Conception to Birth

Fertilization

- Genetic material from secondary oocyte and sperm cell merge (23 chromosomes each)
  - become a single fertilized zygote (46)
    - Fraternal and identical twins
  - Normally occurs in uterine tube
  - Ovulated secondary oocyte viable for 12-24 hours
  - Ejaculated sperm viable for 48-72 hours
    - window
Implantation

- Developing zygote (blastocyst) attaches to wall of endometrium
  - ~6 days
- Placenta
- Human chorionic gonadotrophin (hCG)
- Ectopic pregnancy

Placenta

- Site of exchange of nutrients and wastes between mother and unborn child
  - No mixing
- Functions:
  - Exchange
  - Barrier
  - Storage
  - Hormone production
- Functional by 3rd month

Umbilical Cord

- Connects baby with placenta
- Arteries (2)
  - Carries waste from baby
- Vein (1)
  - Carries nutrients to baby
Gestation

Period of development from conception-birth

- Avg duration: 38 – 40 weeks

Amnion (bag of waters)

- Transparent sac holding fetus suspended in amniotic fluid
  - Amniotic fluid – filtrate of maternal blood
    - Fx: Shock absorber, temperature & physical buffer
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Week 6 - 32 days

No longer a blastoderm, the embryo now has a primitive heart, some internal organs. The tube is hollow, with gut and spinal cord, which is now reverse the mouth to anus.

Week 6 - 40 days

At this point, the human embryo looks as follows: four fingers, two legs, and a tail. All internal organs are formed, ready to grow.

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Week 8 - Fetus

Week 8 - 54 days

All four major organs reach the seventh month.

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Eight week

Ninth week
Slide 22

1 & 9 Months

Slide 23

Labor

- **Process by which fetus is expelled from uterus through vagina to outside**
- **Oxytocin**
  - **Myometrium**
    - Uterine contractions
      - peristalsis

Slide 24
Madeline Mann

- June, 1989
- 27 weeks gestation
- birth weight 9.9 ounces

- August, 2004
- entering high school
- Honor student, plays violin and rollerblades

Samuel A. Armas

At 17 weeks before birth (21 weeks gestation), Samuel Armas underwent surgery for correction of an abnormal backbone due to spina bifida while he was still in his mother's womb.

This is actually the boy's hand!

During the procedure, Samuel can be seen grasping his doctor's finger. Below is Samuel in 2004 at age four with his parents, Alex and Julie.
Birth Control Methods
Behavioral methods
Barrier methods
Hormonal methods
Chemical method
Prevention of implantation
Surgical methods
Non-surgical sterilization

The End