

**Development
Issues,
Prenatal
Development
and the
newborn**

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Two Major development issues

Down Syndrome: A congenital disorder arising from a chromosome effect.

Causes intellectual impairment and physical abnormalities.

Most babies have one extra chromosome which is aka **Trisomy 21**.

Infants with down syndrome have low or weak muscle tone which is known as **Hypotonia**.

All individuals with down syndrome have some degree of mental retardation or developmental delay.

Two Major development issues

Cerebral Palsy: A condition marked by impaired muscle coordination.

- Caused by damage to the brain before or at birth.

This affects muscle tone, balance, coordination and reflex posture.

- Cerebral palsy affects a person's ability to move and maintain balance and posture.



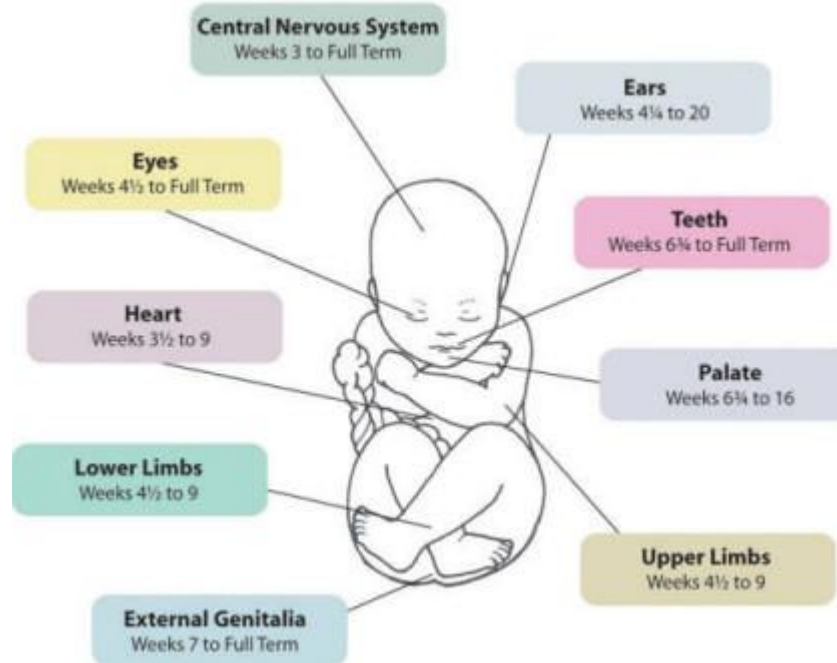
- Cerebral palsy is caused by brain damage or abnormal brain development that happens before birth or early in life.



- Cerebral palsy is permanent. However, it's not progressive.

Prenatal Development

Prenatal Period which is the time between conception and birth. This period is generally divided into three stages: The germinal stage, The embryonic stage, and The fetal stage .



Conception

The action of conceiving a child of a child being conceived.



Stage 1: The Germinal Stage

The two-week period after conception is called the **germinal stage**. Conception occurs when a sperm cell combines with an egg cell to form a **zygote**. About thirty-six hours after conception, the zygote begins to divide quickly. Around seven days after conception, the ball of cells starts to become embedded in the wall of the uterus. This process is called implantation and takes about a week to complete. If implantation fails, as is quite common, the pregnancy terminates. One key feature of the germinal stage is the formation of a tissue called the **placenta**. These are two main functions for the

- Passing Oxygen and Nutrients from the mother's blood into the embryo and fetus
- Removing waste materials from the embryo and fetus



Stage 2: The Embryonic Stage

The **embryonic stage** lasts from the end of the germinal stage to two months after conception. The developing ball of cells is now called an **embryo**. During this stage, all the major organs form, and the embryo becomes very fragile. The biggest dangers are **teratogens**, which are agents such as viruses, drugs, or radiation that can cause deformities in an embryo or fetus. At the end of the embryonic period, the embryo is only about an inch long.

Stage 3: The Fetal Stage

The last stage of prenatal development is the **fetal stage**, which lasts from two months after conception until birth. Approximately one month into this stage, the sex organs of the fetus begin to form. The fetus then begins to grow bones and muscles, and it begins to move inside the uterus. During the last three months, the brain increases rapidly in size, an insulating layer of fat forms under the skin, and the respiratory and digestive systems start to work independently.



The competent newborn

Newborns have ability at birth to see, hear, smell and respond to environment.

- **Grasping reflex:** an infant's response to touch on the palm of hand.
- **Rooting reflex:** If alert newborn is touched anywhere around mouth, he/she will move head and mouth towards source of touch.



- 5-8 Months: Sitting
- 8-11 Months: Crawling
- 12-15 Months: Walking
- 2 years: kicks ball, runs, up/down steps
- 2-3 years: stands on one foot, jumps
- 3-5 years: catches and throws ball, climbs, skips and hops
- 5-7 yrs.: Catches & throws small ball, stands on one foot 10 seconds.



Maturation

Maturation- your biological growth pattern

Maturation level is based off how each infant develops.

For instance one child may start crawling at the age of 10 months while one may start at the age of 11 months. Each maturation level can be different for each infant.

Review Questions

1. What affects of cerebral palsy?
2. Differentiate rooting reflex and grasping reflex.
3. T or F: Having a extra chromosome is known as Trisomy 21
4. What is one main function of placenta?
5. How does a zygote form?

Works

<https://www.verywell.com/the-features-of-down-syndrome-1120463>

<http://www.cerebralpalsy.org/about-cerebral-palsy/sign-and-symptoms>

<http://www.sparknotes.com/psychology/psych101/development/section2.rhtml>