

Understanding Common Birth Defects Curriculum



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Krista has extensive knowledge in emergency medicine, including experience as an adjunct instructor at community and private colleges teaching EMT and paramedic students. She has additional experience working as a mental health technician in a psychiatric ward and emergency crises; drill instructor and field training officer for multiple agencies; CPR, first-aid, PALS, BLS, and ALS instructor; and EMS captain for a rural fire department.

Now retired from the fire service, Krista works as an EMS educator to pass on her knowledge and expertise to those interested in entering the healthcare field.

Introduction

The RealCare™ Birth Defects Baby is an instructional aid created to help increase awareness and understanding of babies born with common birth defects and the challenges associated with them. This manikin has common physical features in infants with cleft lip and palate, clubfoot, anencephaly, and spina bifida.

This curriculum introduces the Birth Defects Baby and presents documented information about the causes and risk factors of these congenital disabilities, physical attributes of infants with these defects, and their common diagnosis and treatments. The curriculum also provides activities and discussions designed to educate participants and communities about the challenges and opportunities for individuals with these conditions.

Curriculum Structure

The *Understanding Common Birth Defects Curriculum* consists of the following lessons. Approximate lesson times are included.

Lesson	Title	Approximate Time
One	Understanding Common Birth Defects	60 minutes
	Total	1 hour

Lesson Structure

Each lesson begins with a Lesson Overview, Lesson Objectives, and a Lesson at a Glance table which lists the lesson activities, materials required, suggested preparation steps, and approximate class time.

Lesson Sections

The actual lesson follows the overview, which will contain some of the sections described below. Most lessons are designed to be completed within 45-60 minutes.

FOCUS

Every lesson begins with a FOCUS activity intended to capture participants' attention. This may be in the form of a small or large class discussion, a game, a review of previous lesson information, or a demonstration. During this activity, participants are introduced to the topic of the lesson.

LEARN

The LEARN activity in each lesson varies in its presentation mode. It may be a slide presentation, group activity, or demonstration.

REVIEW

The majority of lessons end with a REVIEW activity intended to briefly review the lesson's key messages or main points

Lesson One – Understanding Common Birth Defects

Lesson Overview

In this lesson, participants will learn the causes and risk factors, diagnosis and treatments, and statistics associated with four common birth defects: cleft lip and palate, clubfoot, anencephaly, and spina bifida. Participants will be introduced to the RealCare™ Birth Defects Baby and see the common physical features associated with these conditions.

Lesson Objectives

After completing this lesson, participants will:

- Gain awareness of the causes and risk factors surrounding four common birth defects
- Document initial knowledge of common birth defects before the start of the lesson
- Understand the diagnosis and treatment of common birth defects
- List key national and international statistics surrounding common birth defects
- Identify short- and long-term effects on infants born with common birth defects

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• <i>Understanding Common Birth Defects Pre-Test</i> • <i>Understanding Common Birth Defects Pre-Test – Answer Key</i>	1. Print/photocopy <i>Understanding Common Birth Defects Pre-Test</i> (one per participant)	5-10 minutes
LEARN	• <i>Understanding Common Birth Defects</i> slide presentation • <i>Understanding Common Birth Defects Fact Sheet</i> • <i>Understanding Common Birth Defects Fact Sheet – Answer Key</i> • Birth Defects Baby • RealCare® Baby (if available)	1. Prepare to display the <i>Understanding Common Birth Defects</i> slide presentation 2. Print/photocopy <i>Understanding Common Birth Defects Fact Sheet</i> (one per participant)	35-45 minutes
REVIEW	• <i>Understanding Common Birth Defects Post-Test</i> • <i>Understanding Common Birth Defects Post-Test – Answer Key</i>	1. Print/photocopy <i>Understanding Common Birth Defects Post-Test</i> (one per participant)	5-10 minutes

Lesson One – Understanding Common Birth Defects

FOCUS: Pre-Test

5-10 minutes

Purpose:

This activity measures participants' knowledge about four common birth defects before the start of the lesson. Information from the pre-test can be compared with information from the post-test at the end of the lesson, to measure improvement in participant knowledge.

Materials:

- *Understanding Common Birth Defects Pre-Test*
- *Understanding Common Birth Defects Pre-Test – Answer Key*

Facilitation Steps:

1. Distribute *Understanding Common Birth Defects Pre-Test* to the participants before the start of class and give them 5-10 minutes to complete it.

Name: _____

Understanding Common Birth Defects

Pre-Test

Directions: The following questions will test your knowledge of common birth defects. Circle the best answer(s) or write your response in the space provided.

1. _____ is not a common birth defect.
 - a. Down syndrome
 - b. Cleft palate
 - c. Anencephaly
 - d. Clubfoot
2. How is a cleft lip formed?
 - a. The tissues that make up the lip do not join before birth
 - b. The lip is damaged during birth
 - c. The lip is damaged in utero
 - d. The lip is doubled in size
3. Approximately 1 in every 1,600 infants are born with a cleft in the United States each year.
 - a. True
 - b. False
4. One in _____ babies are born with a clubfoot in the United States each year.
 - a. 1,000
 - b. 10
 - c. 6,000
 - d. 1,600
5. Which of the following is a common physical characteristic of an infant with anencephaly?
 - a. Round, circular eyes
 - b. Overweight
 - c. Missing part of the brain
 - d. Straight 5th finger
6. What nutrient is a mother lacking when her infant is born with anencephaly?
 - a. Vitamin K
 - b. Calcium
 - c. Vitamin C
 - d. Folic acid

7. Which of the following risk factors are associated with spina bifida?
 - a. Overheating of the mother
 - b. Increased stress
 - c. Vitamin D deficiency
 - d. Teenage pregnancy
8. What percentage of infants with clubfoot are born in low- and middle-income countries?
_____ %
9. There are three types of spina bifida.
 - a. True
 - b. False
10. Sometimes spina bifida is never diagnosed.
 - a. True
 - b. False
11. What is the name of the method used to treat clubfoot?
 - a. Lewis method
 - b. Stanford method
 - c. Hanover method
 - d. Ponseti method
12. Which of the following birth defects prove fatal to the infant within a few hours or days?
 - a. Spina bifida
 - b. Anencephaly
 - c. Cleft lip
 - d. Clubfoot

Understanding Common Birth Defects

Pre-Test – Answer Key

1. _____ is not a common birth defect.
 - a. **Down syndrome**
 - b. Cleft palate
 - c. Anencephaly
 - d. Clubfoot

2. How is a cleft lip formed?
 - a. **The tissues that make up the lip do not join before birth**
 - b. The lip is damaged during birth
 - c. The lip is damaged in utero
 - d. The lip is doubled in size

3. Approximately 1 in every 1,600 infants are born with a cleft in the United States each year.
 - a. **True**
 - b. False

4. One in _____ babies is born with clubfoot in the United States each year.
 - a. **1,000**
 - b. 10
 - b. 6,000
 - d. 1,600

5. Which of the following is a common physical characteristic of an infant with anencephaly?
 - a. Round, circular eyes
 - b. Overweight
 - c. **Missing part of the brain**
 - d. Straight 5th finger

6. What nutrient is a mother lacking when her infant is born with anencephaly?
 - a. Vitamin K
 - b. Calcium
 - c. Vitamin C
 - d. **Folic acid**

7. Which of the following risk factors are associated with spina bifida?
- a. Overheating of the mother
 - b. Increased stress
 - c. Vitamin D deficiency
 - d. Teenage pregnancy
8. What percentage of infants with clubfoot are born in low and middle-income countries?
- 80 %
9. There are three types of spina bifida.
- a. True
 - b. False
10. Sometimes spina bifida is never diagnosed.
- a. True
 - b. False
11. What is the name of the method used to treat clubfoot?
- a. Lewis method
 - b. Stanford method
 - c. Hanover method
 - d. Ponseti method
12. Which of the following birth defects prove fatal to the infant within a few hours or days?
- a. Spina bifida
 - b. Anencephaly
 - c. Cleft lip
 - d. Clubfoot

Lesson One – Understanding Common Birth Defects

LEARN: Understanding Common Birth Defects Slide Presentation

35-45 minutes

Purpose:

In this discussion, the instructor defines four common birth defects as well as causes, risk factors, diagnoses, and treatments for these conditions.

Materials:

- *Understanding Common Birth Defects* slide presentation
- *Understanding Common Birth Defects Fact Sheet*
- *Understanding Common Birth Defects Fact Sheet – Answer Key*
- Birth Defects Baby
- RealCare® Baby (if available)

Facilitation Steps:

1. Hold the Birth Defects Baby in your arms as you would a real infant and introduce it to the class.
2. Explain that the manikin represents a newborn baby that portrays common physical characteristics of an infant with cleft lip or palate, clubfoot, anencephaly, or spina bifida. Be sure to inform the class that not all infants born with one of these conditions will look the same as there are varying levels of severity.
3. Ask participants what they notice about the manikin's physical features that are different from the features of a typical baby.

4. If you have a RealCare® Baby available, hold it up next to the Birth Defects Baby to compare their sizes and features.
5. Have participants pass the Birth Defects Baby among each other and instruct them to carefully observe the manikin's physical features. Follow this by passing around a RealCare® Baby (if possible), so they can see and feel the difference.
6. Distribute the *Understanding Common Birth Defects Fact Sheet* and instruct participants to complete it while you share the *Understanding Common Birth Defects* slide presentation. An answer key is provided for the instructor.

Slide 1: Introductory slide.

Slide 2: What Are Common Birth Defects?

The four most common birth defects are cleft lip and palate, clubfoot, anencephaly, and spina bifida. We will cover each one in greater depth on the following slides.

Slide 3: Cleft lip and cleft palate occur when a baby's mouth or lip does not form properly during pregnancy. These birth defects are commonly called “**orofacial** clefts.”

Cleft Lip: The tissues that make up the lip do not join completely before birth. The opening in the lip can be a small slit or a large opening that goes through the lip and into the nose

Cleft Palate: The tissues of the palate (roof of the mouth) do not join completely during pregnancy. In some babies, the front and back of the palate are open, while others have only part of the palate open.

These clefts can be unilateral, meaning one, or bilateral,

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meaning two.

Other Problems: Infants born with a cleft lip, cleft palate, or a combination of the two, may have problems with feeding, speaking clearly when they are older, and chronic ear infections. As the infants grow, they may also have problems with their hearing and teeth.

Slide 4: Causes and Risk Factors

The cause of cleft lip and palate among most infants is unknown. As with all the common birth defects mentioned in this presentation, more scientific studies need to be performed. Some studies show this condition can be caused by:

- Genetic factors
- Environmental factors
- What the mother consumes during pregnancy

Risk factors of an infant having a cleft lip or palate include mothers who:

- Smoke
- Have diabetes
- Take certain types of medication

Slide 5: Diagnosis and Treatment

Cleft lip is usually diagnosed during pregnancy by an ultrasound. The cleft palate is diagnosed typically after the baby is born.

Treatment

Plastic surgery on a cleft lip is performed in the first few months of life and is highly recommended within the first year of life.

Surgery for a cleft palate is recommended within the first 18 months of life. Many children will need additional surgeries as they get older.

Slide 6: Statistics

Around **1 in 700** babies is born with a cleft around the world each year.

- 45% have a cleft palate
- 24% have a cleft lip
- 31% have a cleft lip and palate
- 9% have bilateral cleft lip and palate (cleft is on both sides of the lip)

Around **1 in 1,600** babies are born with a cleft in the U.S. each year.

Slide 7: Effects on Education and Learning

As children with cleft lip and palate age, they may encounter the following educational and learning issues:

- Speech problems
- Self-esteem issues
- Reading deficits
- Memory problems
- Learning disabilities

Slide 8: Clubfoot

Clubfoot is a fairly common birth defect that ranges from mild to severe. This defect describes a range of foot abnormalities present at birth:

- The foot is twisted out of shape or position, looking as if it is upside down
- The tissues connecting the muscles to the bone (tendons) are shorter than usual, making the affected leg appear shorter than the other
- Clubfoot is usually an isolated problem in an otherwise healthy newborn

Slide 9: Causes and Risk Factors

The cause of clubfoot among infants is unknown (idiopathic). About half of children born with clubfoot have it in both feet. Some studies show this condition can be caused by:

- Genetic factors
- Environmental factors

Risk factors of an infant having clubfoot include:

- Having boys (they are twice as likely to develop clubfoot over girls)
- Family history
- Smoking during pregnancy
- Decreased amniotic fluid during pregnancy

About half of children with clubfoot have it in both feet.

Slide 10: Diagnosis and Treatment

Diagnosis

Clubfoot is usually diagnosed during

pregnancy by ultrasound or shortly after birth.

Treatment

- Stretching and casting (Ponseti method) is the most common treatment for clubfoot. A doctor will move the baby's foot into the correct position and cast it. The foot is then repositioned and recast once a week for several months.
- After the Ponseti method is successful, special shoes and braces will need to be worn full time for at least three months. After three months, the shoes and braces will be worn during naps and at night for up to three years.
- If not corrected by the above methods, more invasive surgery will need to be performed. The surgery includes lengthening or repositioning tendons and ligaments to ease the foot into position.

Slide 11: Statistics

- **150,000-200,000** babies are born with clubfoot worldwide each year
- **80%** are born in low- and middle-income countries
- **1 in 1,000** babies are born with clubfoot in the U.S. each year

Slide 12: Effects on Education and Learning

Some issues children with clubfoot might encounter are:

- Neurodevelopmental difficulties
- Difficulties in motor skills, perception, and language
- Visual-spatial issues
- Issues with self-confidence

Slide 13: Anencephaly

Anencephaly (pronounced an·uhn·seh·fuh·lee) is a serious birth defect where a baby is born without parts of its brain and skull. It is a type of neural tube defect (NTD).

The neural tube helps form the baby's brain and skull, spinal cord, and back bones.

When the upper part of the neural tube does not close all the way, this results in anencephaly.

The baby is then born without the front of the brain (the thinking and coordinating part of the brain). The remaining part of the brain is often not covered by bone or skin.

Slide 14: Causes and Risk Factors

The cause of anencephaly is unknown. Some studies show this condition can be caused by:

- Changes in the baby's genes or chromosomes
- Environmental factors

Risk factors of an infant having anencephaly include:

- Lack of folic acid intake by the mother
- Smoking during pregnancy
- Certain medications taken by the mother during pregnancy

Slide 15: Diagnosis and Treatment

Anencephaly is usually diagnosed during pregnancy by ultrasound or immediately after birth.

There is no known cure or treatment for anencephaly. Almost all babies born with this condition are stillborn (dead at birth) or die soon after.

The typical life expectancy of a baby born with anencephaly is a few hours to a few days.

Slide 16: Statistics

- **1 in 5,000 to 10,000** babies born yearly in the U.S. with anencephaly. Since the U.S. started fortifying grains with folic acid, there has been a 28% decline in pregnancies affected by neural tube defects.
- More females are born with anencephaly than males
- Worldwide, there is no determined number of babies born with anencephaly. The numbers are greatly influenced by:
 - Folic acid supplementation
 - Prenatal diagnosis
 - Pregnancy termination
- Since the U.S. started fortifying grains with

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folic acid, there has been a 28% decline in pregnancies affected by neural tube defects

Slide 17: Spina Bifida

Spina bifida (sounds like **spai·nuh bi·fuh·duh**) is a condition that affects the spine.

Like anencephaly, spina bifida is a neural tube defect (NTD) that occurs when the neural tube does not close all the way along the spine.

When this occurs, it can cause the backbone not to form as it should, damaging the spinal cord and nerves.

Slide 18: Types of Spina Bifida

There are three types of spina bifida as documented from the CDC website:

Spina Bifida Occulta (pronounced o-cult-tuh)

– Spina bifida occulta is the mildest type of spina bifida. It is sometimes called “hidden” spina bifida. With this type of spina bifida, there is a small gap in the spine but no opening or sac on the back. The spinal cord and the nerves are usually normal. Spina bifida occulta is often not discovered until late childhood or adulthood. Spina bifida occulta usually does not cause any disabilities.

Meningocele (pronounced ma-nin-jo-seal) –

With meningocele, a sac of fluid comes through an opening in the baby’s back. However, the spinal cord is not in this sac, and there is usually little or no nerve damage. This type of spina bifida is an open spina bifida and can cause minor disabilities.

Myelomeningocele (pronounced my-low-ma-nin-jo-seal) –

When people talk about spina bifida, they often refer to this type.

Myelomeningocele is the most severe type of spina bifida. With this condition, a sac of fluid comes through an opening in the baby’s back, called an open spina bifida. Part of the spinal cord and nerves are in this sac and are damaged. This type of spina bifida causes moderate to severe disabilities, such as problems affecting how the person goes to the bathroom, loss of feeling in the person’s legs or feet, and inability to move the legs.

Slide 19: Causes and Risk Factors

The cause of spina bifida is unknown. Some studies show this condition can be caused by:

- Changes in the genes or chromosomes
- Environmental factors

Risk factors of an infant having spina bifida include:

- Lack of folic acid intake by the mother
- Smoking during pregnancy
- Certain medications taken by the mother during pregnancy
- Overheating of the mother while pregnant (hot tubs, sauna)
- High fever in the mother during pregnancy
- Obesity

Slide 20: Diagnosis and Treatment

Diagnosis

Spina bifida is usually diagnosed during pregnancy by ultrasound or amniocentesis, immediately after the baby is born, late childhood or adulthood, or it might never be diagnosed.

Treatment

The treatment plan depends on the type of spina bifida the person has. People with spina bifida occulta will need less treatment than the more severe forms of spina bifida. Some treatment options include:

- Surgery
- Physical therapy

Slide 21: Statistics

- **1 in 2,500** newborns worldwide are born with spina bifida every year
- It is the most common type of neural tube defect, varying among geographic regions and ethnic groups
- For unknown reasons, Hispanic women have a higher chance of having a child with spina bifida

Slide 22: Effects on Education and Learning

- Spina bifida ranges from mild to severe, with some people having little to no disability
- Others affected may have decreased

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mobility or function

- They may be paralyzed or unable to walk or move parts of their body
- Most people with spina bifida lead happy, productive lives
- Those who have **open spina bifida** can have additional physical and psychological conditions, including:
 - Digestive, visual, and sexual problems
 - Social and emotional issues
 - Obesity
 - Depression

****Instructor's note****

This concludes the slide presentation. If time allows, you can go over the questions on the Fact Sheet and provide the answers to participants. If not, go straight to the Post-Test.

Name: _____

Understanding Common Birth Defects Fact Sheet

Complete the following note page as the slide presentation is shared.

1. Cleft lip and cleft palate are commonly called _____ clefts.
2. When a cleft is _____, it means the infant has one cleft.
3. What is another name for “palate”?
4. Risk factors of an infant having a cleft lip or palate include mothers who:
 - 1.
 - 2.
 - 3.
5. _____ are twice as likely to develop clubfoot than _____.
6. One risk factor associated with clubfoot is decreased _____ during pregnancy.
7. Clubfoot is usually diagnosed during pregnancy by an _____ or shortly after a baby is born.
8. Treatment for clubfoot includes stretching and casting, called the _____ method.
9. NTD stands for _____.
10. A lack of what nutrient contributes to anencephaly? _____

11. 1 in _____ to _____ babies are born with anencephaly each year in the U.S.

12. Is anencephaly more common in males or females?

13. Spina bifida is a condition that affects the _____.

14. How many types of spina bifida are there? _____

15. Besides surgery, what is another type of treatment for spina bifida? _____

16. Those with _____ spina bifida can have additional physical and psychological conditions.

Understanding Common Birth Defects Fact Sheet – Answer Key

1. Cleft lip and cleft palate are commonly called **orofacial** clefts.
2. When a cleft is **unilateral**, it means the infant has one cleft.
3. What is another name for “palate”? **Roof of the mouth**
4. Risk factors of an infant having a cleft lip or palate include mothers who:
 1. **Smoke**
 2. **Have diabetes**
 3. **Take certain types of medicine**
5. **Boys** are twice as likely to develop clubfoot than **girls**.
6. One risk factor associated with clubfoot is decreased **amniotic fluid** during pregnancy.
7. Clubfoot is usually diagnosed during pregnancy by an **ultrasound** or shortly after a baby is born.
8. Treatment for clubfoot includes stretching and casting, called the **Ponseti** method.
9. NTD stands for **neural tube defect**.
10. A lack of what nutrient contributes to anencephaly? **Folic acid**

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11. 1 in 5,000 to 10,000 babies are born with anencephaly each year in the U.S.

13. Is anencephaly more common in males or females?

Females

14. Spina bifida is a condition that affects the spine.

15. How many types of spina bifida are there? 3

16. Besides surgery, what is another type of treatment for spina bifida? Physical therapy

17. Those with open spina bifida can have additional physical and psychological conditions.

Lesson One – Understanding Common Birth Defects

REVIEW: Post-Test

5-10 minutes

Purpose:

This activity measures participants' knowledge about common birth defects upon completion of the lesson. Information from this post-test can be compared with information from the pre-test to measure the change in participants' knowledge about common birth defects as a direct result of the lesson.

Materials:

- *Understanding Common Birth Defects Post-Test*
- *Understanding Common Birth Defects Post-Test – Answer Key*

Facilitation Steps:

1. Give each participant a copy of the *Understanding Common Birth Defects Post-Test*. Allow participants 5-10 minutes to complete it.
2. If desired, use the *Understanding Common Birth Defects Post-Test – Answer Key* to review participants' responses.

Name: _____

Understanding Common Birth Defects Post-Test

Directions: The following questions will ask you about your knowledge of common birth defects. Circle the best answer(s) or write your response in the space provided.

1. _____ is not a common birth defect.
 - a. Down syndrome
 - b. Cleft palate
 - c. Anencephaly
 - d. Clubfoot
2. How is a cleft lip formed?
 - a. The tissues that make up the lip do not join before birth
 - b. The lip is damaged during birth
 - c. The lip is damaged in utero
 - d. The lip is doubled in size
3. Approximately 1 in every 1,600 infants are born with a cleft in the United States each year.
 - a. True
 - b. False
4. One in _____ babies are born with clubfoot in the United States each year.
 - a. 1,000
 - b. 10
 - c. 6,000
 - d. 1,600
5. Which of the following is a common physical characteristic of an infant with anencephaly?
 - a. Round, circular eyes
 - b. Overweight
 - c. Missing part of the brain
 - d. Straight 5th finger
6. What nutrient is a mother lacking when her infant is born with anencephaly?
 - a. Vitamin K
 - b. Calcium
 - c. Vitamin C
 - d. Folic acid
7. Which of the following risk factors are associated with spina bifida?
 - a. Overheating of the mother
 - b. Increased stress
 - c. Vitamin D deficiency
 - d. Teenage pregnancy

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8. What percentage of infants with clubfoot are born in low and middle-income countries?
_____%
9. There are three types of spina bifida.
a. True b. False
10. Sometimes, spina bifida is never diagnosed.
a. True b. False
11. What is the name of the method used to treat clubfoot?
a. Lewis method
b. Stanford method
c. Hanover method
d. Ponseti method
12. Which of the following birth defects prove fatal to the infant within hours or sometimes days?
a. Spina bifida
b. Anencephaly
c. Cleft lip
d. Clubfoot

Understanding Common Birth Defects

Post-Test – Answer Key

1. _____ is not a common birth defect.
 - a. **Down syndrome**
 - b. Cleft palate
 - c. Anencephaly
 - d. Clubfoot
2. How is a cleft lip formed?
 - a. **The tissues that make up the lip do not join before birth.**
 - b. The lip is damaged during birth.
 - c. The lip is damaged in utero.
 - d. The lip is doubled in size.
3. Approximately 1 in every 1,600 infants are born with a cleft in the United States each year.
 - a. **True**
 - b. False
4. One in _____ babies are born with clubfoot in the United States each year.
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 - b. 10
 - c. 6,000
 - d. 1,600
5. Which of the following is a common physical characteristic of an infant with anencephaly?
 - a. Round, circular eyes
 - b. Overweight
 - c. **Missing part of the brain**
 - d. Straight 5th finger
6. What nutrient is a mother lacking when her infant is born with anencephaly?
 - a. Vitamin K
 - b. Calcium
 - c. Vitamin C
 - d. **Folic acid**
7. Which of the following risk factors are associated with spina bifida?
 - a. **Overheating of the mother**
 - b. Increased stress
 - c. Vitamin D deficiency
 - d. Teenage pregnancy
8. What percentage of infants with clubfoot are born in low and middle-income countries?
80 _____ %

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9. There are three types of spina bifida.

- a. **True** b. False

10. Sometimes, spina bifida is never diagnosed.

- a. **True** b. False

11. What is the name of the method used to treat clubfoot?

- a. Lewis method
b. Stanford method
c. Hanover method
d. **Ponseti method**

12. Which of the following birth defects prove fatal to the infant within hours or sometimes days?

- a. Spina bifida
b. **Anencephaly**
c. Cleft lip
d. Clubfoot

Supplementary Activities

In addition to the activities and discussions presented in this curriculum, consider the following ideas to meet the needs of longer class periods or different groups of participants.

- Survey friends and family to discover what they know about the four common birth defects mentioned in the lesson.
- Create a poster illustrating the common physical characteristics of one of the common birth defects.
- Develop a public service announcement persuading pregnant women to seek prenatal medical care as early as possible, especially if they are in a high-risk category.
- Develop an informative brochure targeted at the general public presenting information about common birth defects.
- Write a blog after interviewing someone born with a common birth defect or their parent.
- Invite an OB-GYN, pediatrician, counselor, social worker, or special education teacher to talk about the importance of early interventions for children with common birth defects. Prepare a written or oral report about current topics and discussions of cleft lip or palate, clubfoot, and spina bifida. Such topics could include:
 - Adult life and relationships
 - Cognitive difficulties
 - Dental care
 - Early intervention
 - Education and inclusion
 - Family/community relationships
 - Memory/alzheimer's
 - Motor skills and physical education
 - Prenatal screening and testing
 - Delivery of diagnosis
 - Reading and literacy
 - Sexuality
 - Speech and language
 - Sleep patterns
 - Obesity

Birth Defects Organizations and Websites

The following organizations provide helpful information about common birth defects. These websites are not managed, monitored, or endorsed by Realityworks, Inc. Realityworks makes no representation for the information presented on these sites or their compliance with applicable laws or regulations.

Cleft Lip and Cleft Palate Support:

- Cleft Lip and Palate Association
<https://www.clapa.com/treatment/other-resources/>

Clubfoot Support:

- Hope Walks – Freedom from Clubfoot
<https://www.hopewalks.org/resources/>

Anencephaly Support:

- Shine Charity
<https://www.shinecharity.org.uk/related-conditions/anencephaly>

Spina Bifida Support:

- Spina Bifida Association
<https://www.spinabifidaassociation.org/>

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