Pregnancy, Labor & Delivery

Compiled & Modified by S. Pandey, 2014
From Conception to Birth

- Period of the Zygote
- Period of the Embryo
- Period of the Fetus
Period of the Zygote

- Begins when egg is fertilized in the fallopian tube.

- Period of rapid cell division

- Ends 2 weeks later when the zygote is implanted in the wall of the uterus
Period of the Zygote

1. Ovulation: An egg cell from the ovary enters the fallopian tube at 9-16 days of the menstrual cycle.
2. Fertilization usually takes place in the upper third of the tube, within 24 hours after ovulation.
3. 24-30 hours after fertilization male (sperm) and female (egg) chromosome material unite.
4. Egg cell divides for the first time.
5. 36 hours after fertilization: 2 cells.
6. 48 hours after fertilization: 4 cells.
7. 3 days: A cluster of 16-32 cells.
8. 4 days: A hollow ball of about 100 cells.
9. 4-5 days: Zygote enters the uterus.
10. 6-7 days: Zygote begins to attach to the wall of the uterus.
11. 12-14 days: Zygote is completely implanted in the uterine wall.
Period of the Embryo

- From 3 to 8 weeks after conception
- Body parts are formed during this period
- Embryo rests in the *amnion* filled with *amniotic fluid*
- *Umbilical cord* joins embryo to *placenta*
Prenatal Structures
Period of the Fetus

- From 9 weeks after conception to birth
- Increase in size and systems begin to function
- Age of viability: 22 to 28 weeks
First Month

By the end of the first month:

- embryo is about 1/10 of an inch long.
- Heart (size of a poppy seed) has begun beating.
First Month
Two Months

- embryo is about 1 inch long
- has distinct, slightly webbed fingers.
- Veins are clearly visible.
- Heart has divided into right & left chambers.
Three Months

- Fetus is 2 1/2 to 3 inches long & is fully formed.
- Fetus has begun swallowing & kicking.
- All organs and muscles have formed & are beginning to function.
Four Months

- fetus is covered with a layer of thick, downy hair called lanugo.
- heartbeat can be heard clearly.
- may start to kick.
Five Months

- A protective coating \textit{(vernix caseosa)} begins to form on fetus’ skin.

- By the end of this month, fetus will be nearly 8 inches long & weigh almost a pound.
Six Months

- Eyebrows and eyelids are visible.
- Lungs are filled with amniotic fluid & he has started breathing motions.
- Fetus can hear Mom talk or sing
Seven Months

- By the end of this month, fetus weighs about 3 1/2 pounds & about 12 inches long
- body is well-formed
- **Fingernails** cover fingertips
Eight Months

- Fetus is gaining about $\frac{1}{2}$ pound per week & layers of fat.
- Fetus has probably turned head-down in preparation for birth.
- Weighs between 4 - 6 pounds.
8 months

- Scrotum
- Penis
- Umbilical cord
- Placenta
Nine Months

- Fetus is **6 - 9 pounds** & between 19 - 22 inches long.
- Less moving around since it is crowded!
Cosby Show (My Favourite Show!!!)

https://www.youtube.com/watch?v=IWNK6on449M
Hollywood Style Births...

https://www.youtube.com/watch?v=D11ibkdJ8Ng

Movie Guide to Child Birth (contains some adult language)
Three Stages of Labor
• Uterine contractions begin (left) - usually spaced 10 - 20 min apart.
• Contractions start gentle, but then become more powerful
• The cervix dilates with each contraction (right),
• Baby’s head rotates to fit through the mother’s pelvis.
• Lasts about 90 minutes.

• Cervix opens sufficiently & baby begins to move down the birth canal.

• Mother pushes/or bears down, in response to pressure against her pelvic muscles.

• Crown of the baby’s head becomes visible in the widened birth canal.
• As the head emerges entirely (left) the physician turns the baby’s shoulders (right)

• Shoulders emerge one at a time with the next contractions.

• Rest of the body then slides out relatively easily, and the umbilical cord is sealed and cut.
3rd stage

- Uterus continues to contract, expelling the severed umbilical cord & placenta (called the “afterbirth”).

- Occurs within ten minutes of the baby’s birth.
Why a C-Section?

- Prolapsed cord
- Baby is not upside down
- Mother too small
- Baby too big
- Placenta previa (see next slide)
- Placenta abruption
- Fetal distress
- Mother or child cannot tolerate labor
- STDs
- Previous C-section
- Toxemia
Placenta Previa

- Normal Placenta
- Marginal Placenta Previa
- Complete Placenta Previa
SAMPLE USE ONLY
Cesarean Section

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• Most women prefer some kind of anesthesia.

• Natural (unmedicated) childbirth is becoming more popular because the anesthesia can make the newborn baby less alert after birth.

The cervix must dilate to some degree before any anesthesia is given. For this reason, a mother needs to learn some breathing and relaxation techniques.
• **Epidural:**
  - given in the spinal sheath and numbs the patient from the waist down.

• **Saddle Block:**
  - numbs the area where you ride a saddle.

• **Cervical block:**
  - Numbs the cervix.

• **Pudendal block:**
  - given in the pudendal nerve & will numb the whole bottom and legs.
Birth Complications

- **Lack of oxygen (anoxia):**
  - often leads to surgical removal of the fetus (C-section)

- **Premature and Small-for-Date infants**
  ( prematurity is less serious than small-for-date)
- **Apgar Score:**
  - score given at 1 min, 5 min & 10 min after the birth of a child.
  - Examine - breathing effort, heart rate, muscle tone, reflexes & skin color
  - 0 – 2 points per category
  - score of 7 – 9 is normal.
Postpartum Depression

- Half of all new moms feel some irritation, resentment, and crying

- 10-15% feel more severe postpartum depression (psychosis)

- Postpartum depression affects warmth and enthusiasm of mothering
Postpartum Depression Symptoms

- Feeling hopeless, sad, helpless, or worthless
- Appetite changes
- Difficulty sleeping/sleeping too much
- Sluggishness/fatigue
- Fear of harming baby/self
- Lack of interest in the baby
- Difficulty concentrating/confusion
- Crying for no reason