

## BIRTH DEFECTS

### 1. Increase your vocabulary.

abnormality	[,æbnə:'mæli:tɪ]	аномалія, патологія
acquired	[ə'kwaiəd]	набутий
amniocentesis	[,amniəusen'ti:sis]	амніоцентез
birth defect	[bɜ:θ 'di:fekt]	вроджена вада
cleft lip	[kleft lɪp]	розщілина губи, або заяча губа
cleft palate	[kleft 'pælət]	розщілина піднебіння, або вовча паща
congenital	[kən'dʒenit(ə)l]	вроджений
delivery	[di'liv(ə)rɪ]	пологи
exposure	[ɪk'spəʊzə]	піддавання зовнішньому впливу
fetal alcohol syndrome	['fi:t(ə)l]	алкогольний синдром новонароджених
fetal hypoxia	['fi:t(ə)l hɪ'pɒksɪə]	гіпоксія плода
hydrocephalus	[,hɪdrə'sef(ə)ləs]	гідроцефалія
inherited	[ɪn'herɪtɪd]	успадкований
learning disability	['lɜ:nɪŋ ,dɪsə'bɪlətɪ]	нездатність до навчання
malformation	[,mælfɔ:'meɪʃ(ə)n]	порок розвитку; каліцтво
meningitis	[,menɪn'dʒaɪtɪs]	менінгіт
mental retardation	['ment(ə)l ,ri:tə:'deɪʃ(ə)n]	олігофренія, вроджене слабоумство
microcephaly	[,maɪkrə(u)'sef(ə)lɪ]	мікроцефалія
seizure	['si:zə]	епілептичний приступ
spina bifida	[,spɪnə 'bɪfɪdə]	розщеплення хребта
sudden infant death syndrome	['sʌd(ə)n 'ɪnfənt deθ 'sɪndrəʊm]	синдром раптової смерті немовляти
teratogen	[tɛ'ratədʒ(ə)n]	тератоген; речовина або захворювання, яке викликає каліцтва
topical	['tɒpɪk(ə)l]	місцевий

ultrasound	['ʌltrəsəʊnd]	ультразвук
vulnerable	['vʌln(ə)rəbəl]	вразливый

## 2. Read and translate the text.

Birth defects are physical abnormalities that are present at birth; they also are called congenital abnormalities. More than 3,000 have been identified. Birth defects are found in 2-3% of all newborn infants. Almost 20% of deaths in newborns are caused by birth defects. Abnormalities can occur in any major organ or part of the body. Major defects are structural abnormalities that affect the way a person looks and require medical or surgical treatment. Minor defects are abnormalities that do not cause serious health or social problems.

The specific cause of many congenital abnormalities is unknown, but several factors associated with pregnancy and delivery can increase the risk of birth defects. Some birth defects are inherited from parents, and others are acquired through the mother's contact with the environment or with disease. Nowadays scientists know that the human embryo is vulnerable to drugs, viruses, and radiation during the first several months when critical systems are forming.

Any substance that can cause abnormal development of the egg in the mother's womb is called a teratogen. About 7% of all congenital defects are caused by exposure to teratogens. Only a few drugs are known to cause birth defects, but all have the potential to cause harm. For example, use of topical corticosteroids in the first trimester of pregnancy may be associated with cleft lip. Thalidomide is known to cause defects of the arms and legs. Tetracycline affects bone growth and discolors the teeth. Drugs used to treat tuberculosis can lead to hearing problems and damage to a nerve in the head. Drugs given to prevent seizures can cause serious problems in the developing fetus, including mental retardation and slow growth.

Exposure of the mother to high levels of radiation can cause small skull size (microcephaly), blindness, spina bifida, and cleft palate. How severe the defect is depends on the duration and timing of the exposure. Drinking large amounts of alcohol while pregnant causes a cluster of defects called fetal alcohol syndrome,

which includes mental retardation, heart problems, and growth deficiency. Nicotine from cigarette smoke in the mother's bloodstream is passed to the developing fetus and causes a variety of problems, including low birth weight, birth defects, and sudden infant death syndrome. Also, smoking causes the oxygen level of the mother to fall causing a condition called fetal hypoxia, which may damage the developing fetus.

A number of infectious diseases may also affect the developing embryo and fetus. Some of the diseases may not affect the mother but can be passed on to the unborn fetus. Infections that can have major effects on the fetus include cytomegalovirus, syphilis, rubella, toxoplasmosis.

Cytomegalovirus is a common virus that may pass from mother to fetus and usually causes few symptoms in the mother. However, the developing fetus may develop microcephaly and have a number of central nervous system problems.

Syphilis is sexually transmitted bacterial disease which can be passed to the fetus. The risk is 60 to 80 percent if the mother is infected and does not receive treatment that the bacteria will affect the CNS, causing meningitis or hydrocephalus.

An expectant mother who has not been vaccinated for rubella may pass the virus to the developing fetus, in which the brain and CNS are affected. The child may have cerebral palsy or mental retardation, among other problems. Rubella can cause deafness, blindness, and heart defects in the newborn.

Toxoplasmosis is caused by a parasite found in undercooked meat and in cat stools. While there are no symptoms in the mother, the fetus is affected. The child may develop learning disabilities, movement problems, and vision loss.

Some birth defects can be diagnosed while the unborn child is still in its mother's womb. A procedure called ultrasound can detect some malformations. For example, a defect called spina bifida, in which a part of the spinal cord is exposed, can be discovered by ultrasound. In a procedure called amniocentesis, a small sample of fluid surrounding the fetus is removed through a needle and examined. This test is useful in detecting inborn metabolic defects and abnormalities in the chromosomes. Many birth defects can be diagnosed by a doctor's physical examination of a

newborn baby. Other tests, including x-rays, may be ordered if doctors suspect a birth defect; blood tests can detect certain disorders of the blood or body chemistry. Many infants with defects can develop normally if they receive prompt treatment.

**3. Answer the questions.**

1. What is the difference between major and minor birth defects?
2. When is a human embryo the most vulnerable?
3. What is a teratogen?
4. What can exposure of the mother to high levels of radiation cause?
5. What infections can have major effects on the fetus?
6. What causes a condition called fetal hypoxia?
7. How can birth defects be diagnosed?

**4. Find true sentences and correct the false ones.**

1. All the birth defects are inherited from parents.
2. Some birth defects can be diagnosed before birth.
3. In a defect called spina bifida, a part of the brain is exposed.
4. Birth defects are also called congenital abnormalities.
5. Smoking is associated with sudden infant death syndrome.
6. Some of the diseases affect the mother but do not harm the unborn fetus.
7. In a procedure called ultrasound, a sample of amniotic fluid is removed and examined.

**5. Match the following terms with their definitions.**

1. hypoxia	a. a deformity; an abnormally formed part of the body
2. hydrocephalus	b. abnormal smallness of the head, a congenital condition associated with incomplete brain development
3. malformation	c. a condition giving rise to difficulties in acquiring knowledge and skills to the level expected of those of the same age, esp. when not associated with a physical handicap

4. microcephaly	d. a condition in which fluid accumulates in the brain, typically in young children, enlarging the head and sometimes causing brain damage
5. exposure	e. the process of giving birth to a baby
6. learning disability	f. deficiency in the amount of oxygen reaching the tissues
7. delivery	g. the state of having no protection from something harmful

**6. Make word combinations.**

1. developing	a. abnormality
2. growth	b. palate
3. mental	c. problems
4. expectant	d. embryo
5. structural	e. retardation
6. cleft	f. deficiency
7. hearing	g. mother

**7. Complete the following sentences by choosing the correct word from the frame below.**

fetal, unborn, topical, congenital, vulnerable, acquired, inherited

- Someone who is \_\_\_\_\_ is weak and without protection, with the result that they are easily hurt physically or emotionally.
- \_\_\_\_\_ agents are used locally, where the medicine is applied on the area being treated.
- A disease or condition that is genetically determined and involves a single gene mutation, a multifactorial inheritance, or a chromosomal aberration is called \_\_\_\_\_ disorder.
- The most common, severe \_\_\_\_\_ anomalies are heart defects, neural tube defects and Down syndrome.

5. A disease not caused by hereditary or developmental factors but by a reaction to environmental influences outside of the organism is called \_\_\_\_\_.
6. Women who drink alcohol during pregnancy can give birth to babies with \_\_\_\_\_ alcohol spectrum disorders.
7. Scientists have shown that \_\_\_\_\_ babies are grimacing in the womb as their mother smokes.

### 8. Increase your vocabulary.

anencephaly	[ænən'sefəli]	аненцефалія
cerebral palsy	['serəbrəl 'pɔ:lzi]	церебральний параліч
conception	[kən'sepʃn]	зачаття, запліднення
Duchenne muscular dystrophy	[du:'ʃen 'mʌskjʊlə 'dɪstrəfi]	м'язова дистрофія Дюшена
environmental factors	[ɪn,vaɪərən'mentl 'fæktəz]	фактори оточуючого середовища
faulty	['fɔ:ltɪ]	дефектний
hereditary	[hɪ'redət(ə)rɪ]	спадковий
neural tube	[ˈnjuər(ə)l t(j)u:b]	нервова трубка
outcome	['aʊtkʌm]	результат, наслідок
susceptible	[sə'septəbl]	сприйнятливий, вразливий
to pass along	[pɑ:s ə'lɒŋ]	передавати

### 9. Read and translate the text.

Starting at conception, the developing embryo is susceptible to many factors that affect development. Birth defects also can be caused by environmental factors, either alone or together with faulty genes. Environmental factors include the environment in the mother's uterus and the possible influence of poisons in the earth's environment. Following are some common types of serious brain defects and their possible causes:

Anencephaly. This fatal defect occurs when the neural tube fails to close during early development, and the child is born with a missing brain or only the parts that

control processes such as breathing. Although the exact cause is not known, the condition has been linked to the nutrition of the mother and lower than normal levels of the B vitamin folic acid; pollution is also suspected.

Spina bifida. In this disorder the failure of the neural tube to close properly causes an opening in the spinal cord and spinal column. This birth defect is one of the most common involving the nervous system and may be related to folic acid deficiency.

Cerebral palsy. Cerebral palsy causes damage to the motor control centers of the young developing brain and can occur during pregnancy (about 75%), during childbirth (about 5%), or after birth (about 15%) up to about age three. However, about 80 percent of causes are unknown but may be traced to infection, malnutrition, and head trauma.

Hereditary birth defects are caused when a mistake is made as DNA divides. Some disorders are linked to the sex-determining chromosomes passed along by parents. Hemophilia, a condition that prevents blood from clotting, and Duchenne muscular dystrophy, which causes muscle weakness, are carried on the X chromosome. Genetic defects also can take place when the egg or sperm are forming if the mother or father passes along some faulty gene material. This is more common in older mothers. The most common defect of this kind is Down syndrome which is a genetic condition that occurs when a person has three copies of chromosome 21 rather than the usual two. People with Down syndrome usually have a characteristic physical appearance, significantly lowered intellectual abilities, and sometimes a number of physical problems, such as heart defects.

Treatment depends on the type of birth defect and how serious it is. When an abnormality has been identified before birth, delivery can be planned at a health care facility that is prepared to offer any special care needed. Some abnormalities can be corrected with surgery. Experimental procedures have been used successfully in correcting some defects, like excessive fluid in the brain (hydrocephalus), even before the baby is born. Early reports have shown success with fetal surgery on spina bifida patients. By operating on these fetuses while still in the womb, surgeons have

improved outcomes at birth for many newborns. However, long-term studies still are needed.

**10. Find words in the text that mean:**

- coagulation \_\_\_\_\_
- faulty \_\_\_\_\_
- shortage \_\_\_\_\_
- toxin \_\_\_\_\_
- redundant \_\_\_\_\_
- contamination \_\_\_\_\_
- parturition \_\_\_\_\_

**11. Fill in the blanks with necessary prepositions, choose from:**

with, from, during, of, to, by, in, for, on
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1. Cerebral palsy is not a single condition but instead identifies a group \_\_\_\_\_ movement disorders caused \_\_\_\_\_ a brain injury.
2. A cleft palate when the palate \_\_\_\_\_ a fetus does not develop properly \_\_\_\_\_ the first months of pregnancy.
3. Hydrocephalus is an abnormal build-up \_\_\_\_\_ fluid inside the skull that creates pressure \_\_\_\_\_ the brain and may result \_\_\_\_\_ mental and physical handicaps.
4. Spina bifida is a birth defect \_\_\_\_\_ which the spinal column does not form properly, leaving a gap or opening \_\_\_\_\_ the spine.
5. Pregnant women can pass the disease \_\_\_\_\_ their unborn babies, leading to congenital toxoplasmosis, a condition that can range \_\_\_\_\_ mild \_\_\_\_\_ severe, and may involve developmental problems and mental retardation, seizures, and vision problems.
6. If a woman develops rubella \_\_\_\_\_ the early stages of her pregnancy, it can cause miscarriage, premature delivery, and multiple birth defects.

7. Babies who are born \_\_\_\_\_ syphilis may have symptoms right away or may show signs \_\_\_\_\_ the disease within a few weeks or months.

**12. Give the English equivalents to the word combinations in brackets. Translate the sentences.**

1. An (вагітна жінка) can increase the chances that her baby will be healthy by eating properly, getting regular checkups, and refraining from activities such as smoking, drinking alcohol, or drug use, that may harm the (плід).

2. In most cases, cleft palate seems to result from (фактори очочуючого середовища) to which the fetus is exposed early in gestation.

3. Rubella virus, other infections, vitamin deficiencies, some medications, and maternal alcohol and drug use during pregnancy all seem to increase the risk that a child will be born (з розщипиною губи чи піднебіння).

4. Babies born with congenital rubella syndrome may have cataracts and other eye problems, (мікроцефалія та вроджене слабоумство), deafness, heart defects, enlarged liver or spleen, and other problems.

5. Most babies (народжених з гідроцефалією) live if they receive treatment, but about 60 percent have physical or mental handicaps.

6. Some (успадковані генетичні хвороби), such as cystic fibrosis and phenylketonuria, result simply from the inheritance of genes that do not work properly.

7. If a (вроджена вада) is suspected after a baby is born, then confirmation of the diagnosis is very important.

KEYS.

EX. 4.

F, T, F, T, T, F, F.

EX. 5.

1. f, 2. d, 3. a, 4. b, 5. g, 6. c, 7. e.

EX. 6.

developing embryo, growth deficiency, mental retardation, expectant mother, structural abnormality, cleft palate, hearing problems.

EX. 7.

1. vulnerable, 2. topical, 3. inherited, 4. congenital, 5. acquired, 6. fetal, 7. unborn.

EX. 10.

clotting - coagulation, faulty – defective, shortage – deficiency, toxin – poison, redundant – excessive, contamination – pollution, parturition – delivery.

EX. 11.

1. of, by; 2. of, during; 3. of, on, in; 4. in, in; 5. to, from, to; 6. during; 7. with, of.

EX. 12.

1. expectant mother, fetus; 2. environmental factors; 3. with a cleft lip or palate; 4. microcephaly, and mental retardation; 5. born with hydrocephalus; 6. inherited genetic disorders; 7. birth defect.