 months (especially in primiparas) due to stretching of skin.

3] **Morning Sickness**: usually appears at end of 1st month & disappears 6-8 weeks later.

4] **Quickening**: felt from about 16th - 20th week

→ slight fluttering movements in the abdomen which gradually ↑ in intensity
(first perception of these movements = quickening)

5] **Pigmentation of skin**: vulva, abdomen & axillae become darker

→ linea nigra: dark line from pubis to beyond the umbilicus

6] **Vaginal Changes**: mucous membrane of vagina changes from pink to violet, deepening to blue after 4th week (due to venous obstruction)

⇒ **Tackquemier's / Chadwick's Sign.**

7] **Urinary disturbance**: during early weeks of pregnancy ⇒ frequent micturition (due to pressure on bladder from enlarging uterus)

→ this gradually disappears after a few months ∵ uterus rises up in abdomen

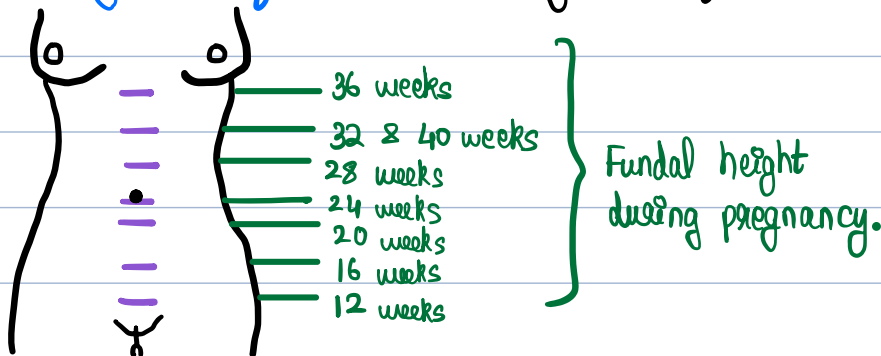
→ reappears a few weeks before term (when head descends into pelvis)

8] **Easy fatigue**

9] **Sympathetic disturbances**: Salivation, perverted appetite, hyperosmia, irritable temper, etc.

Probable Signs of Pregnancy:

1] **Enlargement of abdomen**: enlargement of abdomen begins after 12th week



2] **Uterus**: **Hegar's sign** positive at about 6th week ⇒ if one hand is placed on the abdomen & 2 fingers of the other hand in the vagina, the firm hard cervix

is felt \approx above it, the elastic body of the uterus, while between the two, the isthmus is felt as a soft compressible area.

3] **Cervix**: from 2nd month \Rightarrow cervix progressively softens from below upward, which is well-marked by 4th month \Rightarrow **Goodell's sign**.

\rightarrow shortening of cervix (towards the last month of pregnancy)

4] **Intermittent uterine contractions (Braxton Hick's Sign)**: intermittent, painless uterine contractions \Rightarrow easily felt after 4th month

\rightarrow each contraction lasts about 1 minute \approx relaxation for about 2-3 minutes

\rightarrow present even when the fetus is dead

5] **Ballottement**: positive during 4th \approx 5th months of pregnancy (\because fetus is small in relation to the amount of amniotic fluid present)

Vaginal ballottement: 2 fingers are inserted into anterior fornix \longrightarrow sudden upward motion is given \longrightarrow fetus moves up in the liquor amnii \approx after a moment \Rightarrow fetus drops down on the fingers (like a ball bouncing back)

6] **Uterine Souffle**: soft blowing murmur which is synchronous with the mother's pulse \rightarrow heard towards end of 4th month (due to passage of blood in uterine vessels)

7] **Biological Tests**: based on reaction of test animals to chorionic gonadotropins in pregnant woman's blood \approx urine.

8] **Immunological Tests**: tests for HCG \approx HCS

\rightarrow tests utilize antibodies to react with another substance for HCG detection

\rightarrow Early morning urine specimen \Rightarrow highest level of hCG

\rightarrow tests are positive 12-15 days after implantation.

• inhibition (indirect) latex slide test

• direct latex slide test

• haemagglutinin inhibition tube test

Positive Signs of Pregnancy:

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1] **Foetal parts & movements:** fetal movements can be felt by 24 weeks
→ fetal parts can be identified on abdominal palpation by 36 weeks.

2] **Foetal Heart Sounds:** (important & definite sign of pregnancy)

→ heard for the 1st time between 18-20 weeks

→ rate: ~160 (5th month)

~120 (9th month)

→ foetal heart sounds are not heard when:

- foetus is dead
- there is excessive quantity of liquor amnii
- abdominal wall is very fat
- examination is made before 18 weeks of pregnancy.

3] **Placental souffle:** soft murmur heard over placental site (rate corresponds to that of foetal heart sounds)

4] **Funic or Umbilical souffle:** blowing murmur synchronous with foetal heart sounds

5] **X-Ray Diagnosis:** fetal parts can be detected with certainty at ~ 15-16th week

→ Shadows: • Skull ⇒ crescentic / annular shadow

• Vertebral column ⇒ series of small dots in linear arrangement

• Ribs ⇒ series of fine curved parallel lines

• Limbs ⇒ linear shadows.

→ **Radiological signs of foetal death:**

• Spalding's sign

• Collapse of spinal column (due to absence of muscle tone)

• Presence of gas in the heart & great vessels.

6] **Ultrasonography:** gestational sac is seen as a white ring by 6th week

Pseudocyesis or Spurious/Phantom Pregnancy:

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- usually observed in women nearing menopause or in younger women who intensely desire children. (most of them suffer from some form of psychic or hormonal disorder)
- all subjective symptoms of pregnancy are present (including a considerable ↑ in size of abdomen due to fat deposition/tympanites/ascites)
- changes in breast may be present
- no developing embryo/foetus in the uterus/body.
- clinical examination & X-ray can solve the problem

Signs of Pregnancy in the Dead:

- presence of:
 - embryo/foetus
 - placental tissue
 - membranes
 - any other products of conception
- ↑ in size & thickening of uterus
- well-formed corpus luteum in one of the ovaries.

Superfecundation: fertilisation of 2 ova which have been discharged from the ovary at the same time by two separate acts of coitus committed at short intervals.

- 70% of twin pregnancies are binovular twins
- development of twins in uterus is parallel but not equal (depending on the relative blood supplies from the separately formed placentae)
- one foetus may be aborted early or die
- dead foetus may be flattened by pressure & may not be recognizable ⇒ **foetus compressus** or **foetus papyraceus**.
- spermatozoa causing fertilisation may be from same man / different men.

- Superfoetation:** fertilisation of the second ovum in a woman who is already pregnant.
- ovulation may occur in 1st trimester of pregnancy until decidua vera comes into apposition with decidua reflexa & decidual cavity gets obliterated.
 - 2 foetus are born at the same time showing different stages of development or 2 fully developed foetuses are born at an interval of 1-3 months.

Legitimacy & Paternity:

Legitimacy: legal state of a person born in lawful marriage

- when child is born during the continuance of legal marriage or within 280 days after dissolution of marriage by divorce or death of the husband.

Illegitimacy: (bastard) if it can be proved that the husband is not the father of the child by producing evidence that the alleged father is:

- under the age of puberty
- physically incapable to beget children
- did not have access to his wife during the time that the child was begotten
- blood groups of the child & the alleged father are not compatible.

→ Question of legitimacy arises in:

1] **Inheritance:** only a legitimate child can inherit the property of his father

2] **Superstitious / fictitious child:** a woman may pretend pregnancy & delivery & later produce a living child as her own or she may substitute a male child for female child born of her or for an abortion. ⇒ done for obtaining money or for claiming property.

→ DNA fingerprinting is conclusive in such cases.

3] **Paternity:** can be determined from:

i) **Parental likeness:** child may resemble the father in feature & figure & also in gesture & other personal peculiarities.

Atavism: child does not resemble its parents, but resembles its grandparents.

→ this is due to inheritance of characteristics from remote, instead of immediate ancestors due to a chance of recombination of genes.

ii) **Developmental defects:** diseases / deformities transmitted from parents to children

iii) **Blood group tests or Paternity Tests:** Blood groups are transmitted from parents to children

iv) **DNA fingerprinting**

Wife Battering: a battered wife is a woman who has received deliberate, severe & repeated demonstratable physical injuries from her husband.

Delivery: expulsion or extraction of the child at birth

Signs of Recent Delivery in the Living:

1] **General indisposition:** for first 2-3 days, the woman is pale, exhausted with increase in pulse & slight fever.

2] **Breast changes:** full, enlarged, tender with a knotty feeling

→ areola is dark & nipples are enlarged with prominent superficial veins & montgomery's tubercles

3] **Abdomen:** abdominal walls are pendulous, wrinkled, show linea albicantes

4] **Perineum:** sometimes lacerated (age of tear may be useful in fixing date of delivery)

5] **Labia:** tender, swollen, bruised / lacerated.

6] **Vagina:** smooth-walled, relaxed, capacious; rugae begin to reappear after about 3 weeks of delivery.

7] **Uterus:** immediately after delivery \Rightarrow contracted & retracted body of uterus feels like a hard muscular tumour & its upper border lies about 3cm below umbilicus.

- 6th day: midway between umbilicus & pubis
- 9 weeks: uterus returns to normal position

8] **Cervix:** soft & dilated ; edges torn & lacerated transversely

9] **Lochia:** discharge from the uterus which lasts 2-3 weeks

\rightarrow peculiar, sour, disagreeable odour

\rightarrow First 4-5 days: discharge is bright red & contains large clots \Rightarrow lochia rubra

Next 4 days: discharge is serous & pale in colour \Rightarrow lochia serosa

After 9th day: discharge is yellowish-grey or turbid \Rightarrow lochia alba

10] **Intermittent Uterine Contractions:** present until 4-5 days after delivery.

Signs of Recent Delivery in the Dead:

\rightarrow all the local signs mentioned above may be present

\rightarrow internal genitalia is flabby for a day or two & then gradually shrinks & resumes its firmness

\rightarrow immediately after delivery: uterine wall is 4-5 cm thick.

total length = 20 cm

length of the cavity = 15 cm

\rightarrow after delivery at term, weight of uterus = 1000 g.

- at end of 1st week: 500 g
- at end of 6 weeks: 100-120 g

	True Virgin	False Virgin
Sexual Intercourse	Not experienced	Experienced
Hymen	Intact, rigid, inelastic. Admits tip of little finger only.	Intact, but loose, elastic, thick. Easily admits 2 fingers.
Labia majora	Adjacent to each other, apposed. Completely close the vaginal orifice.	Separated, not apposed to each other, vaginal orifice may be seen
Labia minora	Small, pinkish. In contact with each other. Covered by labia majora.	Enlarged, not in contact with each other, not covered by labia majora
Vagina	Narrow & tight. Mucosa rugae are reddish. Sensitive to touch.	Large & roomy; vaginal rugae less marked, vagina lengthened.
Fores navicularis	Intact	Disappears
Fourchette	Intact	Tear (may show a healed scar)
Vestibule	Narrow	Gaping, spacious, wide
Clitoris	Small	Enlarged
Posterior commissure	Intact	Generally torn.
<u>Breasts</u>		
Size, shape, feel	Small, hemispherical, firm	Large, pendulous, flabby
Axilla	Pink	Pigmented
Nipples	Small & pink	Enlarged, pigmented