

Learn about Prenatal and Newborn Development

Learn about prenatal and newborn development

- a) from conception to birth is about nine months
 - b) a single fertilized egg cell (carries all genetic info needed) will turn into a baby
 - c) during this time many positive/negative things can affect the child
- 12.1- trace physical development from conception through birth and identify influences on prenatal development*
- 1) Fertilization, the Zygote, and Twinning
 - a) egg (aka ovum) and sperm meet in process of fertilization
 - b) resulting cell has 46 chromosomes and is called a zygote
 - c) zygote divides (1,2,4,8,...) & each new cell also has 46 chromosomes b/c DNA molecules duplicate themselves before each division (called mitosis)
 - d) normally produces baby, sometimes messes up and produces 2+
 - e) 2 main types of twins: **monozygotic**- identical; both come from one fertilized egg. **dizygotic**- fraternal; two fertilized eggs (more likely in older women or those taking fertility drugs.
 - f) very useful in Nature vs. Nurture debate research
 - g) mass of cells might not completely split apart: which causes conjoined twins
 - 2) The Three Stages of Development
 - 2.1) The Germinal Period
 - a) **germinal period**- first two weeks after fertilization, during which the zygote moves down to the uterus and begins to implant the lining
 - b) during the germinal period, cells begin to differentiate (developing into specialized cells to become various cells (ex. skin, heart, ect...))
 - c) btw- stem cells are super important
 - 2.2) The Embryonic Period
 - a) **embryonic period**- the period from 2 to 8 weeks after fertilization, during which the major organs and structures of the organism develop.
 - 2.3) The Fetal Period
 - a) **fetal period**- the time from about 8 weeks after conception until the birth of the child (now referred to as *fetus*).
- 12.2- Explain the role of sensitive and critical periods in development*
- 1) Critical Periods
 - a) **critical periods**- times during which certain environmental influences can have an impact on the development of an infant
 - 2) Prenatal Hazards: Teratogens
 - a) **teratogen**- any factor that can cause a birth defect.
 - b) The most common teratogen is alcohol.
 - c) Teratogens can cause **fetal alcohol syndrome (fas)**, which is a series of mental and physical health defects.

Learn about Prenatal and Newborn Development

Learn about prenatal and newborn development

- a) from conception to birth is about nine months
 - b) a single fertilized egg cell (carries all genetic info needed) will turn into a baby
 - c) during this time many positive/negative things can affect the child
- 12.1- Trace physical development from conception through birth and identify influences on prenatal development

1) Fertilization, the Zygote, and Twinning

- a) egg (aka ovum) and sperm meet in process of fertilization
- b) resulting cell has 46 chromosomes and is called a zygote
- c) zygote divides (1,2,4,8,...) & each new cell also has 46 chromosomes b/c DNA molecules duplicate themselves before each division (called mitosis)
- d) normally produces baby, sometimes messes up and produces 2+
- e) 2 main types of twins: **monozygotic**- identical; both come from one fertilized egg. **dizygotic**- fraternal; two fertilized eggs (more likely in older women or those taking fertility drugs).
- f) very useful in Nature vs. Nurture debate research
- g) mass of cells might not completely split apart: which causes conjoined twins

2) The Three Stages of Development

2.1) The Germinal Period

- a) **germinal period**- first two weeks after fertilization, during which the zygote moves down to the uterus and begins to implant the lining
- b) during the germinal period, cells begin to differentiate (developing into specialized cells to become various cells (ex. skin, heart, ect...))
- c) btw- stem cells are super important

2.2) The Embryonic Period

- a) **embryonic period**- the period from 2 to 8 weeks after fertilization, during which the major organs and structures of the organism develop.

2.3) The Fetal Period

- a) **fetal period**- the time from about 8 weeks after conception until the birth of the child (now referred to as *fetus*).

12.2- Explain the role of sensitive and critical periods in development

1) Critical Periods

- a) **critical periods**- times during which certain environmental influences can have an impact on the development of an infant

2) Prenatal Hazards: Teratogens

- a) **teratogen**- any factor that can cause a birth defect.
- b) The most common teratogen is alcohol.
- c) Teratogens can cause **fetal alcohol syndrome (fas)**, which is a series of mental and physical health defects.

