

Common Childhood Illnesses and Conditions Curriculum



Every effort has been made to trace the ownership of copyrighted material and to make full acknowledgement of its use. If errors or omissions have occurred, they will be corrected in subsequent editions, provided that notification is submitted in writing to the publisher.



© 2024, Realityworks, Inc. All rights reserved.

2709 Mondovi Road
Eau Claire, WI 54701 USA
800.830.1416
+1.715.830.2040
www.realityworks.com

1069383-01

Table of Contents

Table of Contents	3
Author	4
Introduction	4
Curriculum Structure	4
Lesson Structure	5
Lesson One – Diarrhea and Diaper Rash	6
FOCUS: Diarrhea and Diaper Rash Pre-Test	7
LEARN: Diarrhea and Diaper Rash Slide Presentation	10
REVIEW: Diarrhea and Diaper Rash Demonstration Instructions	17
Lesson Two – Middle Ear Infection	19
FOCUS: Middle Ear Infection Worksheet	20
LEARN: Middle Ear Infection Slide Presentation and Ear Exam	23
REVIEW: Middle Ear Infection Post-Test	29
Lesson Three – Chickenpox	32
FOCUS: Care of Chickenpox Rash Instructions	33
LEARN: Chickenpox Slide Presentation	34
REVIEW: Chickenpox Post-Test	40
Lesson Four – Fever	45
FOCUS: Fever and Body Temperature Matching Worksheet	46
LEARN: Fever Slide Presentation and Demonstration	49
REVIEW: Fever Case Study	56
References	58
Lesson Five – Pink Eye	59
FOCUS: Pink Eye Pre-Test	60
LEARN: Pink Eye Slide Presentation	63
REVIEW: Pink Eye Case Study	68
Lesson Six – Hand, Foot, and Mouth Disease	70
FOCUS: Hand, Foot, and Mouth Disease Matching Worksheet	71
LEARN: Hand, Foot, and Mouth Disease Slide Presentation	74
REVIEW: Hand, Foot, and Mouth Disease Post-Test	79
Lesson Seven – Medication Measurement	82
FOCUS: Medication Measurement Worksheet	83
LEARN: Medication Measurement Slide Presentation	86
REVIEW: Medication Administration Demonstration	92

Author



Sarah Schulze MSN, APRN, CPNP, is a board-certified pediatric nurse practitioner (NP). She earned her BSN from Indiana State University and her MSN from the University of Illinois in Chicago. As an NP, she has worked in primary care pediatrics and adolescent mental health.

Schulze's special interests include growth and development, mental health, and breastfeeding. She is also a certified lactation counselor. Schulze serves as a medical expert, writing and editing content for various websites, educational resources, and apps.

Introduction

This curriculum uses the Common Childhood Illnesses Baby, a teaching tool designed to help participants learn about signs, symptoms, and care of infants suffering from common childhood conditions. The lessons cover seven common illnesses and conditions of childhood, their causes, signs and symptoms, and typical treatment and care, while providing hands-on experiences to facilitate learning.

Curriculum Structure

The *Common Childhood Illnesses & Conditions Curriculum* is composed of the following lessons. Approximate lesson times are included.

Lesson	Title	Approximate Time
One	Diarrhea and Diaper Rash	60 minutes
Two	Middle Ear Infection	60 minutes
Three	Chickenpox	60 minutes
Four	Fever	60 minutes
Five	Pink Eye	60 minutes
Six	Hand, Foot, and Mouth Disease	60 minutes
Seven	Medication Measurement and Administration	60 minutes
	Total	7 hours

Lesson Structure

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

Lesson Sections

The actual lesson follows the overview, which contains some of the sections described below.

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 demonstration, or a review of previous lesson information. 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 – Diarrhea and Diaper Rash

Lesson Overview

This lesson offers information and experiential learning about infants experiencing diarrhea and diaper rash. An overview of the most common causes, signs, and symptoms, and how to care for these conditions will help participants be prepared to appropriately care for affected children.

Lesson Objectives

After completing this lesson, participants will be able to:

- Identify changes in stool patterns and what is considered diarrhea in infants
- Identify common causes of diarrhea in infants
- Use proper PPE and sanitation techniques when handling diarrhea stools
- Describe the natural skin barrier and how its disruption leads to diaper rash
- Identify the various types or causes of diaper rash and how their treatment might vary

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• <i>Diarrhea and Diaper Rash Pre-Test</i> • <i>Diarrhea and Diaper Rash Pre-Test – Answer Key</i>	1. Print/photocopy <i>Diarrhea and Diaper Rash Pre-Test</i> (one per participant).	10 minutes
LEARN	• <i>Diarrhea and Diaper Rash</i> slide presentation • <i>Diarrhea and Diaper Rash Notes Page</i> • <i>Diarrhea and Diaper Rash Notes Page – Answer Key</i>	1. Print/photocopy <i>Diarrhea and Diaper Rash Notes Page</i> (one per participant). 2. Prepare <i>Diarrhea and Diaper Rash</i> slide presentation for viewing.	30 minutes
REVIEW	• Common Childhood Illnesses Baby • Simulated stool • Gloves • Disposable diapers • Wipes	1. Prepare the materials for diaper change.	20 minutes

Lesson One – Diarrhea and Diaper Rash

FOCUS: Diarrhea and Diaper Rash Pre-Test

10 minutes

Purpose:

To test participant knowledge of diarrhea and diaper rash care prior to the lesson and serve as study/reference material upon completion of the lesson.

Materials:

- *Diarrhea and Diaper Rash Pre-Test*
- *Diarrhea and Diaper Rash Pre-Test – Answer Key*

Facilitation Steps:

1. Distribute the *Diarrhea and Diaper Rash Pre-Test* to participants.
2. Allow time for participants to complete the test.
3. Review the test and correct answers as a class using the *Diarrhea and Diaper Rash Pre-Test – Answer Key* so that participants may learn from reviewing correct answers.

Diarrhea and Diaper Rash Pre-Test

Instructions: Circle the correct answer to each of the following questions.

1. Infants are considered to have diarrhea when they exhibit what symptoms?
 - a. Two loose stools after a recent change in formula
 - b. Daily, soft, seedy stools
 - c. Three or more watery or very loose stools
 - d. Four soft stools in one day
2. What is the most common cause of diarrhea in infants?
 - a. Viral infection
 - b. Lactose intolerance
 - c. Bacterial infection
 - d. Antibiotic use
3. Which complication is of most concern for infants with a new onset of diarrhea?
 - a. Pain from gas
 - b. Poor weight gain
 - c. Diaper rash
 - d. Dehydration
4. What is the most effective way to prevent spreading viral diarrhea between children when working in a health care or childcare facility?
 - a. Keeping children home from daycare until they have not had a loose stool for 48 hours
 - b. Wearing gloves while changing diapers and thoroughly washing hands afterwards
 - c. Requiring children experiencing diarrhea to wear a face mask
 - d. Not serving foods that are known to commonly cause diarrhea
5. A baby's skin is covered in various bacteria and fungi that keep the skin healthy and keep germs out.
 - a. True
 - b. False
6. Which is not a common cause of diaper rash?
 - a. Bacteria
 - b. Virus
 - c. Fungus
 - d. Allergic reaction
7. Treatment for all diaper rashes is the same.
 - a. True
 - b. False
8. Which symptom indicates a diaper rash may be bacterial?
 - a. Bright red with sharply demarcated edges
 - b. Pimples or yellow, crusted sores
 - c. Spares the skin folds
 - d. Spreads to the armpits

Diarrhea and Diaper Rash Pre-Test – Answer Key

1. Infants are considered to have diarrhea when they exhibit what symptoms?
 - a. Two loose stools after a recent change in formula
 - b. Daily, soft, seedy stools
 - c. Three or more watery or very loose stools**
 - d. Four soft stools in one day
2. What is the most common cause of diarrhea in infants?
 - a. Viral infection**
 - b. Lactose intolerance
 - c. Bacterial infection
 - d. Antibiotic use
3. Which complication is of most concern for infants with a new onset of diarrhea?
 - a. Pain from gas
 - b. Poor weight gain
 - c. Diaper rash
 - d. Dehydration**
4. What is the most effective way to prevent spreading viral diarrhea between children when working in a health care or childcare facility?
 - a. Keeping children home from daycare until they have not had a loose stool for 48 hours
 - b. Wearing gloves while changing diapers and thoroughly washing hands afterwards**
 - c. Requiring children experiencing diarrhea to wear a face mask
 - d. Not serving foods that are known to commonly cause diarrhea
5. A baby's skin is covered in various bacteria and fungi that keep the skin healthy and keep germs out.
 - a. True**
 - b. False
6. Which is not a common cause of diaper rash?
 - a. Bacteria
 - b. Virus**
 - c. Fungus
 - d. Allergic reaction
7. Treatment for all diaper rashes is the same.
 - a. True
 - b. False**
8. With which symptom indicates a diaper rash may be bacterial?
 - a. Bright red with sharply demarcated edges
 - b. Pimples or yellow, crusted sores**
 - c. Spares the skin folds
 - d. Spreads to the armpits

Lesson One – Diarrhea and Diaper Rash

LEARN: Diarrhea and Diaper Rash Slide Presentation

30 minutes

Purpose:

To define diarrhea and diaper rash as medical conditions as well as discuss their causes, signs, symptoms, risks of complications, and management in infants.

Materials:

- *Diarrhea and Diaper Rash Slide Presentation*
- *Diarrhea and Diaper Rash Notes Page*
- *Diarrhea and Diaper Rash Notes Page Answer Key*

Facilitation Steps:

1. Distribute the *Diarrhea and Diaper Rash Notes Page* and encourage students to take notes during the lecture.
2. Read the following material from the lecture:

Slide 2: Normal Infant Poop Patterns

Baby poop is a hot topic among new parents, and the color, consistency, and frequency with which babies poop can leave parents worried. There is a wide range of what is considered “normal” poop and this changes as babies age and based on what they eat.

For a young infant consuming only breastmilk or formula, stools are soft and mushy, somewhere between oatmeal and playdough. They may be more yellow or green for breastfed babies, appearing a little “seedy” or more tan for formula fed babies. During the first weeks of life, babies will poop multiple times per day, sometimes as many as 10. This does slow down a little over the following months, sometimes breastfed babies can even go a few days without any bowel movement. But for most infants, somewhere between 1-3 stools per day is normal.

Slide 3: What is Diarrhea?

Diarrhea occurs when there is a sudden change in the consistency and frequency of stools. Stools will suddenly be very loose, runny, or even watery. If this just occurs once, it may be nothing to worry about, but if it occurs three or more times in a row within a short period of time, it is considered diarrhea. The frequency determines if the diarrhea is mild, moderate, or severe.

Slide 4: Causes of Diarrhea

There are many potential causes of diarrhea. The most common in infants is a viral infection of the gastrointestinal tract, commonly rotavirus or norovirus. Bacteria are less common, but also a potential cause; this would include germs, like salmonella. Parasites, like giardia, can also cause diarrhea.

Treatment with antibiotics can upset the normal bacteria of the intestines and cause diarrhea as well.

An allergy or intolerance to cow’s milk can also cause diarrhea, often with blood in it. The protein in cow’s milk is larger than human milk protein and may be difficult for immature intestines to digest. Cow’s milk is a main ingredient in infant formula and can also pass from the mother’s diet into breastmilk, so if an intolerance occurs, it needs to be avoided either through maternal diet or a hypoallergenic formula. Infants usually outgrow this as they reach age one.

In older children, lactose intolerance can occur when a component of milk is not easily digested and causes gas, bloating, and diarrhea. Lactose intolerance often runs in families.

Slide 5: Preventing the Spread of Diarrhea

Viral and bacterial causes of diarrhea can be very contagious, especially in childcare facilities. These pathogens spread through the fecal oral route, meaning viral or bacterial particles from stool are present on hands, surfaces, or food products and are then ingested, infecting the next person. If you are caring for a child with diarrhea, you need to be sure you are wearing gloves when changing diapers and washing your hands very well after changing a diaper.

Surfaces, like changing tables, counters, and tables, all need to be cleaned with a solution containing bleach. Produce, like fresh fruits and vegetables, need to be washed well before serving.

Slide 6: Treatment of Diarrhea

The treatment of diarrhea depends on the cause. Viral diarrhea must run its course, supporting hydration and other symptoms. Bacterial or parasite causes require antibiotics or deworming medications. Diarrhea caused by antibiotics will resolve when the antibiotic is discontinued. Cow's milk protein or lactose intolerance requires avoiding dairy products in the diet (or breastfeeding mother's diet).

It used to be recommended that children with diarrhea have a limited and bland diet. However, current evidence suggests they do better by eating and drinking whatever they feel up to and that limitations are not necessary and do not speed recovery. Emphasis on fluid intake to avoid dehydration is important for all.

Slide 7: Complications of Diarrhea

Acute complications of diarrhea include dehydration, fatigue, and diaper rash. Dehydration is the number one risk factor and children should be watched closely to ensure they are getting enough fluids to replace what is lost with the diarrhea. Signs of dehydration include dry mouth, lips, and tongue; sunken soft spot; decreased urine output; and, in severe cases, excessive sleepiness or difficulty arousing them.

Intestinal cramping can occur and be painful. A warm bath and “bicycle leg” movements can be helpful with moving gas through and soothing this discomfort.

Frequent wet stools and cleaning with wipes can be very irritating to sensitive infant skin and diaper rash can occur.

If diarrhea persists over many days or weeks, poor weight gain, malnutrition, and failure to thrive can occur.

Slide 8: Disruption of Skin's Natural Barrier

The skin contains a natural mix of “good” bacteria and fungi that keep the skin protected from “bad” germs and support the skin's natural barrier to infections and moisture disruption.

Frequent loose or acidic stools, diaper changes, or use of wipes disrupts this barrier and diaper rash can occur.

Slide 9: Diaper Rash

The disruption in the normal flora and natural barrier of the skin can result in different types of diaper rashes. The most common is simply irritation; this occurs from prolonged or frequent contact with a soiled diaper and irritating urine and stool. This causes pink or bright red patches in the area in contact with the diaper. The skin within folds is usually still healthy.

It is also very common for the balance between bacteria and fungi to be disrupted and a yeast infection rash occurs. This results in a bright pink or red rash with sharply demarcated edges that spreads to within the skin folds. The rash may include dots or spots and may even crack or ooze. This type of rash can also affect the armpits or even the mouth where it is known as thrush. Recently taking antibiotics can reduce the amount of good bacteria, enough that a yeast rash occurs.

Rarely, the balance between fungi and bacteria shifts so that bacteria take over, often strep or staph. This can cause a bright red rash,

particularly around the anus, that includes pimples or yellow crusting.

Certain fragrances or ingredients in diapers, wipes, or soaps and lotions may be irritating to a baby's sensitive skin and cause a diaper rash as well.

Slide 10: Treatment of Diaper Rash

Treatment of diaper rash depends largely on the cause. Keeping irritants off the skin is the first step. This is done by reducing the amount of time a child spends in a soiled diaper. Sometimes it is helpful to let a baby "air out" for a bit in between diaper changes instead of immediately putting a diaper back on them to continue the warm and wet environment for bacteria or fungi to thrive. Applying a barrier cream, like zinc oxide, can help protect the skin and keep moisture off it between diaper changes as well. This can be applied liberally at each diaper change.

For yeast or bacterial rashes, a prescription antifungal or antibiotic cream respectively may be prescribed. These are usually applied to the affected area several times per day for 7-10 days. Stopping the cream before the prescribed amount of time, even if the rash seems to be clearing, may result in the rash coming back.

For allergies, changing to a different or unscented brand is usually all that is needed.

Diarrhea and Diaper Rash Notes Page

Instructions: Take notes on the topic as the slide presentation is shared.

1. Normal infant poop patterns include the following:

-
-
-
-

2. Define diarrhea:

3. Causes of Diarrhea

-
-
-
-
-
-

4. Treatment of Diarrhea

- Viral must _____
- Bacterial can be treated with _____
- Antibiotic side effects resolve when _____
- Cow's milk protein or lactose intolerance requires _____ diet

Children may eat or drink whatever they like to treat diarrhea. True or False (circle one)

5. Complications of Diarrhea

-
-
-
-

6. Disruption of Skin's Natural Barrier: Frequent _____,
_____, or _____

disrupts this barrier and diaper rash can occur.

7. Treatment of Diaper Rash is dependent on the cause:

-
-
-
-
-

Diarrhea and Diaper Rash Notes Page –

Answer Key

Instructions: Take notes on the topic as the slide presentation is shared.

1. Normal infant poop patterns include the following:

- Soft
- Yellow, green, tan
- Color and consistency change with diet
- 1-4 per day

2. Define diarrhea: Diarrhea occurs when there is a sudden change in the consistency and frequency of stools. Stools will suddenly be very loose, runny, or even watery. If this just occurs once, it may be nothing to worry about, but if it occurs three or more times in a row within a short period of time, it is considered diarrhea.

3. Causes of Diarrhea

- Virus
- Bacteria
- Parasite
- Antibiotics
- Cow's milk allergy
- Lactose intolerance

4. Treatment of Diarrhea

- Viral must run its course
- Bacterial can be treated with antibiotics
- Antibiotic side effects resolve when medication is complete
- Cow's milk protein or lactose intolerance requires elimination diet

Children may eat or drink whatever they like to treat diarrhea. True or False (circle one)

5. Complications of Diarrhea

- Dehydration
- Intestinal cramping
- Diaper rash
- Poor weight gain/failure to thrive

6. Disruption of Skin's Natural Barrier: Frequent loose or acidic stools, diaper changes or use of wipes disrupts this barrier and diaper rash can occur.

7. Treatment of Diaper Rash is dependent on cause:

- Frequent diaper changes, reducing time in soiled diaper
- Barrier cream
- Prescription antifungal ointment
- Prescription antibiotic ointment
- Changing to a product without scent or different brand

Lesson One – Diarrhea and Diaper Rash

REVIEW: Diarrhea and Diaper Rash

Demonstration Instructions

20 minutes

Purpose:

To increase participant comfort with changing a diaper with a diarrhea stool and identifying the subsequent problem of diaper rash.

Materials:

- Common Childhood Illnesses Baby
- Simulated stool
- Gloves
- Disposable diapers
- Wipes

Facilitation Steps:

1. Optional: Share a brief diaper change video to show participants what they can expect. Here are a few:
<https://www.youtube.com/watch?v=MdMqTuiFMP8>
https://www.youtube.com/watch?v=vG_dhcPNy7A
<https://www.youtube.com/watch?v=CNGMxro6Qvo>
<https://www.youtube.com/watch?v=wZh9HFcRJpw>
<https://www.youtube.com/watch?v=zi9ra6hQtM4>
2. Mix the simulated stool mixture with water for the desired loose and watery consistency.
3. Use the syringe provided to collect some of the simulated stool and inject it into the disposable diaper on the baby.
4. Read the following scenario to participants:

You work at a daycare and are caring for Sally, a four-month-old baby. She is fussy and you pick her up, noticing her diaper needs to be changed.

You place Sally on the changing table and open her diaper to note a loose, watery stool. This is the fourth time this has happened today.

You also notice pink, irritated-looking patches on the skin of her groin, except for between the skin folds.

5. Instruct participants to don gloves, open the diaper on the Common Childhood Illnesses Baby, and examine the stool. Have them use the wipes to clean the baby, reminding them to wipe from front to back so as not to contaminate the urethra with stool.
6. Once the Common Childhood Illnesses Baby is clean, instruct participants to remove the dirty diaper and replace it with a clean one. Before fastening the diaper, they should examine the skin on the baby's groin and note the diaper rash.
7. Tell students that applying a zinc-based diaper rash cream to the areas that are pink and irritated is how you treat this illness on a real infant.

WARNING: Do NOT apply cream to the Common Childhood Illnesses Baby or wipe it with abrasive items like dry paper towels as this can remove the paint.
8. Instruct participants to fasten the diaper, remove gloves, and wash their hands.

9. Answer any questions participants have or repeat the exercise as needed. If you have many participants, you may wish to set up a station to rotate through for practice.

Lesson Two – Middle Ear Infection

Lesson Overview

This lesson aims to increase understanding of the anatomy of the ear and how middle ear infections occur. Participants will learn the signs, symptoms, complications, and treatment of middle ear infections. At the end of the lesson, participants will be able to examine an affected ear to facilitate understanding.

Lesson Objectives

After completing this lesson, participants will be able to:

- Identify the basic anatomy of the ear and describe a healthy eardrum
- Discuss the process of a middle ear infection and explain common causes
- Describe symptoms of a middle ear infection as well as physical characteristics on exam
- Explain the typical treatment for a middle ear infection

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• <i>Middle Ear Anatomy Worksheet</i> • <i>Middle Ear Anatomy Worksheet – Answer Key</i>	1. Print/photocopy <i>Middle Ear Anatomy Worksheet</i> (one per participant).	10 minutes
LEARN	• <i>Middle Ear Infection</i> slide presentation • <i>Middle Ear Infection Notes Page</i> • <i>Middle Ear Infection Notes Page – Answer Key</i> • Common Childhood Illnesses Baby • Otoscope	1. Print/photocopy <i>Middle Ear Infection Notes Page</i> (one per participant). 2. Prepare <i>Middle Ear Infection</i> slide presentation for viewing. 3. Prepare the Common Childhood Illnesses Baby and otoscope for participants to examine the ears.	30 minutes
REVIEW	• <i>Middle Ear Infection Post-Test</i> • <i>Middle Ear Infection Post-Test – Answer Key</i>	1. Print/photocopy <i>Middle Ear Infection Post-Test</i> (one per participant).	20 minutes

Lesson Two – Middle Ear Infection

FOCUS: Middle Ear Infection Worksheet

10 minutes

Purpose:

To facilitate understanding of middle ear infections with introductory information. Participants will learn about the anatomy of the ear and what a healthy eardrum looks like.

Materials:

- *Middle Ear Infection Worksheet*
- *Middle Ear Infection Worksheet – Answer Key*

Facilitation Steps:

1. Distribute the *Middle Ear Infection Worksheet*.
2. Allow participants to pair up to complete the worksheet.
3. Review the worksheet as a class using the *Middle Ear Infection Worksheet – Answer Key*.

Name: _____ Class: _____

Middle Ear Infection Worksheet

Instructions: Match the following words to the appropriate part of the ear on the image below:

Ear Canal Pinna Tympanic Membrane (Eardrum)
Outer Ear Middle Ear Inner Ear Eustachian Tube

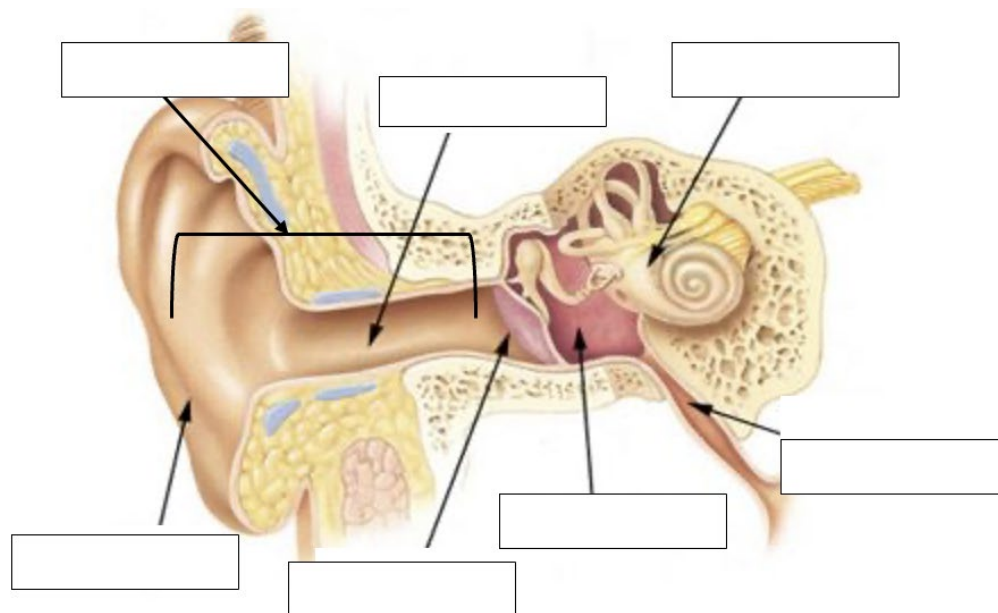
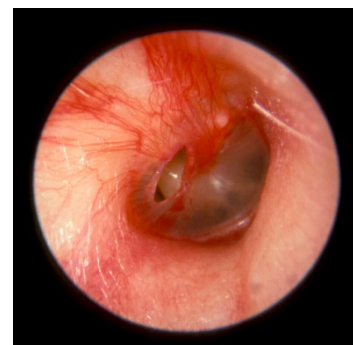
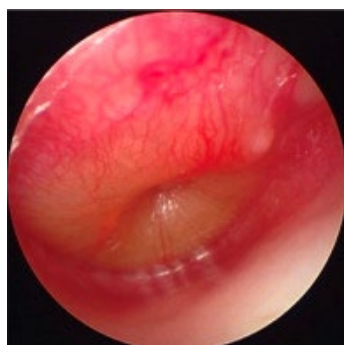


Image from <https://peds-ent.com/eustachian-tube-dysfunction/>

Instructions: Match the following words to the appropriate image below:

Normal eardrum Middle ear infection Perforated (ruptured) eardrum



Middle Ear Infection Worksheet – Answer Key

Instructions: Match the following words to the appropriate part of the ear on the image below:

Ear Canal

Pinna

Tympanic Membrane (Eardrum)

Outer Ear

Middle Ear

Inner Ear

Eustachian Tube

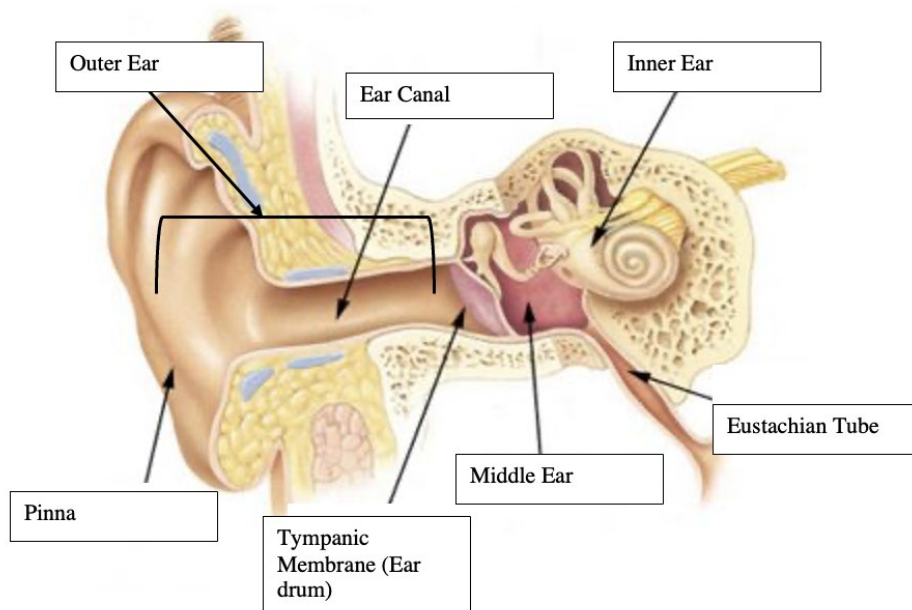


Image from <https://peds-ent.com/eustachian-tube-dysfunction/>

Instructions: Match the following words to the appropriate image below:

Normal eardrum

Middle ear infection

Perforated (ruptured) eardrum

Middle Ear Infection



Normal Eardrum



Perforated (ruptured) eardrum



Lesson Two – Middle Ear Infection

LEARN: Middle Ear Infection Slide Presentation and Ear Exam

30 minutes

Purpose:

To provide information about the anatomy of the ear, pathology of middle ear infections, signs, symptoms, complications, and potential treatment.

Materials:

- *Middle Ear Infection* slide presentation
- *Middle Ear Infection Notes Page*
- *Middle Ear Infection Notes Page – Answer Key*
- Common Childhood Illnesses Baby
- Otoscopes

Facilitation Steps:

1. Distribute the *Middle Ear Infection Notes Page* and encourage participants to take notes during the lecture.
2. Read the following material from the lecture:

Slide 2: Anatomy of the Ear

The basic anatomy of the ear consists of three main parts: outer ear, middle ear, and inner ear. The outer ear includes the earlobe, or pinna, and the ear canal. The outer ear stops at the eardrum, or tympanic membrane. Sound waves are collected by the outer ear and travel down the ear canal where they are amplified and vibrate the eardrum.

On the inside of the eardrum is the middle ear. This consists of three bones: incus, malleolus, and stapes. They connect and pass vibration from the eardrum to the inner ear. The eustachian tube is also part of the middle ear. It is a narrow canal between the middle ear and the back of the throat. This allows pressure to stay equalized, allowing the eardrum to vibrate appropriately. This is

why swallowing, or yawning will “pop” your ears on a plane or with elevation changes when the external pressure changes. It also drains any fluid that might be present in the middle ear.

The inner ear consists of semicircular canals and the cochlea, which help with the body’s sensation of balance as well as pass vibrations to the auditory nerve. The brain interprets these vibrations as sound.

Slide 3: Middle Ear Infection

Middle ear infections occur when the eustachian tube doesn’t function properly and becomes swollen or clogged, allowing fluid and pressure to build in the middle ear. Sometimes it is just fluid, but other times there are bacteria or viruses in the fluid that multiply, and an infection occurs. This affects sound, resulting in pain and the child feeling sick.

Slide 4: Common Causes

There are a variety of things that cause swelling, irritation, or blockage in the eustachian tubes while also increasing fluid presence in the middle ear. Common causes include viral illnesses or “common colds” and seasonal allergies. Exposure to cigarette smoke that irritates the nose, throat, and ears/eustachian tubes. Bottle propping is when young babies lie back and have a bottle propped in their mouth instead of being held at a 45-degree angle while they drink. Bottle propping allows milk or whatever fluid is in the bottle to flush backwards up the eustachian tube and middle ear.

Slide 5: Middle Ear Infection

Symptoms usually include pain in one or both ears, sore throat, fever, muffled hearing, and even drainage from the ear. Pain comes from the pressure buildup and swelling of the eardrum. If the pressure builds enough, the eardrum will burst which relieves the pain but allows drainage to come out of the ear canal.

Slide 6: Changes to the Eardrum

Problems with the ear are diagnosed by appearance. A healthy eardrum has a very specific appearance with a pearly, gray, or translucent color. There are several “landmarks” that are visible when pressure is equalized; these include a cone of light reflection that looks like a triangle, and the handle of the malleus visible on just the other side of the eardrum.

When fluid without infection, or an effusion, is present, those landmarks are disrupted. Light may reflect in an irregular shape across the still gray, but duller colored, eardrum. An air bubble may be visible on the other side of the eardrum.

When infection is present, the eardrum is bright pink or red, the landmarks are lost, and the eardrum may appear to swell or bulge into the ear canal.

If the pressure builds enough, the delicate eardrum will rupture and blood or mucous may clog the canal. When that clears, a visible hole in the eardrum can be seen.

Slide 7: Eardrum Pictures

Note the landmarks and coloring of each.

Slide 8: Treatment Options

The treatment for ear infections depends on the cause. For acute infections, pain and fever medications are useful. Antibiotics help removed the bacteria. As the illness resolves, the fluid will drain, and pressure levels return to normal. For eardrums that

have not ruptured, oral antibiotics are used and taken to the middle ear by the blood stream. For eardrums that have ruptured, antibiotic drops can be instilled in the ear and offer a direct route to the middle ear to clear up the infection.

For fluid buildup from allergies, antihistamines and nasal steroids help reduce fluid and eustachian tube inflammation.

Stopping environmental problems, like cigarette smoke exposure and bottle propping, helps reduce fluid and inflammation levels.

For children with frequent ear infections or fluid that persists for many months, ear tubes may be indicated. These are silicon tubes or tunnels that are place surgically through the eardrum. They allow pressure to remain equal on both side of the eardrum and allow fluid to drain out the ear canal instead of being trapped in the middle ear.

Several childhood vaccines, including the Hib and Prevnar vaccines, have reduced the number of ear infections experienced in childhood by preventing infection with some of the most common bacteria responsible for ear infections!

3. Allow participants to use the otoscope to examine the Common Childhood Illnesses Baby’s eardrums. Have participants look at both ears. One has middle ear infection and the other is healthy.

Ask participants to describe what they see. Set up a few stations for participants to rotate through.

4. Here are a few videos to share regarding otoscope use:

<https://www.youtube.com/watch?v=M8XLXb7Z9wc>

<https://www.youtube.com/watch?v=pQbjNyZr0gc>

Middle Ear Infection Notes Page

Instructions: Take notes on the topic as the slide presentation is shared.

1. Anatomy of the Ear: Record important information and identify things found in each part of the ear.

- Outer Ear:

- Middle Ear:

- Inner Ear:

Middle ear infections occur when _____

3. Common Causes

-
-
-

4. Signs of Middle Ear Infection

5. Changes to the eardrum may include:

6. Treatment Options

Middle Ear Infection Notes Page – Answer Key

Instructions: Take notes on the topic as the slide presentation is shared.

1. Anatomy of the Ear: Record important information and identify things found in each part of the ear.
 - **Outer Ear: The outer ear includes the earlobe, or pinna, and the ear canal. The outer ear stops at the eardrum, or tympanic membrane. Sound waves are collected by the outer ear and travel down the ear canal where they are amplified and vibrate the eardrum.**
 - **Middle Ear: On the inside of the eardrum is the middle ear. This consists of three bones: incus, malleolus, and stapes. These bones connect and pass vibration from the eardrum to the inner ear. The eustachian tube is also part of the middle ear. It is a narrow canal between the middle ear and the back of the throat.**
 - **Inner Ear: The inner ear consists of semicircular canals and the cochlea, which help with the body's sensation of balance as well as pass vibrations to the auditory nerve. The brain interprets it as sound.**
2. Middle ear infections occur when **the eustachian tube doesn't function properly and becomes swollen or clogged, allowing fluid and pressure to build in the middle ear.**
3. Common Causes
 - **Excessive mucous from a viral illness, like cold or seasonal allergies**
 - **Cigarette smoking exposure**
 - **Bottle propping**
4. Signs of Middle Ear Infection
 - **Pain in the ear**
 - **Sore throat**
 - **Fever**
 - **Muffled hearing**
 - **Drainage from the ear**
5. Changes to the eardrum may include:
 - **Duller colored eardrum**
 - **An air bubble may be visible on the other side of the eardrum**
 - **Bright pink or red**
 - **Swelling or bulging into the ear canal**
 - **Blood or mucus clogging the canal**
 - **Visible hole in the eardrum**

6. Treatment Options

- Acetaminophen or ibuprofen for fever and pain
- Antibiotics treat infection
- Oral without rupture
- Drops for rupture
- Antihistamines and nasal spray for allergies
- Stop smoke exposure and bottle propping
- Ear tubes for persistent fluid
- Vaccines

Lesson Two – Middle Ear Infection

REVIEW: Middle Ear Infection Post-Test

15 minutes

Purpose:

To assess and solidify knowledge gained about middle ear infection signs, symptoms, complications, and treatment.

Materials:

- *Middle Ear Infection Post-Test*
- *Middle Ear Infection Post-Test – Answer Key*

Facilitation Steps:

1. Optional: Share a brief video about middle ear infections. Here are a few to choose from:
https://www.youtube.com/watch?v=fIS2_srxZfY
<https://www.youtube.com/watch?v=awWbvBTntOs>
<https://www.youtube.com/shorts/fG0ircsxDIM>
<https://www.youtube.com/watch?v=vR2KpGn2fPM>
2. Distribute the *Middle Ear Infection Post-Test* to participants.
3. Allow time for participants to complete the test.
4. Review the test and correct answers as a class using the *Middle Ear Infection Post-Test – Answer Key*, so that participants may learn from reviewing correct answers.

Name: _____ Class: _____

Middle Ear Infection Post-Test

Instructions: Circle the correct answer for each question below.

1. What is the name of the external ear lobe, visible from the outside?
 - a. Pinna
 - b. Tympanic membrane
 - c. Cochlea
 - d. Eustachian tube
2. Which part of the ear is affected with a middle ear infection?
 - a. Ear canal
 - b. The space between the tympanic membrane and cochlea
 - c. In the cochlea
 - d. In the eustachian tube
3. Which is a part of a healthy eardrum?
 - a. Fluid bubble
 - b. Bright red color
 - c. Cone of light
 - d. Small hole near the center
4. Which is not a risk factor for middle ear infections?
 - a. Cigarette smoke exposure
 - b. Bottle propping
 - c. Seasonal allergies
 - d. Family history of hearing loss
5. Routine childhood vaccines have reduced middle ear infections.
 - a. True
 - b. False
6. Which are common symptoms of middle ear infections? (Choose all that apply)
 - a. Fever
 - b. Ear pain
 - c. Sore throat
 - d. Neck pain
 - e. Muffled hearing
7. A child with severe ear pain, followed by sudden relief and drainage from the ear has likely experienced what complication?
 - a. Abscess
 - b. Perforated eardrum
 - c. Effusion
 - d. Hearing loss
8. For children with chronic fluid present in the middle ear, without infection, which is not an appropriate treatment option?
 - a. Oral antihistamines (Zyrtec, Claritin, Benadryl)
 - b. Nasal steroid (Flonase)
 - c. Daily antibiotics
 - d. Ear tubes

Middle Ear Infection Post-Test – Answer Key

Instructions: Circle the correct answer for each question below.

1. What is the name of the external ear lobe, visible from the outside?
 - a. Pinna**
 - b. Tympanic membrane
 - c. Cochlea
 - d. Eustachian tube
2. Which part of the ear is affected with a middle ear infection?
 - a. Ear canal
 - b. The space between the tympanic membrane and cochlea**
 - c. In the cochlea
 - d. In the eustachian tube
3. Which is a part of a healthy eardrum?
 - a. Fluid bubble
 - b. Bright red color
 - c. Cone of light**
 - d. Small hole near the center
4. Which is not a risk factor for middle ear infections?
 - a. Cigarette smoke exposure
 - b. Bottle propping
 - c. Seasonal allergies
 - d. Family history of hearing loss**
5. Routine childhood vaccines have reduced middle ear infections.
 - a. True**
 - b. False
6. Which are common symptoms of middle ear infections? (Choose all that apply)
 - a. Fever**
 - b. Ear pain**
 - c. Sore throat**
 - d. Neck pain
 - e. Muffled hearing**
7. A child with severe ear pain, followed by sudden relief and drainage from the ear has likely experienced what complication?
 - a. Abscess
 - b. Perforated eardrum**
 - c. Effusion
 - d. Hearing loss
8. For children with chronic fluid present in the middle ear, without infection, which is not a common treatment option?
 - a. Oral antihistamines (Zyrtec, Claritin, Benadryl)
 - b. Nasal steroid (Flonase)
 - c. Daily antibiotics**
 - d. Ear tubes

Lesson Three – Chickenpox

Lesson Overview

This lesson will review the cause, signs and symptoms, and routine care of an infant with chickenpox. Participants will review information about how the disease is spread as well as the effect of the varicella vaccine on the prevalence of chickenpox and its complications.

Lesson Objectives

After completing this lesson, participants will be able to:

- Identify the cause of chickenpox and how it is spread
- Explain symptoms and demonstrate routine care of children with chickenpox
- Identify common complications of chickenpox
- Describe how the prevalence of chickenpox has changed since the introduction of the varicella vaccine
- Briefly discuss shingles as a prolonged complication of chickenpox

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	● Common Childhood Illnesses Baby ● Gloves ● Calamine lotion ● Cotton balls	1. Prepare the Common Childhood Illnesses Baby, lotion, and cotton swabs for application practice.	20 minutes
LEARN	● <i>Chickenpox</i> slide presentation ● <i>Chickenpox Notes Page</i> ● <i>Chickenpox Notes Page – Answer Key</i>	1. Print/photocopy <i>Chickenpox Notes Page</i> (one per participant). 2. Prepare <i>Chickenpox</i> slide presentation for viewing.	30 minutes
REVIEW	● <i>Chickenpox Post-Test</i> ● <i>Chickenpox Post-Test – Answer Key</i>	1. Print/photocopy <i>Chickenpox Post-Test</i> (one per participant).	10 minutes

Lesson Three – Chickenpox

FOCUS: Care of Chickenpox Rash Instructions

20 minutes

Purpose:

To provide experiential learning for identifying, caring for, and preventing the spread of a chickenpox rash on an infant.

Materials:

- Common Childhood Illnesses Baby
- Gloves
- Calamine lotion
- Cotton balls

Facilitation Steps:

1. Read from the following scenario:

You work as a nursing assistant in a busy pediatric unit at a hospital. You must care for a four-month-old infant who has chickenpox.

The mother puts the call-light on to tell you that the infant is fussy and restless. It is not time for fever or pain medication, but she can have a new application of calamine lotion on the rash.

2. Instruct participants to gather their supplies (gloves, cotton balls, calamine lotion) and examine the infant.
3. Have participants identify the chickenpox rash and its characteristics.
4. Continue reading:
Chickenpox is a unique rash in that the lesions are typically in various stages. New lesions are vesicles, or fluid-filled blisters. The fluid inside the vesicles is infected with viral particles and contagious to others if it encounters broken skin, the nose, mouth, or eyes. This is also when the rash is most itchy.

After a few days, the lesions open and drain. There is a high risk of secondary infection at this time. Eventually the lesions scab over, the itching improves, and the rash is no longer

contagious. ALL lesions must be scabbed over to no longer be considered contagious.

5. Instruct participants to identify lesions that would be most itchy or uncomfortable to the infant (lesions that are not yet scabbed over).
6. Instruct participants to don gloves, dispense some calamine lotion onto the cotton ball, and gently pat the lotion over the lesions, being sure to cover them completely.

Participants should get a new cotton ball each time they need to apply more lotion so as not to contaminate the bottle.

7. Once participants are done, have them remove the gloves and wash their hands.

Note: If you have many participants who need to rotate through the experience, you may wish to set up a station in the room for students to perform this task at.

8. Answer any questions participants have or repeat the exercise as needed.

Lesson Three – Chickenpox

LEARN: Chickenpox Slide Presentation

30 minutes

Purpose:

To improve knowledge on the chickenpox virus. Participants will learn how it spreads, signs and symptoms, and common treatment options.

Potential complications of chickenpox and the effect on prevalence since the varicella vaccine will also be discussed.

Materials:

- *Chickenpox* slide presentation
- *Chickenpox Notes Page*
- *Chickenpox Notes Page – Answer Key*

Facilitation Steps:

1. Distribute the *Chickenpox Notes Page* and encourage participants to take notes during the lecture.
2. Read the following material from the lecture:

Slide 2: What is Chickenpox?

Chickenpox is a viral infection caused by the varicella-zoster virus. It is commonly contracted in childhood and typically results in lifelong immunity. Adults may get the disease if they did not experience it in childhood. It causes systemic symptoms and the classic itchy, blistered rash.

Slide 3: Transmission

Chickenpox is spread through airborne transmission, like diseases such as measles, tuberculosis, and COVID-19. It can spread through particles in the air from when an infected person coughs or sneezes. Another person encounters those particles and breathes them in or touches their eyes, nose, or mouth. It can also be spread by touching the blisters or the fluid in them. Once blisters have scabbed over, they are no longer contagious.

In a healthcare setting, airborne precautions are used. This includes gown, gloves, an N95 mask,

and eyewear. A negative pressure room, when available, can be used.

People with chickenpox are contagious for two days prior to the rash starting and remain contagious until all blisters have scabbed over. It may take two to three weeks for people who are exposed to develop symptoms.

Slide 4: Symptoms

Common symptoms of chickenpox include fatigue, fever, headache, decreased appetite, sore throat, swollen lymph nodes, and the classic chickenpox rash (itchy, fluid-filled blisters that scab over). The rash usually begins on the trunk and spreads to the arms, legs, and face. Blisters may all be in various stages of outbreak and healing.

Slide 5: Caring for a Child with Chickenpox

Treatment for chickenpox is largely supportive; there is no cure. The disease must run its course. Typically giving acetaminophen for fever or discomfort; pushing fluids, like water or Pedialyte, to prevent dehydration; allowing for rest; and giving cool baths or applying calamine lotion to reduce itching is all that is needed. Sometimes, children will become more seriously ill and require hospitalization for IV fluids, antibiotics, or more intensive treatment of complications.

Slide 6: Risks & Complications

Most often, chickenpox is mild. However, it is sometimes more serious. The people most at risk of serious illness with chickenpox include children under a year old, adults who did not contract the disease as children, and people with lowered immune systems, like those with HIV or leukemia.

Complications of chickenpox can include bacterial infection of the skin from the open

sores or infection or swelling of other parts of the body, such as the lungs (pneumonia), brain (encephalitis), or spinal cord (transverse myelitis). Sometimes these complications result in death. Prior to the vaccine, about 150 children died from chickenpox each year in the United States.

Slide 7: Varicella Vaccine

The varicella vaccine was developed in 1995 and is 90% effective at preventing the disease. During the first 25 years of the vaccine, it is estimated it prevented 91 million cases, 238,000 hospitalizations, and 2,000 deaths in the United States. The recommended schedule is 2 doses, the first between 12 and 15 months and the second between 4 and 6 years. The vaccine is compulsory for public school. People who did not get the vaccine in early childhood should get 2 doses 28 days apart.

Slide 8: Shingles

Shingles is a potential long-term complication of chickenpox. The varicella-zoster virus stays in the body for a person's entire life after they have been infected. Sometimes, it can reactivate and appear as a painful cluster of blisters along a nerve, usually on the torso. Shingles is treated with pain medication and antiviral drugs. You cannot give someone shingles, but you CAN give someone chickenpox if they have never had it before and are not immune.

3. Here are a few short videos on chickenpox that could be shared:

<https://www.youtube.com/watch?v=UjWiqMut81A>

<https://www.youtube.com/watch?v=xsKivTRN6yU>

<https://www.youtube.com/watch?v=JFsquKGfHZo>

Chickenpox Notes Page

Instructions: Take notes on the topic as the slide presentation is shared.

1. What is chickenpox?

- Viral infection
- Caused by the _____ virus
- Highly _____
- Most commonly affects _____
- _____ is typically for life
- Systemic symptoms and classic itchy rash

2. Transmission

- Spread through _____
 - Particles in the air from _____
 - Also contact with _____
- Protection in healthcare setting
 - _____
- Contagious _____ prior to the rash until scabbed over
- Can take _____ for symptoms after exposure

3. Symptoms

4. Caring for a Child with Chickenpox

Severe illness may require hospitalization for complications

5. Risks & Complications

a. Most at risk:

b. Complications:

6. Varicella Vaccine

- Recommended schedule is _____
- First dose: Between ages _____
- Second dose: Between _____
- Or 2 doses 28 days apart for older children and adults

7. Shingles

- A potential complication of _____ years later
- The virus stays _____ in the body and may reactivate
- Appears as a painful rash clustered along a nerve, usually on the _____
- Treated with _____

True or False You can get shingles from someone with shingles

True or False People with shingles CAN infect someone not immune with chickenpox

Chickenpox Notes Page – Answer Key

Instructions: Take notes on the topic as the slide presentation is shared.

1. What is Chickenpox?
 - Viral infection
 - Caused by the **varicella-zoster** virus
 - Highly **infectious**
 - Most commonly affects **children**
 - **Immunity** is typically for life
 - Systemic symptoms and classic itchy rash
2. Transmission
 - Spread through **airborne transmission**
 - Particles in the air from **coughing or sneezing**
 - Also contact with **blisters**
 - Protection in healthcare setting
 - **Gloves, gown, mask, eyewear**
 - Contagious **2 days** prior to the rash until scabbed over
 - Can take **weeks** for symptoms after exposure
3. Symptoms
 - **Fatigue**
 - **Fever**
 - **Headache**
 - **Decreased appetite**
 - **Sore throat**
 - **Swollen lymph nodes**
 - **Rash**
 - **Itchy, fluid-filled blisters that scab over**
4. Caring for a Child with Chickenpox
 - **Supportive care**
 - **Acetaminophen for fever/discomfort**
 - **Fluids**
 - **Rest**
 - **Cool baths and calamine lotion for itching**

Severe illness may require hospitalization for complications

5. Risks & Complications
 - a. Most at risk:
 - Very young (under 1 year)**
 - Adults who have never had chickenpox**
 - People with lowered immune systems**
 - b. Complications:
 - Secondary bacterial infections**

Pneumonia (lung infection)
Encephalitis (swelling of the brain)
Transverse myelitis (inflammation of spinal cord)
Death

6. Varicella Vaccine

- Recommended schedule is **2 doses**
 - First dose: Between ages **12 and 15 months**
 - Second dose: Between **4 and 6 years**
 - Or 2 doses 28 days apart for older children and adults

7. Shingles

- A potential complication of **chickenpox** years later
- The virus stays **dormant** in the body and may reactivate
- Appears as a painful rash clustered along a nerve, usually on the **torso**
- Treated with **pain relieving medications and antivirals**

True or **False** You can get shingles from someone with shingles

True or False People with shingles CAN infect someone not immune with chickenpox

Lesson Three – Chickenpox

REVIEW: Chickenpox Post-Test

10 minutes

Purpose:

To assess and solidify knowledge gained about the signs, symptoms, complications, and treatment of chickenpox.

Materials:

- *Chickenpox Post-Test*
- *Chickenpox Post-Test - Answer Key*

Facilitation Steps:

1. Distribute the *Chickenpox Post-Test* to participants.
2. Allow time for participants to complete the test.
3. Review the test and correct answers as a class using the *Chickenpox Post-Test – Answer Key* so that participants may learn from reviewing correct answers.

Name: _____ Class: _____

Chicken Pox Post-Test

Instructions: Circle the correct answer for each of the questions below.

1. The chickenpox rash is uniquely identifiable by what characteristics?
 - a. A bright red “slapped cheek” appearance
 - b. Flat, red spots that begin at the hairline and spread downward
 - c. Fluid-filled blisters that scab over, all in different stages of healing
 - d. Red spots on the palms and soles
2. Chickenpox is caused by what pathogen?
 - a. Group A beta hemolytic strep
 - b. Varicella-zoster virus
 - c. Herpes-zoster virus
 - d. Coxsackie virus
3. What protection against chickenpox is worn in a healthcare setting? (Choose all that apply)
 - a. Gloves
 - b. Gown
 - c. Mask
 - d. Eyewear
4. Which are symptoms of chickenpox? (Choose all that apply)
 - a. Fatigue
 - b. A painful cluster of blisters along a nerve of the torso
 - c. Itchy rash across most of the body
 - d. Decreased appetite
5. What is the standard treatment for chickenpox?
 - a. Supportive treatment of symptoms
 - b. Amoxicillin
 - c. Tamiflu
 - d. Hospitalization for IV fluids
6. Which is not a potential complication of chickenpox?
 - a. Secondary bacterial infection of lesions
 - b. Encephalitis (swelling of the brain)
 - c. Pneumonia
 - d. Rheumatic heart disease
7. The chickenpox vaccine is 90% effective at preventing the disease.
 - a. True
 - b. False

8. How many doses are in a complete series of the chickenpox vaccine?
 - a. 1
 - b. 2
 - c. 3
 - d. 4

9. Someone with shingles may infect another person with shingles.
 - a. True
 - b. False

Chicken Pox Post-Test – Answer Key

4. The chickenpox rash is uniquely identifiable by what characteristics?
 - a. A bright red “slapped cheek” appearance
 - b. Flat, red spots that begin at the hairline and spread downward
 - c. Fluid-filled blisters that scab over, all in different stages of healing**
 - d. Red spots on the palms and soles
5. Chickenpox is caused by what pathogen?
 - a. Group A beta hemolytic strep
 - b. Varicella-zoster virus**
 - c. Herpes-zoster virus
 - d. Coxsackie virus
6. What protection against chickenpox is worn in a healthcare setting? (Choose all that apply)
 - a. Gloves**
 - b. Gown**
 - c. Mask**
 - d. Eyewear**
7. Which are symptoms of chickenpox? (Choose all that apply)
 - a. Fatigue**
 - b. A painful cluster of blisters along a nerve of the torso
 - c. Itchy rash across most of the body**
 - d. Decreased appetite**
8. What is the standard treatment for chickenpox?
 - a. Supportive treatment of symptoms**
 - b. Amoxicillin
 - c. Tamiflu
 - d. Hospitalization for IV fluids
9. Which is not a potential complication of chickenpox?
 - a. Secondary bacterial infection of lesions
 - b. Encephalitis (swelling of the brain)
 - c. Pneumonia
 - d. Rheumatic heart disease**
10. The chickenpox vaccine is 90% effective at preventing the disease.
 - a. True**
 - b. False

11. How many doses are in a complete series of the chickenpox vaccine?

- a. 1
- b. 2**
- c. 3
- d. 4

12. Someone with shingles may infect another person with shingles.

- a. True
- b. False**

Lesson Four – Fever

Lesson Overview

This lesson aims to increase understanding of fever. Participants will learn the role of fever in the immune system, common complications of fever, and management strategies. Participants will also learn various routes of collecting a body temperature, including hands-on practice.

Lesson Objectives

After completing this lesson, participants will be able to:

- Explain how body temperature is determined and why fever occurs
- Explain basic functions of the immune system and how fever plays a role
- List common causes of fever
- Demonstrate how to collect a temporal temperature on a 4-month-old infant
- Discuss treatment options for fever

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• <i>Fever and Body Temperature Matching Worksheet</i> • <i>Fever and Body Temperature Matching Worksheet – Answer Key</i>	1. Print/photocopy <i>Fever and Body Temperature Matching Worksheet</i> (one per participant).	10 minutes
LEARN	• <i>Fever</i> slide presentation • <i>Fever Notes Page</i> • <i>Fever Notes Page – Answer Key</i> • Common Childhood Illnesses Baby • Temporal thermometer	1. Print/photocopy <i>Fever Notes Page</i> (one per participant). 2. Prepare <i>Fever</i> slide presentation for viewing. 3. Prepare the Common Childhood Illnesses Baby and thermometer.	30 minutes
REVIEW	• <i>Fever Case Study</i>	1. Print/photocopy <i>Fever Case Study</i> (one per participant).	15 minutes

Lesson Four– Fever

FOCUS: Fever and Body Temperature Matching Worksheet

10 minutes

Purpose:

To establish baseline knowledge related to body temperature as a vital sign and various ways to assess it.

Materials:

- *Fever and Body Temperature Matching Worksheet*
- *Fever and Body Temperature Matching Worksheet – Answer Key*

Facilitation Steps:

1. Distribute the *Fever and Body Temperature Matching Worksheet* to participants.
2. Allow participants to pair up and provide time to complete the worksheet.
3. Review the worksheet and correct answers as a class using the *Fever and Body Temperature Matching Worksheet – Answer Key* so that participants may learn from reviewing correct answers.

Name: _____ Class: _____

Fever and Body Temperature

Matching Worksheet

Match the terms in Column A to their correct definitions in Column B.

Column A

A. Hypothalamus

B. Fever

C. Tympanic

D. Axillary

E. Rectal

F. Temporal

G. Sublingual

H. Antipyretic

Column B

___ Route of taking the temperature via the armpit

___ Body temperature of 100.4° F or higher

___ Medication given to reduce fever

___ Route of taking the temperature via the temporal artery in the forehead

___ Part of the brain that controls the body's temperature

___ Route of taking the temperature under the tongue

___ Route of taking the temperature via the ear canal

___ Route of taking the temperature via the rectum

Fever and Body Temperature Matching Worksheet – Answer Key

Match the terms in Column A to their correct definitions in Column B.

Column A

- A. Hypothalamus
- B. Fever
- C. Tympanic
- D. Axillary
- E. Rectal
- F. Temporal
- G. Sublingual
- H. Antipyretic

Column B

- D** Route of taking the temperature via the armpit
- B** Body temperature of 100.4 F or higher
- H** Medication given to reduce fever
- F** Route of taking the temperature via the temporal artery in the forehead
- A** Part of the brain that controls the body's temperature
- G** Route of taking the temperature under the tongue
- C** Route of taking the temperature via the ear canal
- E** Route of taking the temperature via the rectum

Lesson Four – Fever

LEARN: Fever Slide Presentation and Demonstration

30 minutes

Purpose:

To introduce concepts of body temperature, fever, the immune system, methods of collecting body temperature, and fever management.

Materials:

- *Fever* slide presentation
- *Fever Notes Page*
- *Fever Notes Page – Answer Key*
- Common Childhood Illnesses Baby
- Temporal thermometer

Facilitation Steps:

1. Distribute the *Fever Notes Page* and encourage participants to take notes during the lecture.
2. Read the following material from the lecture:

Slide 2: Body Temperature Regulation

Body temperature is controlled by a part of the brain called the hypothalamus. It chooses a “set point” or the ideal temperature for the body to perform its functions. This is like a thermostat; if the environment around a person changes, the brain will signal the body to adjust to maintain that temperature. The body can sweat to cool down its temperature, or shiver to raise the temperature. The average body temperature is 98.6° F, but a normal temperature can range from 95° F to 99° F.

Slide 3: What is Fever?

A fever is when the brain increases the body temperature **above** the usual set point, or normal range. In children, this is typically in response to the immune system signaling that there is an infection with a virus or bacteria. By increasing the body temperature just a few degrees above normal, viruses and bacteria are deactivated, slowed, or killed; the body is not

harmful. Someone with a fever may feel uncomfortable, but their body continues to function.

The official qualifier for fever is a temperature of 100.4° F or greater. This seems like a random number, but it is 38° C, which is how temperature is measured in research. In a typical fever, the body will not increase the temperature beyond 105° F. Higher temperatures are rare and indicate a problem with the brain.

Slide 4: Causes of Fever

In children, the fever is typically in response to the immune system signaling to the brain. This is most often from viral or bacterial infection. It can also be from recently receiving vaccines which also activate the immune system. This is why children will sometimes have a fever after vaccines but not have any other symptoms of illness. Rare causes of fever include inflammatory conditions, like arthritis or cancer. These can usually be identified because the fever doesn’t behave like other fevers and lasts for many days or comes with unusual or more concerning symptoms.

Slide 5: Routes of Measuring Body Temperature

There are a few parts of the body that are easily accessible with a thermometer and accurately depict the core body temperature. The type of thermometer looks different depending on which route you are using. The most commonly used include axillary, sublingual, tympanic, and rectal. A rectal temperature is considered the most accurate and should be used in infants. A temporal, or forehead, thermometer is considered less accurate and can be used to screen for fever because it is very quick and doesn’t need to touch the child, which can be

upsetting. It is hovered just above the temporal artery off to the side of the forehead. However, if a temporal temperature is high, one of the other routes should be used to gather a more accurate temperature.

Slide 6: Symptoms of Fever

If a child has a fever, they may feel achy, tired, cold, or have a headache or decreased appetite. Children with a fever can also have few to no symptoms. Fever itself is not harmful! Remember the body is choosing a temperature and will not harm itself. The symptoms and pattern of fever are much more important to pay attention to than the number.

Slide 7: When and How to Treat Fever

Fever is actually the sign of a well-functioning immune system. It will not harm the body and may even help the body fight off infection more quickly if it is allowed to run. Treatment should be based on symptom management, if a child is complaining, uncomfortable, or not drinking well, then fever should be treated. If a child is comfortable, playing, or staying well hydrated, it is okay to allow a fever to run.

If you do want to treat fever, a cool bath or washcloth, antipyretic medications, and pushing cool fluids can help.

Slide 8: Risks and Complications: When to Seek Medical Care

While fever itself is not harmful, there are some things to watch for and times when medical care is necessary. The biggest risk of fever is when children feel fatigued or uncomfortable enough that they stop drinking. The increased body temperature and lack of fluid intake can quickly lead to dehydration. Watch for excessive sleepiness, confusion, dry mouth, sunken soft spot in infants, or decreased wet diapers.

Infants under three months also do not typically get fevers; if they do, it is more concerning. At this age, babies still have antibodies from their mother and are typically able to fight mild infections off without a fever. Bigger infections, like pneumonia, meningitis, or UTIs,

may be too much for those maternal antibodies to handle; the immune system may trigger a fever. These issues are more serious and need medication and monitoring, so any fever in an infant under three months requires medical evaluation.

Typically, the body can fight off whatever infection with just a few days of fever. Other symptoms may last for one to two weeks, but the fever is usually gone within three full days. If a fever lasts longer than 72 hours or seems to be getting worse rather than better after three days, it may be a more serious diagnosis and medical evaluation is needed.

Febrile seizure is rare (often runs in families) and should be evaluated, especially for a seizure lasting more than five minutes.

Slide 9: Febrile Seizure

Febrile seizures are something many people fear, and it can be a very scary thing to witness. However, febrile seizures are actually very rare and are not dangerous or harmful in the way that other kinds of seizures are. Only about 3-4 of every 100 children will experience a febrile seizure. Typically, they occur within the first few hours of a fever and at temps more than 102°, but they can occur at any febrile temp and at any time. They usually last less than one minute, and a child may stiffen, twitch, or roll their eyes.

If a child has a febrile seizure before the age of one, the chances of one occurring again is 50%. If a child is over the age of one when they first have a febrile seizure, the chances of it happening again are only 30%. Often febrile seizures run in families, and children may be more likely to have one if they have a sibling who has had one. When a febrile seizure occurs, keeping the child safe is the top priority. Lower them to the floor, remove any sharp or dangerous objects from around them, and turn their head to the side so they do not choke on saliva or vomit. They will not choke on their tongue; that is incorrect information that commonly circulates. Contact their doctor who will want to evaluate them. If it lasts longer

than five minutes, call 911 as this is an emergency.

3. Divided students into small groups to rotate through use of the Common Childhood Illnesses Baby and thermometer. Allow the students to take turns collecting a temporal temperature on the manikin.

The thermometer included with this package is a no-touch forehead thermometer. Have each student take the manikin's temperature.

After they read the results, the group should discuss what they would do if they discovered this temperature in a childcare center or in a clinic setting.

Should they call the parent? Is this healthy? Is this dangerous, and should the child see a physician?

4. Share additional brief videos about fever and taking temperature if time allows:

<https://www.youtube.com/watch?v=uV84e95lAmg>

<https://www.youtube.com/watch?v=QTepnnKwHcA>

https://www.youtube.com/watch?v=8hD8lIFg_mo

<https://www.youtube.com/watch?v=n90GOiH-qA>

<https://www.youtube.com/watch?v=EWwRdeM5LMg>

Fever Notes Page

Instructions: Take notes on the topic as the slide presentation is shared.

1. Body Temperature Regulation

Body temperature is controlled by the _____

- In the hypothalamus
- Can warm or cool as needed
 - Through _____ or _____
- “Normal” temperature _____ from person to person

2. What is Fever?

- An increase in the body’s set point
- Fever is body temperature > _____ F

3. Causes of Fever

- Common Causes
 - _____
 - _____
- Rare Causes
 - _____
 - _____

4. Routes of Measuring Body Temperature: There are a few routes that accurately depict core body temperature:

5. Symptoms of Fever

6. How to Treat Fever

- _____
- _____ (acetaminophen, ibuprofen)

7. Risks and Complications: When to Seek Medical Care

- Fever can lead to _____
 - Children who feel fatigued or uncomfortable may not drink enough
 - Dehydration symptoms include _____
- Fever in infants under _____
 - Still have antibodies from mother
 - Needs medical evaluation
- Fever lasting longer than _____: seek medical care
- Febrile seizure

8. Febrile Seizure

- True or False This type of seizure is rare.
- Usually within first few hours of fever
- Can occur at any fever temp, more common _____
- True or False This type of seizure does harm the brain
- Usually lasts _____
- Child may stiffen, twitch, or roll their eyes
- True or False This type of seizure may occur again
- Keeping the child safe is top priority
- Should be evaluated by pediatrician, _____ treatment required

Fever Notes Page – Answer Key

Instructions: Take notes on the topic as the slide presentation is shared.

1. Body Temperature Regulation

Body temperature is controlled by the **brain**

- In the hypothalamus
- Can warm or cool as needed
 - Through **sweating** or **shivering**
 - “Normal” temperature **varies** from person to person

2. What is Fever?

- An increase in the body’s set point
- Fever is body temperature > **100.4° F**

3. Causes of Fever

- Common Causes
 - **Viral or bacterial illness**
 - **Vaccines**
- Rare Causes
 - **Inflammatory conditions (arthritis)**
 - **Some types of cancer**

4. Routes of Measuring Body Temperature: There are a few routes that accurately depict core body temperature:

- **Axillary (armpit)**
- **Sublingual (under the tongue)**
- **Tympanic (in the ear)**
- **Rectal (via the anus)**
 - **Most accurate for babies**
- **Temporal (forehead)**

5. Symptoms of Fever

- **Feeling cold, shivering**
- **Headache**
- **Fatigue**
- **Body aches**
- **Decreased thirst/appetite**

6. How to Treat Fever

- **Cool bath**
- **Antipyretic medications** (acetaminophen, ibuprofen)

7. Risks and Complications: When to Seek Medical Care

- Fever can lead to **dehydration**
 - Children who feel fatigue or uncomfortable may not drink enough
 - Dehydration symptoms include **excessive sleepiness, confusion, decreased urine output, sunken soft spot, dry mouth/lips/tongue**
- Fever in infants under **3 months**
 - Still have antibodies from mother
 - Needs medical evaluation
- Fever lasting longer than **72 hours**: seek medical care
- Febrile seizure

8. Febrile Seizure

- **True** or False This type of seizure is rare.
- Usually within first few hours of fever
- Can occur at any fever temp, more common **over 102**
- True or **False** This type of seizure does harm the brain
- Usually lasts **<1 minute**
- Child may stiffen, twitch, or roll their eyes
- **True** or False This type of seizure may occur again
- Keeping the child safe is top priority
- Should be evaluated by pediatrician, **no other** treatment required

Lesson Four – Fever

REVIEW: Fever Case Study

15 minutes

Purpose:

To solidify participant knowledge about fever and its care.

Materials:

- *Fever Case Study*

Facilitation Steps:

1. Place participants in groups of 3 or 4.
2. Read the *Fever Case Study*.
3. Have participants answer questions and discuss as groups what they would do in this scenario.
4. Discuss different ideas as a class.

Name: _____ Class: _____

Fever Case Study

You are babysitting Sally, a 4-month-old baby, for the day while her parents are away at work. After a few hours, Sally starts to get fussy but does not want to eat when you offer a bottle. She is crying and you notice she feels warm. There is a temporal thermometer in her room, and you take her temperature, which reads 101.4° F.

You try to call Sally's parents, but they do not answer. You leave a message and wait for them to call back. Sally does not have any health concerns and is an otherwise healthy baby.

Given your knowledge of fever, what is the most likely cause in an infant this age?

Do you think this route of taking her temperature is accurate given her age? Since the temperature was high, what would be the preferred method of checking her temperature to verify a fever?

Because Sally is uncomfortable, fussy, and refusing to eat, do you think this fever should be treated? What methods could you use to help relieve Sally's fever and discomfort?

How can you monitor Sally's condition and assess for proper hydration?

References

1. Centers for Disease Control and Prevention. (2021, April). Chickenpox vaccination: what everyone should know. <https://www.cdc.gov/vaccines/vpd/varicella/public/index.html>
2. Giovine, M. (2022, June). Febrile seizures in children. *Healthychildren.org*. https://www.healthychildren.org/English/health-issues/conditions/fever/Pages/febrile-seizures.aspx?gclid=CjwKCAjwo7iiBhAEEiwAsIxQEZOsnpidihUZJLduv8tiA4IHdHTVQRC9c_6liJXSTL8liobbOxF3YxoCCaEQAvD_BwE
3. Johns Hopkins. (n.d.). Chickenpox. <https://www.hopkinsmedicine.org/health/conditions-and-diseases/chickenpox>
4. Mayo Clinic. (2021, June). Ear infections (middle ear). <https://www.mayoclinic.org/diseases-conditions/ear-infections/symptoms-causes/syc-20351616>
5. Mayo Clinic. (2022a, May). Fever. <https://www.mayoclinic.org/diseases-conditions/fever/symptoms-causes/syc-20352759>
6. Mayo Clinic. (2022b, May). Shingles. <https://www.mayoclinic.org/diseases-conditions/shingles/symptoms-causes/syc-20353054>
7. Nationwide Children's. (2017, February). Temperature: digital and glass thermometers. <https://www.nationwidechildrens.org/family-resources-education/health-wellness-and-safety-resources/helping-hands/temperature-digital-and-glass-thermometers>
8. Polcari, Ingrid. (2020, January). Common diaper rashes and treatment. *Healthychildren.org*. <https://www.healthychildren.org/English/ages-stages/baby/diapers-clothing/Pages/Diaper-Rash.aspx>
9. Schmitt Pediatric Guidelines. (2023, April). Diarrhea (0-12 months). *Seattle Children's*. <https://www.seattlechildrens.org/conditions/a-z/diarrhea-0-12-months/>
10. Sundgaard, et al. (2021). Deep metric learning for otitis media classification. *Medical Image Analysis*, 71. <https://doi.org/10.1016/j.media.2021.102034>

Lesson Five – Pink Eye

Lesson Overview

This lesson provides an overview of the causes, symptoms, and treatment of pink eye. Participants will demonstrate proper administration of eye drops as well as how to minimize the spread of contagious organisms.

Lesson Objectives

After completing this lesson, participants will be able to:

- Discuss various causes of pink eye and how it spreads
- Identify symptoms of pink eye
- Explain treatment options for pink eye
- Demonstrate how to administer pink eye treatment to an infant

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• <i>Pink Eye Pretest</i> • <i>Pink Eye Pre-Test – Answer Key</i>	1. Print/photocopy <i>Pink Eye Pre-Test</i> (one per participant).	10 minutes
LEARN	• <i>Pink Eye</i> slide presentation • <i>Pink Eye Notes Page</i> • <i>Pink Eye Notes Page – Answer Key</i>	1. Print/photocopy <i>Pink Eye Notes Page</i> (one per participant). 2. Prepare <i>Pink Eye</i> slide presentation for viewing.	30 minutes
REVIEW	• <i>Pink Eye Case Study</i> • Common Childhood Illnesses Baby • Eye drops • Gloves	1. Print/photocopy <i>Pink Eye Case Study</i> (one per participant). 2. Prepare the Common Childhood Illnesses Baby, gloves, and drops for use.	20 minutes

Lesson Five – Pink Eye

FOCUS: Pink Eye Pre-Test

10 minutes

Purpose:

To assess existing knowledge of pink eye and its management as well as serve as study materials once completed.

Materials:

- *Pink Eye Pre-Test*
- *Pink Eye Pre-Test – Answer Key*

Facilitation Steps:

1. Distribute the *Pink Eye Pre-Test* to participants.
2. Allow time for participants to complete the test.
3. Review the test and correct answers as a class using the *Pink Eye Pre-Test – Answer Key* so that participants may learn from reviewing correct answers.

Pink Eye Pre-Test

Instructions: Circle the correct answer(s) for each of the questions below.

1. The medical term for pink eye is what?
 - a. Blepharitis
 - b. Conjunctivitis
 - c. Periorbital cellulitis
 - d. Orbital abscess
2. Which is not a common cause of pink eye?
 - a. Bacteria
 - b. Allergies
 - c. Virus
 - d. Sun damage
3. A child with pink eye in one eye can spread it to their other eye by rubbing.
 - a. True
 - b. False
4. Symptoms of pink eye can include: (select all that apply)
 - a. Red/pink color to whites of the eyes
 - b. Drainage
 - c. Sandy feeling
 - d. Vision loss
 - e. Itching
5. What is the recommended treatment for viral pink eye?
 - a. Allow it to run its course
 - b. Oral antihistamines
 - c. Antibiotic eye drops
 - d. Antihistamine eye drops
6. What is the recommended treatment for bacterial pink eye?
 - a. Allow it to run its course
 - b. Oral antihistamines
 - c. Antibiotic eye drops
 - d. Antihistamine eye drops
7. What is an alternative treatment to eye drops for bacterial pink eye if a child is struggling with this treatment?
 - a. Warm compress
 - b. Allow the infection to run its course
 - c. Antibiotic ointment
 - d. Oral antibiotics
8. Which is an appropriate step when instilling eye drops into an infected eye?
 - a. Touch the dropper to the lower lid
 - b. Pull the upper lid out and away from the eye
 - c. Gently blink or close the eye to distribute the drops
 - d. Use the drops on everyone in the house to prevent spreading pink eye further

Pink Eye Pre-Test – Answer Key

1. The medical term for pink eye is what?
 - a. Blepharitis
 - b. Conjunctivitis**
 - c. Periorbital cellulitis
 - d. Orbital abscess
2. Which is not a common cause of pink eye?
 - a. Bacteria
 - b. Allergies
 - c. Virus
 - d. Sun damage**
3. A child with pink eye in one eye can spread it to their other eye by rubbing.
 - a. True**
 - b. False
4. Symptoms of pink eye can include:
(select all that apply)
 - a. Red/pink color to whites of the eyes**
 - b. Drainage**
 - c. Sandy feeling**
 - d. Vision loss
 - e. Itching**
5. What is the recommended treatment for viral pink eye?
 - a. Allow it to run its course**
 - b. Oral antihistamines
 - c. Antibiotic eye drops
 - d. Antihistamine eye drops
6. What is the recommended treatment for bacterial pink eye?
 - a. Allow it to run its course
 - b. Oral antihistamines
 - c. Antibiotic eye drops**
 - d. Antihistamine eye drops
7. What is an alternative treatment to eye drops for bacterial pink eye if a child is struggling with this treatment?
 - a. Warm compress
 - b. Allow the infection to run its course
 - c. Antibiotic ointment**
 - d. Oral antibiotics
8. Which is an appropriate step when instilling eye drops into an infected eye?
 - a. Touch the dropper to the lower lid
 - b. Pull the upper lid out and away from the eye
 - c. Gently blink or close the eye to distribute the drops**
 - d. Use the drops on everyone in the house to prevent spreading pink eye further

Lesson Five – Pink Eye

LEARN: Pink Eye Slide Presentation

30 minutes

Purpose:

To discuss the causes, symptoms, and treatment of pink eye as well as care of the child with pink eye in a school or daycare setting.

Materials:

- *Pink Eye* slide presentation
- *Pink Eye Notes Page*
- *Pink Eye Notes Page – Answer Key*

Facilitation Steps:

1. Distribute the *Pink Eye Notes Page* and encourage participants to take notes during the lecture.
2. Read the following material from the lecture:

Slide 2: What Is Pink Eye?

Pink eye, also known as conjunctivitis, is an inflammation of the conjunctiva, or the white part of the eye and inner eyelids. It may look serious, but it is a mild infection and common in children. Adults can get it as well.

Slide 3: Causes of Pink Eye

Pink eye has a variety of causes. The most common are viruses and bacteria that cause upper respiratory infections, like cold viruses, ear infections, sore throat, or sinus infections. These viruses and bacteria are in and around the nose, mouth, and ears, and can easily spread to the tissues of the eye as well.

Pink eye may also be caused by bacteria involved in STIs, like chlamydia or gonorrhea. While not an infection, allergens can cause inflammation, redness, and

drainage from pollen, pet dander, grass, dust mites, and other common allergens. Additional irritants such as air pollution, dust, or chlorine in pools can also cause pink eye. Allergic or irritant causes are not contagious.

Slide 4: How Pink Eye Spreads

Viral and bacterial pink eye are both contagious. It spreads much the same way any viral or bacterial illness can, through a sick person coughing, sneezing, or touching and contaminating items and then another person encountering those germs. Drainage from the eyes that is on tissues or surfaces is highly contagious.

Pink eye can also spread by swimming in contaminated water. Children who have one infected eye may rub it and spread the infection to the other eye as well.

Slide 5: Prevent Spread

If there is a child with pink eye at school or daycare, swift action is needed to make sure it does not spread. The affected child should be evaluated by their pediatrician and treated if necessary. Other children should be reminded to practice good handwashing, avoiding touching their faces, and to not share items, like school supplies, tissues, pillowcases, makeup, or towels. For multiple children being treated for pink eye, do not share eye drops.

Slide 6: Symptoms of Pink Eye

Symptoms vary depending on cause, but all cases of pink eye include red or pink discoloration or bloodshot appearance in the white part of the eye and inner eyelids. Drainage is common, with bacterial and viral being green or yellow and allergic or

irritation being more watery. There can be discomfort; from a sandy feeling to swelling or itching.

Viral and bacterial pink eye often start in one eye and may spread to the other. Allergic or irritant is most often both eyes. Itching is more common with allergic pink eye. Sensitivity to light may occur in any type.

Slide 7: Treatment for Pink Eye

All types of pink eye can experience some relief from medication for pain and discomfort, like acetaminophen or ibuprofen and warm compresses, to clear up crusting or drainage. Viral pink eye usually resolves on its own within a few days to a week. Bacterial requires treatment with antibiotic eye drops several times per day.

Antihistamines, like Claritin or Zyrtec, as well as allergy eye drops can help with allergic symptoms. Affected children are no longer considered contagious after 24 hours of antibiotic drops.

Slide 8: Eye Drop Administration

For pink eye requiring eye drops, instilling them as directed is important. The lower lid should be pulled away from the eye and the drops held just above the pocket made by the eyelid. Do not touch the dropper to any part of the eye or eyelid. Have the child look upward to minimize discomfort. Instill the prescribed number of drops, usually one or two. Have the child gently blink or close their eye to distribute the drops.

Ointment may be used instead. A 1-cm ribbon of ointment can be applied to the lower lid and will spread over the eye with blinking.

3. If time permits, share a brief video regarding pink eye with the class:

[\(4\) Mayo Clinic Minute: What parents need to know about pink eye - YouTube](#) (1:00)

[\(4\) The Spread of Pink Eye - YouTube](#) (2:05)

[\(4\) Conjunctivitis \(Pink Eye\): Explained - YouTube](#) (05:42)

Pink Eye Notes Page

Instructions: Take notes on the topic as the slide presentation is shared.

1. Pink eye, also known as _____ is an inflammation of the conjunctiva, or the _____ of the eye and inner eyelids. It may look serious, but it is a mild infection and common in children.

2. Adults can get it as well. True or False (circle one)

3. Causes of Pink Eye

-
-
-
-
-

4. How Pink Eye Spreads

5. Prevent Spread

-
-
-

6. Symptoms of Pink Eye

7. Treatment for Pink Eye

Comfort measures:

-
-

Eye drops

8. Eye Drop Administration

The lower lid should be _____ from the eye and the drops held just above the pocket made by the eyelid. Do not _____ the dropper to any part of the eye or eyelid. Have the child look _____ to minimize discomfort. Instill the prescribed number of drops, usually one or two. Have the child gently _____ or _____ their eye to distribute the drops.

Pink Eye Notes Page – Answer Key

Instructions: Take notes on the topic as the slide presentation is shared.

1. Pink eye, also known as **conjunctivitis**, is an inflammation of the conjunctiva, or the **white part** of the eye and inner eyelids. It may look serious, but it is a mild infection and common in children.
2. Adults can get it as well. **True** or False (circle one)
3. Pink Eye Causes
 - **Bacteria**
 - **Virus**
 - **Sexually transmitted infection (STI's)**
 - **Allergy**
 - **Irritants**
4. How Pink Eye Spreads
 - Coughing, sneezing, touching infected items**
 - Swimming in contaminated water**
 - From one eye to the other**
5. Prevent Spread
 - **Good handwashing**
 - **Not sharing items**
 - **Prompt treatment**
6. Symptoms of Pink Eye
 - Red/pink color**
 - Drainage**
 - Discomfort**
 - Sensitivity to light**
 - One or both eyes**
7. Treatment for Pink Eye
 - Comfort measures:
 - Acetaminophen/ibuprofen**
 - Warm compress**
 - Eye drops
8. Eye Drop Administration

The lower lid should be **pulled away** from the eye and the drops held just above the pocket made by the eyelid. Do not **touch** the dropper to any part of the eye or eyelid. Have the child look **upward** to minimize discomfort. Instill the prescribed number of drops, usually one or two. Have the child gently **blink** or **close** their eye to distribute the drops.

Lesson Five – Pink Eye

REVIEW: Pink Eye Case Study

15 minutes

Purpose:

To provide hands-on experience for participants to instill eye drops and practice proper hygiene to prevent the spread of pink eye.

Materials:

- *Pink Eye Case Study*
- Gloves
- Eye drops (could use saline or tap water)
- Common Childhood Illnesses Baby

Facilitation Steps:

1. Distribute the *Pink Eye Case Study* to participants.
2. Place participants into groups of 3 or 4 to complete the *Pink Eye Case Study* together.
3. Review the *Pink Eye Case Study* as a class.
4. Allow participants the opportunity to examine the Common Childhood Illnesses Baby and identify the infected eye. Have them compare the infected eye with the healthy eye. Compare and contrast the two visually.
5. Instruct the participants to don gloves and administer eye drops by pulling the lower lid away from the eye and instilling 2 drops into the pocket made by the eyelid.

Instruct participants to dispose of gloves and wash hands.

Name: _____ Class: _____

Pink Eye Case Study

You work at a daycare where there is currently an outbreak of pink eye among several of the children. Four-month-old Sally is brought in by her parents this morning and they state she has been given a prescription for antibiotic eye drops and they need to be administered twice during her time at daycare today.

When you look at Sally, what symptoms do you expect to see that are consistent with pink eye?

Given the appearance of her eye, the outbreak at daycare, and the treatment she has been prescribed, what is the likely cause of this case of pink eye?

When administering Sally's eye drops today, what steps do you need to take to be sure you do not spread the infection to her other eye or other children?

Lesson Six – Hand, Foot, and Mouth Disease

Lesson Overview

This lesson explores the cause, transmission, symptoms, and management of hand, foot, and mouth disease. Participants will learn to identify the viral rash and review ways to care for afflicted children.

Lesson Objectives

After completing this lesson, participants will be able to:

- Identify the pathogen responsible for hand, foot, and mouth disease (HFMD) infection and the time of year it is most prevalent
- Discuss how HFMD spreads and how to prevent or minimize its spread, especially in a childcare setting
- Identify common symptoms of HFMD, particularly the classic rash
- Discuss potential complications of HFMD
- Review potential treatments for the disease

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• <i>Hand, Foot, and Mouth Disease Matching Worksheet</i> • <i>Hand, Foot, and Mouth Disease Matching Worksheet – Answer Key</i>	1. Print/photocopy <i>Hand, Foot, and Mouth Disease Matching Worksheet</i> (one per participant).	10 minutes
LEARN	• <i>Hand, Foot, and Mouth Disease</i> slide presentation • <i>Hand, Foot, and Mouth Disease Notes Page</i> • <i>Hand, Foot, and Mouth Disease Notes Page – Answer Key</i> • Common Childhood Illnesses Baby	1. Print/photocopy <i>Hand, Foot, and Mouth Disease Notes Page</i> (one per participant). 2. Prepare <i>Hand, Foot, and Mouth Disease</i> slide presentation for viewing. 3. Prepare the Common Childhood Illnesses Baby.	40 minutes
REVIEW	• <i>Hand, Foot, and Mouth Disease Post-Test</i> • <i>Hand, Foot, and Mouth Disease Post-Test – Answer Key</i>	1. Print/photocopy <i>Hand, Foot, and Mouth Disease Post-Test</i> (one per participant).	10 minutes

Lesson Six – Hand, Foot, and Mouth Disease

FOCUS: Hand, Foot, and Mouth Disease Matching Worksheet

10 minutes

Purpose:

To establish baseline knowledge related to the causes, symptoms, and treatment and HFMD.

Materials:

- *Hand, Foot, and Mouth Disease Matching Worksheet*
- *Hand, Foot, and Mouth Disease Matching Worksheet – Answer Key*

Facilitation Steps:

1. Distribute the *Hand, Foot, and Mouth Disease Matching Worksheet* to participants.
2. Allow participants to pair up and provide time to complete the worksheet.
3. Review the worksheet and correct answers as a class using the *Hand, Foot, and Mouth Disease Matching Worksheet – Answer Key* so that participants may learn from reviewing correct answers.

Name: _____ Class: _____

Hand, Foot, and Mouth Disease Matching Worksheet

Instructions: Match the terms in Column A to their correct definitions in Column B.

Column A

- A. Palms and soles
- B. Coxsackievirus
- C. Droplets
- D. Magic mouthwash
- E. Vaccine
- F. Dehydration
- G. Encephalitis
- H. Handwashing

Column B

- _____ The best way to prevent hand, foot, and mouth disease (HFMD)
- _____ A common complication of HFMD
- _____ Unique location of classic HFMD rash
- _____ Method of transmission for HFMD
- _____ A rare complication of HFMD
- _____ Does not exist for HFMD
- _____ A numbing treatment option for HFMD
- _____ The causative agent for HFMD

Hand, Foot, and Mouth Disease Matching Worksheet – Answer Key

Instructions: Match the terms in Column A to their correct definitions in Column B.

Column A

- A. Palms and soles
- B. Coxsackievirus
- C. Droplets
- D. Magic mouthwash
- E. Vaccine
- F. Dehydration
- G. Encephalitis
- H. Handwashing

Column B

- H** The best way to prevent HFMD
- F** A common complication of HFMD
- A** Unique location of classic HFMD rash
- C** Method of transmission for HFMD
- G** A rare complication of HFMD
- E** Does not exist for HFMD
- D** A numbing treatment option for HFMD
- B** The causative agent for HFMD

Lesson Six – Hand, Foot, and Mouth Disease

LEARN: Hand, Foot, and Mouth Disease Slide Presentation

40 minutes

Purpose:

To provide participants with information about the cause, transmission, symptoms, and treatment of HFMD.

Materials:

- *Hand, Foot, and Mouth Disease Notes Page*
- *Hand, Foot, and Mouth Disease Notes Page – Answer Key*
- *Hand, Foot, and Mouth Disease* slide presentation
- Common Childhood Illnesses Baby

Facilitation Steps:

1. Distribute the *Hand, Foot, and Mouth Disease Notes Page*, and encourage participants to take notes during the lecture.
2. Read the following material from the lecture:

Slide 2: What Is HFMD?

Hand, foot, and mouth disease (HFMD) is a viral infection caused by various strains of the coxsackievirus. These viruses commonly circulate during summer and fall, but infection can occur any time. It is a highly contagious virus and is well known for the classic rash on the hands, feet, and mouth.

Slide 3: Transmission and Prevention

HFMD spreads easily through droplets, such as when a sick person coughs or sneezes. It can also spread via the fluid in blisters and is in feces of infected people. Infected individuals are most contagious during the first week of illness. Good handwashing, especially after changing a dirty diaper or caring for a sick child is most important to prevent spreading the illness. Disinfecting surfaces around the house or childcare setting

is also very important as the virus can live on surfaces.

There is currently no vaccine for HFMD, though one may be available in the future.

Slide 4: Symptoms

Symptoms include flu-like body aches, fever, chills, sore throat, and fatigue. Mouth sores are incredibly painful and present as blisters on the tongue, inside of the mouth, and throat. There is also a body rash of red blisters or spots over the entire body, particularly noted on the palms and soles. There are only a few illnesses with lesions on the palms and soles.

Slide 5: Complications

The most common complication of HFMD is dehydration. The mouth sores are very painful and infected children may avoid drinking or eating and may easily become dehydrated. In young children, watch for decreased urine output, sunken soft spot, dry mouth/lips/tongue. Some children may have peeling of the fingernails, toenails, or skin on the feet/heels after a HFMD infection. Viral meningitis and encephalitis are both incredibly rare with HFMD but are potential complications.

Slide 6: Treatment

There is no medication to treat HFMD and treatment is primarily supportive. Medications for pain and fever, like acetaminophen or ibuprofen, can be used. Push fluids to make sure children do not become dehydrated, IV fluids may be necessary if they cannot drink. Cool washcloths on lesions can help relieve pain. For older children, when mouth lesions are especially painful, magic mouthwash can be useful. This is a mixture that usually contains

lidocaine and Benadryl to help numb the mouth sores. Magic mouthwash should be swished and spit out.

3. Have participants examine the Common Childhood Illnesses Baby and identify the traditional red macular rash of HFMD. Pass the baby around for a closer look at this condition on the body.
4. Share a few brief videos about hand, foot, and mouth disease if time permits.

[\(4\) How to Treat Hand, Foot and Mouth Disease - On Call for All Kids - YouTube](#)
(4:31)

[\(4\) Mayo Clinic Minute: Hand, foot and mouth disease in kids - YouTube](#) (0:59)

[\(4\) Hand Foot and Mouth Disease, Animation - YouTube](#) (2:52)

Hand, Foot, and Mouth Disease

Notes Page

Instructions: Take notes on the topic as the slide presentation is shared.

1. What is HFMD?

-
-
-
-

2. Transmission and Prevention: HFMD spreads easily through _____, such as when a sick person coughs or sneezes. It can also spread via the _____ in blisters and is in _____ of infected people. Infected individuals are most contagious during the _____ week of illness. Good _____, especially after changing a dirty diaper or caring for a sick child is most important to prevent the spread of the illness. _____ surfaces around the house or childcare setting is also very important as the virus can live on surfaces.

3. There is currently a vaccine for HFMD. True or False (circle one)

4. Symptoms

a. Flu-like symptoms

b. Mouth sores

- c. Body rash

5. Complications

-
-
-
-

6. Treatment

-
-
-

Hand, Foot, and Mouth Disease Notes Page

– Answer Key

Instructions: Take notes on the topic as the slide presentation is shared.

1. What is HFMD?
 - Viral illness
 - Common during summer and fall
 - Highly contagious
 - Variety of symptoms
2. Transmission and Prevention: HFMD spreads easily through **droplets**, such as when a sick person coughs or sneezes. It can also spread via the **fluid** in blisters and is in **feces** of infected people. Infected individuals are most contagious during the **first** week of illness. Good **handwashing**, especially after changing a dirty diaper or caring for a sick child is most important to prevent the spread of the illness. **Disinfecting** surfaces around the house or childcare setting is also very important as the virus can live on surfaces.
3. There is currently a vaccine for HFMD. True or **False** (circle one)
4. Symptoms
 - a. Flu-like symptoms
 - Body aches**
 - Fever**
 - Sore throat**
 - Fatigue**
 - b. Mouth sores
 - Red spots, blisters on inside of mouth, back of throat, and tongue**
 - Not eating much**
 - c. Body rash
 - Red spots, blisters over body, particularly palms and soles**
5. Complications
 - **Dehydration**
 - **Finger or toenail loss**
 - **Viral meningitis**
 - **Encephalitis**
6. Treatment
 - **No medications**
 - **Symptom management includes acetaminophen or ibuprofen, push fluids, cool washcloths, magic mouthwash**
 - **IV fluids**

Lesson Six – Hand, Foot, and Mouth Disease

REVIEW: Hand, Foot, and Mouth Disease Post-Test

10 minutes

Purpose:

To assess and solidify knowledge gained about the signs, symptoms, complications, and treatment of HFMD.

Materials:

- *Hand, Foot, and Mouth Disease Post-Test*
- *Hand, Foot, and Mouth Disease Post-Test – Answer Key*

Facilitation Steps:

1. Distribute the *Hand, Foot, and Mouth Disease Post-Test* to participants.
2. Allow time for participants to complete the test.
3. Review the test and correct answers as a class using the *Hand, Foot, and Mouth Disease Post-Test – Answer Key* so that participants may learn from reviewing correct answers.

Hand, Foot, and Mouth Disease Post-Test

Instructions: Circle the correct answer(s) for each of the following questions.

1. Which organism causes hand, foot, and mouth disease?
 - a. Group A streptococcus
 - b. Coxsackievirus
 - c. Haemophilus influenzae
 - d. Candida
2. Which seasons are most common for HFMD? (Choose all that apply).
 - a. Winter
 - b. Spring
 - c. Summer
 - d. Fall
3. Through what mode of transmission is HFMD spread?
 - a. Contact
 - b. Airborne
 - c. Droplet
 - d. Sexual
4. What is the best way to prevent the spread of HFMD?
 - a. Vaccine
 - b. Handwashing
 - c. Prompt treatment with antibiotics
 - d. Prompt treatment with antiviral medication
5. HFMD is one of only a few diseases to cause a rash on which part of the body?
 - a. Abdomen
 - b. Palms and soles
 - c. Back of the neck
 - d. Face
6. What are the typical symptoms of HFMD? (Select all that apply).
 - a. Body aches
 - b. Fever
 - c. Sore throat
 - d. Rash
 - e. Blurred vision
7. Painful sores on the tongue and inside of the mouth can be managed with what remedy?
 - a. Magic mouthwash
 - b. Acyclovir
 - c. Calamine lotion
 - d. Cold water
8. What is the typical treatment for HFMD?
 - a. Antibiotics
 - b. Antivirals
 - c. Antifungals
 - d. Supportive care

Hand, Foot, and Mouth Disease Post-Test – Answer Key

1. Which organism causes hand, foot, and mouth disease?
 - a. Group A streptococcus
 - b. Coxsackievirus**
 - c. Haemophilus influenzae
 - d. Candida
2. Which seasons are most common for HFMD? (Choose all that apply).
 - a. Winter
 - b. Spring
 - c. Summer**
 - d. Fall**
3. Through what mode of transmission is HFMD spread?
 - a. Contact
 - b. Airborne
 - c. Droplet**
 - d. Sexual
4. What is the best way to prevent the spread of HFMD?
 - a. Vaccine
 - b. Handwashing**
 - c. Prompt treatment with antibiotics
 - d. Prompt treatment with antiviral medication
5. HFMD is one of only a few diseases to cause a rash on which part of the body?
 - a. Abdomen
 - b. Palms and soles**
 - c. Back of the neck
 - d. Face
6. What are the typical symptoms of HFMD? (Select all that apply).
 - a. Body aches**
 - b. Fever**
 - c. Sore throat**
 - d. Rash**
 - e. Blurred vision
7. Painful sores on the tongue and inside of the mouth can be managed with what remedy?
 - a. Magic Mouthwash**
 - b. Acyclovir
 - c. Calamine lotion
 - d. Cold water
8. What is the typical treatment for HFMD?
 - a. Antibiotics
 - b. Antivirals
 - c. Antifungals
 - d. Supportive care**

Lesson Seven – Medication Measurement

Lesson Overview

This lesson explores the use of liquid medication for infants and children. Participants will learn dosage calculation based on weight and medication concentration. They will also understand how to measure and administer the appropriate amount.

Lesson Objectives

After completing this lesson, participants will be able to:

- Explain how medication doses are calculated for infants
- Calculate the volume of medication needed for a particular dose
- Demonstrate how to measure and administer liquid medication to an infant

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• <i>Medication Measurement Matching Worksheet</i> • <i>Medication Measurement Matching Worksheet – Answer Key</i>	1. Print/photocopy <i>Medication Measurement Matching Worksheet</i> (one per participant).	10 minutes
LEARN	• <i>Medication Measurement</i> slide presentation • <i>Medication Management Notes Page</i> • <i>Medication Management Notes Page – Answer Key</i>	1. Print/photocopy <i>Medication Measurement Notes Page</i> (one per participant). 2. Prepare <i>Medication Measurement</i> slide presentation for viewing.	30 minutes
REVIEW	• <i>Medication Dosing Guide</i> • Common Childhood Illnesses Baby • Mock medication bottle – container to put fluid in • Class syringe pack	1. Print/photocopy <i>Medication Dosing Guide</i> (one per participant). 2. Provide participants with necessary supplies.	15 minutes

Lesson Seven – Medication Measurement

FOCUS: Medication Measurement Worksheet

10 minutes

Purpose:

To facilitate understanding of medication measurement for infants with introductory information and learning about how medications are dosed, measured, and administered

Materials:

- *Medication Measurement Matching Worksheet*
- *Medication Management Worksheet – Answer Key*

Facilitation Steps:

1. Distribute the *Medication Measurement Matching Worksheet* to participants.
2. Allow participants to pair up to complete the worksheet.
3. Review the worksheet as a class using the *Medication Measurement Matching Worksheet – Answer Key*, so that participants may learn from reviewing correct answers.

Medication Measurement Worksheet

Instructions: Match the terms in Column A to their correct definitions and images in Column B.

Column A

- A. Kilograms
- B. Pounds
- C. Over-the-counter medications
- D. Prescription medications
- E. Syringe
- F. Medication cup
- G. Medication Spoon
- H. 5 ml
- I. Lowest point of liquid in cup

Column B

____ Dosage listed on packaging



____ Metric system weight, can convert from lbs by dividing by 2.2



____ Equivalent to 1 tsp



____ Dosage determined by prescribing provider

____ English system weight, can convert from kg by multiplying by 2.2

____ Meniscus

Medication Measurement Worksheet –

Answer Key

Instructions: Match the terms in Column A to their correct definitions and images in Column B.

Column A

- A. Kilograms
- B. Pounds
- C. Over-the-counter medications
- D. Prescription medications
- E. Syringe
- F. Medication cup
- G. Medication Spoon
- H. 5 ml
- I. Lowest point of liquid in cup

Column B

- C** Dosage listed on packaging
- G** 
- A** Metric system weight, can convert from lbs by dividing by 2.2
- E** 
- H** Equivalent to 1 tsp
- F** 
- D** Dosage determined by prescribing provider
- B** English system weight, can convert from kg by multiplying by 2.2
- I** Meniscus

Lesson Seven – Medication Measurement

LEARN: Medication Measurement Slide Presentation

30 minutes

Purpose:

To teach methods of dosage calculation, measurement, and administration for infants and children.

Materials:

- *Medication Measurement* slide presentation
- *Medication Measurement Notes Page*
- *Medication Measurement Notes Page – Answer Key*

Facilitation Steps:

1. Distribute the *Medication Measurement Notes Page* copies and encourage participants to take notes during the lecture.
2. Read the following material from the lecture:

Slide 2: Dosage by Weight

Medications for infants and children are dosed by weight. Age will sometimes be included on the chart, like with acetaminophen, but weight is what should be used. Dosages increase as children grow; therefore, a recent and accurate weight is necessary. OTC medications, like Tylenol or ibuprofen, have dosage range charts on the bottle, packaging, or even on their websites. Prescription medications will be dosed by the person prescribing them.

Slide 3: Dosage Calculation

Children should be weighed in a dry diaper. Infants under three months are smaller and every ounce counts, so the scale can be zeroed with a dry diaper on it to obtain the most accurate weight of the child. Children are weighed in kg and then converted to lbs (multiply by 2.2) if needed. Refer to the packing or prescription label for the amount

needed. Draw up the exact amount; do not give more or less as this can be dangerous or ineffective.

Slide 4: Measuring Liquid Medication

Read the label, gather measuring device. This can be a syringe, medication measuring spoon, or measuring cup. Do not use household items, like teaspoons or regular cups. Medication is measured in milliliters. Draw up or pour the exact amount indicated.

Slide 5: Medication Measuring Devices:

- Syringe
 - Uses suction to pull medication up into it
 - Used for small, precise amounts
 - Has small tip used to insert into infant's mouth
 - Plunger is pushed to slowly administer medication
- Medication Cup
 - For older children who can drink from a small cup
 - Larger amounts of medication
 - Meniscus (lowest point of liquid) should be on the measurement line
- Medication Spoon
 - For older children
 - Larger amounts of medication
 - Wide mouth to drink medication from

Slides 6-8: Administering Liquid Medications

When giving medication, draw up the appropriate amount, give small amounts at a time, allow the child to swallow in between amounts, give medication prior to a feeding (so infants are hungry and will

swallow easily), mix a small amount of juice or baby food with medication if they will not take it by itself.

Do not squirt liquid medication directly into the back of baby's throat as they can choke. Do not mix the medication with a full bottle or large amount of food or liquid because, if they do not eat or drink it all, there is no way to know how much medication they actually got. Do not call medication candy or try to trick a child as this will lead to mistrust of food later.

Slide 9: Measuring Conversions

Medications are always measured using the metric system. However, sometimes it may be useful to know how much a metric

medication is as parents may ask about it. Here is a conversion list.

Medication Measurement Notes Page

Instructions: Take notes on the topic as the slide presentation is shared.

1. Dosage by Weight

Medications for infants and children are dosed by _____. Age will sometimes be included on the chart, but weight is what should be used. Dosages _____ as children grow; therefore, a recent and accurate weight is necessary. _____ medications have dosage range charts on the bottle, packaging, or even on their websites. _____ medications will be dosed by the person prescribing them.

2. Dosage Calculation

Weigh child in a _____ diaper

Refer to _____ on medication bottle or medication website

Draw up _____ amount indicated

3. Measuring Liquid Medication

- a.
- b.
- c.
- d.

4. Medication Measuring Devices

- Uses suction to pull medication up into it
- Used for small, precise amounts
- Has small tip used to insert into infant's mouth
- Plunger is pushed to slowly administer medication

- For older children who can drink from small cup
- Larger amounts of medication
- Meniscus (lowest point of liquid) should be on the measurement line

- For older children
- Larger amounts of medication
- Wide mouth to drink medication from

5. Administering Liquid Medication:

Hold infants at a _____ angle

Use _____

Squirt small amounts into the _____

Allow the child to _____

6. Administering Liquid Medication Guidelines

Do	Don't

Medication Measurement Notes Page – Answer Key

Instructions: Take notes on the topic as the slide presentation is shared.

1. Dosage by Weight

Medications for infants and children are dosed by **weight**. Age will sometimes be included on the chart, but weight is what should actually be used. Dosages **increase** as children grow; therefore, a recent and accurate weight is necessary. **OTC** medications have dosage range charts on the bottle, packaging, or even on their websites. **Prescription** medications will be dosed by the person prescribing them.

2. Dosage Calculation

Weigh child in **dry** diaper

Refer to **dosage guide** on medication bottle or medication website

Draw up **exact** amount indicated

3. Measuring Liquid Medication – How to:

a. **Read the label**

a. **Gather measuring device**

b. **Medication is measured in milliliter**

c. **Draw up or pour the exact amount indicated**

4. Medication Measuring Devices

Syringe

- Uses suction to pull medication up into it
- Used for small, precise amounts
- Has small tip used to insert into infant's mouth
- Plunger is pushed to slowly administer medication

Medication Cup

- For older children who can drink from small cup
- Larger amounts of medication
- Meniscus (lowest point of liquid) should be on the measurement line

Medication Spoon

- For older children
- Larger amounts of medication
- Wide mouth to drink medication from

5. Administering Liquid Medication:

Hold infants at a **45-degree** angle

Use **syringe**

Squirt small amounts into the **cheek**

Allow child to **swallow**

6. Administering Liquid Medication Guidelines

Do	Don't
– Draw up appropriate amount – Give small amounts at a time – Let swallow before giving more – Give prior to a feeding – Mix with very small amount of Juice, applesauce, etc if needed	– Squirt directly at the back of throat – Mix with bottle or large amount of liquid or food – Call medication “candy” or try to trick child

Lesson Seven – Medication Measurement

REVIEW: Medication Administration Demonstration

15 minutes

Purpose:

To allow participants to demonstrate and practice medication dosage calculation, measurement, and administration.

Materials:

- *Medication Dosing Guide*
- Mock medication bottle or container to hold fluid to draw from
- Class set of syringes

Facilitation Steps:

1. Share a brief medication administration video with participants prior to using the class set of syringes.

[Obtaining an Accurate Dose in an Oral Syringe - YouTube](#) (6:26)

[How to read a syringe - YouTube](#) (5:11)

[How to Give Your Baby Medication | Parents - YouTube](#) (1:13)

[Giving Your Infant Medication: Proper Dosage and Administration - YouTube](#) (2:05)

[Administering medication to your baby - YouTube](#) (0:52)

2. Put participants into groups of 2-3 and provide each group with a *Medication Dosing Guide*.
3. Assign each group with a different weight for the child written at the top. Choices for weight include: 4.5 kg, 6.3 kg, 9.1 kg, and 12.3 kg.

4. Provide participants with necessary supplies and read the following scenario:

You are caring for Sally, an infant at a daycare who received vaccines yesterday. Today, her mother says she has been a little bit fussy with a low-grade fever, and her pediatrician suggested she take acetaminophen every four hours for discomfort and fever today. Her last dose was at 8 a.m.

5. Ask participants to determine what time they would give the next dosage (12 p.m.) and to determine Sally's weight in lbs (multiply by 2.2).
6. Now ask participants to determine what dose Sally will get based on the weight you assigned each group.
 - 4.5 kg = 9.9 lbs and 1.25 ml acetaminophen
 - 6.3 kg = 13.8 lbs and 2.5 ml acetaminophen
 - 9.1 kg = 20 lbs and 3.75 ml acetaminophen
 - 12.3 kg = 27 lbs and 5 ml acetaminophen
7. Have participants draw up the appropriate amount of medication and check each group.
8. Review with other weights as needed.

Medication Dosing Guide

	Acetaminophen Dosing Guide	
Child's Weight	Child's Age	Dosage of Medication
6-11 lbs	0-3 months	1.25 ml
12-17 lbs	4-11 months	2.5 ml
18-23 lbs	12-23 months	3.75 ml
24-35 lbs	2-3 years	5 ml

Baby weight: _____ x 2.2 _____ = _____ lbs Dosage _____

Baby weight: _____ x 2.2 _____ = _____ lbs Dosage _____

Baby weight: _____ x 2.2 _____ = _____ lbs Dosage _____

Baby weight: _____ x 2.2 _____ = _____ lbs Dosage _____

References

1. Centers for Disease Control and Prevention. (2021, November). Hand, foot, and mouth disease. <https://www.cdc.gov/hand-foot-mouth/index.html>
2. Kid's Health. (2020, November). Pink eye (conjunctivitis). <https://kidshealth.org/en/parents/conjunctivitis.html>
3. Nationwide Children's. (2022, June). <https://www.nationwidechildrens.org/family-resources-education/health-wellness-and-safety-resources/helping-hands/medicine-how-to-give-by-mouth#:~:text=Mix%20the%20medicine%20with%20a,does%20not%20drink%20very%20much.>