

PREGNANCY AND BODILY CHANGES

Duration of pregnancy is approximately 9 months and 7 days or 40 weeks, calculated from the first day of the last menstrual period.

Changes in the female body:

First trimester (1-12 weeks)

Periods- females do not have their monthly cycle during the 9 months period of pregnancy, however, some bleeding may occur up to 12 weeks of pregnancy.

It's scanty bleeding and usually matches the date of your period.

SYMPTOMS

Amenorrhoea

Nausea and vomiting

Urination- The frequency of urination increases during 8-12th week of pregnancy, due to bulky uterus resting over the bladder and also due to increased thirst.

SIGNS

Breasts- increased in size and sometimes may become tender to touch and painful / heavy, might need additional breast support.

- Nipples also increase in size and become dark coloured.
- Secretion i.e colostrum or milky fluid can be squeezed around 12th week, it is sticky in consistency.

Weight gain

- It is a constant phenomenon in pregnancy, while in the early weeks some weight loss is possible due to nausea and vomiting but the female gains 1kg weight in the first trimester
- There is also associated retention of electrolytes and water which add up to the weight gain.

White discharge per vaginum

- non pruritic, not blood stained: normal in pregnancy
-

Minor ailments

- Nausea and vomiting is common in the initial days especially in the morning, usually subsides after 1st trimester.
- Leg cramps can occur due to calcium deficiency.
- Acidity is common, so fatty foods and over eating should be avoided.
- Increase in salivary secretions is commonly seen.

- Ankle swelling which subsides on rest or elevation of foot unless there are some other underlying complications.

INVESTIGATIONS DONE

UPT

Serum beta HCG

Dating scan

NT scan

Second trimester (13-28 weeks)

SYMPTOMS

Vomiting and frequent urination subsides

Quickening- the mother starts to feel movements of the baby usually around the 18th week.

Abdomen and weight gain- gradual increase in size of lower abdomen due to growing uterus.
Weight gain of 5kgs is seen in the second trimester.

SIGNS

Skin

- Face has pigmentation on cheeks ,nose ,forehead and around the eyes called butterfly rash seen around 24th week, which disappears after delivery.
- Abdomen: a dark pigmented line is seen to stretch from slightly below the middle of the chest till the lower abdomen, around 20th week.
- Numerous stretch marks are seen on the abdomen, thighs and breasts. These are called striae, maybe white or pink depending on variation in pigmentation .
- The females may experience red and warm palms due to high estrogen level throughout the pregnancy.

Breast

- An outer layer of pigmented area appears outside the areola during this trimester, it is less marked and irregularly pigmented and is called secondary areola.
- The sticky fluid squeezed out from the breasts i.e colostrum becomes yellowish and thick by 16th week.

Vagina

- During pregnancy there is an increased blood supply to the vagina and it's colour changes to purple, along with that it also becomes more elastic.

Braxton Hicks movements

- irregular, painless contractions felt during 2nd trimester which does not cause any effect on cervix or cause labour

Regular fetal movements are perceived

Fetal heart sounds are assessed and become faster in second trimester of pregnancy

Metabolism

The metabolic rate increases for a pregnant lady and this may lead to her feeling warmer and sweat often.

INVESTIGATIONS

Growth scan done to assess development of organs

Third trimester (29-40 weeks)

Abdomen- enlargement is progressive and produces some mechanical discomfort like difficult breathing after exertion and palpitations.

Height of the uterus also decreases due to uterus falling forward

Urination - increase in frequency reappears around the 38th week since the fetal head presses on the urinary bladder.

Foetal movements- felt more strongly during this trimester.

Weight gain- 5kgs of weight gain is seen in the third trimester, total weight gain during all three trimesters adds up to 11kgs- 16kgs for females with BMI (20-26) and is divided according to the trimesters.

Skin changes- the skin changes seen in previous trimesters become more pronounced with increase in pigmentation and striae .

Belly button- may pop out during this trimester due to the increasing size of the abdomen (reversion of belly button)

Joints and ligaments

- Increased spinal curvature due to the increasing abdomen is seen.
- Due to hormones there is stretching of joints and ligaments all over the body which may lead to back pain and sciatica pain.
-

Minor ailments

- Lower back pain .

- Increased heart rate with palpitations.
- Nerve compression syndromes like carpal tunnel.
- Difficulty in breathing.

Changes in the Baby

1st trimester (1- 12 weeks)

First month

After fertilization the zygote rapidly divides , descending down to the uterus for implantation. After implantation, the embryo gets divided into layers where the outer layer forms the skin , nervous system, eyes and ears.

Middle layer forms the circulatory system, urinary system, ligaments and bones.

Inner layer forms the baby's lungs and gut.

During this time the placenta develops, which is a round, flat organ that revises nutrition from mother to the baby.

Within the first few weeks the neural tube develops, from which the spinal cord and brain develop.

The heart also starts to develop by the end of 4 weeks and the first heart beat is heard.

Second month

The facial features start to form distinctively, ear and nose formation take place along with the beginning of development of eyes and optical system.

Limb buds appear which will develop into hands, legs and fingers.

Neural tube (brain, spinal cord, nervous system) develops completely.

Digestive tract starts to develop and bone starts to replace cartilage.

Heartbeat can be heard after the 6th week.

By the end of the second month, the embryo is called a foetus.

Third month

The foetus's arms, legs and fingers are fully developed by now and there is a slight beginning of movements. Fingernails and toenails start to develop.

Beginning of teeth formation under the gums.

Reproductive organs start to develop.

By the end of this month foetus is fully formed, organ systems continue to develop. Circulatory and urinary system start to function.

2nd trimester (13- 28 weeks)

Fourth month

Reproductive organs are fully developed and external genitalia also develops.
Nervous system becomes functional.

Nails, teeth, eyelids, eyebrows are formed and the foetus can start with slight movements like yawning or stretching.

Fifth month

Around this time the mother can feel the foetus moving around, movements feel like a faint flutter.

Hair starts to cover the whole external body — called lanugo.
The body of the foetus also gets coated with a cheesy material like layer for protection.

Sixth month

Finger and toe prints become visible.
Eyelids separate and eyes open.
The foetus starts to respond to external sounds by movements.

Seventh month

Foetus continues to develop with increased response to stimuli and frequent changes in position.
After 28 weeks the foetus becomes viable and is likely to survive if born prematurely (with intensive care).

3rd trimester (29 - 40 weeks)

Eighth month

Foetus continues to develop and mature, more body fat is added the baby rapidly gains weight.
Baby starts to kick more and the sensations are felt strongly by the mother.

Ninth month

One testicle descends into the scrotum (male foetus).

Baby continues to grow in size and mature physically with continuous development in the organ systems.

The baby's reflexes start to develop properly and become coordinated.

Tenth month

Usually a normal pregnancy continues up till 40 weeks which may take you into the tenth month of pregnancy, this is the month when you can deliver anytime.

Both testicles descend into the scrotum, nails project beyond finger and toe tips.

Baby movements are very less and restricted, the head of the baby is usually downwards in the uterus of the mother — which leads to increased pressure on the bladder and frequent urination as well as discomfort.

Sometimes the pregnancy may stretch uptill 42 weeks.

References

Physiological changes in females during pregnancy :

DC Dutta's textbook of obstetrics, Textbook of Obstetrics by Sheila Balakrishnan.

Changes in foetus :

DC Dutta's textbook of obstetrics

<https://my.clevelandclinic.org/health/articles/7247-fetal-development-stages-of-growth>