Fertilization & Implantation

Topics for today:

• Blastula and implantation
• Formation of chorion
• Gastrula & Tissue differentiation
• Neurula and organogenesis
• Limb bud stage

Implantation

Chorion formation & release of chorionic gonadotropin
Early Embryo Stages

- **Zygote**
- **Morula**
- **Blastula**
- **Fertilization**
- **Cleavage**
- **Implantation**

Mid to Late Embryo Stages

- **Blastula**
- **Gastrula**
- **Neurula**
- **Gastrulation**
- **Neurulation**

Chorion formation & release of HCG

- **Chorion**
- **HCG**
- **Progesterone**
- **Corpus Luteum**

- Beginning formation of chorion, first layer of developing placenta
- Chorion releases chorionic gonadotropin (HCG), a hormone which tells corpus luteum to continue release of progesterone
- Progesterone is essential for maintenance of placenta
Extra embryonic membranes

Membranes that support development of embryo proper

- **Chorion** - outermost; 1st to appear
- **Amnion** - contains amnionic fluid; 2nd
- **Yolk Sac** - gives rise to gut; 3rd
- **Allantois** - bladder precursor; last

Gastrulation

...beginning of tissue development

- Surface of uterine lining
- amnionic cavity
- early ectoderm
- early endoderm

Late gastrula stage

- **Mesoderm forming**
- day 12
Neurula stage of development

Period of extensive organ development

Dorsal view showing developing **nerve cord**

Developing **somites** (body segments) visible

About 2 weeks old

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SEM view of neurula stage

(transverse view of neural tube)

About 3 wks

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Formation of yolk sac

Week 3-4

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Late embryo with limb buds

About 4 wks

Late embryo & the placenta

WEEK 6

Topic for Wednesday:

Fetus and Parturition