



SUPPORTING COMPREHENSIVE CLEFT CARE THROUGH FEEDING AND NUTRITION

Trainer's Manual

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LESSON 1: Strategies to Optimize Breastfeeding for Infants with Cleft Lip/Palate

TARGET AUDIENCE: Hospital Health Staff and Community Health Workers

LEARNING GOALS:

- Participants will learn strategies to maximize breast milk intake for infants with cleft lip/palate.
- Participants will understand cue-based feeding strategies.
- Participants will gain knowledge on the importance of early dental care.

TOPICS:

1. Benefits and Challenges of Providing Breast Milk to Infants with Cleft Lip/Palate
2. Understanding Breast Milk Production
3. Recommendations for Breastfeeding Infants with Cleft Lip/Palate
4. Cue-Based Feeding
5. Infant Dental Health
6. Breast Milk Sharing: Risks, Benefits and Practical Guidance

Topic		Benefits and Challenges of Providing Breast Milk to Infants with Cleft Lip/Palate	
Learning Objectives	<ul style="list-style-type: none"> • Participants will understand the importance of breast milk for infants with cleft lip/palate. • Participants will understand the challenges of breastfeeding infants with cleft lip/palate. 		
Learning Activity	Description	Time	Materials Needed
	<p>Group discussion on the benefits and challenges of breastfeeding an infant with cleft lip/palate</p> <ul style="list-style-type: none"> • Introduce topic, share the World Health Organization (WHO) guidelines for breastfeeding, and ask participants to list benefits and challenges of breastfeeding. • Ask participants to call out benefits and challenges. • Write participants' answers on a flip chart corresponding to the category that it falls into. • Expand on answers. 	20 minutes	<ul style="list-style-type: none"> • Flip chart divided into "benefits" and "challenges" • Markers • PowerPoint

WHO recommends that infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. Thereafter, to meet their evolving nutritional requirements, infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years of age or beyond. (WHO/UNICEF, 2003)

Benefits of breastfeeding for infants with cleft lip/palate

- Helps strengthen the muscles around the face and mouth to promote better speech as the infant grows
- The breast is more flexible than a bottle nipple for an infant with a cleft lip
- An infant has more control over positioning and milk flow.
- Natural Substance - less irritating if regurgitates out the nose
- Decreases risk of ear infections
- Provides the closeness and interaction that many of these infants need - can suckle for comfort, not just food

Trainer's Notes

Challenges of breastfeeding for infants with cleft lip/palate

- Weak suck
- Non-rhythmic suck
- Swallowing too much air
- Trouble maintaining a good seal
- Gagging and choking
- Milk leaking out of the nose
- May tire more easily and not nurse long enough to get the hind milk
- May prefer the side without the cleft

Evidence of Learning

Participants will be able to list at least 2 benefits and 2 challenges of providing breast milk directly through breastfeeding or indirectly through pumping.

Understanding Breast Milk Production			
Topic	Understanding Breast Milk Production		
Learning Objectives	Participants will be able to explain conditions that increase or decrease breast milk production.		
Learning Activity	<p>Description</p> <p>Small group discussion on factors that increase and decrease breast milk production</p> <ul style="list-style-type: none"> ● Introduce the topic of breast milk production. ● Divide participants into groups of 3-5. ● Instruct groups to write factors that increase/decrease breast milk production on sticky notes. ● Instruct groups to post their sticky notes on the flip chart under “increase” or “decrease.” ● Synthesize and summarize. 	<p>Time</p> <p>15 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> ● Sticky notes ● Markers ● Flip chart with two columns, “increase” and “decrease” ● PowerPoint
Trainer's Notes	<p>What decreases a mother's milk supply?</p> <ul style="list-style-type: none"> ● Stress ● Hormonal or endocrine problems ● Using hormonal birth control ● Taking certain medications or herbs ● Sucking difficulties (infant) ● Not feeding at night ● Scheduled feedings ● Jaundice (infant) 		

- Supplementation (infant)
- Dehydration (mother and infant)

What increases a mother's milk supply?

- Drinking plenty of water
- Eating certain foods
- Feeding on demand—watch infant's cues
- Feeding at least every 1-3 hours
- Warm compress on breasts before feeding
- Massaging breast before/during feeding
- Hand expressing milk before and after a feeding
- Skin to skin contact
- Relaxation techniques
- Expressing milk within first few hours of birth

Milk production is a “use it or lose it” process. The more often and effectively an infant nurses, the more milk the mother will make. Research tells us that the emptier the breast, the faster the breast makes milk. So, when an infant removes a large percentage of milk from the breast, milk production will speed up in response. Rather than thinking of nursing or pumping as “pouring milk out of a container” think of it as flipping on the “high speed production” switch!

The size of breasts (which indicates storage capacity) does not matter for breast milk production. Think of storage capacity as a cup – you can easily drink a large amount of water throughout the day using any size of cup – small, medium or large – but if you use a smaller cup it will be refilled more often.

Evidence of Learning

Participants will be able to list 2 ways to increase milk supply.

Topic		Recommendations for Breastfeeding Infants with Cleft Lip/Palate	
Learning Objectives	Participants will be able to counsel mothers on strategies to adequately and efficiently breastfeed infants with cleft lip/palate.		
Learning Activity	<p>Description</p> <p>Orange activity</p> <ul style="list-style-type: none"> • Cut orange into wedges, leaving the peel on. • Give each participant a napkin, 3 orange wedges, and one straw. • Ask participants to lean their head back and squeeze orange into their mouth to simulate bottle-feeding. • Ask participants to push straw into an orange and suck out juice to simulate breastfeeding with a shallow latch (only drawing in the nipple). • Ask participants to put the third orange slice in their mouth and use their lips and tongue (no teeth) to massage out the juice to simulate a good latch and milk transfer. • Ask participants to share their experience with the orange slices by rating the amount of juice they received out of each orange on a scale from 0-10 (10 being the most juice). • Summarize and expand on activity by sharing recommendations for breastfeeding. 	Time	Materials Needed
		20 minutes	<ul style="list-style-type: none"> • 1 napkin per participant • 1 orange per participant (or similar juicy fruit) • One straw per participant • Wet wipes

	<ul style="list-style-type: none"> Establishing a good latch is an important key to a good breastfeeding relationship. An infant who latches on well, gets milk well. An infant who latches on poorly has more difficulty getting milk, especially if the supply is low. Bottle or cup feeding requires little work for the infant, besides having a coordinated suck-swallow-breathe complex. Bottle or cup feeding before establishing successful breastfeeding can interfere with a successful breastfeeding relationship. <i>Shallow latch:</i> When infants hang on the nipple, they will not be able to express milk out of glands. A poor latch is similar to giving an infant a bottle with a nipple hole that is too small—the bottle is full of milk, but the infant will not get much of it. An infant who does not get milk easily will usually stay on the breast for long periods. <i>Good latch and milk transfer:</i> An asymmetrical latch (an infant should have more areola in his/her mouth on the bottom and less on top) is necessary so the tongue, lips, and gums can massage the milk out of the glands. Adequate suction is important for milk transfer. 		
<p>Trainer's Notes</p>	<p>Description</p> <p>Demonstration of feeding positioning Using an infant doll, demonstrate various feeding positions that work best for infants with cleft lip/palate and then allow participants to practice:</p> <ul style="list-style-type: none"> Modified cradle hold Cleft-modified football hold Dancer hand position 	<p>Time</p> <p>30 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> Infant doll
<p>Learning Activity</p>			

Trainer's Notes

Breastfeeding strategies for an infant with cleft lip and/or palate:

- Feed often—at least every 2 hours.
- Sit upright and position infant upright.
- Apply a warm compress before breastfeeding using a warm, damp towel or a hot water bottle.
- Massage breasts before breastfeeding.
- *For unilateral cleft:* position nipple away from cleft in a modified cradle hold.
- *For bilateral cleft:* position infant upright, face-to-face with cleft-modified football hold.
- *For a weak latch:* position infant in a dancer hand position (infant's chin rest on the web between the thumb and pointer finger, which stabilizes the jaw, and the rest of the fingers are wrapped under the breast. The other hand supports the infant's neck and/or shoulders).
- Press infant into breast to encourage latch since no suction.
- Compress breasts during breastfeeding.
- Burp frequently.

Counseling mothers

- Encourage mothers to provide the protective benefits of breastfeeding.
- Counsel mothers on the likely and realistic breastfeeding expectations for infants with cleft lip/palate.
 - Do not confuse challenges of breastfeeding an infant with cleft palate with common breastfeeding challenges – latching and sputtering.
 - Feedings will take twice as long.
- Encourage mother to try different positions to get best latch.
- Connect mothers with peer support.

Support for infants with cleft lip/palate

- Evaluate infants on an individual basis.
- Evaluate the size and location of cleft and mother's previous experience with breastfeeding.
- Monitor weight and hydration status closely and supplement as needed.

Learning Activity	Description	Time	Materials Needed
	<p>Size of stomach quiz</p> <ul style="list-style-type: none"> ● Give participants 4 index cards labeled: <ul style="list-style-type: none"> ○ Day 1 ○ Day 3 ○ Day 7 ○ 1 month ● Introduce activity by explaining that the round objects represent the size of the stomach at different ages. ● Hold up the round objects, one at a time. ● Ask participants to raise the index card that is labeled with the age corresponding to the “stomach size.” Include extra objects to make the game more challenging. ● Review answers and facilitate discussion on stomach size. ● Review Size of a Newborn’s Stomach handout with participant. 	15 minutes	<ul style="list-style-type: none"> ● 4 index cards per participant ● 7 roundish objects <ul style="list-style-type: none"> ○ Peanut/bean ○ cherry/marble ○ walnut/prune ○ plum/passion fruit/ping pong ball ○ egg/lime/small lemon ○ tangerine/racquet ball ○ tennis ball/baseball ● Size of a Newborn’s Stomach handout ● PowerPoint
<p>Trainer’s Notes</p>	<p>Newborn’s stomach size An infant’s tiny stomach cannot hold large amounts of breast milk. General ranges for full-term infant stomach size from birth to one month of age are:</p> <ul style="list-style-type: none"> ● Day 1: Size of a cherry (5-10 ml) ● Day 3: Size of a walnut (22-27 ml) ● Day 7: Size of an apricot (45-60 ml) ● One month: Size of a large egg (80-150 ml) 		

Learning Activity	Description	Time	Materials Needed
<p>Trainer's Notes</p>	<p>Signs that an infant is getting enough to eat</p> <ul style="list-style-type: none"> ● Facilitate a group discussion on signs that an infant is getting enough to eat and signs of dehydration. ● Share the Smile Train Feeding Recommendations handout with participants. <p>Sign that an infant is getting enough to eat</p> <ul style="list-style-type: none"> ● <i>Poopy diapers:</i> <ul style="list-style-type: none"> ○ Several bowel movements per day—“poop you can scoop” ○ Yellow stools by day 4 ● <i>Wet diapers:</i> <ul style="list-style-type: none"> ○ 5-7 wet diapers per day by day 5 until about 6 months of age ○ Dark yellow or strong-smelling urine may be sign of dehydration ● <i>Weight gain:</i> <ul style="list-style-type: none"> ○ Gaining ½-1 oz. per day ● <i>Mood and appearance:</i> <ul style="list-style-type: none"> ○ Calm/active when awake and satisfied after a feeding (not lethargic) <p>Signs of dehydration</p> <ul style="list-style-type: none"> ● Infant has not urinated for over 6 hours ● No tears when infant cries ● Mouth feels dry and sticky ● “Soft spot” on top of head is flat or sunken ● Infant is acting confused 	<p>20 minutes</p>	<ul style="list-style-type: none"> ● Smile Train Feeding Recommendations handout ● PowerPoint

General guidelines for amounts and frequency of feedings (range depending on if infant is breastfed or receiving cow's milk and whether or not the infant is malnourished)

It is best to feed infants based on their hunger and satiety cues. Below are general recommendations for amounts and frequency of feedings.

Week 1:

- Day 1: 2-10 ml per feeding, 8-12 feedings/day
- Day 2: 5-15 ml per feeding, 8-12 feedings/day
- Day 3: 15-30 ml per feeding, 8-12 feedings/day
- Day 4-7: 30-45 ml per feeding, 8-12 feedings/day

Month 1:

- Week 1-2: 45-60 ml per feeding, 8-12 feedings/day
- Week 2-4: 60-90 ml per feeding, 8-12 feedings/day

Months 2-12:

- Month 2-3: 90-150 ml per feeding, 8 feedings/day
- Month 3-6: 120-150 ml per feeding, 6-8 feedings/day
- Month 6-12: 150-180 ml per feeding, 6 feedings/day

Tips for remembering how much to give

- After about 2 weeks, give about 30 ml per feeding per hour (e.g., 60 ml every 2 hours or 90 ml every 3 hours.)
- After first month, go up about 30 ml feeding per month
 - maximum 240 ml per feeding
 - maximum 960 ml per day

	Description	Time	Materials Needed
<p>Learning Activity</p>	<p>Foremilk versus hindmilk</p> <ul style="list-style-type: none"> ● Pour whole milk in one glass container (<i>this represents hindmilk</i>). ● Mix whole milk and water in the second glass container (<i>this represents foremilk</i>). ● Ask participants to describe the differences they see between the two containers. ● Facilitate a discussion about the differences of fat and calorie content of foremilk versus hindmilk by comparing the content and color of two containers. 	<p>10 minutes</p>	<ul style="list-style-type: none"> ● A small bottle of whole milk ● Water ● Two transparent, glass containers
<p>Trainer's Notes</p>	<p>Foremilk versus hindmilk</p> <ul style="list-style-type: none"> ● Foremilk is the milk at the beginning of the feeding. It has lower fat and higher lactose. It “quenches the thirst.” ● Hindmilk is the milk at the end of the feeding. It has higher fat content than foremilk. It “satisfies the hunger.” ● As the feeding progresses and breast empties, the milk gradually increases in fat while milk volume and flow decrease. ● <i>Teaching example:</i> breasts do not “flip a switch” at some arbitrary point and start producing hindmilk instead of foremilk. Instead, think of the beginning of a nursing session as being like turning on a hot water faucet. The first water you get out of the tap is not usually hot, but cold. As the water runs, it gradually gets warmer and warmer and warmer. This is what happens with the fat content in breast milk—breast milk gradually increases in fat content until the end of the feeding. ● Infants nurse eagerly to get the thirst-quenching foremilk, then slow down and linger over the high-fat milk at the end of their meal. Infants who nurse again soon after the end of the last feeding get more high-fat milk. So, infants who breastfeed more frequently during a growth spurt get more calories! Longer intervals between feedings bring down the fat content of the milk stored in the breast. This nutritional fact about human milk is one of the many reasons why the rigid 3 to 4 hour scheduled style of feeding is biologically incorrect. An infant needs to breastfeed long enough at each breastfeeding to get to the calorie-dense hindmilk. Alternatively, a mother can “top off” an infant with expressed hindmilk and give via spoon or cup. 		

	Description	Time	Materials Needed
Learning Activity	<p>Tandem Breastfeeding</p> <ul style="list-style-type: none"> Present information on how to increase volume while tandem breastfeeding. 	10 minutes	<ul style="list-style-type: none"> PowerPoint
Trainer's Notes	<p>Breastfeeding while pregnant</p> <ul style="list-style-type: none"> Completely safe to breastfeed while pregnant Milk supply decreases around 4-5th month of pregnancy Composition and flavor may change <p>Breastfeeding toddler and infant</p> <ul style="list-style-type: none"> Toddler can increase milk supply for cleft infant and minimize engorgement No special breast hygiene measures while tandem breastfeed Newborn gets first priority the first few weeks, then can double nurse; or infant nurses first, then toddler <p>Transmitting illness while tandem breastfeeding</p> <ul style="list-style-type: none"> If the older sibling has a minor illness, both children (and the whole family) will have been exposed to the bacteria or virus causing the illness, by the time the visible symptoms appear. In the case of a serious or highly contagious illness, it may be worth “assigning” one child to each breast. 		
Evidence of Learning	<ul style="list-style-type: none"> Participants will be able to explain the key components of a proper latch. Participants will be able to describe signs that an infant is getting enough to eat. Participants will be able to list 2 ways to increase volume and/or calories while breastfeeding. 		

Topic		Cue-Based Feeding		
Learning Objectives	Participants will be able to identify infant feeding cues, signs of hunger and readiness to eat.			
Learning Activity	Description	Time	Materials Needed	
	<p>Feeding cue matching game</p> <ul style="list-style-type: none"> • Introduce the goals and focus of cue-based feeding. • Give each participant a blank feeding and satiety cue card and a set of 12 infant pictures. • Instruct participants to interpret the infant's cues and place the infant picture in the correct category on the feeding and satiety cue cards. • Review answers. • Summarize the importance of observing early signs of hunger and signs of satiety, especially among infants with cleft lip/palate. 	20 minutes	<ul style="list-style-type: none"> • Feeding and Satiety Cue handout • 12-15 sets of laminated individual infant pictures “cut out” from cue cards • 12-15 laminated cue cards with only categories listed (no infant pictures or picture descriptions) 	
Trainer's Notes	<p>Feeding goals:</p> <ul style="list-style-type: none"> • To provide a safe feeding environment for infants • Maximize intake and minimize stress <p>Focus on</p> <ul style="list-style-type: none"> • Feeding readiness • Stress cues 			

- Quality of “nipping”
- Caregiver techniques

Feeding cues and satiety guide

Early feeding cues

- “I’m hungry—feed me”
 - Stirring
 - Mouth opening
 - Turning head
 - Seeking/rooting

Middle cues

- “I’m really hungry—feed me NOW”
 - Stretching
 - Increasing movement
 - Hand to mouth

Late cues

- “Calm me, then feed me”
 - Crying
 - Lots of movement
 - Color turning red

Post-feeding cues

- “I’m done”
 - Opening fist
 - Arms lying low across body
 - Falling asleep with body relaxed

Evidence of Learning

- Participants will be able to describe 3 early signs of hunger.
- Participants will be able to list at least 1 sign of satiety.

Topic		Infant Dental Health		
Learning Objectives	Participants will understand who is at risk, the causes, and ways to prevent early childhood caries.			
Learning Activity	Description	Time	Materials Needed	
	<p>Group discussion on dental health</p> <ul style="list-style-type: none"> Facilitate a discussion on early dental health using PowerPoint slides. 	20 minutes	<ul style="list-style-type: none"> PowerPoint 	
Trainer's Notes	<p>Why are healthy infant teeth and early dental health important?</p> <ul style="list-style-type: none"> Familiarize infant with cleft lip/palate to have adults touch inside of mouth Allow child to chew and eat properly Help child to speak more clearly Guide adult teeth into place Help to shape infant's face Prevent early childhood caries and limit risk of caries in permanent teeth Keep future dental costs to a minimum Enhance self-esteem because of improved aesthetics when they go to school Increase compliance with brushing (teeth can cause discomfort or sensitivity if part of the teeth/enamel is broken down) Less bacteria in the mouth reduces the frequency of cough and cold episodes <p>Early Childhood Caries is defined as the presence of one or more decayed, missing (due to caries) or filled tooth surfaces in any primary tooth.</p>			

What causes dental caries?

- Caries is a multi-step process involving bacteria, food particles, and tooth surface that results in destruction of the tooth structure.
- Oral bacteria turn the sugars from food into acids that may dissolve minerals from the tooth surface (enamel). Prolonged exposure of enamel with acids can lead to dental caries.
- When sugars are consumed infrequently, saliva is able to protect teeth from the acids and minerals are deposited back into the enamel.
- When sugars are consumed frequently, there is insufficient time for the minerals to be deposited back. The tooth enamel becomes weakened and causes a cavity. Occasionally, newly erupting teeth in infants' mouth come with white patches on the enamel surface. These tooth surface defects (called enamel hypoplasia) make the teeth more susceptible to caries.

Role of bacteria in dental caries

- Dental decay is an infection and can be transmitted from mother to child.
- Bacteria that causes dental decay are transmitted from the primary caregiver, typically the mother, via saliva contact. The higher the bacteria level in the caregiver's mouth, the more likely the child will get the infection.
- Caregivers with high bacteria levels usually have:
 - a high frequency of sugar intake
 - poor oral hygiene
 - high levels of dental caries

Potential consequences of Early Childhood Caries

- Pain and swelling
- Impaired chewing leading to malnutrition and poor general health
- Infection
- Increased caries in permanent dentition
- Students with dental pain are almost four times more likely to have a low-grade point average
- Difficulty sleeping
- Difficulty to brush because of sensitive tooth surfaces
- Extreme sensitivity while biting/chewing hard food substances
- Sensitivity to thermal changes in food substances (extremes of temperatures hot or cold)

- Prolonged retention of food in the mouth due difficulty to chew leading to extended eating time/chewing time
- Frequent episodes of cough and cold due to numerous bacteria on the decayed tooth surfaces
- Poor self-esteem
- Extensive and expensive dental work which often must be completed under general anesthesia

Who is at risk of Early Childhood Caries?

- Babies who go to bed with bottle
- Babies who have the bottle propped in their mouth
- Babies who take anything besides plain milk in a bottle (sugar water, juice, flavored milk, soda)
- Babies who breastfeed constantly
- Babies who have constant access to a bottle (sugar water, juice, flavored milk, soda)
- Babies with decreased saliva production
- Babies who come into contact with mother's saliva
- Babies whose new teeth come with white patches/ slightly rough surface on the enamel

Ways to protect an infant's teeth

- Make sure the first dental visit happens as soon as the first tooth comes into the mouth
- Avoid testing the temperature of the bottle with your mouth
- Do no clean a pacifier or a bottle nipple by putting it in your mouth
- Avoid sharing utensils (e.g. spoons)
- Only offer breastmilk or milk in bottle
- Wipe gums and clean/wipe teeth with clean towel after feedings (if able)
- Cut back on saliva transferring behavior from parents/siblings
- Start infant dental care ideally at birth, and no later than when the first tooth erupts

How should infants' teeth be cleaned?

- Use a clean, wet washcloth or infant finger toothbrush, preferably after every meal or every feed
- Smear layer of toothpaste can be used with finger brush
- Gently massage teeth and gums

Evidence of Learning

- Participants will be able to clearly state 2 causes of Early Childhood Caries.
- Participants will be able to describe how to protect infants' teeth from Early Childhood Caries.

Breast Milk Sharing: Risks, Benefits, and Practical Guidance			
Topic	Breast Milk Sharing: Risks, Benefits, and Practical Guidance		
Learning Objectives	Participants will be able to better counsel mothers on human milk sharing.		
Learning Activity	<p>Description</p> <p>Group discussion on breast milk sharing</p> <ul style="list-style-type: none"> • Ask participants the following questions and recording answers on the flip chart: <ul style="list-style-type: none"> ○ What are the local practices and prevalence of breast milk sharing or “wet nursing”? ○ How common is it in your country to breastfeed or give a bottle of shared breast milk to another mother’s infant? ○ What are the perceived risks (transferable viruses) of breast milk sharing? ○ What are the benefits of sharing breast milk (including human milk vs. cow or animal milk)? ○ When should breast milk sharing not be recommended? • Synthesize and add additional information about the risks and benefits of breast milk sharing. • Explain the screening guidelines for infection risk for mothers. 	Time	Materials Needed
		10 minutes	<ul style="list-style-type: none"> • Flip chart labeled with “Risks”, “Benefits”, and “Screening Guidelines” • Markers

<p>Trainer's Notes</p>	<p>Risks and benefits of breast milk sharing Perceived risks and benefits of feeding milk from another mother may not align with actual risks and benefits. However, milk sharing and donation are perceived differently in different cultures around the world; what one country and culture sees as potentially risky may be a long-standing and widely accepted tradition in another country and culture. We are not here to make any judgment about these practices. Instead, we simply hope to offer information that will allow you to make an informed decision that is right each mother, infant, and culture.</p> <p>Screening guidelines for breast milk sharing</p> <ul style="list-style-type: none"> ● Recommend breast milk sharing only if donor mother <ul style="list-style-type: none"> ○ is in good health ○ is on medications or herbal supplements compatible with breastfeeding ○ has a clear infectious disease history (HIV, Hepatitis B, HTLV-1) ● Breast milk sharing is <i>not recommended</i> when donor mother <ul style="list-style-type: none"> ○ uses illegal drugs or marijuana ○ smokes tobacco ○ consumes alcohol (more than one drink per day) ○ is at risk for HIV or has a sexual partner in past year who is at risk for HIV 		
<p>Learning Activity</p>	<p>Description</p> <p>Home pasteurization (flash heating method) Describe the process for home pasteurization.</p>	<p>Time</p> <p>10 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> ● PowerPoint

<p>Trainer's Notes</p>	<p>Home breast milk pasteurization steps</p> <ol style="list-style-type: none"> 1. Place milk (60-150 ml) in a heat resistant glass jar with a lid. 2. Place jar of milk in small pan of water. Water should be two fingers above the milk level in the jar. Stay close by because this should only take a few minutes. 3. Heat water on a very hot fire until it reaches a rolling boil (large bubbles). 4. Immediately remove jar of milk from boiling water. Leaving the water to boil too long will damage some nutrients in the milk. 5. Place jar in cold water or let jar stand until it reaches room temperature. 6. Feed this milk at room temperature within 4-6 hours or refrigerate or freeze the milk.
<p>Evidence of Learning</p>	<ul style="list-style-type: none"> ● Participants will be able to list 4 social practices that would prohibit breast milk sharing. ● Participants will be able to explain the process for home pasteurization.

LESSON 2: Breast Milk Expression and Storage

TARGET AUDIENCE: Hospital Health Staff and Community Health Workers

LEARNING GOALS:

- Participants will be able to explain the importance of early breast milk expression.
- Participants will be able to counsel mothers on using various methods to express breast milk.
- Participants will understand the importance of proper storage of breast milk.

TOPICS:

1. How to Effectively Express Breast Milk
2. Proper Storage of Expressed Breast Milk

How to Effectively Express Breast Milk			
Topic	How to Effectively Express Breast Milk		
Learning Objectives	<ul style="list-style-type: none"> • Participants will be able to explain the importance of early breast milk expression. • Participants will be able to demonstrate how to effectively express breast milk using hand expression and manual pumping (<i>if available locally</i>). 		
	Description	Time	Materials Needed
Learning Activity	<p>Advantages of hand expression of breast milk</p> <ul style="list-style-type: none"> • Facilitate a discussion with participants around the advantages of hand expression of breast milk versus using a manual or electric pump. 	15 minutes	<ul style="list-style-type: none"> • PowerPoint • Flipchart • Markers
Trainer's Notes	<p>Advantages of hand expression of breast milk</p> <ul style="list-style-type: none"> • Less expensive • Less work • No need to sterilize pump equipment • Convenient – can be done anywhere • Does not require electricity • Does not cause discomfort • Can relieve engorgement • Can relieve a blocked duct • Skin to skin is more stimulating • Will increase milk supply for the future • It is the best way to express colostrum 		

	Description	Time	Materials Needed
Learning Activity	<p>Group discussion on importance of colostrum</p> <ul style="list-style-type: none"> Facilitate a discussion with the group on the importance of colostrum and the difference between colostrum and mature milk. 	10 minutes	<ul style="list-style-type: none"> PowerPoint
Trainer's Notes	<p>What is colostrum?</p> <ul style="list-style-type: none"> Colostrum gives infants immunity to the germs that are in the surrounding environment. Colostrum is protective, coating the intestines to block these germs out so they cannot be absorbed into an infant's system. This barrier seals the infant's insides, preparing for a healthy life. Colostrum contains antibodies against small pox, polio, measles and influenza. Colostrum inhibits growth of <i>E. coli</i> and provides protection from inflammation. Colostrum is a laxative and therefore, it helps clear out meconium. Early clearing of meconium helps to reduce jaundice. Colostrum helps prevent low blood sugar in healthy full-term infants. <p>Differences in composition between colostrum, transitional milk, and mature milk</p> <ul style="list-style-type: none"> Colostrum is the first milk that is produced after birth until day 4. During the first 24 hours of birth, the breasts will produce only about 30-40 ml of colostrum (only a few teaspoons for the entire day). Colostrum is very high in protein. It has more protein but less fat and sugar (lactose) than transitional and mature milks. Transitional milk (days 4-10) is an intermediate milk between colostrum and mature milk and is produced in a much greater amount than colostrum. It has less protein but more fat and sugar than colostrum. Mature milk (after day 10) has less protein than colostrum and transitional milk but has a higher fat and sugar content. It is more caloric than earlier milks. 		

	<p>Differences in composition between foremilk and hindmilk Subtle changes in milk composition do occur over the course of lactation:</p> <ul style="list-style-type: none"> • Foremilk (initial milk of a feed) is watery, lower in fat, and higher in sugar (lactose), protein, vitamins, and minerals – it quenches an infant’s thirst. • Hindmilk (last milk of a feed) is much higher in fat – it satisfies an infant’s hunger. 		
<p>Learning Activity</p>	<p>Description</p> <p>Breast milk hand expression video</p> <ul style="list-style-type: none"> • Show video on how to hand express milk. • Discuss video with participants. 	<p>Time</p> <p>15 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> • PowerPoint slide with link to video • Speakers

Trainer's Notes	Video showing techniques for hand expressing breast milk from Global Health Media can be found at this link: https://globalhealthmedia.org/portfolio-items/how-to-express-breastmilk/?portfolioID=5623		
Learning Activity	<p>Description</p> <p>Breast milk hand expression demonstration and practice</p> <ul style="list-style-type: none"> ● Explain the steps of hand expression with participants. ● Ask participants to practice hand expression technique using plush/pillow breast (or own if appropriate) by giving the following instructions: <ul style="list-style-type: none"> ○ <i>Massage</i>: Using three middle fingers massage breast using small circles around outside of areola or tapping with fingertips. ○ <i>Press</i>: Place two small circular Band-Aids on outside of areola across from each other. Place index and thumb fingers on Band-Aids. Press fingers towards chest. ○ <i>Compress</i>: Squeeze fingers towards areola together to express milk. ○ <i>Release and repeat</i>. ● Summarize and debrief with participants. 	<p>Time</p> <p>20 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> ● Small circular Band-Aids (1.5-2.5cm) ● Soft, plush breasts

Getting ready to express breast milk

1. Wash hands.
2. Get a clean container for collecting milk. Colostrum can be expressed into a small teaspoon, and mature milk can be expressed into a bottle or cup.
3. Relax and get comfortable. Milk will flow more easily if you are warm and comfortable.
4. Privacy can help. Try the breathing exercises learned for labor, or visualize milk flowing.
5. It can be easier to get the milk flowing if the infant is nearby, or an article of clothing that smells like the infant.
6. Gently massage breasts with hands and fingertips to stimulate milk ejection reflex. This is key to effective expressing.
7. Bending forward with breasts suspended can help milk flow due to gravity.

Steps to express breast milk

1. **HOLD** breast with fingers and thumbs cupped around the breast in a C shape, near but not touching the areola.
2. **PRESS** fingers and thumb back towards the chest.
3. **COMPRESS** the breast between fingers and thumb, moving them slightly towards the nipple without lifting them from the breast.
4. **RELEASE** without moving hand from the breast.
5. **REPEAT**, moving hand to a different place around the breast after every few compressions or whenever milk flow stops, compressing all of the milk ducts. Releasing and repressing rhythmically helps to mimic the action of an infant breastfeeding.

Tips for expression of breast milk

- For most moms, it is a process of trial and error. Experiment what works best to achieve a spray, not drops or dribbles.
- Allow time at first. Expression should take 20-30 minutes. Frequent short sessions are usually more effective than infrequent, longer expressing sessions.
- Switching between breasts several times as milk flows can help trigger the milk ejection reflex. The more milk ejection reflex stimulated, the more milk is produced.
- Hand expression should feel comfortable. If it is not, adjust until it feels okay.

Trainer's Notes

	Description	Time	Materials Needed
<p>Learning Activity</p>	<p><i>This activity should only be included if hand breast pumps are available locally.</i></p> <p>Manual breast milk hand pump demonstration and practice</p> <ul style="list-style-type: none"> • Show video on how to use a hand breast milk pump. • Demonstrate proper technique for using a hand pump. • Allow participants to practice using a hand pump. • Summarize and debrief with participants. 	<p>10 minutes</p>	<ul style="list-style-type: none"> • Soft, plush breasts • Manual pump • PowerPoint with weblink (if showing video) • Speakers
<p>Trainer's Notes</p>	<p>The following video can be shown to demonstrate proper technique for manual pumping: https://med.stanford.edu/newborns/professional-education/breastfeeding/maximizing-milk-production.html</p>		
<p>Evidence of Learning</p>	<p>Participants will be able to demonstrate proper hand positioning and technique while hand expressing breast milk.</p>		

Topic		Proper Storage of Breast Milk	
Learning Objectives	Participants will understand guidelines for breast milk storage with and without refrigeration to decrease bacterial growth.		
Learning Activity	Description	Time	Materials Needed
	<p>Group discussion and presentation on Breast Milk Storage Guidelines</p> <ul style="list-style-type: none"> • Distribute the Breast Milk Storage Guidelines handout to participants. • Reviews Breast Milk Storage Guidelines with participants. • Presents additional information about storing breast milk. 	20 minutes	<ul style="list-style-type: none"> • Breast Milk Storage Guidelines handout • PowerPoint slides
Trainer's Notes	<p>Guidelines for breast milk storage with and without refrigeration</p> <p>Proper breast milk storage is important to decrease bacteria growth. The proper breast milk storage procedure is:</p> <ul style="list-style-type: none"> • Wash hands well before expressing milk. • Always use clean and sterilized containers to collect and store milk. • Freshly pumped breast milk can be left at room temperature for up to 4 hours, refrigerated for 4 months, and frozen for 6 months. • Freshly expressed milk should not be added to already cooled milk to prevent rewarming of already stored milk. • Cool down milk before adding it to older stored milk. • Most infants will drink milk cool, at room temperature, or warm; infants may demonstrate a preference. • Milk is best warmed by placing the smaller container holding milk in a larger container of lukewarm water. • Once the infant has taken breast milk from a cup or bottle, the rest of the milk needs to be used within 1 hour. Either try to give the milk to the infant an hour later, give the breast milk to an older sibling, or dispose of it. • Do not save the milk later than an hour since bacteria will start to grow once it touches the infant's saliva. 		

Procedure for cleaning feeding items

1. Wash hands well.
2. Take apart all bottle parts, teats, rings, caps, spoons, cups, etc.
3. Rinse all items by holding them under running water (warm or cold water).
4. Wash the feeding items:
 - a. Place items in a clean basin or container only used for feeding items.
 - b. Fill water basin with clean hot water and soap.
 - c. Scrub items with a brush only used for feeding items.
 - d. If using teats, squeeze water through the hole in the teat.
5. Rinse again with clean water in a separate basin that is only used for cleaning infant feeding items.
6. Place all feeding items, water basin(s) and brush on a clean towel away from dust and dirt. Allow to air dry completely. Do not use a dish towel to rub or pat dry the feeding items because doing so may transfer germs.
7. Clean the water basin and brush by rinsing and allowing to air dry after each use.
 - a. Wash the water basin and brush with warm, soapy water every few days.
 - b. If an infant has a weakened immune system (i.e. HIV), wash the water basin and brush after every use.
8. For extra protection, all feeding items can be sanitized by following these steps:
 - a. Place the disassembled feeding items into a pot and cover with water.
 - b. Put the pot over heat and bring to a boil.
 - c. Boil for 5 minutes.
 - d. Remove items with clean tongs.
 - e. Allow to air dry.

Evidence of Learning

Participants will be able to describe the process for properly storing breast milk.

LESSON 3: Breast Milk Alternatives

TARGET AUDIENCE: Hospital Health Staff and Community Health Workers

LEARNING GOALS:

- Participants will gain knowledge of the nutritional differences between breast milk, cow's milk, and commercial infant formula.
- Participants will learn the importance of pasteurizing cow's milk to make it safer to drink.
- Participants will learn the difference between lactose intolerance and cow's milk protein allergy.

TOPICS:

1. Nutritional Differences Between Breast Milk, Cow's Milk, and Infant Formula
2. Risks of raw Cow's Milk and Safe Preparation
3. Lactose Intolerance, Cow's Milk Protein Allergy, and Cow's Milk Intolerance
4. Considerations for Choosing a Breast Milk Alternatives
5. The International Code of Marketing Breast Milk Substitutes (also known as 'the Code')

Topic	Nutritional Differences Between Breast Milk, Cow's Milk, and Infant Formula		
Learning Objectives	Participants will be able understand that cow's milk formula is incomplete and supplementation is needed.		
Learning Activity	<p>Description</p> <p>Venn diagram activity</p> <ul style="list-style-type: none"> • Tape two flip chart papers together. • Draw a Venn diagram (3 overlapping circles) and label the circles with “Breast Milk”, “Commercial Infant Formula”, and “Cow’s Milk”. • Label sticky notes with the following: <ol style="list-style-type: none"> 1. <i>Anti-parasites</i> 2. <i>Anti-viruses</i> 3. <i>Anti-allergies</i> 4. <i>Anti-bacteria</i> 5. <i>Antibodies</i> 6. <i>Growth substances</i> 7. <i>Digestive substances</i> 8. <i>Appetite stimulant</i> 9. <i>Hormones</i> 10. <i>Probiotics</i> 11. <i>Colostrum</i> 12. <i>Water</i> 13. <i>Vitamin D</i> 14. <i>Vitamin A</i> 15. <i>Vitamin C</i> 16. <i>Vitamin K</i> 17. <i>Minerals</i> 18. <i>Fat</i> 19. <i>Cholesterol</i> 20. <i>Fats for brain development</i> 21. <i>Carbohydrates</i> 22. <i>Lactose</i> 23. <i>Easy-to-digest proteins</i> 24. <i>Hard-to-digest proteins</i> • Give each participant 2 labeled sticky notes. 	Time	Materials Needed
		30 minutes	<ul style="list-style-type: none"> • Two pages of a flip chart • Tape • Marker • 24 sticky notes

- Ask participants to place their sticky notes on the Venn diagram in the labeled circle where they belong. They can be placed where the circles overlap.
- Go over participants' answers and provide feeding as needed.

Differences in content of breast milk, infant formula, and whole cow's milk

“Formula is not an acceptable substitute for breast milk because formula, at its best, only replaces most of the nutritional components of breast milk: it is just a food, whereas breast milk is a complex living nutritional fluid containing antibodies, enzymes, long chain fatty acids and hormones, many of which simply cannot be included in formula. Furthermore, in the first few months, it is hard for the infant’s gut to absorb anything other than breast milk. Even one feeding of formula or other foods can cause injuries to the gut, taking weeks for the infant to recover.” UNICEF, 2005

	Breast milk	Infant formula	Whole cow's milk
Anti-parasites	x		
Anti-viruses	x		
Anti-allergies	x		
Anti-bacteria	x		
Antibodies	x		
Growth substances	x		
Digestive substances	x		
Appetite stimulants	x		
Hormones	x		

Why it is important

Anti-parasites	Prevent parasites
Anti-viruses	Prevent viruses
Anti-allergies	Decrease risk of allergies
Anti-bacteria	Protect against harmful bacteria
Antibodies	Help destroy substances that carry disease
Growth substances	Help infant grow
Digestive substances	Help body breakdown and digest milk
Appetite stimulants	Stimulate/regulate appetite
Hormones	Important for brain development

Trainer's Notes

Colostrum	x	Rich in protein and antibodies; provide immunity; helps digestive system develop
Probiotics	x	600 types of good bacteria in breast milk; protect the gut from various diseases; some in formula
Vitamin A	x	Important for vision, bone growth, hair, nails and skin
Vitamin C	x	Important for healthy skin, blood and strong immunity
Vitamin D	x	Important for bone growth
Vitamin K	x	Prevents bleeding
Minerals	x	Building blocks for brains, bones, and healthy body
Water	x	Infants' body is made up of 75% water (adult woman 55%)
Fat	x	Building blocks for growth and development Provides energy
Cholesterol	x	Important for brain development
Fats for brain development	x	Important for brain development
Carbohydrates	x	Provide energy
Lactose (a carbohydrate)	x	Important for brain development (68% in breast milk vs. 48% in cow's milk)
Easy-to-digest proteins	x	Whey: Casein 60:40; softer curd, easier to digest
Hard-to-digest proteins	x	Whey: Casein 20:80; harder curd, difficult to digest

The fact that some of the primary ingredients in infant formula, breast milk, and cow's milk have the same names does not mean that they are absorbed to the same extent. For example, 49% of the iron in breast milk is absorbed compared to 7% in infant formula and 10% in cow's milk.

Cow's milk versus human milk

Cow's milk is nutritionally different from human milk:

Protein

- Protein in cow's milk is two times higher than protein in breast milk and is more difficult to digest. This leads to constipation and digestive distress.
- Protein in cow's milk can irritate the lining of an infant's stomach and intestines, leading to blood loss in stools and anemia.

Fat

- Cow's milk is higher in saturated fat versus unsaturated fat, making the fat content not ideal for brain development.

Minerals

- The high mineral (calcium, phosphorus, potassium, sodium, magnesium) and protein content in cow's milk can stress an infant's immature kidneys. More water is drawn from body and excreted by the kidneys causing dehydration.
- Cow's milk has very little iron and is difficult for the infant to absorb and insufficient iron may lead to anemia.
- Cow's milk is low in zinc, which has important functions in growth, immunity, and prevention of diarrhea.

Vitamins

- Cow's milk is low in vitamin A, which is important for vision, bone growth, hair, nails, and skin.
- Cow's milk is low in vitamin C, which is important for healthy blood and immune system.
- Cow's milk is low in vitamin D, which helps absorb calcium. Low vitamin D can cause rickets (weak bones).

Digestion

- Infants digest human milk more quickly than cow's milk (or infant formula):
 - Human milk proteins are easily digested compared to cow's milk proteins. The protein in cow's milk is harder to digest and stays in stomach longer causing infants to feel full. That is why breastfed infants get hungry sooner than infants who are fed cow's milk (or commercial formula).
 - The fat in human milk comes with a substance (an enzyme) called lipase. This substance breaks the fat down into smaller globules that can be better absorbed by the body and used for energy more quickly.
 - It does not take as much energy to digest human milk as it does to digest cow's milk or formula.

Why is it important to follow exact recipe for fresh cow's milk formula?

- If not diluted properly, cow's milk can put strain on kidneys, cause dehydration, seizures, and even death.
- While diluting cow's milk with water puts less strain on the kidneys, the nutrients also get diluted. This can lead to vitamin and mineral deficiencies which cannot be made up unless these nutrients are added back to cow's milk. Complementary foods will help fill the nutritional gaps of cow's milk once the child is old enough to eat solids.

Evidence of Learning

- Participants will be able to name 3 components of breast milk that are not in cow's milk or commercial formula.
- Participants will be able to describe reasons for proper preparation of home-made cow's milk formula.

Risks of Raw Cow's Milk and Safe Preparation			
Topic	Risks of Raw Cow's Milk and Safe Preparation		
Learning Objectives	Participants will understand the significant risks of raw cow's milk and how to pasteurize milk.		
Learning Activities	Description	Time	Materials Needed
	<p>Group discussion Facilitate a group discussion by asking the following questions:</p> <ul style="list-style-type: none"> Do families use raw or boiled milk when making home-made cow's milk infant formula? What could be some risks of giving raw milk to infants? How can you decrease risk of pathogens? What are the steps in preparing and pasteurizing cow's milk? 	30 minutes	<ul style="list-style-type: none"> Markers Flip chart, labeled: <ul style="list-style-type: none"> Raw vs. Boiled Milk Risks of Raw Milk Ways to Decrease Risk of Pathogens How to Pasteurize Cow's Milk WHO infant feeding counselor flyers: <ul style="list-style-type: none"> How to prepare commercial formula How to prepare fresh milk How to prepare evaporated milk How to prepare powdered full-cream milk Recipes for modified animal milk

Bacteria risks of raw milk

Raw milk causes pathogenic bacteria to grow fast at a warm temperature. Bacteria in fresh milk doubles every 20 minutes!

Giving raw milk to infants may increase the risk of developing several infections accompanied by fever, diarrhea, and other gastrointestinal signs and symptoms. These can lead to serious consequences including malnutrition, dehydration, chronic disease, and even death. The following are common germs responsible for infections causing signs and symptoms mentioned between brackets:

- *E. coli* (bloody diarrhea, fever kidney failure, hemolytic uremic syndrome, and possibly death)
- *Salmonella* (diarrhea, fever, abdominal cramps)
- *Listeria* (diarrhea, fever)
- *Brucella* (fever, sweating, joint and muscle pain, and may cause chronic disease)
- *Cryptosporidium* (watery diarrhea, stomach cramps, vomiting, fever, weight loss)
- *Campylobacter* (vomiting, bloody diarrhea, fever, and abdominal cramps)
- *Staphylococcus aureus* (vomiting, diarrhea, dehydration, and low blood pressure)

Trainer's Notes

How to safely prepare cow's milk infant formula

Refer to the WHO Infant feeding counseling flyer:

http://www.who.int/hac/crises/international/middle_east/Lebanon_guidelines_for_breast_milk_substitutes.pdf

1. Wash hands with warm soapy water before preparing infant milk.
2. Always use marked cup or glass to measure water and milk.
3. Fill the cup or glass to the “water” mark with water. Put the water into the pot.
4. Fill the cup or glass to the “milk” mark with milk. Add the milk to water in the pot.
5. Measure the sugar by filling the spoon (level, rounded, or heaped as directed) and add spoonfuls to the liquid. Stir well.
6. Bring liquid to a boil and then let it cool. Keep it covered while it cools.
7. Feed infant by a cup. Discard any unused formula, give it to an older child or mother can drink it.
8. Wash all the cups, spoons, bottles, teats/nipples, rings, caps in warm soapy water.

Benefits of pasteurization (boiling milk)

- Pasteurization is a process that kills harmful bacteria by heating milk to a specific temperature for a set period of time.
- Pasteurization kills the bacteria responsible for diseases such as listeriosis, salmonellosis, campylobacteriosis, typhoid fever, tuberculosis, diphtheria, and brucellosis, as well as other bacteria; also destroys HIV if expressed breast milk.
- Pasteurized milk still contains low levels of the type of nonpathogenic bacteria that can cause food to spoil, so it is important to use the milk within a few hours or keep refrigerated.

How to pasteurize raw cow's milk via flash-heating method

1. Put 50-150ml of milk in a clean heat-resistant container or glass jar.
2. Place jar of milk in a small pan of water.
3. Make sure water is two fingers above the level of milk in the jar.
4. Heat water on hot fire until water reaches a rolling boil (large bubbles).
5. Leaving the water to boil too long will damage nutrients in the milk.
6. Remove jar immediately from boiling water.
7. Place jar in cool water or let it stand alone until reaches room temperature.
8. Protect milk as it cools by placing small plate on it.
9. This heated milk can be safely given at room temperature within 6 hours, or milk can be refrigerated to use within the next few days.

Evidence of Learning

Participants will be able to list two types of bacteria or diseases that pasteurizing milk will destroy.

Topic		Lactose Intolerance, Cow's Milk Protein Allergy, and Cow's Milk Intolerance		
Learning Objectives	Participants will understand the development of lactose intolerance and its rare occurrence in infants.			
Learning Activities	Description	Time	Materials Needed	
	<p>Lactose intolerance demonstration</p> <ul style="list-style-type: none"> • Place three clear glass containers on a table <ul style="list-style-type: none"> ○ Pour 100-150 ml of dark oil in container 1. ○ Pour 100-150 ml of orange juice in container 2. ○ Pour 180-210 ml of milk in container 3. • Ask one participant to pour half of the milk from container 3 into container 1. • Ask another participant to pour the rest of the milk from container 3 into container 2. • Discuss with participants what the activity represents. 	15 minutes	<ul style="list-style-type: none"> • 3 glass containers • 100-150 ml of dark oil (palm oil) • 100-150 ml of orange or pineapple juice • 180-210 ml of milk • Paper towel 	

<p>Trainer's Notes</p>	<p>Container 1 represents lactose intolerance (no lactase present). The milk is not mixed/absorbed in the body, so it moves through the body undigested and causes lots of gastrointestinal upset. It has no long-term consequences.</p> <p>Container 2 represents milk protein allergy. The lactase is present so the milk is mixed/absorbed, but the body's immune system does not recognize the milk proteins and attacks the protein.</p> <p>Lactose intolerance</p> <ul style="list-style-type: none"> • Lactose is a sugar (carbohydrate) found in breast milk and cow's milk. • Human breast milk has the highest amount of lactose than any other mammal (and have the largest brains at birth). • Lactose must be broken down to smaller units by a substance (an enzyme) called lactase, found in the small intestine, to make energy for the body. • Lactose intolerance occurs when the body produces little or no lactase. • Without lactase, lactose is fermented by bacteria in the large intestine. • <i>Prevalence:</i> It develops with age; lactase naturally declines after weaning. It is extremely uncommon with infants - incompatible with life. • <i>Symptoms:</i> abdominal pain, distention and cramping, gas and diarrhea. Symptoms start immediately after consuming high lactose dairy products. Usually symptoms are life-long once diagnosed. • <i>Treatment:</i> need to eliminate or limit dairy in diet. 						
<p>Learning Activities</p>	<table border="1"> <thead> <tr> <th data-bbox="1005 862 1069 1691">Description</th> <th data-bbox="1005 683 1069 862">Time</th> <th data-bbox="1005 302 1069 683">Materials Needed</th> </tr> </thead> <tbody> <tr> <td data-bbox="1069 862 1268 1691"> <p>Cow's milk protein allergy demonstration</p> <ul style="list-style-type: none"> • Ask one participant to add beet juice, cranberry juice, red food dye or equivalent to container 2. • Discuss with participants what the activity represents. </td> <td data-bbox="1069 683 1268 862"> <p>15 minutes</p> </td> <td data-bbox="1069 302 1268 683"> <ul style="list-style-type: none"> • Red food dye, beet juice, tomato juice </td> </tr> </tbody> </table>	Description	Time	Materials Needed	<p>Cow's milk protein allergy demonstration</p> <ul style="list-style-type: none"> • Ask one participant to add beet juice, cranberry juice, red food dye or equivalent to container 2. • Discuss with participants what the activity represents. 	<p>15 minutes</p>	<ul style="list-style-type: none"> • Red food dye, beet juice, tomato juice
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<p>Trainer's Notes</p>	<p>This activity represents cow's milk protein allergy. The immune system reacts to the proteins causing injury (bleeding) to the stomach and intestines. This results in blood in the stool.</p> <p>Other causes of blood in stool: bacterial infection, anal tears, problems with digestive tract, nipple injury, lactose overload, vitamins, certain foods that appear to be blood (i.e. beets).</p> <p>Cow's milk protein allergy</p> <ul style="list-style-type: none"> • Cow's milk protein allergy is caused by an immune reaction to proteins found in milk. The immune system, which normally fights infections, overreacts to proteins in cow's milk. Every time the child has milk, the body thinks these proteins are harmful invaders and works very hard to fight them. This causes an allergic reaction. • <i>Prevalence:</i> common in infants (2-5%); 50% resolves by 1 year old and 75% by 3 years old; completely resolved by 5 years old. • <i>Symptoms:</i> fussiness, irritability, wheezing, hives, abdominal pain, vomiting, refusal to eat, loose and bloody stool. • <i>Treatment:</i> strict no dairy diet for infants; if breastfeeding, mothers should follow no dairy diet. 		
<p>Learning Activities</p>	<p>Description</p> <p>Cow's milk intolerance demonstration</p> <ul style="list-style-type: none"> • Ask two participants to come to the front of the room and help with the demonstration. <ul style="list-style-type: none"> ○ Participant 1 holds cup on table with one hand and straw into cup with the other hand. ○ Participant 2 spoons liquid into straw. ○ Participant 2 spoons cottage cheese into straw. • Discuss with participants what the activity represents. 	<p>Time</p> <p>15 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> • Dixie cup • Cottage cheese or equivalent • Water or other liquid • Spoon • Large straw or tube diameter of a highlighter

The liquid represents whey (quickly passes through the straw). Curds represent casein (slowly moves through the straw).

Cow's milk intolerance

- Cow's milk is much more difficult to digest because of the different protein types it contains:
 - Breast milk is 40% casein and 60% whey
 - Cow's milk is 80% casein and 20% whey
- Whey protein is a liquid and empties from the stomach faster.
- Casein proteins curdle, difficult to digest and stays in the stomach longer.
- *Prevalence:* very common in infants and adults
- *Symptoms:* irritable bowel syndrome, abdominal distension, lethargy, eczema. Can take up to 3 or more days for symptoms to appear.
- *Treatment:* Limit dairy exposure.

Trainer's Notes

Evidence of Learning

- Participants will be able to list an age when lactose intolerance symptoms may start to show up.
- Participants will be able to tell the difference between lactose intolerance and milk allergy.

Topic			
<h1>Considerations for Choosing a Breast Milk Alternative</h1>			
Participants will understand important considerations for choosing an alternative to breast milk.			
Learning Objectives	Description	Time	Materials Needed
Learning Activities	<p>Choosing a breast milk alternative</p> <ul style="list-style-type: none"> • Divide participants into 5 small groups (3-4 participants each). • Give each group a set of 5 index cards labelers with the following types of milk: <ul style="list-style-type: none"> ○ Breastfeeding (infant feeding directly from the breast) ○ Expressed breast milk ○ Commercial infant formula ○ Pasteurized cow's milk with added oil, sugar, water, AND a multivitamin/mineral mix ○ Pasteurized cow's milk with added oil, sugar, and water • Instruct groups to order the types of milk from the best source of nutrition for infants to the least. • On the back of each index card, ask groups to list at least 3 factors that need to be in place to make it possible for mothers to provide this type of milk to their infants safely. • Ask groups to share their answers and record them on a flip chart. • Facilitate a discussion on the best source of nutrition for infants and considerations for moving to the next option. 	20 minutes	<ul style="list-style-type: none"> • 25 index cards • Markers • Flip chart • PowerPoint

Considerations for choosing an alternative to breast milk

The best source of nutrition for an infant is breast milk. It is recommended that mothers, and community health workers who counsel them, try all interventions at their disposal to provide breast milk to the infant, either through breastfeeding or expressed milk. However, if all fails breast milk alternatives are needed. The best source of nutrition for infants is in the order listed below. Several factors that need to be considered for each source of milk is also listed.

1. *Breastfeeding (infant feeding directly from the breast)*
 - Mother is alive
 - Mother able to produce breast milk
 - Considerations for HIV status
 - Infant is able to latch
2. *Expressed breast milk*
 - Mother is alive
 - Mother able to produce breast milk
 - Considerations for HIV status
 - Mother received counseling on breast milk expression
 - Clean cup/spoons to collect milk
 - Mother received counseling on proper storage of breastmilk
3. *Commercial infant formula*
 - Access to infant formula in community
 - Cost of infant formula
 - Hygienic and sanitary conditions to prepare formula
 - Availability of clean water to prepare formula
 - Mother received counseling on how to prepare formula
4. *Pasteurized cow's milk with added oil, sugar, water, AND a multivitamin/mineral mix*
 - Access to multivitamin/mineral mix
 - Cost of multivitamin/mineral mix
 - Hygienic and sanitary conditions to prepare cow's milk recipe

Trainer's Notes

	<ul style="list-style-type: none"> ○ Availability of clean water to prepare cow's milk recipe ○ Availability of fuel to pasteurize milk ○ Mother received counseling on how to pasteurize cow's milk ○ Mother received counseling on how to prepare cow's milk recipe ○ Clean cup/spoons to feed infant <p>5. <i>Pasteurized cow's milk with added oil, sugar, and water</i></p> <ul style="list-style-type: none"> ○ Hygienic and sanitary conditions to prepare cow's milk recipe ○ Availability of clean water to prepare cow's milk recipe ○ Availability of fuel to pasteurize milk ○ Mother received counseling on how to pasteurize cow's milk ○ Mother received counseling on how to prepare cow's milk recipe ○ Clean cup/spoons to feed infant
Evidence of Learning	Participants will be able to counsel families on the best option for breast milk alternatives considering available resources.

The WHO International Code of Marketing of Breast-milk Substitutes

Topic

Learning Objectives

Participants will be aware of the WHO International Code of Marketing of Breast-Milk Substitutes (referred as the Code)

Description

Group discussion and activity

Discussion: Introduce topic, elicit from the audience WHO guidelines regarding infant feeding, and facilitate a group discussion by asking the following questions:

- Do you know of any adverse health effects of feeding babies with BMS instead of breast milk?
- Do you think that the advertising of breast-milk substitutes (BMS), bottles, and teats, can interfere with infant feeding guidelines? How?
- Is anyone aware of the WHO International Code of Marketing of Breast-milk Substitutes ('the Code') and can explain what it is?

Group activity: Stakeholder responsibilities regarding the protection of safe and appropriate infant feeding against aggressive marketing practices.

- Divide participants into 4 groups and assign each group a stakeholder role (1) Manufacturers, Distributors, and

Time

30 minutes

Materials Needed

- Markers
- Tape
- Flip chart, labeled:
 - Manufacturers/Distributors/Marketing personnel
 - Governments
 - Health care facilities
 - Health care workers
- A set of 'Key provisions and recommendations in the Code' from the activity sheet for each group
- 'Key provisions and recommendations in the Code' handout for each participant

Learning Activities

	<p>Marketing personnel, (2) Governments, (3) Health care facility, (4) Health care professionals</p> <ul style="list-style-type: none"> • Give each group a set of responsibilities and ask them to identify those corresponding to the stakeholder they are assigned to represent • Ask them to share their answers and record them on a flip chart <p>Distribute the 'Key provisions and recommendations in the Code' handout at the end of the activity.</p>		
<p>Trainer's Notes</p>	<p>In some instances, formula feeding and/or the use of feeding bottles is necessary. This is the case with mothers of babies with cleft who are unwilling or unable to breastfeed. Health care workers should be aware of the key requirements and prohibitions regarding the marketing of breast milk substitutes (BMS), feeding bottles, and teats.</p> <p>1. Why is there a need to regulate the marketing of BMS, bottles, and teats?</p> <p>Advertising of BMS and related products can damage the short- and long-term health of children.</p> <ul style="list-style-type: none"> • Early initiation of breastfeeding is critical. Babies who are not breastfed are more likely to experience gastrointestinal disease, ear infection, and respiratory tract infection during infancy. In resource-poor countries, the risk of dying from diarrhea or from an infectious disease is at least 10 times higher in babies fed BMS compared to babies exclusively or predominantly breastfed. • Companies spend a lot of money in advertising their products because they know that it is a powerful way to influence our behavior. However, aggressive marketing of BMS and baby bottles can undermine breastfeeding and mislead parents into thinking that BMS is a better option than breastfeeding and breast milk. <p>2. What is the Code for and what does it say?</p> <ul style="list-style-type: none"> • The Code is a set of international health resolutions, collectively known as the Code, developed by WHO, that recommend restrictions on the marketing of BMS, baby bottles, and teats, in order to protect the safe and appropriate provision of nutrition for infants through breastfeeding and to ensure the proper use of BMS when they are necessary. 		

- The Code does not ban the use of BMS, baby bottles, and teats, but regulates their packaging, their promotion, and their provision.
- The Code sets out the responsibilities of national governments, health care systems, the infant food industry, and any concerned organizations, regarding the marketing of BMS, feeding bottles, and teats, as well as information regarding the use of these products.

3. **What are the responsibilities of manufacturers, suppliers, governments, health care systems, facilities, and providers?**

Key Provisions and Recommendations in the Code

- No advertising of BMS and other products covered by the Code to the general public is permitted (*Article 5.1*)
- There should be no direct or indirect gifts or free samples to pregnant women, mothers, their families, and health workers (*Articles 5.2 and 5.4*)
- Manufacturers should only provide scientific and fact-based information to health workers and never seek contact with mothers (*Article 7.2*)
- Messages on labels should be easily readable and understandable and written in an appropriate language (*Article 9.2*)
- Labels should state the superiority of breastfeeding and warn that products should be used according to the instructions and following the advice of a health worker regarding the need for its use and the method of use (*Article 9.2*)

Manufacturers, distributors, and marketing personnel

- Governments have the responsibility to ensure that the information on infant and young child feeding used by families and those involved in the field of infant and young child nutrition is objective and consistent (*Article 4.1*)

Governments

- There should be no free or subsidized supplies of BMS and other products covered by the Code in any part of the health care system (*1994 resolution: WHA 47.50*)
- BMS for infants who require them should be made available through the normal procurement process and not through free or subsidized supplies (*1886 resolution: WHA 39.28*)

Health care facilities

- Health workers should not give samples (i.e. small quantities of a product at no cost) of infant formula to pregnant women, mothers of infants and young children, or members of their families (*Article 7.7*)
- Only health workers – or other community workers if necessary – should demonstrate feeding with BMS and demonstrations should be done only to the mothers or family members who need to use it (*Article 6.5*)
- The supply of BMS should be continued for as long as the infant concerned needs it (at least 6 months of age) (1994 resolution: *WHA 47.50*)

Health care workers

For additional information, please visit:

https://www.who.int/nutrition/publications/code_english.pdf

Evidence of Learning

- Participants will be able to explain the need to protect parents, health care providers, and health care systems against aggressive marketing of BMS, feeding bottles, and teats.
- Participants will be able to list at least 2 responsibilities of health care providers regarding the marketing and use of BMS, feeding bottles, and teats.

LESSON 4: Introduction of Solids to Children with Cleft Lip/Palate

TARGET AUDIENCE: Hospital Health Staff and Community Health Workers

LEARNING GOALS:

- Participants will identify the signs of developmental readiness to consume solid foods.
- Participants will identify appropriate food textures to match feeding skill and learn to modify food textures.
- Participants will understand that an unrepaired cleft lip or palate does not exclude a child from being offered spoon feedings.
- Participants will identify the benefits of providing spoon feedings to children with unrepaired clefts.

TOPICS:

1. Developmental Readiness for Spoon Feeding
2. Tolerance to Texture and Readiness to Advance
3. Considerations When Feeding Children with an Open Cleft

Developmental Readiness for Spoon Feeding			
Topic	Developmental Readiness for Spoon Feeding		
Learning Objectives	<ul style="list-style-type: none"> • Participants will be able to determine developmental readiness of children to begin spoon feeding. • Participants will learn how to modify food textures to match feeding skills. 		
	Description	Time	Materials Needed
Learning Activity	<p>Coordination activity</p> <ul style="list-style-type: none"> • Ask participants to stand up. • Instruct participants to begin by rubbing their stomach. • Then, while continuing to rub their stomachs, instruct participants to close their eyes, then balance on one leg, and pat their head. • Ask participants to share their experience and facilitate a discussion on what is required to learn new skills. 	10 minutes	<ul style="list-style-type: none"> • PowerPoint
Trainer's Notes	<p>Developmental readiness to begin spoon feeding</p> <ul style="list-style-type: none"> • It is hard to learn new skills. It is especially hard to learn new skills when one has to focus on balancing, while learning. • When a child is learning to eat, they cannot also be learning to balance themselves. They need to be secure in their sitting before we ask them to learn to eat foods. 		

	Description	Time	Materials Needed
<p>Learning Activity</p>	<p>Food textures and readiness</p> <ul style="list-style-type: none"> ● Divide participants into groups of 3-5. ● Give each group a Food Textures and Readiness handout. ● Instruct groups to list 3 foods from each good group that can be <ul style="list-style-type: none"> ○ made smooth or pureed (sitter category) ○ mashed or ground (crawler category) ○ offered diced or in soft small pieces (walker category) ● Ask each group to share and write answers on flip chart. ● Facilitate a discussion on signs of developmental readiness, how to identify the appropriate food textures, and how to modify the textures for each stage. 	<p>20 minutes</p>	<ul style="list-style-type: none"> ● Food Textures and Readiness handouts ● Pens ● Marker ● Flip chart labeled with: <ul style="list-style-type: none"> ○ Sitter (puree) ○ Crawler (mashed) ○ Walker (diced) ● PowerPoint
<p>Trainer's Notes</p>	<p>Body and mouth movements</p> <p>Feeding is a learned skill. It is most successful when it is done with a child who is developmentally ready to consume the foods being offered. Introduction of solid food is based on developmental readiness, not age or diagnosis.</p> <p>This said, around the age of 6 months, an infant's needs for energy and nutrients exceed what is provided by breast milk. The addition of nutritionally-adequate and safe solid foods - known as complementary foods - is needed to meet those needs. An infant is usually developmentally ready for other foods than milk around this age. If complementary foods are not introduced around the age of 6 months, an Infant's growth may falter. Breastfeeding should continue at least until 2 years of age.</p> <p>Our abilities to move our mouths match our abilities to move our bodies:</p> <ul style="list-style-type: none"> ● A child who is able to sit up well and control their head is ready to accept tastes of smooth, puree food. ● A child who can move their arms and legs back and forth to crawl can also move their tongue from side to side in their mouth. This allows them to move mashed or ground pieces of food to their gums to chew. ● A child who can walk along furniture or walk independently can move pieces of food to their gums, chew in a more mature pattern and eat soft pieces of most foods. 		

Signs of readiness for various textures

- Generally, between 4-6 months of age, children begin to show developmental readiness to begin spoon feeding. These signs of readiness include:
 - Sitting and holding their heads well
 - Bringing toys to the mouth
 - Munching with jaws
- *Sitters* can suckle the spoon and enjoy smooth or pureed foods.
- *Crawlers* can use their tongues to move food to their gums and begin to mash it. They can eat mashed or ground foods.
- *Walkers* can move food to their gums and chew. They can eat foods that can be offered diced or in soft, small pieces.

	Description	Time	Materials Needed
<p>Learning Activity</p>	<p>Feeding skills by age activity</p> <ul style="list-style-type: none"> ● Transfer yogurt (or pudding) into cups ● Pass out one spoon, one cup with yogurt, and a couple of crackers to each participant. ● Ask participants to follow your instructions and, as they complete activity, to pay close attention to: <ul style="list-style-type: none"> ○ where and how the food moves ○ what they do with their lips, tongue, and cheeks ● Ask participants to strip yogurt (or liquid) off of a spoon. <ul style="list-style-type: none"> ○ Ask participants to describe what they noticed (how the food moves, what they do with their lips, tongue, and cheeks) while eating. ● Ask participants to take a bite of the cracker. <ul style="list-style-type: none"> ○ Ask participants to describe what they noticed (how the food moves, what they do with their lips, tongue, and cheeks) while eating. ● Facilitate a discussion on how a cleft lip or palate would impact these eating processes. 	<p>30 minutes</p>	<ul style="list-style-type: none"> ● Spoons (1 per participant) ● Yogurt or pudding (or liquid food) ● Spoons ● Plastic/paper/Dixie cups (1 per participant) ● Crackers or other dry food ● Napkins ● Hand sanitizer

Feeding skills by age

- The key oral structures involved in feeding and their overall role include:
 - Tongue – gathers and moves the food
 - Lips – pulls food from spoon and liquid from cup
 - Jaw – chews food
 - Cheeks – keep food over teeth
- Typically, these oral skills progress with age if the child is offered opportunity to practice new ones:

	<i>0-6 months</i>	<i>6-9 months</i>	<i>9-12 months</i>	<i>12+ months</i>
<i>Jaw</i>	Moves up and down	Moves up and down, begins to move in a diagonal pattern	Moves diagonally, begins to move in a circular pattern (rotary chew), stabilizes to allow other structures to move independently	Moves in a circular pattern easily, uses isolated bite to bite off a variety of foods
<i>Lips</i>	Close around the nipple	Not yet able to move together completely to take food off of spoon	Upper lip can close to pull food off of a spoon, pull liquid from a cup	Full upper lip movement while eating and drinking
<i>Tongue</i>	Moves forward and backward	Moves forward and backward, begins to move to the side to track food	Moves from side to side to track food	Transfers food from one side of the mouth to the other
<i>Cheeks</i>	Fat pads assist with sucking	Assist with keeping the food over the teeth	Assist with keeping the food over the teeth	Assist with keeping the food over the teeth

Trainer's Notes

Impact of a cleft lip/palate on feeding

- Cleft lip and cleft palate do *not* indicate a swallowing problem or increased risk of aspiration.
- The whole system of feeding and swallowing is one of positive and negative pressures. When there is an open lip or palate, that means an infant or child cannot create the "vacuum" to safely and efficiently feed. This may lead to increased risk for aspiration if not fed properly. It also likely reduces feeding efficiency leading to difficulty with growth and weight gain.
- A cleft lip/palate will impact feeding in the following ways:

Infant feeding

- The opening in the lip or palate makes it difficult for an infant to get suction for feeding. This may lead to trouble breastfeeding or bottle feeding and the child may need special bottles or nipples.
- Feeding may take longer. Infants may have a weak suck and tire more easily.
- Milk may leak from the nose during feedings due to the opening between the mouth and the nose.
- Infant will have increased gas from swallowing too much air.

Child feeding

- Ideally, a cleft lip/palate is repaired early in life, before spoon feeding begins. A late repair will impact spoon feeding; however, children with unrepaired clefts usually do fine if they are positioned upright and given appropriate food textures. The thicker consistency of complimentary foods (versus liquid breast milk) is less likely to be regurgitated in the nose.
- Children with unrepaired cleft lip/palate should still be able to advance oral motor skills (the way their jaw, lips, cheeks and tongue move) if they are not experiencing gross motor delays and textures are being advanced properly. They will likely compensate in some minor ways; their feeding may not look typical, it may even look messy, but they should be able to advance when given the right opportunities.

Evidence of Learning

- Participants will identify 2 foods from each food group that can be modified and given at each developmental stage.
- Participants will be able to match food textures to feeding skills.

Topic		Tolerance to Texture and Readiness to Advance	
Learning Objectives	Participants will be able to identify signs of tolerance and readiness by children for advanced food textures.		
Learning Activity	<p>Description</p> <p>Feeder and eater types activity:</p> <ul style="list-style-type: none"> • Divide participants into pairs. • Ask each pair to determine who will play the role of the feeder and the eater. • Hand the feeder a “feeder card” and the eater an “eater card.” Participants should not share what is on their card with their teammate. • Ask participants to act out what is on their card as they proceed with the meal. • Facilitate a discussion with participants around the activity by asking the following questions: <ul style="list-style-type: none"> ○ How did it feel to have your cues ignored? ○ What non-verbal communication did you give around feeding? ○ How did the feeders and eaters try to communicate with their bodies? ○ What parts of your body were used? • Synthesize information shared by participants and summarize signs of readiness. • Review Interest and Disinterest handout with participants. 	<p>Time</p> <p>30 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> • Interest and Disinterest in Food handout • Feeder index cards labeled with: <ul style="list-style-type: none"> ○ Aggressive ○ Dismissive ○ Stressed • Eater index cards labeled with: <ul style="list-style-type: none"> ○ Aggressive ○ Dismissive ○ Sleepy ○ Stressed • Spoons • Yogurt/apple sauce/pudding • Napkins • Hand Sanitizer • Water • PowerPoint

How do children communicate their needs without words?

Children communicate their needs without words by using their bodies, heads, mouths, and eyes.

Positive signs:

- Leaning in
- Opening the mouth for more
- Looking at the feeder awaiting next bite
- Swallowing the food
- Making excited noises
- Calm, happy

Negative signs:

- Leaning back, away from the spoon
- Closing mouth
- Trying to get out of the seat
- Turning head away from the spoon, not moving forward to eat from the spoon
- Hitting the spoon with hand
- Closing eyes
- Crying
- Sleeping
- Scared eyes

Trainer's Notes

Lack of readiness for advanced textures:

- Tongue thrust to push the food out, shows lack of readiness to suckle and swallow the food.
- Gagging indicates that the texture of the food was surprising to the child or that they are not quite ready for that texture yet.
- This does not mean the feeding has to stop. If the child is still happy, you can continue to offer practice.
- Stop as soon as stress or resistance are noted.

Evidence of Learning

- Participants will identify 2 ways a child shows comfort with eating.
- Participants will identify 2 signs that a child is not ready for advanced textures.

Topic			
<h2>Considerations When Feeding Children with An Open Cleft</h2>			
Learning Objectives	Participants will be able to counsel mothers on tips for spoon feeding and cup drinking for children with unrepaired cleft.		
Learning Activity	Description	Time	Materials Needed
	<p>Cup-drinking activity</p> <ul style="list-style-type: none"> • Divide participants into pairs. • Pass out 1 cup to each participant and make sure everyone has access to scissors. • Demonstrate how to make a cut-out cup. • Ask the help of a volunteer to demonstrate proper technique of giving sips of water using cut-out cup. • Ask participants to make their own cut-out cup and to practice giving each other small, controlled sips of water. • Debrief with participants about their experience and summarize cup-drinking recommendations for children with cleft lip/palate. 	15 minutes	<ul style="list-style-type: none"> • 1 Dixie cup, paper cup, or cut-out cup per participant • Water • 3- 5 pairs of scissors to share • PowerPoint • WHO infant feeding counselor flyer: <ul style="list-style-type: none"> ○ Cup feeding

<p>Trainer's Notes</p>	<p>Tips for cup drinking</p> <ul style="list-style-type: none"> • Cup drinking is very important for children with clefts. Cups are sometimes started soon after birth since an infant with a cleft cannot produce enough suction to siphon milk out of a bottle, if no specialty bottles are available. Plus, cups are more sanitary than bottles and teats. • At the very latest, start the cup about 1 month after starting spoon feedings or by age 6-7 months. • Gently tip the cup to provide a small amount of liquid into the infant's mouth. • Do not pour milk into an infant's mouth. Allow an infant's tongue to slurp milk out of cup. • Expect children to cough and spit out some of the liquid at first. An infant will cough more if milk is poured into the mouth. • If coughing is not lessening, thicken the liquid by adding a small amount of pureed fruits or vegetables. This will slow the fluid and make drinking easier to learn. • To start, choose one meal or snack to consistently give liquid from a cup. Always offer the cup during this chosen meal. 						
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Tips for spoon feeding

- Swallowing is less efficient due to the open palate.
- Offer small bites.
- Feed slowly, allowing time to swallow between bites.
- Before offering the next bite, check the mouth to be sure the food has been swallowed.
- If food remains in the mouth, give a “bite” from an empty spoon. This will trigger a swallow and help to clear the mouth.
- Finish meal with a drink of water to help to clean food from the cleft and nasal passage.
- If the infant loses a lot through their nose, try giving smaller bites each time and go more slowly. Most children will learn this skill well with time.

General feeding considerations

- Children should start spoon feeding at a typical age or earlier if no access to a reliable nutrition source via bottle or cup.
- Start cup drinking shortly thereafter, if has not been introduced already.
- Children with clefts have many negative experiences around their faces. They need the positive experience of eating more than other children do.
- Remember the signs of feeding enjoyment. If this becomes stressful or negative, take a break and try again later in the day.

Dealing with nasal regurgitation

- There is an open passageway for food to go up and out the child’s nose. Food coming out the nose may be uncomfortable but is not harmful.
- Remain calm. Use neutral words, tone of voice, and body language.
- Use a soft, clean cloth to gently pat food from nose, being very gentle.
- The child will likely sneeze, which helps to clear the nasal passage.
- Children will learn how to manipulate each texture around their cleft to limit nasal regurgitation.
- Finish the feeding with a small drink if clean water to clear the nasal passages.

Trainer’s Notes

Evidence of Learning

- Participants will explain the importance of spoon feeding and cup drinking for children with cleft lip and palate.
- Participants will describe methods for dealing with nasal regurgitation.
- Participants will demonstrate proper technique for cup drinking and spoon feeding.

LESSON 5: Food choices for Children

TARGET AUDIENCE: Hospital Health Staff and Community Health Workers

LEARNING GOALS:

- Participants will understand the role of various foods in growth and health of children.
- Participants will learn strategies to increase the nutritional value of traditional foods.
- Participants will learn food safety and hygiene guidelines to prevent diarrhea and malnutrition.

TOPICS:

1. Food Groups
2. Increasing Nutritional Value of Traditional Foods
3. Food Safety and Hygiene

Topic	Food Groups		
Learning Objectives	<ul style="list-style-type: none"> Participants will be able to list food groups and their functions. 		
Learning Activity	<p>Description</p> <p>Food groups</p> <ul style="list-style-type: none"> Write the nine food groups below on colored index cards, one food group per index card. Use the same card color for the food groups listed together (total of 4 different colors) as such: <ol style="list-style-type: none"> Cereal and grains; Roots and tubers Animal protein foods; Legumes and pulses; Dairy Vegetables; Fruits Oils and fats; Sugars Pair participants and assign each pair 2-3 food groups of different color. Ask pairs to write commonly consumed foods on the back of each index card. Ask each pair to share and other groups to contribute additional foods if needed. 	<p>Time</p> <p>30 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> Index cards Markers PowerPoint

<p>Trainer's Notes</p>	<p>Food groups</p> <ul style="list-style-type: none"> • Cereals and grains (e.g. maize, millet, wheat, rice) • Roots and tubers (e.g. cassava, sweet potatoes, potatoes) • Animal protein foods (e.g. meat, chicken, fish, eggs, caterpillars, flying ants, grass-hoppers) • Legumes/pulses (e.g. peas, beans, groundnuts, bambara nuts, soya beans) • Dairy (e.g. milk, cheese, butter) • Vegetables (e.g. tomato, cabbage, pumpkin leaves, bean leaves, spinach) • Fruits (e.g. mango, lemon, paw-paw, melon) • Oils/fats (e.g. red palm oil, margarine, sunflower seed oil; groundnut, soybean or corn oil) • Sugars (e.g. sugar cane, honey, soda) 						
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<p>Food for energy</p> <ul style="list-style-type: none"> • Show slide of children active/playing and studying. • Facilitate a discussion by asking the following questions: <ul style="list-style-type: none"> ○ What are examples of activities that need energy? ○ Do you think children with cleft and palate may need extra energy? Why or why not? ○ Where do children get that energy from? ○ Some foods are very good for energy. Which food groups belong under “Energy”? Ask participants to come up and stick the index cards on the flip chart. 	<p>10 minutes</p>	<ul style="list-style-type: none"> • Flip chart sheet labeled with “Energy”, “Growth”, “Protection” (with enough space under each for 2-4 index cards) • PowerPoint 					

<p>Trainer's Notes</p>	<p>Food for energy</p> <ul style="list-style-type: none"> • Playing, studying, breathing, digesting, eating. The body needs energy for normal body functioning (e.g. to keep breathing, to keep the heart beating) and to perform any physical and mental activity. It is required for a healthy body. • Children with cleft lip and palate may need extra energy especially after surgery when the body requires energy to heal. • Children get energy from food; the body converts food to energy and energy to activity. • Food groups that are best at providing energy are Cereal and grains, Roots and tubers, Oils and fats, and Sugars. • All foods make it possible for children to play and learn – they provide energy. However, some foods like maize, cassava, sugar, honey, millet, sorghum, sweet potatoes, palm oil, cooking oil and fat provide more energy. Staple foods like cassava, maize, or rice are often the main sources of energy. 						
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	<p>Food for growth</p> <ul style="list-style-type: none"> • The difference between the two children in the photo is that one of them is stunted. Hellen is the child who is stunted. Mary eats more protein compared to Hellen. Hellen’s diet is mainly porridge, which is low in protein. • Food groups that are best for “growth” or “body building” are Animal protein foods, Legumes and pulses, and Dairy – all these foods are high in protein. • Protein is needed by the body for physical growth, brain development, repair, and healing. • Proteins are made of amino acids. Plant-based proteins from foods like soya beans, wheat, maize, rice, cassava, are rich in some amino acids but lack others. • In Africa, there is a strong dependence on maize and cassava meal. Maize and cassava meals by themselves do not have enough protein or all the right types of amino acids for a balanced diet, and especially not for growing children. Insufficient protein leads to poor growth. • A good diet should therefore include a variety of plant-based and animal-based foods. Maize and cassava meals need to be eaten with other foods that are rich in protein (e.g. beans, cowpeas, groundnuts, soya beans, meat, fish, caterpillars, crickets, eggs, and milk). 		
<p>Learning Activity</p>	<p>Description</p> <p>Food for protection</p> <ul style="list-style-type: none"> • Show photos of two children; one with iron-deficiency anemia, one with vitamin A deficiency (two common deficiencies in Africa). • Facilitate a discussion by asking the following questions: <ul style="list-style-type: none"> ○ What makes children “protected” from illnesses? ○ Some foods are very good for health and for helping prevent illnesses. What are examples of these illnesses? ○ Which food groups belong under “Protection”? Ask participants to come up and stick the index cards on the flip chart. 	<p>Time</p> <p>10 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> • Flip chart sheet labeled with “Energy”, “Growth”, “Protection” • PowerPoint

<p>Trainer's Notes</p>	<p>Food for protection</p> <ul style="list-style-type: none"> • Nutrients like vitamins (e.g. B-vitamins, vitamin C, vitamin A) and minerals (e.g. iron, zinc) protect children from illnesses like infections, anemia, and night blindness. • Many foods provide nutrients that keep children healthy but the food groups that are best for protection are Vegetables and Fruits. • The body needs a mix of vegetables and fruits to be able to be strong to fight disease. • Of note, foods of animal origin also provide vitamins (e.g. vitamin A, vitamin B12, vitamin D) and minerals (e.g. iron, zinc, iodine, calcium). Certain vitamins and minerals present in animal source foods may be more easily absorbed and more readily available to use by our body than those found in plant-based foods. <p>To summarize, foods are grouped based on their best qualities. Some are very good at providing children energy, others are very good at helping children grow, and others are very good at making children stay healthy and prevent illness. Children need to eat foods from all food groups to grow and thrive.</p>
<p>Evidence of Learning</p>	<ul style="list-style-type: none"> • Participants will be able to list the foods groups and at least 3 foods under each group. • Participants will be able to identify food groups based on their main function - Energy, Growth, or Protection.

Increasing Nutrition Value of Traditional Foods			
Topic			
Learning Objectives	<ul style="list-style-type: none"> • Identify nutrient-dense and energy-dense foods. • Increase the nutritional value of traditional foods. 		
	Description	Time	Materials Needed
Learning Activity	<p>Nutrient-dense foods</p> <ul style="list-style-type: none"> • Show slides comparing two foods. • Ask participants to select the food that is more nutrient-dense. • Explain the difference between nutrient-dense and energy-dense foods and facilitate a discussion of local examples of each. 	10 minutes	<ul style="list-style-type: none"> • PowerPoint
Trainer's Notes	<p>Nutrient-density versus energy-density</p> <ul style="list-style-type: none"> • Nutrient-dense foods provide high amounts of vitamins, minerals, lean protein, complex sugars, and healthy fats, compared to the number of calories they supply. • Energy-dense foods provide a lot of energy (calories) like foods high in sugar and fat. • When choosing foods for energy, growth, or health, it is important to offer children foods that are nutrient-dense. • A food can be both nutrient- and energy-dense. Examples include meat, nuts, and eggs. • If a child is malnourished, we should offer foods that are nutrient- <i>and</i> energy-dense. • If a child has poor appetite or is able to eat only small amounts at meals, we should offer foods that are nutrient- <i>and</i> energy-dense without increasing the volume by much. 		

	Description	Time	Materials Needed
Learning Activity	<p>Increasing the nutritional value of porridge</p> <ul style="list-style-type: none"> • Facilitate a discussion by asking the following questions: <ul style="list-style-type: none"> ○ What are traditional porridges in your countries made of? ○ What is the main role of these foods? ○ Is growth one of their main roles? Why or why not? ○ Are they really meant to prevent illness? Why or why not? • Divide participants in groups of 3. Ask each group to come up with a recipe to improve the nutritional value of a traditional porridge (or other traditional foods children eat) without increasing their volume by much. This means making them more nutrient-dense and/or energy-dense. • Ask groups to share their recipes with the class. 	20 minutes	<ul style="list-style-type: none"> • Flip chart sheet • PowerPoint
Trainer's Notes	<p>Increasing the nutrition value of traditional food</p> <p>Traditional porridges are based on maize or cassava. Their main role is to provide energy. They can support a child's growth only when they are offered with protein foods. They can prevent illness when they are offered with foods high in vitamins and minerals.</p> <p><i>Possible recipes:</i></p> <ul style="list-style-type: none"> • Adding pounded groundnuts, beans or dried fish flour (growth and energy). • Adding a teaspoon of shredded or pounded green leafy vegetables, e.g. pumpkin, sweet potato leaves, bean and cowpea leaves, amaranthus, rape or Chinese cabbage to every feed (protection). • Adding red palm oil or vegetable oil (1 tsp) (energy and protection). • Adding fatty fish or meat (energy and growth). 		
Evidence of Learning	<ul style="list-style-type: none"> • Participants will be able to identify nutrient-dense and energy-dense foods. • Participants will be able to modify recipes of traditional foods to increase their nutritional value. 		

Food Safety and Hygiene			
Topic	Food Safety and Hygiene		
Learning Objectives	<ul style="list-style-type: none"> • Participants will learn food safety guidelines and tips to prevent diarrhea and malnutrition. • Participants will learn the proper steps for hand washing. 		
	Description	Time	Materials Needed
Learning Activity	<p>Importance of food safety and hygiene Facilitate a discussion with participants around importance of food safety and hygienic practices in prevention of diarrhea and malnutrition.</p> <ul style="list-style-type: none"> • This lesson is about prevention of malnutrition and food choices. Why are we then talking about food safety and hygiene? (<i>Probing: what is the connection between hygiene and malnutrition? What if hygiene is poor? Could that cause diarrhea and therefore, malnutrition?</i>) • In your experience, what causes diarrhea in children? • What steps do you take to try to prevent infections in your work/home? 	5 minutes	<ul style="list-style-type: none"> • PowerPoint
Trainer's Notes	<p>Diarrhea and malnutrition</p> <ul style="list-style-type: none"> • According to the WHO, diarrhea: <ul style="list-style-type: none"> ○ is the second leading cause of death in children under age five ○ kills around 760, 000 children under age five each year ○ is a leading cause of malnutrition in children under 5 years of age ○ is often caused by poor water, sanitation and hygiene, and ○ is both preventable and treatable. 		

	<ul style="list-style-type: none"> • Diarrhea is caused by <ul style="list-style-type: none"> ○ contaminated food ○ contaminated water, and ○ person-to-person contact. <p>Preventing malnutrition by practicing food safety and hygiene Improving sanitation and food preparation practices can reduce children’s risk for diarrhea and related malnutrition. Three key strategies to preventing diarrhea include</p> <ul style="list-style-type: none"> • Hand washing • Safe Drinking Water • Safe Food Preparation and Handling 						
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Hand washing

- During regular daily activities, hands come in contact with hundreds of surfaces – from opening doors to cooking food, from money exchanges to shaking hands. On each surface live thousands of microscopic organisms, some of which can cause serious illness.
- Regular hand washing is:
 - Shown by scientific research to significantly reduce the risk of diarrhea and respiratory infection.
 - The simplest and most cost-effective way to prevent disease.

Steps for proper hand washing

- *Wet* – Wet hands thoroughly with clean water.
- *Soap* – Use a bar of soap or apply liquid soap to the palm of the hands.
- *Lather* – Using the soap, rub hands together vigorously for 20 seconds so the soap produces a thick lather. Scrub between the fingers and under the fingernails.
- *Rinse* – Rinse hands of the soap lather thoroughly with clean water.
- *Dry* – Dry hands with a clean paper or cloth towel or let them air dry.

Trainer's Notes

When hand should be washed

- Before and during food preparation
- Before and after hand expressing milk
- Before and after preparing infant formula or cow's milk
- Before and after feeding a child
- Before and after eating
- Before and after changing a diaper
- After using the bathroom
- After coughing, sneezing or blowing the nose
- After caring for a sick child
- After handling garbage
- After touching cleaners and toxic chemicals
- After touching livestock or pets

	Description	Time	Materials Needed
<p>Learning Activity</p>	<p>Safe food and water</p> <ul style="list-style-type: none"> • Facilitate a discussion with participants on common practices around food and water safety by asking the following questions: <ul style="list-style-type: none"> ○ How do you make water safe for drinking? ○ Can someone share the proper steps for boiling water? ○ How do you typically handle and prepare produce? • Share with participants guidelines for food storage and safety. <p>Safe drinking water</p> <ul style="list-style-type: none"> • Water can be unsafe to drink due to water-borne pathogens (e.g. bacteria, viruses, parasites). • Water should be boiled to make it safe to use for drinking, food preparation, and hand washing. Boiling is the most reliable and cost-effective way to make water safe to drink because it kills disease-causing bacteria, viruses and parasites. Steps to properly boil water include: <ul style="list-style-type: none"> ○ Bring cold tap water to a rolling boil. ○ Boil for one minute (3 minutes at higher altitudes). ○ Cool the water to room temperature. ○ Store water in sterile containers with tight-fitting lids. • To keep drinking water safe from contamination: <ul style="list-style-type: none"> ○ Make sure the storage container has been thoroughly washed and sanitized. ○ Keep the container's lid secured. ○ Do not touch the drinking water in the container with unwashed hands. Keep in mind that when using a cup or bottle to scoop water from a larger container, hands are likely to touch the water. ○ Do not use a communal drinking cup to scoop water from the container. ○ Use a clean ladle to distribute water into drinking cups. ○ Use a container with a spout or spigot to deliver drinking water. 	<p>10 minutes</p>	<ul style="list-style-type: none"> • PowerPoint
<p>Trainer's Notes</p>			

Safe food preparation and handling

- When preparing food for infants and young children, it is critical that foods are handled in a way that limits the risk of food-borne illness. This includes washing, preparation and storage.
- In order to keep food safe, it is important that it be stored properly. The two ways food is most commonly stored are refrigeration and dry storage.

Refrigeration (if available)

- Bacteria can multiply on perishable foods, such as meat and dairy products, if they are left at room temperature for over two hours. In hot climates, bacteria grow even more rapidly – after 1 hour! Refrigerating food in a timely manner can help prevent illness among children.
- Refrigerators should be kept between 0° C and 5° C. The following foods should be kept refrigerated to prevent spoilage:
 - Expressed breast milk, prepared infant formula, or cow's milk formula
 - Meat, poultry and eggs
 - Dairy products
 - Cut and peeled fruits and vegetables
 - Leftover food from previously prepared meals
- Even with refrigeration, many foods can still spoil. Check foods regularly for signs of mold or spoilage.

Dry Storage

- Foods such as some produce, dry goods and canned foods can be stored unrefrigerated without spoiling. However, these foods may spoil if exposed to moisture or extreme heat.
- When storing food:
 - Protect from extreme heat and moisture
 - Protect from pest infestation, such as insects or rodents
 - Avoid chemical contamination

- Dry storage tips:
 - Store food in a cool, dry place no more than 27° C (80° F)
 - Transfer bagged foods into airtight plastic, glass or metal storage containers
 - Store food off the ground
 - Check dry stored foods often for pests or spoilage
 - Throw away foods that are past the expiration date on the manufacturer's container, and foods that show signs of pest infestation, mold or spoilage
 - Store food separately from chemicals (separate shelves, closets, etc.)

Fresh produce handling Dos and Do Nots

We learned that fruits and vegetables are an important component of a healthy, balanced diet. However, diarrhea-causing bacteria and other pathogens can live on the surface of many fruits and vegetables, and so they must be handled and prepared properly.

Do

- Wash hands before and after handling.
- Wash produce only when ready to use.
- Remove outer layers of leafy vegetables and cut away portions of produce that are bruised or damaged.
- Check produce regularly for signs of mold or spoilage.
- Wash and sanitize food preparation surfaces, cutting boards, knives and other utensils before and after preparation.
- Wash produce in clean water with a scrub brush to dislodge dirt.
- Refrigerate fruits and vegetables within 2 hours of cutting and peeling (if refrigeration available).

Don't

- Wash fresh produce before storing.
- Serve peeled and cut produce that has been at room temperature for over 2 hours.
- Use soap or detergent to wash produce.
- Use produce that shows signs of pest infestation, mold or spoilage.

	<p>Tips for preventing cross-contamination</p> <ul style="list-style-type: none"> • Use separate cutting boards for raw fruits and vegetables and for raw meat, poultry, seafood and eggs. • Use separate plates and utensils for cooked and raw food. • Before using again, thoroughly wash cutting boards, plates and utensils that previously had contact with raw meat, poultry, seafood and eggs. • Wash your hands between tasks. • Store meat, poultry, seafood and eggs separately from other foods in a refrigerator, if available.
<p>Evidence of Learning</p>	<ul style="list-style-type: none"> • Participants will be able to make recommendations on proper hand washing and safe food preparation and handling.

LESSON 6: Post-Surgery Diet

TARGET AUDIENCE: Hospital Health Staff and Community Health Workers

LEARNING GOALS:

- Participants will describe general recommendations to protect palate immediately following repair.
- Participants will identify skills learned before surgery that will help children during recovery.
- Participants will describe post-surgery oral care.

TOPICS:

- Immediate Post-Cleft Surgery Diet
- Promoting Smooth Recovery Post-Cleft Surgery

Topic			
<h2>Immediate Post-Cleft Surgery Diet</h2>			
Learning Objectives	Participants will describe general recommendations to protect palate immediately following repair.		
	Description	Time	Materials Needed
Learning Activities	<p>Post-surgery activity</p> <ul style="list-style-type: none"> Asks participants to try to suck while keeping their mouths and lips tightly closed, pretending that there is a bottle nipple in their mouth. This works best when the jaw remains fairly tightly closed. Ask participants to describe what it felt like. (<i>Probe: did you feel the pressure on your palates?</i>) Facilitate a discussion around what a child's diet should look like and other recommendations for the first 2 weeks after surgery to facilitate healing. 	20 minutes	<ul style="list-style-type: none"> PowerPoint Post-Surgery Diet handout
Trainer's Notes	<p>General post-surgery recommendations</p> <ul style="list-style-type: none"> Caregivers should note that eating and drinking will feel very different. It may take a couple of weeks for the child to get comfortable with their new anatomy. They may have increased gagging as they “test their new abilities.” Child may be less interested in eating immediately following surgery. To help with this, <ul style="list-style-type: none"> offer foods just when pain medication is fresh and monitor hydration status. Children cannot feel their palates. They should not be allowed to self-feed for 1-2 weeks. 		

- Food and liquid may continue to come out of the child's the nose while healing takes place. *This does not indicate an unsuccessful repair.*
- If arms are not restrained, caregivers need to be observant to keep children from putting their hands in their mouth.
- To keep the palate clean, rinse the mouth or give a drink of clean water after each meal or sugary drink.

Recommended diet following the repair surgery

- *Week one - "no chew" diet*
 - Liquids by an open cup
 - Juice
 - Broth (not too hot)
- *Week two - "soft chew" diet*
 - Liquids and smooth pureed foods provided by a spoon that is offered sideways
 - Custard/pudding
 - Porridge without added meat or veggie
- *Week three*
 - Standard diet
- *Foods to avoid for the first 2 weeks post-surgery*
 - Hot food and drink
 - Hard food with pieces
 - Breastfeeding (for one week post-surgery)
 - Lollipops
- *Items to avoid for the first 2 weeks post-surgery*
 - Bottle
 - Sucking on fingers
 - Pacifier
 - Toothbrushes

	<ul style="list-style-type: none"> ○ Hard, small toys ○ Straws ○ Fork
<p>Evidence of Learning</p>	<ul style="list-style-type: none"> ● Participants will be able to identify 2 household items to avoid for the first 2 weeks post-surgery. ● Participants will be able to describe the appropriate texture of the diet for the first week post-surgery. ● Participants will be able to describe the appropriate texture of the diet for the second week post-surgery.

Promoting Smooth Recovery Post-Cleft Surgery			
Topic	Promoting Smooth Recovery Post-Cleft Surgery		
Learning Objectives	Participants will describe positive feeding practices to promote smooth recovery from cleft palate surgery.		
Learning Activity	Description	Time	Materials Needed
	<p>Recovering from palate surgery discussion</p> <ul style="list-style-type: none"> Facilitate a discussion with participants on factors that would lead to positive feeding experiences and help a child recover from surgery more smoothly. (<i>Probe: what actions can be taken prior to surgery to help the child have a speedier recovery?</i>) 	15 minutes	<ul style="list-style-type: none"> PowerPoint
Trainer's Notes	<p>Recommendations for smooth recovery from cleft surgery</p> <ul style="list-style-type: none"> A child who had a positive association with eating and who trusted his caregivers before surgery will quickly regain an enjoyment of food following palate repair surgery. The following recommendations will help support positive feeding experiences and therefore, will help recovery from surgery go more smoothly: <ul style="list-style-type: none"> Teach children cup drinking early (4 months or sooner), as it will be necessary post-surgery. Help children develop a positive relationship with food and enjoy the act of eating. Allow children to enjoy a variety of flavors by offering a diverse diet. Expose children to a variety of food textures that are appropriate to their feeding skills. Early on, help children build an attachment to a soft toy so they can safely soothe themselves post-surgery. 		
Evidence of Learning	Participants will identify 2 actions that can be taken prior to surgery to help the child have a speedier recovery.		

LESSON 7: Measuring and Interpreting Growth

TARGET AUDIENCE: Hospital Health Staff and Community Health Workers

LEARNING GOALS:

- Participants will demonstrate understanding of the importance of regular growth monitoring.
- Participants will be able to weigh and measure infants and children with accuracy.
- Participants will know how to interpret growth charts and identify growth concerns.

TOPICS:

1. Introduction to Growth Assessment
2. Weighing and Measuring Techniques
3. Errors in Growth Measurements
4. World Health Organization (WHO) Growth Charts
5. How to Interpret Growth Points and Patterns
6. Concerns with Growth
7. Interpreting Growth Charts: Practice

Introduction to Growth Assessment			
Topic	Introduction to Growth Assessment		
Learning Objectives	<ul style="list-style-type: none"> • Participants will understand why assessing growth is an important part of child care. • Participants will be able to list the steps involved in growth assessment. 		
	Description	Time	Materials Needed
Learning Activity	<p>Introduction: Group activity</p> <ul style="list-style-type: none"> • Tell participants that we often look at children's appearance, like their eyes and hair, or their energy level and appetite, to determine their health status. These are important observations to make as part of caring for their health and well-being. However, they do not tell us with certainty if a child's growth is on track. • Show photo of a group of 9-year-old boys and girls on the PowerPoint slide. Ask participants: <ul style="list-style-type: none"> ○ The children in the photo are all 9 years old. Which child do you think has the right height for their age? 	5 minutes	<ul style="list-style-type: none"> • PowerPoint
Trainer's Notes	<p>Introduction</p> <ul style="list-style-type: none"> • Because children in the photo do not look malnourished, we assume that they are in good health. However, all these children are shorter than they should be for their age. • A child's height results from the initial length at birth and the rate of growth overtime. Assessing children's height and weight is one of the best ways to evaluate their general health and well-being. • Early detection of abnormal growth gives the opportunity to intervene and improve stature and health outcomes. 		

	Description	Time	Materials Needed
<p>Learning Activity</p>	<p>Importance of growth assessment: Group discussion Facilitate a group discussion by asking participants the following questions:</p> <ul style="list-style-type: none"> • What does it mean to assess children’s growth? • Why is it important to learn about a child’s growth? • When we measure growth, we often focus on children under 5 years of age. Why is that? 	<p>5 minutes</p>	<ul style="list-style-type: none"> • PowerPoint
<p>Trainer’s Notes</p>	<p>Importance of growth assessment <i>What does it mean to assess children’s growth?</i> Assessing children’s growth (or growth assessment) means determining if children are growing well by using their weight, height, and other anthropometric measurements and comparing them to what is optimal or expected.</p> <p><i>Why is assessing growth important?</i></p> <ul style="list-style-type: none"> • Growth reflects a child’s overall health and nutritional status. Poor growth can be the first sign of a problem in some children. • Regular growth assessments establish a growth pattern over time. • Assessing growth helps determine if a child <ul style="list-style-type: none"> ○ is growing well, ○ is at risk for growth problems, ○ is responding to interventions, or ○ needs a referral to a specialist. <p><i>Why is growth assessment focused on children five years and younger?</i></p> <ul style="list-style-type: none"> • Growth and development in the first five years of life determine children’s long-term health and well-being. This includes their ability to reach important milestones, fight infections and illnesses, learn, and, as adults, be productive and have healthy children. • Being able to identify and address growth problems early in life will give children the chance to thrive and fulfill their potential, not only as children, but also as adolescents and adults. 		

	Description	Time	Materials Needed
<p>Learning Activity</p>	<p>Growth assessment steps: Matching game</p> <ul style="list-style-type: none"> • Tell participants that now we are going to talk about the steps involved in performing a growth assessment. • Divide participants into five groups and ask all groups to gather in the front of the room (or where there is space), while remaining within their groups. • Give each group a Growth Assessment Step card. On the back of each card, there is a brief description of the step. • Tell participants that there are five steps involved in growth assessment and each group is holding the card for one of these steps. The groups' task is to work together, by moving around as a unit, to place the steps in the right order. • After three minutes, ask each group to hold their card up. The cards held by each group create the order. Confirm that the order of the steps is correct. If it is not correct, give participants a chance and hints to make adjustments before you offer the correct order. You can say: "One group is in the wrong position. Which one is it?" • Groups should now be standing in the right order. Starting with the first group (holding the "weigh and measure children" card), ask a volunteer from that group to read out loud the description of the back of the card. • Continue with the remaining four groups. Answer questions as they come up. 	<p>15 minutes</p>	<ul style="list-style-type: none"> • PowerPoint • 1 set of laminated Growth Assessment Steps cards
<p>Trainer's Notes</p>	<p>Growth assessment steps Having a growth monitoring system in place that includes all the steps will play a big role in improving children's growth and helping them reach their full potential. Growth assessment includes the following five steps:</p> <p><i>Step 1: Weigh and measure children</i> This includes measuring weight, length or height, head circumference, and mid-upper arm circumference (MUAC). As this is the first step, taking accurate measurements is critical. Consider the child's age and physical ability (for instance, ability to stand or fully stretch legs) when selecting which measurements to conduct.</p>		

	<p><i>Step 2: Compare measurements to standards</i> Standards include the World Health Organization (WHO) growth charts. They allow comparison to growth patterns of children living under optimal conditions. To assess if a child is growing well, a series of measurements plotted on a growth chart is essential. Growth charts can be used for all children, including those with special health care needs.</p> <p><i>Step 3: Design a care plan</i> Design culturally- and context-appropriate care plans that meet the needs of the child and address any growth problems identified in Step 2. Care plans may include dietary modifications, supplementation, changes to feeding practices, referrals to a health clinic, and follow-up.</p> <p><i>Step 4: Counsel the caregiver</i> Counsel caregivers on the child's growth and care plan using clear language. Build on their existing knowledge and listen carefully to their concerns. Confirm their understanding of the care plan and ability to make changes; provide follow-up information.</p> <p><i>Step 5: Follow-up</i> Following up involves repeating Steps 1 through 4 at follow-up visits. It allows us to determine if the child is growing well over time and to adapt the care plan accordingly. It also provides opportunities to reinforce nutrition and feeding best practices.</p>
<p>Evidence of Learning</p>	<ul style="list-style-type: none"> • Participants will be able to explain why assessing children's growth is important. • Participants will be able to list in the five growth assessment steps in the correct order.

Weighing and Measuring Techniques			
Topic	Weighing and Measuring Techniques		
Learning Objectives	<ul style="list-style-type: none"> Participants will learn to weigh and measure infants and children with accuracy. 		
Learning Activity	<p>Description</p> <p>Demonstration activity: Weighing and measuring</p> <ul style="list-style-type: none"> Set up measuring stations with the appropriate equipment. Divide participants into 6-7 groups (or fewer depending on the size of the group). Assign groups to one or more of the following measurements: <ol style="list-style-type: none"> Infant weight Standing weight Weight of children unable to stand (can be combined with #2) Length Height MUAC Head size Distribute the Weighing and Measuring Techniques handout to participants. Ask each group to take 10 minutes to carefully read and discuss the steps corresponding to their assigned measurements, including the tips and information in boxes. Participants may use the equipment at the various stations and infant doll to practice. Walk around the stations and answer any questions participants have. 	<p>Time</p> <p>100 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> PowerPoint Weighing and Measuring Techniques handout Hand sanitizer Alcohol pads Baby scale Standing scale Length board Height board Insertion tapes (at least two) Infant doll Soft towel or disposable paper

	<ul style="list-style-type: none"> • When ready, ask each group to demonstrate the proper technique (from 1 to 7) to the rest of the participants with one acting as the child if needed, one acting as the measurer, and one acting as the assistant. • Provide feedback after each measurement (what did the group do well? What steps did they miss or need to improve?). Gently correct the technique by referring to the Weighing and Measuring Steps and Tips in the Trainer’s Notes. • When all measurements are done, remind participants to follow proper hygiene and sanitation guidelines listed in the Trainer’s Notes and in the handout. <p>Note: <i>Practice with children is essential to mastering the weighing and measuring techniques. Check if you can arrange for hands-on training with a group of infants and children. This should take place after participants learned the steps through the demonstration activity.</i></p>		
<p>Trainer’s Notes</p>	<p>Hygiene and sanitation guidelines Follow proper hygiene and sanitation when measuring children to prevent the spread of illnesses.</p> <ul style="list-style-type: none"> • Properly wash your hands with soap and water before and after growth measurements. • Sanitize equipment after use. • Store equipment in a dry place. <p>Preparing for growth measurements</p> <ul style="list-style-type: none"> • Gather all needed equipment. • Make sure equipment is calibrated. • Follow hygiene and sanitation guidelines. • Involve caregivers in calming, carrying, and positioning the child. • Work with an assistant when measuring infants and young children. <p>Things to keep in mind</p> <ul style="list-style-type: none"> • <i>Practice is essential:</i> in this course, you will learn the steps to weigh and measure children. Competency in taking accurate measurements requires hands-on practice. 		

- *Equipment varies:* there is a variety of equipment that can be used to weigh and measure children. It is important to use robust and precise equipment. Depending on the available equipment, there might be slight variations to the techniques described in this course.
- *Measuring children with disabilities:* taking accurate measurements can be difficult for children with contractures or certain deformities. For those children, it is important to select the measurements that can be done safely and accurately.

Weighing and measuring steps and tips

Infant weight using an electronic baby scale

For children younger than 2 years of age, follow these steps:

1. Place the scale on a flat, hard surface.
2. Turn the scale on.
3. Make sure the scale is set to kg.
4. Make sure the scale reads zero before using.
5. Remove child's clothing and, if appropriate, the diaper.
6. Lay the child at the center of the scale.
7. Read the weight off the display and record the value to the nearest 0.01 kg (e.g., 4.55 kg).

Tips when measuring infant weight:

- If a baby scale is not available, use a standing scale and follow the steps for “Standing weight for children unable to stand.”
- To keep scale clean and make the baby more comfortable, place a soft towel or smooth disposable paper on the scale before you turn the scale on.
- Make sure child is not touching anything nearby.
- Do not touch the child while taking the weight measurement.
- If the diaper is not removed, make sure it is dry.
- Do not weigh children right after feeding.

Standing weight for children able to stand using an electronic standing scale

For children 2 years and older who can stand, follow these steps:

1. Place the scale on a flat, hard surface.
2. Turn the scale on.
3. Make sure the scale is set to kg.
4. Make sure the scale reads zero before using.
5. Remove child's shoes and heavy clothes.

6. Ask the child to stand in the center of the scale.
7. Read the weight on the display, and record the value to the nearest 0.01 kg (e.g., 14.22 kg).

Tips when measuring the standing weight of children able to stand:

- Make sure the child is not touching anything nearby.
- Do not touch the child while measuring weight.
- Make sure the child can stand without support.

Standing weight for children unable to stand using an electronic standing scale

For children 2 years and older who are unable to stand or if a baby scale is unavailable, follow these steps:

1. Place the scale on a flat, hard surface.
2. Turn the scale on with no load on the scale.
3. Make sure the scale is set to kg.
4. Make sure the scale reads zero before using.
5. Remove the child's shoes and heavy clothes.
6. Ask the assistant to stand on the center of the scale.
7. Set the scale to zero by pressing the "Tare" or "Zero" button on the scale.
8. Hand the child to the assistant to be held.
9. Read the weight on the display, and record the value to the nearest 0.01 kg (e.g., 14.22 kg).

Tips for measuring standing weight of children unable to stand:

- Do not touch the child or assistant while measuring weight.
- Make sure the assistant and the child are not touching anything around them.
- If the "Tare" function is not available on the standing scale, calculate the child's weight by subtracting the weight of the assistant from the weight of the assistant carrying the child: Child's weight = the weight of the assistant with the child – the weight of the assistant.
- Children older than 2 years who are small in size and unable to stand can be weighed using a baby scale.

Length using a length board

Children under 2 years of age are unable to stand up very well by themselves, so we measure them while they are lying down. This measurement is called "length." A child who is 2 years or older and unable to stand independently can have their length measured if they are able to fully extend and straighten their legs while lying down. To measure length, follow these steps:

1. Place length board on a flat surface (floor or a steady table).
2. Remove the child's shoes, hats, and hair ornaments.
3. Lay the child flat and centered on the length mat/board.

4. Stand to the side of the child where the length board numbers show.
5. Ask the assistant to stand behind the headpiece. The assistant's head should be straight over the child's head, looking directly into the child's eyes.
6. Ask the assistant to align the top of the head against the fixed headpiece. The head should be positioned so that the child's line of sight is perpendicular to the base of the board.
7. Straighten the child's legs by placing your hand on the child's shins or knees and pressing them firmly but gently against the board.
8. Adjust the foot piece so that the child's feet are flat against it.
9. Read and record the length value to the nearest 0.1 cm (e.g., 86.4 cm).

Tips for measuring length:

- If you are standing to the right of the child, hold the child's shins or knees with the left hand and the foot piece with the right hand.
- The person standing to the side of the child, not the assistant, should be the one reading the measurement.
- The head and the foot pieces should press firmly against the child's head and feet, respectively.
- Before reading the measurement, make sure all of the child's body parts are properly positioned.
- Do not measure length using a measuring tape or ruler taped to a baby scale or floor.
- Do not use the length board on children older than 2 years who are unable to stand if they are longer than the board.

Height using a height board

Children 2 years and older who are able to stand well on their own without assistance are measured in the standing position. This measurement is called 'height.' To measure height, follow these steps:

1. If using a height board, place it on a flat floor surface against a wall.
2. Remove the child's shoes, hat and hair ornaments.
3. Ask the child to stand in the center and against the base of the board or wall.
4. Stand or kneel to the side of the child where the height board numbers show.
5. Ask the assistant to kneel on the side opposite from you.
6. Ask the assistant to make sure the child's legs are straight and their heels and calves are against the board or wall.
7. Make sure the child's shoulders are level; their hands are at their side; and their head, shoulder blades and buttocks are against the board/wall.
8. Place your hand under the child's chin and gently close your hand. Do not cover the child's mouth or ears.
9. Ask child to look straight ahead until line of sight (imaginary line through the eyes) is parallel to the ground. Adjust the child's head as needed.

10. Slide the headpiece downwards through the child's hair.

11. Read and record the height value to the nearest 0.1 cm (e.g., 112.8 cm).

Tips for measuring height:

- If you are standing to the left side of the child, hold the headpiece with the right hand and the child's chin with the left hand.
- The headpiece should press firmly against the child's head pushing through the hair.
- The person lowering the head piece, not the assistant, should be the one reading the measurement.
- Before reading the measurement, make sure all of the child's body parts are properly positioned.
- Do not measure height using a measuring tape or ruler attached to a wall.
- Do not measure height for a child who is unable to independently stand up straight.

Mid-upper arm circumference (MUAC) using a non-elastic measuring tape

MUAC can only be measured on children 3 months and older because arm circumference-for-age growth charts start at 3 months. To measure MUAC, follow these steps:

1. Sit down, if possible, to work at eye level. Infants and young children can sit in the assistant's lap.
2. Remove any clothing that covers the child's left arm.
3. Find the midpoint of the child's upper arm by following these steps:
 - Locate the tip of the child's shoulder with your fingertips.
 - Bend the child's elbow so the arm makes a right angle.
 - Estimate where the middle of the upper arm is (the upper arm is the section between the shoulder tip and the elbow).
 - Mark this as the midpoint.
4. Straighten the child's arm.
5. Wrap the tape around the child's arm at the midpoint mark you just made.
6. Make sure that the tape is:
 - against the skin and not over any clothing
 - horizontal around the child's arm
 - not too tight (the band is too tight if the skin bunches up)
 - not too loose (the band is too loose if you can fit a pencil under it).
7. Read the measurement and record it to the nearest 0.1 cm (e.g., 14.2 cm).

Note: When used to identify acute malnutrition, MUAC should be used only in children 6 months and older.

Tips for measuring MUAC:

- Use a measuring tape that cannot be stretched (non-elastic).
- If using the special insertion tapes, insert the end of the band through the thin opening at the other end of the band.

Head size using a non-elastic measuring tape

Head size should only be measured for children under the age of 5 years. To measure head size, follow these steps:

1. Ask the child to sit on a chair. Infants and young children can sit in the assistant's lap.
2. Remove hair ornaments and hat, if any.
3. With your fingers, feel for a bump in the back of the head and position the tape over the bump.
4. Ask the assistant to hold the tape in place over the bump.
5. Wrap the tape tightly around the head making sure to position it over the most prominent part of the forehead (often 1-2 fingers above the eyebrow).
6. Secure the tape using both hands and gently tug on it by moving your left hand to the left and right hand to the right.
7. Read the head size measurement and record it to the nearest 0.1 cm (e.g., 43.2 cm).

Tips for measuring head size:

- Use a measuring tape that cannot be stretched (non-elastic).
- Always measure the widest possible circumference of a child's head.
- Make sure the tape does not cover the child's ears.

Evidence of Learning

Participants will be able to measure weight, length, height, MUAC, and head size measurements accurately.

Errors in Growth Measurements			
Topic	Errors in Growth Measurements		
Learning Objectives	<ul style="list-style-type: none"> Participants will be able to recognize sources of errors in growth measuring techniques. 		
Learning Activity	<p>Description</p> <p>Learning game: Can you spot the errors?</p> <ul style="list-style-type: none"> Tell participants that small measurement errors make a big difference in growth assessment, especially for infants and young children. Share the importance of taking accurate measurements from the Trainer's Notes. Show participants photos of different measurements being conducted (<i>see Activity note below</i>). Ask participants to identify what is done correctly and what is done incorrectly. Refer to the "Can you spot the error?" Answer Key to provide the correct answers. <p>Activity note: <i>If you do not have access to PowerPoint or a projector, you can print a copy of the "Can you spot the error?" photo set and use in a group activity. Divide participants into 5 groups and give each group two photos to identify the error. Then, ask the groups to share with the rest of the class.</i></p>	<p>Time</p> <p>10 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> PowerPoint "Can you spot the errors?" photo set (optional) "Can you spot the errors?" Answer Key

Importance of taking accurate measurements

- To determine if children are growing adequately, it is important to understand and practice the correct techniques for accurately weighing and measuring children. Taking accurate measurements leads to accurate interpretation of growth. This allows us to
 - assess the nutritional status and severity of malnutrition in one child,
 - assess the prevalence and severity of malnutrition in a group of children,
 - intervene appropriately where needed, and
 - track the impact of interventions to inform clinical decisions.
- If we do not take accurate measurements every time, we may incorrectly diagnose the situation and fail to intervene appropriately. This can have significant consequences: at best, resources get misplaced; at worst, children's nutritional status deteriorates.
- For children with cleft lip/palate, the clinical team relies on weight to determine eligibility for repair and to monitor progress post-repair. Inaccurate measurements can interfere with the adequate management and provision of cleft care.

Common errors in measuring techniques

Common errors generally fall into these categories:

- Equipment set-up
- Preparation of the child for measurement
- Measuring technique
- Reading of the measurement
- Recording of the measurement

For any type of measurement

- Child is moving or restless
- Reading or recording of the measurement is inaccurate
- Measurer does not read measurement at eye level

For length/height

- The wrong method (height for children < 2 years of age, or length for children ≥ 2 years of age who can stand) or equipment (e.g., measuring tape taped to a wall or floor) is used
- The child has shoes, headgear, or hair ornaments on
- The child's knees are bent
- The child's feet are not flat

Trainer's Notes

- The child's head is not straight
- The board is not firm against the feet or the head
- The child has contractures or deformities
- One foot is used to measure length instead of both feet

For weight

- The child is wearing heavy clothing
- The infant has a wet diaper
- The infant is weighed after feeding
- The scale is not calibrated
- The scale is not zeroed before weighing
- The scale is set to the wrong unit (pounds or stones instead of kilograms)

For MUAC

- The arm midpoint is incorrectly marked
- The tape is too loose or too tight
- The tape is not level

For head size

- The tape is too loose
- The tape is too high or wraps over the ears

Tips to avoid making measurement errors

- Practice correct measuring techniques
- Read measurements carefully
- Record measurements correctly
- Review the steps for all measurements regularly
- Be patient!

Evidence of Learning

Participants will be able to identify at least five errors in weighing and measuring techniques.

Topic

World Health Organization (WHO) Child Growth Standards

Learning Objectives

- Participants will be able to describe the components of the WHO growth charts.
- Participants will be able to plot anthropometric measurements on the WHO growth charts.

Description

Growth charts: True or false? learning game

- On a flip chart, draw a large growth chart including the x-axis, y-axis, median (in green), and the positive and negative z-score lines (in orange, red, and black). Refer to the “Understanding Growth Charts” handout for guidance. Alternatively, project the PowerPoint slide that contains the growth chart. You will be referring to the growth chart during the learning game.
- Ask all participants to stand if they are able.
- Tell participants that you will be reading ten statements about growth charts. After each statement, they will place their hands on their heads if they think it is a “true” statement or on their hips if they think it is a “false” statement. Participants who provided the wrong answer will sit down and those who provided the correct answer will remain standing.
- If at any point all participants in the group are sitting down before all of the statements have been read, ask the entire group to stand back up. The last person (or group of people) standing is the winner and gets a round of applause.
- Read aloud one statement at a time. After each statement, reveal the answer and discuss the correct answer by referring to the corresponding section in the Trainer’s Note, indicated below after each statement in *italics*.

Learning Activity

- Flip chart
- Markers (black, green, orange/yellow, red)
- PowerPoint
- Understanding Growth Charts handout

Time

20 minutes

Materials Needed

1. WHO growth charts are based on measurements of children who are malnourished.
 - Answer: False. *Refer to What are growth charts?*
2. The WHO growth charts should be used to monitor the growth of infants regardless of the method of feeding.
 - Answer: True. *Refer to What are growth charts?*
3. Different growth charts should be used for children with cleft lip/palate.
 - Answer: False. *Refer to What are growth charts?*
4. How fast a child grows depends on age.
 - Answer: True. *Refer to Age.*
5. Boys and girls have the same growth charts because they grow the same way.
 - Answer: False. *Refer to Sex.*
6. Growth charts include measurements like weight, length, height, and head circumference.
 - Answer: True. *Refer to X-axis and Y-axis.*
7. The median growth line is followed by the majority of children who are well nourished.
 - Answer: True. *Refer to Z-score lines.*
8. The lines on growth charts, called z-score lines, help us identify growth concerns.
 - Answer: True. *Refer to Z-score lines.*
9. Positive z-score lines always indicate healthy growth.
 - Answer: False. *Refer to Z-score lines.*
10. Negative z-score lines always indicate poor growth.
 - Answer: False. *Refer to Z-score lines.*

What are WHO child growth standards?

Growth standards were developed by WHO to help us evaluate a child's growth. They are based on measurements from thousands of children from six countries who grew up in healthy environments. They illustrate how healthy children grow under ideal conditions (e.g., breastfeeding, good feeding practices, adequate nutrition, proper health care). The WHO standards are recommended for use globally, regardless of method of feeding, ethnicity, socioeconomic status, and location. They are recommended for use for children with special health care needs, including children with cleft lip/palate.

Note: *WHO Child Growth Standards, including growth charts and tables, can be accessed here: <https://www.who.int/childgrowth/standards/en/>*

Components of WHO growth charts

Sex

There are differences in growth between boys and girls, and therefore we use charts that are specific to each gender to monitor their growth.

Trainer's Notes

Age

Age is an important component of many growth charts. How rapidly children grow depends on their age. For example, the brain grows very rapidly in the first two years of life. From two to five years of age, the brain is still growing, but not as fast. This is reflected in the head size-for-age growth chart.

Y-axis

The y-axis, or vertical line, indicates measurements like weight, length/height, body mass index (BMI), head circumference, or mid-upper arm circumference (MUAC).

X-axis

The x-axis, or horizontal line, indicates either age or length/height.

Z-score lines (green, yellow, orange, and black lines on the growth chart)

- Z-scores are numerical values that describe how far a child is from the average (or median) and in what direction. Z-scores are measured in terms of standard deviations (SD) from the median. A weight-for-age z-score of -1 SD means that the weight-for-age of a child is 1 SD below the average (median). Similarly, if the height-for-age z-score of a child is +1.6, it means that the growth point is 1.6 SD above the median.

- Z-scores can equal zero and can be positive or negative:
 - The *median* or green line, or a z-score of zero, illustrates how most children would grow if they are well-nourished and cared for. If we were to average the weight of all children, it would look like the green line.
 - Values *above* the green line, or positive z-scores, indicate that the child is taller or heavier than average. Positive z-scores greater than +2 may indicate a concern (e.g., hydrocephalus). The greater the z-score, the more serious the concern (e.g., a head circumference-for-age z-score of +3.4 is more concerning than a z-score of +2.2).
 - Values *below* the green line, or negative z-scores, indicate that the child is shorter or thinner than average. Negative z-scores less than -2 may indicate a concern (e.g., underweight); the smaller the z-score, the more serious the concern (e.g., a weight-for-length z-score of -3.2 is more concerning than a z-score of -2.1).
- The WHO found that children with z-score values below -2 and above +2 are likely to be malnourished.

Available WHO Growth Standards

- Growth standards are available for the following anthropometric measurements:
 - weight in relation to age (weight-for-age)
 - length or height in relation to age (length/height-for-age)
 - weight in relation to length/height (weight-for-length/height)
 - head circumference in relation to age (head circumference-for-age)
 - arm circumference in relation to age (arm circumference-for-age)
- Other less commonly-used growth standards exist for subscapular and triceps skinfold in relation to age.
- In addition to the WHO growth charts, numerical tables that provide z-score values based on anthropometric measurements, age, and sex are available.

	Description	Time	Materials Needed
<p>Learning Activity</p>	<p>Plotting on growth charts: Demonstration and activity</p> <ul style="list-style-type: none"> Using the large growth chart from the previous activity, demonstrate how to manually plot measurements by following instructions from the Trainer's Notes. Draw several plotted points, then connect with a straight line to demonstrate how to create a growth pattern. Share information on growth points versus growth patterns from the Trainer's Notes. Tell participants that it is now their turn. Distribute the Weight-for-length Growth Chart activity sheet. On a new flip chart page, write the following measurements or show the PowerPoint slide with the measurements: <ul style="list-style-type: none"> Visit #1: Weight 5.09 kg; Length 60.3 cm Visit #2: Weight 5.38 kg; Length 63.0 cm Visit #3: Weight 5.95 kg; Length 64.6 cm Ask participant to plot the measurements corresponding to three growth assessments for an infant girl. Walk around the room answering questions and assisting participants as needed. Show the slide with the plotted pattern and ask participants to compare their results. 	<p>10 minutes</p>	<ul style="list-style-type: none"> Flip chart Markers PowerPoint Weight-for-length Growth Chart Activity Sheet (one per participant)

How to manually plot measurements on growth charts

- Locate the child's age or length/height on the x-axis. Extend a vertical line from that point.
- Locate the child's measurement on the y-axis. Extend a horizontal line from that point.
- Mark with a dot where the vertical and horizontal lines meet. This is the plotted point.
- Repeat for follow-up visits. Connect the points with straight lines to observe the pattern.

Notes:

- Computer software and web-based applications have been developed to facilitate the plotting of measurements and the exact calculation of z-scores. After measurements are entered, growth charts are generated within seconds showing the child's growth points and patterns. Compared to manual plotting, these tools result in a more accurate assessment of a child's growth in significantly less time.

Trainer's Notes

Growth points versus growth patterns

- Every time we perform an assessment, one point is added to the growth chart. When we do a series of assessments for the same child, we have a series of growth points, or a growth pattern.
- Multiple measurements over time (or a growth pattern) provide more valuable information than a single measurement (or a growth point). It is not possible to fully understand the pattern of a child's growth by looking at one single plotted point in time. Rather, it is important to consider the child's growth trend over time (e.g., is the child gaining or losing weight? Has the child grown taller or stopped growing?).

Evidence of Learning

- Participants will be able to describe all the components of growth charts.
- Participants will be able to accurately plot anthropometric measurements on growth charts.

Topic			
<h2>How to Interpret Growth Points and Patterns</h2>			
Learning Objectives	<ul style="list-style-type: none"> Participants will be able to interpret growth points and patterns of various growth charts. 		
Learning Activity	Description	Time	Materials Needed
	<p>Growth points and patterns: Group activity</p> <ul style="list-style-type: none"> Explain how to interpret growth points and patterns from the Trainer's Notes. Ask participants to divide into five groups. Distribute the Growth Points and Patterns Matching card sets, one set per group. Ask participants in each group to work together to match the ten growth chart scenarios (cards labeled with numbers) with the right description (cards labeled with letters) and to discuss whether the growth points or patterns they see are concerning and why. After 5 minutes, ask groups to take turns and share their answers for two scenarios. Provide additional information by referring to the Trainer's Notes. 	20 minutes	<ul style="list-style-type: none"> Flip chart Markers PowerPoint Five sets of laminated Growth Points and Patterns Matching Cards (one set per group)

How to interpret growth points

- Compare plotted points with the z-score lines to determine if they indicate a growth problem.
- A growth point between the +2 and -2 z-score lines is generally considered to be in the normal range.
- A growth point above the +2 z-score line or below the -2 z-score line indicates a possible growth concern and requires attention.
- A growth point plotted exactly on the z-score line is considered in the less severe category. For example, a z-score of -2 is considered to be in the normal range.

How to interpret growth patterns

To interpret growth patterns, examine the line that connects a series of plotted points. That line shows a pattern or a trend in a child's growth. It may indicate that a child is growing consistently and well, or that a child has a concerning growth and should be reassessed soon.

Typical growth patterns

- We expect children with healthy growth and development to generally grow “tracking” along a line parallel to the median line and within the normal range of the +2 z-score line and -2 z-score line.
- Over time, children generally stay around the same z-score line. For example, a child who tracked along the +1 z-score line for length-for-age at 12 months old generally stays fairly close to the height-for-age +1 z-score when at 36 months old. Some children may shift to a lower or higher parallel line. This is still considered a normal pattern as long as the child continues to grow consistently and track along their new z-score line. For example, it is normal for the child mentioned in the first example to shift down closer to the height-for-age median (z-score of zero) or shift up closer to the height-for-age z-score of +2 at some point in their life.
- The child's growth curve may be tracking along the median or along a parallel line below or above the median.

Trainer's Notes

Tracking along the median

The child's growth line is within the normal z-score range. This indicates no concern; the child is growing at an expected rate for age and sex.

Tracking below the median

Even though the growth line tracks below the median, even if along the -2 z-score line, the child is growing consistently at an expected rate for age and sex. This can be concerning if other risk factors are present.

Tracking above the median

Even though the growth line tracks above the median, even if along the +2 z-score line, the child is growing consistently at an expected rate for age and sex. This can be concerning if other risk factors are present.

Concerning growth patterns

The following growth patterns generally indicate a concern and require further attention:

Sharp incline

The child is growing at a faster rate than what is expected for age and sex. Depending on the case, it might indicate catch-up growth. It is concerning, however, when it applies to head circumference.

Sharp decline

This pattern is seen when a child loses weight due to a severe bout of illness or undernourishment. This growth pattern is always concerning.

Flat growth

The child is not growing or is growing at a slower rate than what is expected for age and sex. This growth pattern is concerning.

When interpreting concerning growth patterns, consider the following:

- where the change in the growth trend began and where it is headed. For example, was the child already below the median when growth began declining? Is growth trending towards the median or away from it?
- the child's whole situation. For example, has the child experienced a recent bout of illness that would explain the sudden decline in growth?

Evidence of Learning

Participants will be able to describe growth points in term of *z*-scores and describe concerning growth points and patterns.

Topic		Concerns with Growth		
Learning Objectives	<ul style="list-style-type: none"> Participants will learn to recognize anomalies in growth using anthropometric indices. 			
Learning Activity	Description	Time	Materials Needed	
	<p>Concerns regarding growth: Group discussion</p> <ul style="list-style-type: none"> Ask participants to take a couple of minutes to think about children in their care. Ask them, “are there children whose growth you are concerned about? This can include concerns about their weight, length or height, or head size.” Have participants get into small groups and share with each other: <ul style="list-style-type: none"> what they are concerned about (i.e., weight, length/height, or head size) what they think has caused the anomaly in growth, and <ul style="list-style-type: none"> how they think poor growth impacts the child’s health and well-being. After 5 minutes, ask each group to share the cases of one or two children with the rest of the class. Share information on concerns regarding length/height, weight, and head circumference from the Trainer’s Notes. 	15 minutes	<ul style="list-style-type: none"> PowerPoint 	

Concerns with length and height

Children are born with a potential for height that is largely determined by their genetic makeup. Children may not reach that potential due to a cumulative process involving one or more of the following factors, usually associated with poverty:

- Chronic poor nutrition
- Chronic illnesses or infections
- Inappropriate care practices

Stunting

- A deficiency in height is called stunting.
- Stunting is defined as length/height-for-age z-score below -2 . Stunting is not only about being short. It means that inappropriate nutrition and care have prevented the body from growing adequately. Stunting affects the growth of the brain and other vital organs as well as the growth of long bones. As with other anthropometric indices, height-for-age is thus a proxy indicator of nutritional status and health.
- Stunting can start inside the womb (*in utero*) if the fetus does not have enough nutrients to develop and grow at a normal rate.
- Stunting has devastating consequences. Stunted children are at higher risk of ill health and death. They are also more likely to perform less well at school and to be less productive as adults.
- By supporting a child's growth in length or height through proper nutrition and care practices, we help them achieve not only their height but also their development potential.

Trainer's Notes

Can stunting be reversed?

- Generally, stunted children under the age of two years may regain some lost height potential when placed in environments where they are well fed and cared for. This is called catch-up growth.
- After children reach two years of age, it becomes more difficult to reverse stunting that has occurred earlier. While these children may remain shorter for what is expected for their age, they can continue to grow closer to their potential with proper nutrition and care. There are windows of opportunities for catch-up growth, including during adolescence
- For children with cleft lip/palate, it is critical for a multidisciplinary team to coordinate care for the infant, including repair of the cleft lip/palate, interventions to address feeding challenges, and appropriate dietary interventions pre- and post-repair.

Is stunting to be expected in children with cleft lip/palate?

- Poor growth in height is not a manifestation of a cleft lip/palate condition. Rather, it is likely the result of undernutrition due to feeding difficulties or poor diet for infants with cleft lip/palate.
- Establishing a child's growth pattern and addressing feeding challenges are critical to promoting optimal linear growth.

Concerns with weight

Children's weight is a measure of their body muscle and fat mass. Children can lose weight rapidly or not gain enough weight due to one or more of the following factors:

- Poor intake of protein and calories
- Frequent or prolonged illnesses or infections
- Inappropriate care practices

Wasting

Wasting, also called acute malnutrition, is defined as weight-for-length/height z-score below -2 . It increases the risk for illnesses and infections. Wasting increases the risk of death: Severe wasting (weight-for-height z score < -3 SD) in children multiplies the risk of dying by 10.

Using mid-upper arm circumference (MUAC) to identify wasting

MUAC is a proxy measure of body muscle and fat. When children are undernourished, the amount of muscle and fat in their bodies decreases. Current WHO guidelines classify acute malnutrition in children under 5 using weight-for-length/height (z-score < -2) or MUAC (cut-off point at 12.5 cm). While MUAC-for-age z-scores are available, they are not currently used to classify wasting.

Underweight

Underweight is defined as weight-for-age z-score below -2 . Because weight is relatively easily measured, underweight is commonly used to assess malnutrition. But, unlike wasting, which relies on weight and length/height, underweight relies only on body weight. As such, underweight does not indicate whether the child is underweight due to wasting (reduced body weight relative to height), stunting (unattained height for age), or a combination of both. It is, therefore, recommended to additionally assess the child for stunting and wasting. Also, underweight cannot be relied upon in situations where the child's age cannot be accurately determined.

Can wasting be reversed?

Wasting can be reversed if conditions improve. Interventions should include

- addressing feeding challenges,
- appropriate dietary interventions pre- and post-cleft repair,
- treating infections and illnesses,
- improving food access and quality, and
- improving child care practices.

Compared to height, weight responds faster to interventions. Generally, children gain weight first before they catch up in length or height.

Is wasting to be expected in children with cleft lip/palate?

- A cleft lip/palate may cause difficulty with feeding and impair the child's ability to safely consume calories and protein necessary to support healthy weight gain. If feeding difficulties are not addressed, children with cleft/lip palate can quickly become wasted.
- Also, children with newly repaired cleft lip/palate may have increased needs for calories and nutrients after surgery that exceed what they are able to consume.

Management of wasting

- National guidelines for managing wasting or acute malnutrition in children exist in many countries. They are referred to as the Integrated Management of Acute Malnutrition, or IMAM.
- The IMAM guidelines include protocols for the management of moderate and severe acute malnutrition. Generally, children are screened based on MUAC and/or weight-for-length/height and the presence/absence of edema (fluid retention), to determine the severity of malnutrition.
 - Children who are wasted are then triaged into inpatient or outpatient treatment programs based on the severity of wasting, medical complications and presence of edema. They are given therapeutic foods. Children with edema and/or severe wasting with medical complications should be immediately referred to a health center for treatment as these conditions are life-threatening.
 - Children who are moderately wasted are referred to a supplementary feeding program. They are given supplementary foods that are high in energy and nutrients.
- Children are discharged from their treatment or supplementary feeding programs based on improvements in their nutritional status.

Concerns with head circumference

- Brain development is fast before birth and during the early childhood.
- The growth of the skull is determined by brain growth. That is why measuring head circumference is a quick and simple step in determining if the child's brain is growing and developing normally.
- Impaired brain growth places children at risk for delayed motor and cognitive development. Head circumference helps us identify two types of conditions: microcephaly and macrocephaly.
- Children with these conditions may benefit from early intervention services like physical and speech therapy.

Microcephaly

Microcephaly is head circumference-for-age z-score below -2. It can be caused by chronic undernutrition or certain disabilities, like cerebral palsy. Infants who are born prematurely and/or with a low birth will likely have a smaller than average head size until they catch up.

Macrocephaly

Macrocephaly is head circumference-for-age z-score above +2. It can be caused by extra fluid surrounding the brain (hydrocephalus), or other medical or genetic conditions.

Evidence of Learning

Participants will be able to define stunting, wasting, and underweight, and concerns with head circumference.

Interpreting Growth Charts: Practice			
Topic	Interpreting Growth Charts: Practice		
Learning Objectives	<ul style="list-style-type: none"> Participants will practice interpreting various growth chart scenarios. 		
	Description	Time	Materials Needed
Learning Activity	<p>Interpreting growth charts: Group activity</p> <ul style="list-style-type: none"> Tell participants that now that they have built an understanding of growth charts and how to interpret growth point and patterns, they are going to apply what they learned to various scenarios. Ask participants to divide in small groups. Distribute the Interpreting Growth Scenarios activity sheets to participants. Ask participants to review growth charts on the activity sheet. Each chart shows either a plotted growth point or a series of plotted points from multiple clinic visits. For each scenario, answer the questions on the activity sheet and identify what growth concerns, if any, are apparent. Walk around the room to answer questions and offer support as needed. After 10 minutes, ask each group to present their answers for one or two scenarios (depending on the size of the class). Refer to the Interpreting Growth Scenarios Answer Key to offer additional information. 	30 minutes	<ul style="list-style-type: none"> Flip chart Markers PowerPoint Interpreting Growth Scenarios Activity Sheet (one per participant) Interpreting Growth Scenarios Answer Key

Errors in measurements and growth patterns

Remember that errors in measurements can lead to growth patterns that are atypical. If you see a sharp incline, a sharp decline, or any pattern that you did not expect, confirm that the measurements are correct. If needed, measure the child again. Remember that length, height, and head size generally do not shrink.

Becoming confident in interpreting growth points and patterns

It would be difficult to describe in one course all possible growth scenarios. Becoming confident in interpreting growth patterns comes with practice and experience. These tips should help:

- Note the age and type of the growth chart.
- Consider the child's whole situation including feeding history, food intake, illnesses, disabilities, and family genetics, if known.
- Consider all relevant growth charts and note where trends begin and end.
- If a growth pattern does not seem plausible, investigate errors in measurements as a possible cause.

Trainer's Notes

Special considerations for preterm infants

Growth assessment for premature infants needs to be based on adjusted age, or corrected age, for the first two years of life to account for prematurity. Adjusted age is the child's chronological age (number of weeks since the date of birth) minus the number of weeks of prematurity (e.g., number of weeks the child was born early). For example, a one-year-old who was born three months early would have a corrected age of nine months.

Note: *Interpreting growth patterns for preterm and low birth weight infants is beyond the scope of this course.*

Evidence of Learning

Participants will be able to read growth charts and identify growth concerns.

LESSON 8: Nutrition and Feeding Counseling

TARGET AUDIENCE: Hospital Health Staff and Community Health Workers

LEARNING GOALS:

- Participants will understand strategies for changing behavior and practices.
- Participants will demonstrate how to prioritize recommendations during counseling.
- Participants will apply strategies for sharing recommendations during nutrition and feeding counseling.

TOPICS:

1. Changing Nutrition and Feeding Practices
2. Prioritizing Recommendations in Nutrition and Feeding Counseling
3. Sharing Nutrition and Feeding Recommendations with Caregivers

Changing Nutrition and Feeding Practices			
Topic			
Learning Objectives	<ul style="list-style-type: none"> • Participants will be able to describe key factors influencing feeding and nutrition behaviors. • Participants will recognize the challenges to changing feeding and nutrition practices. 		
	Description	Time	Materials Needed
Learning Activity	<p>“Making a change” reflect and share: Group activity</p> <ul style="list-style-type: none"> • Introduce the topic by telling participants that it can be difficult to change our own practices and behaviors, and may be more difficult to encourage others to change. • Ask participants to take a moment to think about a time in their life when they tried to “make a change.” This may be quitting a behavior or increasing a behavior. Providing a brief example from your experience may be helpful. • Write down on a flip chart or ask about the following questions for reflection: <ul style="list-style-type: none"> ○ Were you successful? Why or why not? ○ What helped? What made it difficult? ○ What made it easier or harder over time? • In small groups, ask participants to use their answers to the questions to share about their experience with attempting to change a behavior in their own life. 	10 minutes	<ul style="list-style-type: none"> • Flip chart • Markers • PowerPoint

	<ul style="list-style-type: none"> As a large group, invite participants to share about the discussions they had in their groups. Discuss the factors that influence behavior. Summarize and synthesize the conversation. 		
<p>Trainer's Notes</p>	<p>Factors influencing behavior</p> <ul style="list-style-type: none"> We know from observing others and reflecting on our own lives that our behavior is complex. It is more than just a matter of knowing what is best; there are many factors that affect human behavior. There are both internal and external factors that influence our behaviors. All of our behaviors or practices are influenced by other people. This may include family, health care providers, community leaders, policymakers, and companies. People are more likely to try a new behavior if they believe that their family, neighbors, and/or community will approve. Influences can be either positive or negative. Positive influences help us move toward improved behavior. Negative influences make it more difficult to improve behavior. 		
<p>Learning Activity</p>	<p>Description</p> <p>Facilitating change and the challenges: Group discussion</p> <ul style="list-style-type: none"> Explain that reflecting on our own experiences with making a change can help us to empathize and understand how to better support caregivers to make changes to feeding and nutrition practices. Tell participants that in this activity, they will be reflecting on what it takes to facilitate change in behavior and the challenges one may face. Share the three key components to promote change in behavior, writing them down on a flip chart as you provide explanation. Ask participants to take 1-2 minutes to reflect on the three components as they relate to changing feeding and nutrition practices. Then, ask participants to share their response or experience. 	<p>15 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> Flip chart Markers PowerPoint

	<ul style="list-style-type: none"> • Tell participants that they will now discuss challenges. Divide participants into small groups and ask them to share possible challenges that they have experienced or might anticipate when promoting behavior changes for nutrition and feeding. • Invite groups to share at least one challenge. Write participants' answers on a flip chart as they share. • Expand on answers, summarize and synthesize the discussion. 		
<p>Trainer's Notes</p>	<p>Key components to promote change in behavior</p> <ul style="list-style-type: none"> • To facilitate change in practices and behaviors, there are three key components: <ul style="list-style-type: none"> ○ <i>Give direction.</i> This means sharing the knowledge and skills of how to get to the destination or target behavior. ○ <i>Motivate.</i> This includes listening to understand what influences and motivates the individual and tapping into their emotions. ○ <i>Shape the path</i> to allow for easy progress. The goal is to reduce the barriers that stand in the way of changing behaviors and practices. This may include shortening the path by implementing smaller changes. Or it may mean removing obstacles from the path. <p>Challenges when promoting behavior changes for nutrition and feeding</p> <ul style="list-style-type: none"> • Decisions about nutrition and feeding practices are happening multiple times per day, and may be done unconsciously or by habit. • To see lasting changes in nutrition or feeding practices, people have to try new behaviors and sustain them over time. • Sometimes change happens slowly, so it can be difficult to remain motivated to sustain a new practice. • Choices around nutrition and feeding are often strongly tied to cultural and social norms. People around us, including family and community, have a strong influence on these choices. • Access to food and other resources related to nutrition and feeding varies widely across geographic areas and time of the year and, thus, also influences one's ability to sustain changes in nutrition and feeding practice. 		
<p>Evidence of Learning</p>	<ul style="list-style-type: none"> • Participants will be able to describe three key components to promote change in behavior. • Participants will be able to identify possible challenges when promoting change in feeding and nutrition behavior. 		

Topic		Prioritizing Recommendations in Nutrition and Feeding Counseling		
Learning Objectives	<ul style="list-style-type: none"> Participants will be able to prioritize nutrition and feeding recommendations to effectively counsel caregivers. 			
Learning Activity	<p>Description</p> <p>Next best: Group activity</p> <ul style="list-style-type: none"> Introduce topic by telling participants that it is important to use insights into human behavior and how behaviors change to prioritize the recommendations we make in nutrition and feeding counseling. Expand on considerations for prioritizing recommendations from the Trainer's Notes. Introduce activity by telling participants that they will practice breaking recommendations down into smaller steps. Divide participants into groups of 3-5 people. Distribute the Next Best Activity Sheet, one per group. Instruct groups to work together to review a list of ideal behaviors and to identify small doable actions that would be "on the way" to the ideal behaviors. Ask participants to share some of the examples of "Next Best" behaviors they discussed in their groups and provide feedback about the experience. Synthesize and summarize. 	Time	Materials Needed	
		20 minutes	<ul style="list-style-type: none"> Flip chart Markers PowerPoint Next Best Activity Sheet (one per group) 	

Considerations for prioritizing recommendations

- When there are multiple feeding and nutrition recommendations, it may not be possible to promote all of the changes at one time. When trying to change too much at once, it can frustrate caregivers and even reduce their trust. Prioritizing recommendations during nutrition and feeding counseling is one of the ways to help shape the path to lasting change.
- You may need to break recommendations down into smaller steps. This helps to “shape the path” by making it shorter and prioritizing small doable actions that can build upon each other on the way to the ideal behavior. These smaller steps toward “ideal” behavior may not be as effective as the behavior itself, but they may be more likely to be adopted and sustained at first.
- It is important to take into consideration the person you are counseling. Knowing as much as possible about the person, what they want and care about, and what is important to them will help to identify which behaviors to promote. This includes listening to them about what they see as obstacles and their ideas to overcome them.
- It is important to consider if the recommendations you are making are feasible. If there are major barriers to overcome or limited access to the resources required, then these factors must be considered when prioritizing recommendations.

Trainer’s Notes

Evidence of Learning

Participants will be able to describe how to prioritize recommendations during nutrition and feeding counseling.

Topic		Sharing Nutrition and Feeding Recommendations with Caregivers	
Learning Objectives	<ul style="list-style-type: none"> Participants will be able to counsel caregivers on recommendations to improve nutrition and feeding practices for infants and children. 		
Learning Activity	<p>Description</p> <p>Counseling caregivers: Role play activity</p> <ul style="list-style-type: none"> Introduce activity by telling participants that it is important to practice effective caregiver counseling by applying what they have learned about what influences behaviors and practices and how to prioritize recommendations. Distribute the Steps to Counseling handout to participants. Explain the steps to counsel caregivers in nutrition and feeding from the Trainer's Notes. Write down, in brief, the steps to counsel caregivers on a flip chart. Explain to participants that one of the best ways to develop effective counseling skills is to practice. Tell them that today we will use a role play activity to practice applying what they have learned. Ask for 2 participants to volunteer to do a role-play. Provide the Counseling Caregivers Role Play activity sheet to the volunteers. Give them 2-3 minutes to review the scenario for the role play. Provide additional guidance to ensure participants portray the traits described in the scenario. Ask the participants observing to take notes and identify the steps they observe during the role play. 	Time	Materials Needed
		20 minutes	<ul style="list-style-type: none"> Flip chart Markers PowerPoint Steps to Counseling Handout Counseling Caregivers Role Play Activity Sheet

	<ul style="list-style-type: none"> • Facilitate a discussion by asking the two volunteers about how it felt to play each role. • Invite participants to comment on the steps they observed and to provide feedback on what went well or any challenges they observed during the role play. • If time allows, repeat role play activity with 2 new participants and another scenario from the activity sheet. • After each role play, facilitate a discussion. • Synthesize and summarize. 		
<p>Trainer's Notes</p>	<p>Steps to counsel caregivers on nutrition and feeding</p> <ul style="list-style-type: none"> • The ultimate goal of counseling caregivers in nutrition and feeding is to support the caregivers to improve their child's growth and development so their child can reach their full potential. By applying what we know about changing behavior and practices, we can make practical and doable recommendations. • These steps to counseling a caregiver will help ensure you apply strategies to support changing behaviors and establish a path in collaboration with the caregiver toward improved nutrition and feeding practices. <ul style="list-style-type: none"> ○ <i>Ask</i> relevant, open-ended questions to learn about the child and the caregiver. ○ <i>Listen</i> and reflect on what you learn. ○ <i>Inform</i> caregivers about the challenges or difficulties with nutrition or feeding that were observed, reported, or identified. Provide the knowledge and skills to educate the caregiver on ideal practices and behaviors. ○ <i>Identify</i> any potential barriers or obstacles. This includes listening to understand what matters to caregivers. ○ <i>Prioritize</i> recommendations. ○ <i>Recommend</i> a plan that you've agreed on with the caregiver. ○ <i>Clarify</i> to make sure the caregiver understands and feels comfortable with the actions they will take. ○ Make a plan for <i>follow-up</i> to check on progress and plan for next steps. 		

	Description	Time	Materials Needed
<p>Learning Activity</p>	<p>Identifying challenging attitudes: Group discussion</p> <ul style="list-style-type: none"> • Ask participants to reflect on the role play activity. • Ask participants if they noticed a pattern of behavior or trait in the caregiver's attitude that presented a challenge during feeding and nutrition counseling. • Challenging attitudes during the role play include: <ul style="list-style-type: none"> ○ Too busy to listen ○ Resistant to change ○ Denies there is a problem • Ask participants if they can name other challenging attitudes that they anticipate or may have experienced while counseling caregivers. Write additional ideas shared down on a flip chart. • Share counseling strategies to support improved nutrition and feeding. Facilitate a discussion about counseling strategies that support caregivers to improve a child's nutrition and feeding. • Synthesize and summarize. 	<p>10 minutes</p>	<ul style="list-style-type: none"> • Flip chart • Markers • PowerPoint
<p>Trainer's Notes</p>	<p>Counseling strategies to support improved nutrition and feeding</p> <ul style="list-style-type: none"> • Prioritizing recommendations includes limiting the number of actionable steps to take at a time. This may mean choosing 1 practice to change or 2-3 small actionable steps at one time. • Build the caregiver's understanding by explaining recommendations clearly and simply. • Find out what they know and build from there. Respect their knowledge and abilities. • Be positive and encouraging. Focus on the caregiver's strengths and accomplishments using compliments and validation. • Listen carefully to their concerns, challenges, and ideas. Help them identify difficulties and possible solutions. 		

	<ul style="list-style-type: none"> • Ask questions along the way to check for understanding and identify potential challenges. • Be respectful, patient, and flexible.
Evidence of Learning	<ul style="list-style-type: none"> • Participants will be able to list the steps to counsel caregivers in child's nutrition and feeding. • Participants will be able to apply counseling strategies to support caregivers to improve a child's nutrition and feeding.

LESSON 9: Training Facilitation for Adults

TARGET AUDIENCE: Participants responsible for facilitating classroom trainings

LEARNING GOALS:

- Participants will describe how to effectively facilitate training for adults.
- Participants will identify when and how to use icebreakers and energizers.
- Participants will develop engaging introductions for training.
- Participants will know how to assess evidence of learning.
- Participants will describe how to prepare for training facilitation.
- Participants will be prepared to manage common training challenges.
- Participants will apply adult education and facilitation best practices during a mock training.

TOPICS:

1. Adult Learning and Facilitation Skills
2. Icebreakers and Energizers
3. Opening and Closing Lessons
4. The Logistics of Training
5. Preparing for Common Training Challenges
6. Putting it All Together: Mock Training

NOTE: It is ideal for potential trainers to receive the full version of this module, including all training activities as described. However, if time is limited, suggestions for shortening the training are included in the Trainer's Notes for each topic.

Adult Learning and Facilitation Skills				
Topic	Learning Objectives	Description	Time	Materials Needed
Learning Objectives	<ul style="list-style-type: none"> Participants will describe how to effectively facilitate training for adults. 			
Learning Activity		<p>Open-ended question icebreaker</p> <ul style="list-style-type: none"> Introduce the topic by telling participants that we will be discussing adult education and facilitation. Share the learning objective. Tell participants that an important facilitation skill is asking open-ended questions. Discuss open-ended questions. Ask participants to pair up. Each participant will ask their partner one yes/no question, and one open-ended question. Participants should identify their own question sets that will allow pairs to learn more about each other. After 3-5 minutes, ask pairs to share their questions and answers with the group. Ask the group: <ul style="list-style-type: none"> What did you notice about your conversation with your partner using yes/no versus open-ended questions? Tell participants that we will be discussing facilitation skills in greater detail soon, but first it is important to understand how adults learn. Discuss the Principles of Adult Learning. <p>To shorten the Learning Activity: Ask a few participants to share, instead of the entire group.</p>	20 minutes	<ul style="list-style-type: none"> Notepads Pens or pencils Principles of Adult Education Handout

Asking open-ended questions

As a trainer, an important part of leading discussions and learning activities is asking questions in a way that encourages participants to talk and share information. Open-ended questions:

- Help the entire group to learn more during the training
- Are helpful to starting a discussion
- Cannot be answered with just “yes” or “no”, or a few words
- Usually start with: how, what, when, or where
- Require the person responding to provide some information, and possibly their opinion, with their response

The Principles of Adult Learning

Research on learning has shown that adults learn differently than children. These differences are described in The Principles of Adult Learning, which should guide education programs for adults. The Principles include the following:

1. *Adults are autonomous and self-directed.* They need freedom to take control of their own learning.
2. Adults bring prior knowledge and life experience to their learning. Trainers should build on their experience and encourage them to share it during training.
3. *Adults need learning to be immediately relevant and practical.* They want to see a clear link between the training and their current work or life situation.
4. *Adults are problem-oriented and want to be able to apply what they are learning.* They are interested in learning by doing rather than memorizing and repeating.
5. *Adults are motivated by both internal and external factors.* While adults will seek training to receive certification, they also seek training for personal growth and development.
6. *Adults respond best in a learning environment of safety and inclusion.* Trainers need to take responsibility for creating and nurturing a safe and inclusive learning environment.

Trainer's Notes

Description	Time	Materials Needed
<p style="text-align: center;">Learning Activity</p> <p>Facilitation and learning environment activity</p> <ul style="list-style-type: none"> ● Tell participants to think about an exceptionally good training or class they attended. ● Ask participants to take 2 minutes to think about these two questions: <ul style="list-style-type: none"> ○ What about the trainer made the training easy and enjoyable? This can be about the trainer’s characteristics or training style. ○ What about the learning environment made the training enjoyable? This can be about the physical environment and learning atmosphere. ● While participants are reflecting on the questions, tape two large flip chart sheets on the wall. Label one sheet with “Trainer” and the other with “Learning environment.” ● For each question, ask participants to share their thoughts with the group. Write key words from the participants’ answers on the corresponding flip chart (for example, “energetic”, “knowledgeable”, “comfortable temperature”). ● Ask participants to choose three characteristics from the list created under “Trainer” and three from the list created under “Learning environment” that they think are most important. Provide each participant with a marker, and invite them to draw a dot on the flip chart sheets next to their choices. ● Once everyone has voted, identify which of the characteristics received the most votes. ● Facilitate a discussion about the role of the facilitator, characteristics of an engaging facilitator, and how to create an enjoyable learning environment. <p>To shorten the Learning Activity: <i>Compile a list of characteristics together as a group, instead of individually first.</i></p>	<p>20 minutes</p>	<ul style="list-style-type: none"> ● Notepad ● Pens or pencils ● Flip chart ● Markers

Role of the facilitator

A facilitator is responsible for guiding participants through the process of learning. By asking good questions and guiding the discussion, the facilitator engages participants and draws out their knowledge to accomplish learning goals. The facilitator's role in training is to lead the discussion, not direct it, by:

- *Opening, transitioning, and closing topics/sessions:* Introduces a topic, session, or activity clearly; relates topics to each other and to the learning objectives; synthesizes participants' input; provides a summary and conclusion.
- *Leading discussions and learning activities:* Uses a variety of techniques to engage participants in learning; maintains interest and encourages inclusive participation; keeps participants focused and energized.
- *Giving and receiving feedback:* Provides constructive feedback to groups and individuals, and receives and incorporates feedback as appropriate.
- *Managing conflict and disruptions:* Recognizes conflicts and disruptive behaviors and their impact on the group; knows when and how to address them.
- *Identifying and solving problems:* Anticipates and identifies challenges, and comes up with solutions.

Characteristics of a good facilitator

- Warm, friendly, and authentic
- Positive and affirming
- Confident
- Open-minded, and welcomes different viewpoints, learning styles, and contributions
- Attentive to the feelings and needs of participants
- Flexible
- Culturally-sensitive
- Organized and prepared
- Actively listens and shows understanding
- Encourages participation from everyone
- Learns with and from participants
- Encourages team-building and collaboration among the group
- Uses appropriate humor
- Uses good eye contact with everyone in the group
- Creates a feeling of security and respect among the group

Trainer's Notes

	<ul style="list-style-type: none"> ● Has accurate technical knowledge and is honest when they do not know an answer ● Models the behaviors they want to see <p>Characteristics of an enjoyable learning environment</p> <ul style="list-style-type: none"> ● Training space is clean and comfortable ● Room configuration makes participation easy ● Clear expectations are established and communicated ● Training activities cater to different learning styles ● Participation is encouraged and celebrated ● Participants respect each other’s contributions, learning styles, life experiences, and opinions ● Disrespectful behavior is not tolerated, and is promptly addressed ● Participants have opportunities to ask questions and express curiosity and creativity 		
<p>Learning Activity</p>	<p>Description</p> <p>Facilitation skills self-assessment</p> <ul style="list-style-type: none"> ● Tell participants that it takes practice to be a good facilitator. The first step is understanding our strengths, and identifying goals for improving our facilitation skills. ● Pass out the Facilitator Self-Assessment Handout, and ask participants to complete the form and reflect on how they can improve their facilitation skills. ● After 5 minutes, provide an opportunity for participants to share their self-reflections as they feel comfortable. ● Provide additional ideas for how to improve facilitation skills. ● Pair participants into groups of two. Provide 1-2 minutes for each pair to identify their most important takeaway from the discussion on adult education and facilitation. ● Ask pairs to share key takeaway to check for evidence of learning. <p>To shorten the Learning Activity: Ask participants to complete the self-assessment on their own as homework after the training.</p>	<p>Time</p> <p>20 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> ● Pens or pencils ● Facilitator Self-Assessment Handout

<p>Trainer's Notes</p>	<p>Tips for improving facilitation skills</p> <ul style="list-style-type: none"> ● Practice and prepare. ● Stay focused on the learning objectives. ● Ask for feedback. ● Reflect on what went well and what you would do differently after each training. ● Hold yourself accountable for improving your skills. ● Remember that things rarely go exactly as planned, and learn from challenges and mistakes. ● Be patient with yourself—with practice and time, your skills will improve.
<p>Evidence of Learning</p>	<p>Participants will be able to explain how adults learn and identify characteristics of an engaging facilitator and learning environment.</p>

Icebreakers and Energizers			
Topic			
Learning Objectives	<ul style="list-style-type: none"> Participants will identify when and how to use icebreakers and energizers. 		
	Description	Time	Materials Needed
Learning Activity	<p>Icebreakers group discussion</p> <ul style="list-style-type: none"> Tell participants that we will be discussing icebreakers and energizers, and share the learning objective. Ask participants to think about the open-ended questions activity they completed at the beginning of this training. Ask participants <ul style="list-style-type: none"> What are some reasons for including an icebreaker at the beginning of a training? Reflecting back on the icebreaker at the beginning of this training, how did it help “break the ice”? Discuss the importance of icebreakers. 	10 minutes	<ul style="list-style-type: none"> Paper Pens and pencils Flipchart Markers
Trainer's Notes	<p>What is an icebreaker? Icebreakers are activities that take place at the beginning of a training to help people feel at ease, usually during a training or group session. Icebreakers</p> <ul style="list-style-type: none"> start the process of building comfort and cohesion among the group, help the group learn more about each other, start to trust each other, and feel comfortable speaking around each other, introduce the training or session in a fun and memorable way, and let participants know from the beginning that they will be actively involved in the training. 		

	<p>Icebreaker guidelines</p> <ul style="list-style-type: none"> ● Plan activities that are quick and easy to complete. ● Choose activities that are interactive. ● Select or modify activities so that everyone can participate regardless of physical ability. ● Identify activities that will be seen as “safe”, and will build trust and comfort among the group. ● Encourage every participant to complete the activity. ● Participate actively and enthusiastically. ● Be observant and flexible during the activity, and adjust as needed. 		
<p>Learning Activity</p>	<p>Description</p> <p>Developing and presenting energizers</p> <ul style="list-style-type: none"> ● Tell participants that energizers are similar to icebreakers, but can take place at any point during the training. Present about energizers. ● Tell participants that they will now practice planning and facilitating an energizer. Ask the participants to form small groups (3-4 participants per group). ● Share the Energizer Guidelines. Their energizer should: <ul style="list-style-type: none"> ○ Be active ○ Engages the entire group ○ Take less than 3 minutes to complete ● Provide 5 minutes for groups to come up with their energizers. Once they are ready, ask each group (or a group representative) to lead their energizer. Provide feedback as needed. ● To check for evidence of learning, ask participants to raise their hands if they agree with the following statements. Provide the correct answer after each statement. <ul style="list-style-type: none"> ○ Icebreakers can take place at any time during the training. <i>Answer: incorrect, they should take place at the start of the training, to help build comfort among the group.</i> 	<p>Time</p> <p>30 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> ● None

	<ul style="list-style-type: none"> ○ Energizers can help bring the group's energy back up after difficult conversations. <i>Answer: correct, energizers can break tension, provide a transition, and help refocus the group.</i> ○ Icebreakers can help participants feel comfortable with speaking in front of each other. <i>Answer: correct, activities should help participants get to know each other and build trust.</i> ○ Energizers must be planned in advance and should not be used spontaneously. <i>Answer: incorrect. Energizers can be added spontaneously to re-engage the group.</i> <p>To shorten the Learning Activity: Have 2-3 groups present their energizers, instead of each group.</p>		
<p>Trainer's Notes</p>	<p>What is an energizer?</p> <ul style="list-style-type: none"> ● Like icebreakers, energizers engage and motivate participants during training sessions. Energizers <ul style="list-style-type: none"> ○ keep the group's energy high, ○ help participants stay focused, and ○ can re-engage the group after a long topic or a break. ● Energizers can either be planned or spontaneous. <ul style="list-style-type: none"> ○ Planned energizers can take place during the training at times when the group's energy will likely be low. This includes after lunch, late in the afternoon, or after presenting long or difficult content. ○ Spontaneous energizers can take place when you notice the group's energy is low. Signs that an energizer would be helpful include: <ul style="list-style-type: none"> ■ Participants are nodding off ■ Participants are distracted, multi-tasking, or not paying attention ■ Participants are not answering questions or engaging in training activities ■ There is tension in the room, such as after discussing difficult or controversial content 		

	<ul style="list-style-type: none"> ● Energizers should: <ul style="list-style-type: none"> ○ Be short, easy to complete, and fun ○ Include physical activity, laughter, and/or problem-solving ○ Engage every participant, including the facilitator ○ Be modified as needed, so every participant can join regardless of physical ability
Evidence of Learning	Participants will be able to develop and lead icebreakers and energizers.

Opening and Closing Lessons			
Topic	Learning Objectives	Description	Time
	<ul style="list-style-type: none"> • Participants will develop engaging introductions for training. • Participants will know how to assess evidence of learning. 		
		<p>Mock introduction activity</p> <ul style="list-style-type: none"> • Tell participants that we will now discuss how to effectively open and close a lesson, and check for evidence of learning. Share the learning objectives. • Ask participants: Besides icebreakers, what are some engaging ways to introduce a training topic? • Discuss the guidelines for introducing a lesson and ideas for opening with a “hook”. • Break the participants up into small groups. • Pass out the Practicing Introductions Activity Sheet, and assign one topic to each group. • Ask each group to develop a short (2-3 minute) introduction to their topic. Let them know that they will present their introductions to the entire group. • After 10 minutes, have each group present their introductions. Provide feedback as needed. <p>To shorten the Learning Activity: Ask 2-3 groups to share their introductions, instead of asking every group to present.</p>	<p>30 minutes</p> <ul style="list-style-type: none"> • Practicing Introductions Activity Sheet • Paper • Pens and pencils

<p>Trainer's Notes</p>	<p>Guidelines for introducing the lesson</p> <ul style="list-style-type: none"> ● While icebreakers help to set the tone and build comfort among the group, it is also important to plan an introduction for the training, and each topic within the training. ● A good introduction sets participants' expectation for what they will learn, helps transition into the topic, and increases interest in the topic. ● An introduction should: <ul style="list-style-type: none"> ○ Be included at the start of the training, and when transitioning to each new topic. ○ Identify the topic and learning objectives. The learning objectives describe the intended learning outcomes, and the knowledge or skills that participants will gain as a result of the training. ○ Ask participants what they already know about the topic. ○ Include a "hook", when appropriate. <p>Using a "hook"</p> <p>A "hook" is something that catches participants' attention, and sparks curiosity. It can help participants understand why the topic is important or relevant. The "hook" should be related to the training topic, and introduce the content that comes next. Examples of a "hook" include:</p> <ul style="list-style-type: none"> ● Open-ended question ● Stories or anecdotes ● Surprising statistics ● Short, relevant videos or pieces of music ● Photos or graphics 		
<p>Learning Activity</p>	<p>Description</p> <p>Evidence of learning brainstorm</p> <ul style="list-style-type: none"> ● Tell participants that just like introductions, it is important to plan how you will close each topic and the training. Ask participants: What should you include in your closings? ● Tell participants that one of the most important parts of concluding a lesson is checking for evidence of learning. Present 	<p>Time</p> <p>30 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> ● Notepads ● Pens or pencils ● Flipchart ● Markers

	<p>on what it means to check for evidence of learning, and why it is important.</p> <ul style="list-style-type: none"> ● Ask participants to join the same groups they were in during the Mock Introduction activity. Give the groups 5 minutes to discuss how they would check for evidence of learning for their assigned topic. ● Ask several groups to share and provide feedback and additional ideas as needed. 		
<p>Trainer's Notes</p>	<p>Closing a lesson Like the introduction, you should prepare a closing for each topic and at the end of the training that provides a summary, connects back to learning goals, and transitions to the next lesson or real-life application. During your closing, you should:</p> <ul style="list-style-type: none"> ● Summarize the main points of the training clearly ● Refer back to the learning objectives ● Ask participants for any final comments or questions ● Allow time for participants to reflect, think, and speak ● Highlight ways the participants can put their learning into practice in their own lives ● Provide a transition to the next session <p>Checking for evidence of learning</p> <ul style="list-style-type: none"> ● As training content typically builds in complexity, it is important to identify when participants are struggling to understand and grasp new knowledge and skills. Before transitioning to new content or concluding a lesson, check that participants understood and absorbed the lesson's key messages. ● All training discussions and activities provide an opportunity to assess participants' learning. <ul style="list-style-type: none"> ○ During discussions, ask open-ended questions and listen for participants' level of understanding, or need for clarification. ○ Training activities provide participants with an opportunity to apply the content in the lesson. During these activities, observe participants' understanding of the lesson's content and ability to accurately apply it to the assigned activity. 		

- Evidence of learning activities can also be integrated into your conclusions as a more robust knowledge check before moving onto new content. This allows you to address areas of confusion, spend additional time on complex topics when needed, and improve knowledge retention before moving onto new content.
- Do not wait until the end of training to check for evidence of learning, as you will have limited opportunities for addressing unmet learning goals.

Examples of evidence of learning activities

- Short quizzes, completed individually or as a group
- Memory or trivia games using lesson content
- Topical Posters: groups develop a poster about one assigned topic from the lesson on a piece of flip chart paper
- 3-2-1 activity: participants identify 3 things they learned, 2 things they want to learn more about, and 1 question they still have
- Questions in a basket: have participants choose questions about the lesson from a basket, and answer the question aloud
- Paired reflection: provide guiding questions for participants to talk about in pairs
- Best list: groups are assigned a topic and given several minutes to write everything they remember about the topic on a piece of flip chart paper
- Group summaries: small groups develop a 2-3-minute summary about one assigned topic from the lesson, and then share the summary with the entire group

Evidence of Learning

Participants will be able to introduce and conclude topics in an engaging way that supports participants' learning.

Topic		The Logistics of Training		
Learning Objectives	<ul style="list-style-type: none"> Participants will describe how to prepare for training facilitation. 			
Learning Activity	Description	Time	Materials Needed	
	<p>Training Preparation Post-it Activity</p> <ul style="list-style-type: none"> Introduce the topic by reminding participants that it is important for a facilitator to be organized and prepared. Training delivery starts with planning. Share the topic's learning objective. Give each participant 5 Post-it notes. Tell participants to imagine that they will be delivering a training next month. Ask participants to write down five tasks involved in preparing for their training, one task per Post-it. As participants finish, have them place their Post-it notes on a blank flip chart. Review the participants' answers with the group, and place the Post-it notes in categories (e.g., supplies, technology, content). Label the categories. Facilitate a discussion about preparing for training, and how to stay organized. <p>To shorten the Learning Activity: Provide the <i>handout</i>, and remove this learning activity and topic from the training.</p>	25 minutes	<ul style="list-style-type: none"> Flip chart Post-it notes Pens or pencils Markers Sample Pre-Training Check List 	

Tips for preparing for a training

- Prepare yourself to deliver training content
 - Review and practice delivering training content. Practice using the PowerPoint slides and/or printed materials you will use during training.
 - Consider modifications you can make to the training if you run into a challenge.
 - Practice your introductions, closings, giving instructions for activities, and transitions between topics.
 - Review key terms and challenging technical content, and practice simple ways to explain complex concepts.
 - Become familiar with the training agenda, and timing for training activities.
- Prepare your training materials
 - Check to be sure you have the supplies and printed materials you need for training activities.
 - Download any files you will use for training, and prepare a backup on a memory stick or removable hard drive.
 - Collect the standard list of materials needed for all trainings: name tags or paper to make name tents, pens, markers, flip chart, sign-in sheet, and training evaluations.
 - If using technology, ensure that you will have access to a projector and laptop, and all necessary cords. Charge all devices the night before the training.
- Review training logistics
 - Confirm details about room set up and technology with the training venue and/or coordinator a few days in advance.
 - Become familiar with the list of training participants and their roles/professional backgrounds.
 - Decide on your room set up in advance, and arrive early to set up the room.
 - Think about the training activities and choose a set up that will allow participant to easily participate in group activities.
 - Make sure everything is easily accessible for you and the training participants, including food/drink, your training materials, the projector, computer for advancing slides (if using), and supplies for training activities.

Trainer's Notes

	<ul style="list-style-type: none"> ● Prepare yourself <ul style="list-style-type: none"> ○ Get enough rest, eat healthy, and stay hydrated on training day. ○ Use techniques to stay calm and focused, and lower your stress (e.g., meditation, prayer, walking, stretching, deep breathing). ○ Visualize yourself doing well, and use self-affirmations. <p>Staying organized</p> <ul style="list-style-type: none"> ● Develop and use a checklist to prepare for training. ● Organize materials and supplies by lesson in the order you will use them. ● Prepare an agenda with estimated times for each topic and activity. Use this agenda to stay on track. ● Refer back to your curriculum or lesson plan as needed.
Evidence of Learning	Participants will understand how to prepare for training facilitation.

Preparing for Common Training Challenges			
Topic	Learning Objectives	Description	Time
	<ul style="list-style-type: none"> Participants will be prepared to manage common training challenges. 		
	<p>Managing challenging participants: Discussion and role play</p> <ul style="list-style-type: none"> Ask participants: <ul style="list-style-type: none"> What challenging behaviors have you noticed during training, or experienced as a trainer? What strategies have you seen or used that work well for managing difficult participants? Divide participants into groups of 3 to 5 participants. Pass out the Challenging Participant Role Play activity sheet, and assign each group to role play one scenario. <ul style="list-style-type: none"> Groups should identify one person to act as the facilitator and one person to act as the challenging participant. Groups should prepare a short skit (3-5 minutes) that shows both the challenging behavior and how the facilitator would handle that behavior. Provide each group 10-15 minutes to prepare. Once groups are ready, have each group present their skit. After each presentation, ask the other participants the following questions: 	<ul style="list-style-type: none"> 10 minutes without activity 60 minutes with optional activity 	<ul style="list-style-type: none"> Flip chart Markers Challenging Participant Role Play Activity Sheet

	<ul style="list-style-type: none"> ■ What was the challenging behavior? ■ What did the facilitator do that worked well to manage the behavior? ■ What could the facilitator have done differently to better manage the behavior? <ul style="list-style-type: none"> ● Facilitate a discussion about the guidelines for managing difficult participants. <p>To shorten the Learning Activity: Do not complete the role play activity.</p>		
<p>Trainer's Notes</p>	<p>Common challenging behaviors</p> <ul style="list-style-type: none"> ● Silent participants ● Dominant participants ● Know-it-alls: participant that challenges the facilitator as the expert ● Complainers ● Distracting or disruptive participants ● Ramblers: participants that answer a question with very long, unfocused, and/or off-topic answers <p>Guidelines for managing challenging behaviors</p> <ol style="list-style-type: none"> 1. <i>Step back:</i> <ul style="list-style-type: none"> ● Pause and take a breath. ● Do not take the behavior personally. ● Remember that your role as a facilitator is to create an environment of acceptance and respect, that allows all participants to learn. 2. <i>Identify:</i> <ul style="list-style-type: none"> ● What is the specific behavior you are seeing? ● Is the person being intentionally disruptive, or simply having a difficult time understanding? ● Is the person's behavior (e.g., rambling or being a dominant talker) due to their learning style? 		

	<p>3. <i>Evaluate:</i></p> <ul style="list-style-type: none"> ● Determine if the behavior is disruptive to the group, or just annoying to you personally. ● Consider if the behavior matters to the group's learning, and if it is likely to continue. Evaluate if the behavior is intentionally disrespectful to you or others. ● Try to understand the cause of the behavior before addressing it. <p>4. <i>Decide:</i></p> <ul style="list-style-type: none"> ● Determine if the person will self-correct their behavior (e.g., it is caused by nervousness), if you need to address it directly, or if it will be corrected by the group. ● If you need to address it, decided what your best approach is. It is always best to start with the mildest strategy first, such as using humor or making a simple request. ● If the behavior continues and is having a negative impact on the group, apply a higher-level intervention, such as having a private meeting with the person, asking the group to weigh in on how they are feeling, or stopping the session to refer to classroom norms. 		
<p>Learning Activity</p>	<p>Description</p> <p>Common challenges scenarios</p> <ul style="list-style-type: none"> ● Tell the group that in addition to challenging behaviors, it is common to experience other challenges while training. Rarely will things go exactly as planned, but with advanced preparation, we can be ready if and when they occur. ● Ask the group: <ul style="list-style-type: none"> ○ What challenges have you experienced as a trainer or facilitator? Or, ○ What challenges have you observed during a training? ● Write participants' answers on the flip chart. If participants struggle to come up with answers, provide some examples. ● Divide participants into five groups. ● 	<p>Time</p> <p>30 minutes</p>	<p>Materials Needed</p> <ul style="list-style-type: none"> ● Flip chart ● Markers ● Common Challenges Activity Sheet ● PowerPoint

	<ul style="list-style-type: none"> ● Pass out one challenge from the Common Challenges Activity Sheet to each group. Ask the group to work together to come up with a list of possible solutions. ● Ask each group to present their challenge and solutions. Ask for feedback and additional ideas from other groups. ● Share any additional tips for preparing for common challenges. If the group identified any challenges not covered in the activity, brainstorm solutions together. ● Ask each participant to jot down one thing they will do differently to prepare for challenges as a result of this lesson. ● Ask a few participants to share their responses with the group to check for evidence of learning. <p>To shorten the Learning Activity: <i>Instead of small group work, reach each challenge to the entire group. Lead a large group discussion about how to prepare for and address the challenge.</i></p>		
<p>Trainer's Notes</p>	<p>Common challenges</p> <ul style="list-style-type: none"> ● Training takes longer than expected ● Conversation goes off-topic, or gets “stuck” on a topic ● Participants are not engaged ● There are fewer, or more, participants than originally planned ● Technology does not work <p>Tips for preparing for common challenges While experiencing challenges is inevitable, there are steps we can take to prepare for the most common ones.</p> <p><i>Training runs too long</i></p> <ul style="list-style-type: none"> ● Identify the most important information and activities to meet the learning objectives in advance. ● Think about options for how to shorten activities or discussions. 		

- Plan an agenda to keep you on track within your allotted time. Bring a watch or clock to the training so you can keep track of the time.
- Determine if there are options to provide follow-up training or to share resources after the training.

Off-topic conversations

- Use a “parking lot”. At the beginning of the training, write “Parking Lot” on a piece of flipchart paper. Tell participants that the “parking lot” will be a place to collect off-topic questions or comments to revisit at the end of the training if time allows.
- Practice phrases to gently but assertively steer the conversation back on track. Some examples are:
 - That’s a really interesting point. Let’s continue talking about our main topic, and then revisit your comment if time allows.
 - I appreciate that you brought up this point. However, we need to stay on topic so we can cover everything in this lesson.
 - I’m glad you brought that up. We’ll be talking about something similar in the next lesson, so let’s pause this conversation and revisit it then.

Participants are not engaged

- Remember to use icebreakers and energizers.
- Build in periodic breaks, and communicate the break schedule to participants. Encourage participants to take care of personal business during the breaks.
- If the behavior is impacting the group’s ability to learn, use the method for addressing challenging behaviors: step back, identify, evaluate, and decide.

Participant attendance changes

- Think about possible modifications for activities if you have fewer, or more, participants than planned.
- Prepare several extra sets of materials, or be prepared to make copies or share materials over email.
- Check in frequently with the training logistics coordinator to verify training registration. Clearly communicate any requirements you have about participation (e.g., no more than 15 participants).

Technology challenges

- Do not rely on PowerPoint as your only training tool. PowerPoint should supplement your lessons and act as a visual aid, rather than conveying all important information.

	<ul style="list-style-type: none"> ● Identify any activities that rely on visual aids, and prepare backup plans. Print any images that are necessary for the lesson, and download any videos. ● Provide participants with PowerPoint handouts to follow along if you are unable to project the slides. ● Back up your training materials on a memory stick. ● Confirm the availability of technology at the training site in advance. ● If your training relies on wireless internet, consider bringing a wireless hotspot.
Evidence of Learning	Participants will be able to prepare for and address challenges during training.

Putting it all Together: Mock Training			
Topic	Putting it all Together: Mock Training		
Learning Objectives	<ul style="list-style-type: none"> Participants will apply adult learning and facilitation best practices during a mock training. 		
Learning Activity	Description	Time	Materials Needed
	<p>Giving and receiving feedback discussion</p> <ul style="list-style-type: none"> Tell participants that before they begin mock trainings, we will discuss methods for giving and receiving feedback. Ask participants to silently reflect and write notes on: <ul style="list-style-type: none"> How do you prefer to receive feedback? What have been your most positive experiences receiving feedback? What made them positive? Ask each participant to share their answers. Note how each participant prefers to receive feedback, so their preferences can be honored during the mock training feedback sessions. Pass out the Mock Training Peer Feedback Form and Trainer Self-Assessment Form. Provide instructions for completing these forms during the Mock Training and guidelines for providing feedback. 	15 minutes	<ul style="list-style-type: none"> Paper Pens/pencils Mock Training Peer Feedback Form Mock Training Self-Assessment Form

<p>Trainer's Notes</p>	<p>Tips for giving feedback</p> <ul style="list-style-type: none"> ● Many people believe that pointing out mistakes will eliminate future failures and improve performance. However, studies show that the opposite is true, especially when learning new tasks. ● When giving feedback, <ul style="list-style-type: none"> ○ Provide feedback that is correct, appropriate, and complete ○ Ask the person receiving feedback to give their own impressions about their performance first ○ Discuss each positive point of your feedback ○ Encourage the participant on things they did well ○ Use positive body language ○ Do not use mixed comments that are partly positive and partly negative (e.g., you spoke clearly, but I could not hear you) ● When providing negative feedback, <ul style="list-style-type: none"> ○ Include at least three positive comments for each area of improvement ○ Provide examples to explain any areas of improvement ○ Help the person receiving feedback to find solutions, when possible 						
<p>Learning Activity</p>	<table border="1"> <thead> <tr> <th data-bbox="863 869 916 1691">Description</th> <th data-bbox="863 680 916 869">Time</th> <th data-bbox="863 304 916 680">Materials Needed</th> </tr> </thead> <tbody> <tr> <td data-bbox="916 869 1372 1691"> <p>Mock training</p> <ul style="list-style-type: none"> ● Tell participants that they will now have a chance to practice applying the lessons in this training. Share the learning objective. ● Assign each training participant one training topic from the Curriculum for Mock Training to present. Pass out the Mock Training Preparation Worksheet. ● Provide instructions for the mock trainings. <ul style="list-style-type: none"> ○ Each participant will present 20 minutes of curriculum to the entire group. ○ Participant should incorporate the key elements of training into their presentation: </td> <td data-bbox="916 680 1372 869"> <p>45-90 minutes to prepare</p> <p>30 minutes for each mock training and reflection</p> <p>20 minutes for post-</p> </td> <td data-bbox="916 304 1372 680"> <ul style="list-style-type: none"> ● Curriculum for Mock Training ● Mock Training Preparation Worksheet ● Mock Training Peer Feedback Form (one per participant, per presentation) ● Trainer Self-Assessment Form (one per participant) ● Pens or pencils </td> </tr> </tbody> </table>	Description	Time	Materials Needed	<p>Mock training</p> <ul style="list-style-type: none"> ● Tell participants that they will now have a chance to practice applying the lessons in this training. Share the learning objective. ● Assign each training participant one training topic from the Curriculum for Mock Training to present. Pass out the Mock Training Preparation Worksheet. ● Provide instructions for the mock trainings. <ul style="list-style-type: none"> ○ Each participant will present 20 minutes of curriculum to the entire group. ○ Participant should incorporate the key elements of training into their presentation: 	<p>45-90 minutes to prepare</p> <p>30 minutes for each mock training and reflection</p> <p>20 minutes for post-</p>	<ul style="list-style-type: none"> ● Curriculum for Mock Training ● Mock Training Preparation Worksheet ● Mock Training Peer Feedback Form (one per participant, per presentation) ● Trainer Self-Assessment Form (one per participant) ● Pens or pencils
Description	Time	Materials Needed					
<p>Mock training</p> <ul style="list-style-type: none"> ● Tell participants that they will now have a chance to practice applying the lessons in this training. Share the learning objective. ● Assign each training participant one training topic from the Curriculum for Mock Training to present. Pass out the Mock Training Preparation Worksheet. ● Provide instructions for the mock trainings. <ul style="list-style-type: none"> ○ Each participant will present 20 minutes of curriculum to the entire group. ○ Participant should incorporate the key elements of training into their presentation: 	<p>45-90 minutes to prepare</p> <p>30 minutes for each mock training and reflection</p> <p>20 minutes for post-</p>	<ul style="list-style-type: none"> ● Curriculum for Mock Training ● Mock Training Preparation Worksheet ● Mock Training Peer Feedback Form (one per participant, per presentation) ● Trainer Self-Assessment Form (one per participant) ● Pens or pencils 					

	<ul style="list-style-type: none"> ■ Skills of an engaging facilitator ■ Introductions and conclusions ■ An activity to check for evidence of learning ○ The entire group will complete a training evaluation for each presentation, and the participant will complete a self-assessment. ○ The Facilitator of the mock training will lead a short feedback session after each participant's training. ● Allow participants to work independently to prepare for their mock training. Provide at least 45 minutes for participants to prepare. Answer questions and provide support as needed. ● After 45 minutes, begin the mock trainings. <ul style="list-style-type: none"> ○ Provide the assigned amount of time to each participant to present their mock training. ○ After each presentation, ask the group to spend 5 minutes writing their feedback on the Mock Training Peer Feedback Form. ○ Ask the participant who presented to share their overall reflection of their training. After they share, ask a few other participants to share what the trainer did well. ○ Provide your feedback. Collect the Mock Training Peer Feedback Forms, and give these to the participant. ○ Continue this process for every participant. ● After every participant has presented, ask the group <ul style="list-style-type: none"> ○ What was the mock training experience like for you? ○ What did you learn from presenting a mock training? ○ How did you incorporate what you've learned during this training into your mock training? ● Ask participants to complete the Next Steps worksheet. ● Ask participants to share their next steps with the group, and reflect on their key takeaways from the training. 	<p>training reflection</p>	<ul style="list-style-type: none"> ● Supplies needed for each mock training ● Next Steps Worksheet
--	---	----------------------------	--

	<p>To shorten the Learning Activities:</p> <ul style="list-style-type: none"> • <i>Assign curriculum in advance of the training, and request that participants prepare for training delivery outside of the classroom (e.g., the evening before training).</i> • <i>Shorten mock trainings to 10-20 minutes per presentation, or have participants provide training in small groups. Keep track of time for each presentation, and do not allow mock trainings to go beyond the assigned time.</i> • <i>Ask the group to think about the post-training discussion questions as they fill out the Next Steps worksheet, instead of leading a group discussion on these questions.</i> 		
<p>Trainer's Notes</p>	<p>Trainer's options for leading mock training</p> <ul style="list-style-type: none"> • Curriculum assignments and providing time to prepare <ul style="list-style-type: none"> ○ Participants should practice training delivery with curriculum they will later present as part of their role as a trainer. While the Curriculum for Mock Training is provided for this activity, any set of curricula can be used for the mock training. ○ Assign participants content that they are already familiar with, if possible. ○ Assign training topics to participants the night before they will present their mock trainings, if possible. This will give them a chance to more thoroughly prepare for training delivery. ○ If it is not possible to assign topics in advance, allow at least 45 minutes, or up to 90 minutes, to prepare. • Length of training <ul style="list-style-type: none"> ○ Participants should present at least 20 minutes of content, as this will give them a chance to both present content and lead an activity, as well as incorporate an introduction, conclusion, and evidence of learning activity. If time allows, participants can present a longer (30-60 minute) mock training. • Individual versus group presentations <ul style="list-style-type: none"> ○ If the group is large and time does not allow for each participant to present a mock training, participants can be divided into small groups for the mock trainings. Ensure that each participant has a speaking role and a chance to practice facilitation skills. ○ Ideally, participants should present their mock training in the same way they will present training in their community (i.e., individually, with a co-trainer, or in a group). 		

	<ul style="list-style-type: none"> ● Materials and supplies <ul style="list-style-type: none"> ○ Determine and prepare in advance the supplies and printed materials that each participant will need to complete their mock training. Ask participants to submit a short list of materials and supplies to you, and provide what is requested. <p>Where to go from here – Ideas for growth</p> <ul style="list-style-type: none"> ● Seek out additional training opportunities. Find opportunities in your community, or through online learning, to continue exploring training facilitation skills. ● Practice, practice, practice! Identify opportunities to put your new skills into action. This could include opportunities to provide training, practice your public speaking or facilitate group discussions. ● Ask for feedback. Use training evaluation forms to learn about ways you can improve. When appropriate, ask a colleague to sit in on your training to provide additional feedback. Or, organize another mock training. ● Incorporate self-reflection into your training process. Learning about your strengths and identifying what you can do differently will help you grow as a trainer.
Evidence of Learning	Participants will be able to apply adult education and facilitation best practices in the classroom.

TRAINING ACTIVITIES

INFANT FEEDING CUES

Early Cues: "I'm hungry"

Stirring

Mouth opening

Turning head
Seeking/rooting

Mid Cues: "I'm really hungry"

Stretching

Increasing movement

Hand to mouth

Late Cues: “Calm me, then feed me”

Crying

Lots of movement

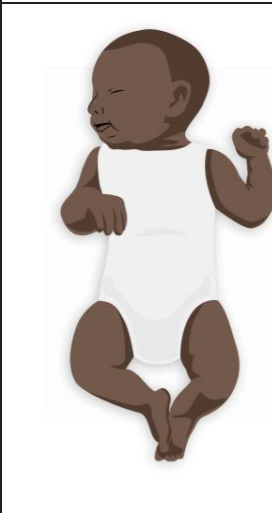
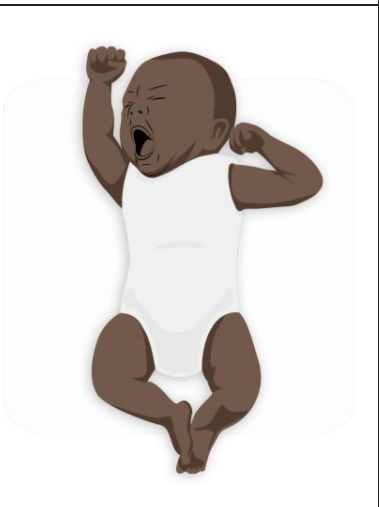
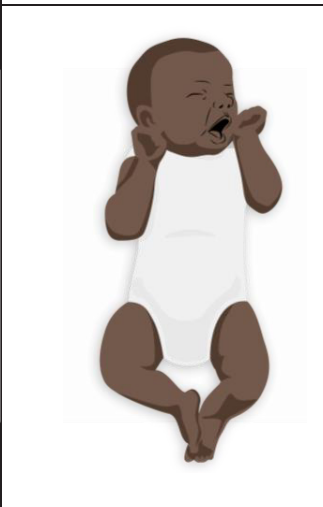
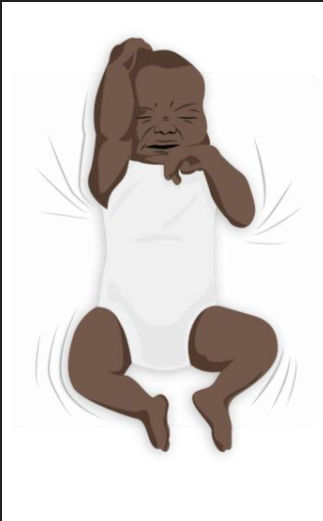
Color turning red

Post-Feeding Cues: “I’m Done”

Infant opens fists

Arms lie low
across body

Falls asleep
with body relaxed



Breastfeeding		Expressed breast milk
Commercial infant formula		Pasteurized cow's milk + oil, sugar, water, AND a multivitamin/mineral mix
Pasteurized cow's milk + oil, sugar, and water		Pasteurized cow's milk + oil, sugar, and water

Activity Sheet: Key provisions and recommendations in the Code

Instructions to the trainer

Divide participants in 4 groups and assign a stakeholder role to each group:

1) Manufacturers/Distributors/Marketing personnel 2) Governments 3) Health care facilities 4) Health care workers.

Print one activity sheet per group of participants. For each sheet, cut out rows before giving them to a group.

Let each group identify the responsibilities of the stakeholder you asked them to represent.

● The supply of BMS should be continued for as long as the infant concerned needs it (at least 6 months of age) (1994 resolution: *WHA 47.50*)

● There should be no direct or indirect gifts or free samples to pregnant women, mothers, their families, and health workers (*Articles 5.2 and 5.4*)

● Only health workers – or other community workers if necessary – should demonstrate feeding with BMS and demonstrations should be done only to the mothers or family members who need to use it (*Article 6.5*)

● BMS for infants who require them should be made available through the normal procurement process and not through free or subsidized supplies (*1886 resolution: WHA 39.28*)



● Labels should state the superiority of breastfeeding and warn that products should be used according to the instructions and following the advice of a health worker regarding the need for its use and the method of use (*Article 9.2*)

<ul style="list-style-type: none">● Governments have the responsibility to ensure that the information on infant and young child feeding used by families and those involved in the field of infant and young child nutrition is objective and consistent (<i>Article 4.1</i>)
<ul style="list-style-type: none">● Messages on labels should be easily readable and understandable and in an appropriate language (<i>Article 9.2</i>)
<ul style="list-style-type: none">● Manufacturers should only provide scientific and fact-based information to health workers and never seek contact with mothers (<i>Article 7.2</i>)
<ul style="list-style-type: none">● Health workers should not give samples (i.e. small quantities of a product at no cost) of infant formula to pregnant women, mothers of infants and young children, or members of their families (<i>Article 7.7</i>)
<ul style="list-style-type: none">● There should be no free or subsidized supplies of BMS and other products covered by the Code in any part of the health care system (<i>1994 resolution: WHA 47.50</i>)
<ul style="list-style-type: none">● No advertising of BMS and other products covered by the Code to the general public is permitted (<i>Article 5.1</i>)

EATER

Fold here



AGGRESSIVE



EATER

Fold here



DISMISSIVE



EATER

Fold here



SLEEPY



EATER

Fold here



STRESSED



EATER

Fold here



AGGRESSIVE



FEEDER

Fold here



AGGRESSIVE



FEEDER

Fold here



DISMISSIVE



FEEDER

Fold here



STRESSED



FEEDER

Fold here


AGGRESSIVE



FEEDER

Fold here

STRESSED



FOOD TEXTURES AND READINESS

 <p>Sitter</p>	 <p>Crawler</p>	 <p>Walker</p>
 <p>Purée</p>	 <p>Mashed</p>	 <p>Diced</p>

Your child can eat any of these foods in the appropriate texture.

[Blank box for Grains]

Grains

[Blank box for Fruits]

Fruits

[Blank box for Vegetables]

Vegetables

[Blank box for Dairy]

Dairy

[Blank box for Meat]

Meat

[Blank box for Legumes & Pulse]

Legumes & Pulse

**Cereals and
Grains**

**Roots and
Tubers**

**Animal Protein
Foods**

**Légumes and
Pulses**

Dairy

Oils and Fats

Vegetables

Fruits

Sugars



Growth Assessment Steps

Cut along the dotted lines and fold where indicated

Weigh and measure children

This step includes measuring weight, length or height, head circumference, and mid-upper arm circumference (MUAC). Taking accurate measurements is critical. Consider the child's age and physical ability (for instance, ability to stand or fully stretch legs) when selecting which measurements to conduct.

Fold here

Compare measurements to standards

Standards like the WHO growth charts allow comparison to growth patterns of children living under optimal conditions. To assess if a child is growing well, it is essential to plot a series of measurements on a growth chart. WHO growth charts can be used for all children, including those with special health care needs.

Fold here

Design a care plan

This step involves designing culturally- and context-appropriate care plans to meet the needs of the child and address growth problems identified in Step 2. Care plans may include dietary modifications, supplementation, changes to feeding practices, referrals to a health clinic, and follow-up.

Fold here

Counsel the caregiver

This step involves counseling caregivers on the child's growth and care plan using clear language. Build on their existing knowledge and listen carefully to their concerns. Confirm their understanding of the care plan and ability to make changes; provide follow-up information.






Fold here







Follow-up

This step involves repeating steps 1 to 4 at follow-up visits. It allows us to determine if the child is growing well and responding to interventions, and to adapt the care plan accordingly. It also provides opportunities to reinforce nutrition and feeding best practices.

Fold here

“Can you spot the errors?” Answer Key

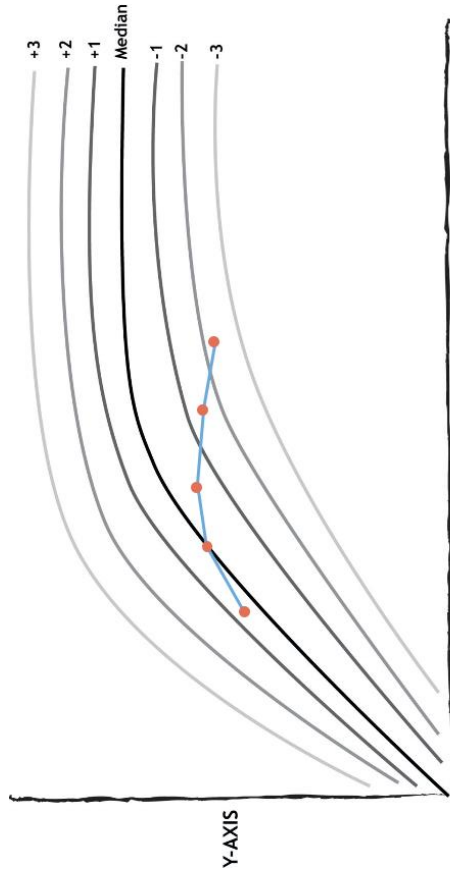
	Done correctly	Done incorrectly
	<ul style="list-style-type: none"> • Proper equipment • Use of disposable mat 	<ul style="list-style-type: none"> • Child wearing heavy clothing • Child holding a book
	<ul style="list-style-type: none"> • Proper equipment • Infant wearing only a diaper • Use of disposable mat 	<ul style="list-style-type: none"> • Measurer’s hand on infant • Infant’s foot touching wall
	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Infant not centered and straight on the length mat • Measurer holding pen too close to eye
	<ul style="list-style-type: none"> • Straight legs 	<ul style="list-style-type: none"> • Infant wearing socks • Infant’s body not straight • Assistant not positioned behind the child’s head
	<ul style="list-style-type: none"> • Right foot flat and positioned well against the board 	<ul style="list-style-type: none"> • One foot used instead of both feet

	<ul style="list-style-type: none"> • Good head position 	<ul style="list-style-type: none"> • Foot deformity • Child with socks on
	<ul style="list-style-type: none"> • Correct type of measuring tape 	<ul style="list-style-type: none"> • Tape wraps over ears • Tape too loose • Tape does not go over the bump on the back of the head
	<ul style="list-style-type: none"> • Correct type of measuring tape 	<ul style="list-style-type: none"> • Tape too loose • Child's arm bent • Incorrect position of tape (too low)
	<ul style="list-style-type: none"> • Correct type of measuring tape • Correct tape position 	<ul style="list-style-type: none"> • Tape too tight • Child's arm bent
	<ul style="list-style-type: none"> • Correct equipment used 	<ul style="list-style-type: none"> • Child's feet are not against the wall • Child is wearing shoes • Child is wearing a hat • The measurer's position is not to the side where the board numbers are
	<ul style="list-style-type: none"> • Good head position 	<ul style="list-style-type: none"> • Child unable to stand straight due to leg deformity • Child with socks on

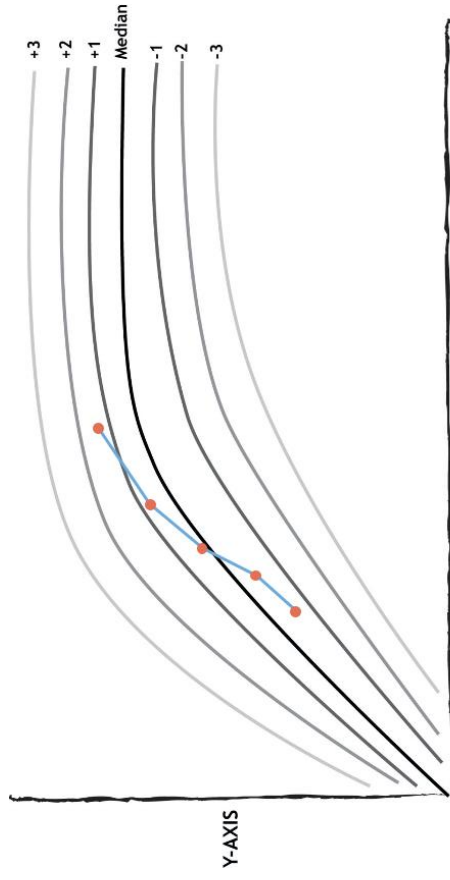
Growth Points and Patterns Matching Cards

Cut along the dotted lines. Shuffle cards and pack in one set.

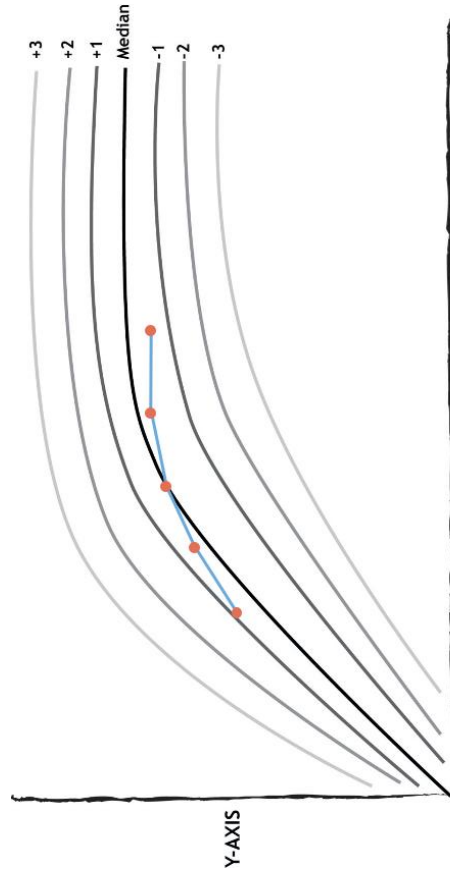
1



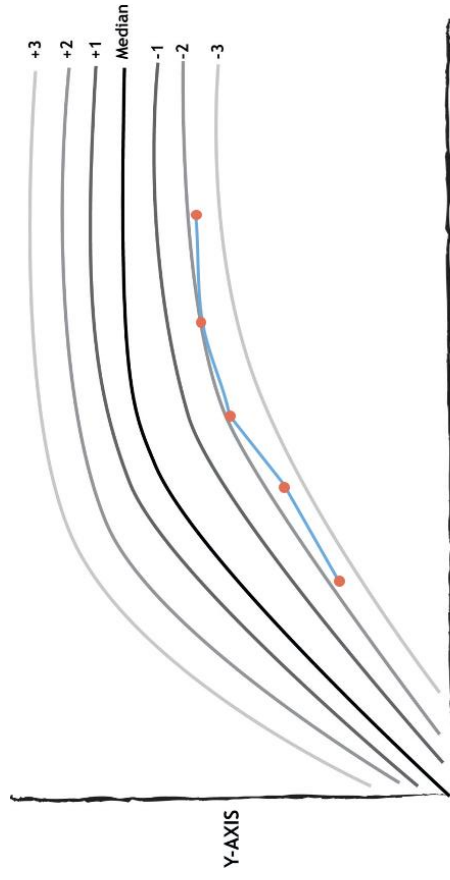
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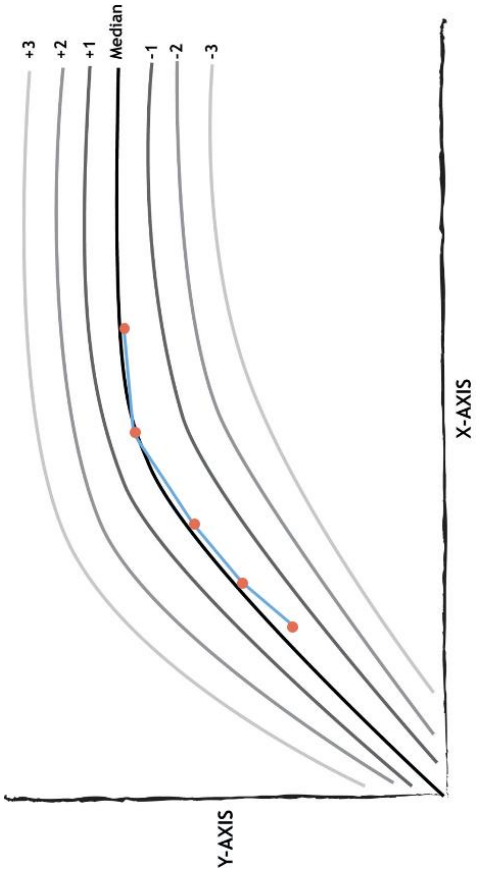
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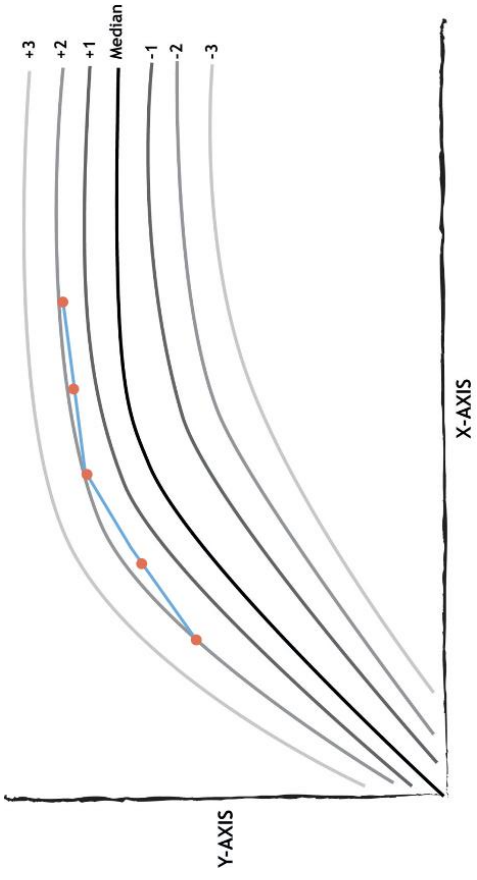
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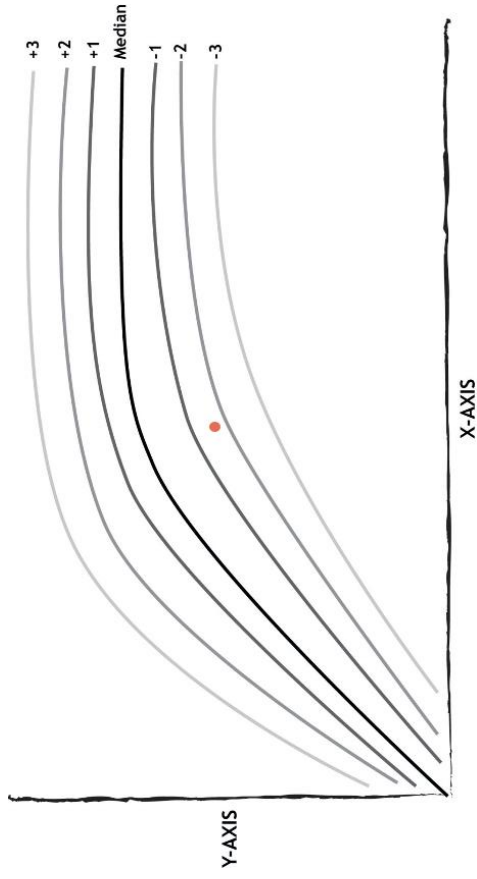
5



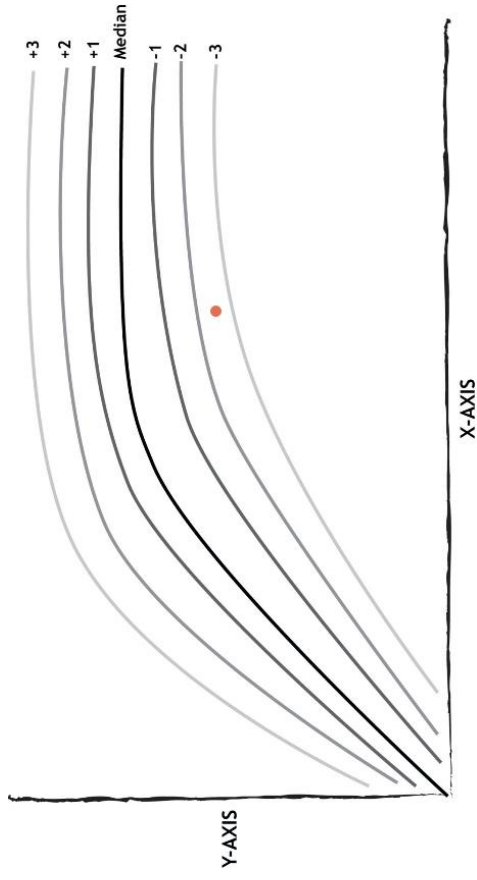
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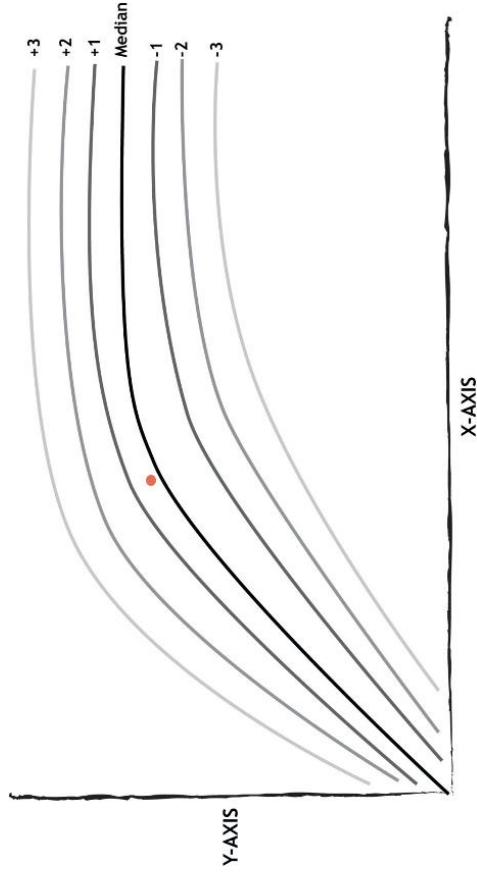
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8



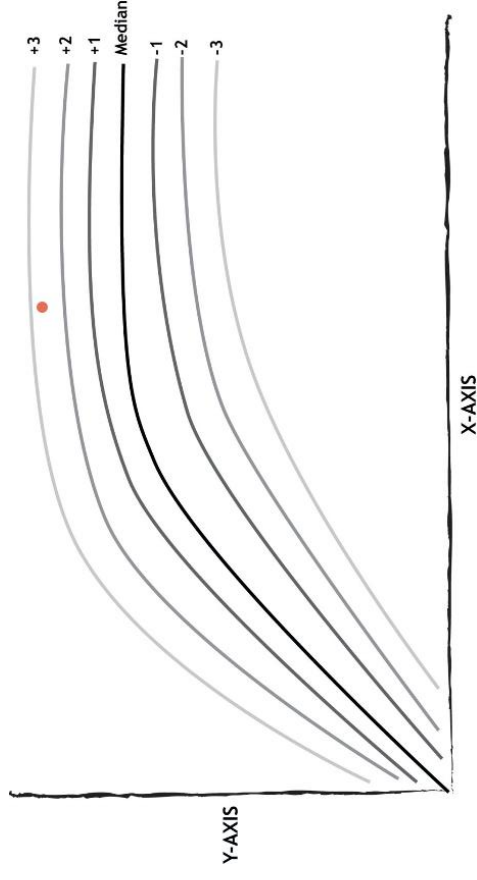
9



A

The child is growing at a faster rate than what is expected for age and sex. This may indicate catch-up growth. It is concerning, however, when it applies to head circumference.

10



B

The child is losing weight. This generally takes place due to a severe bout of illness or undernourishment. This growth pattern is always concerning.

C

The child is not growing or is growing at a slower rate than what is expected for age and sex. This growth pattern is generally concerning.

D

The child's growth line is tracking above the median. Even though the growth line is around the +2 z-score, the child is growing consistently at an expected rate for age and sex. This can be concerning if other risk factors are present.

E

The child's growth line is tracking below the median. Even though the growth line is slightly below the -2 z-score line, the child is growing consistently at an expected rate for age and sex. This can be concerning if other risk factors are present.

F

The child's growth line is within the normal z-score range. The child is growing at an expected rate for age and sex. This indicates no concern.

G

The child's growth point is above the +2 z-score line. This indicates a possible growth concern and requires attention.

H

The child's growth point is below the -2 z-score line. This indicates a possible growth concern and requires attention.

I

The child's growth point is close to the median, indicating no concern.

J

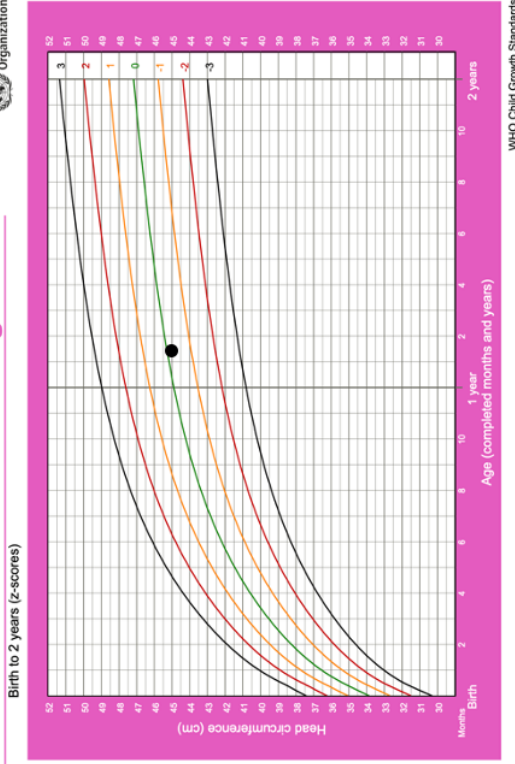
The child's growth point is below the median but is considered to be in the normal range. This can be concerning if other risk factors are present.

Interpreting Growth Scenarios Answer Key

Answers are indicated by greyed out boxes.

Scenario 1

Head circumference-for-age GIRLS



Sex: Boy Girl

Age: Older than 1 year Younger than 1 year

The growth point indicates _____.

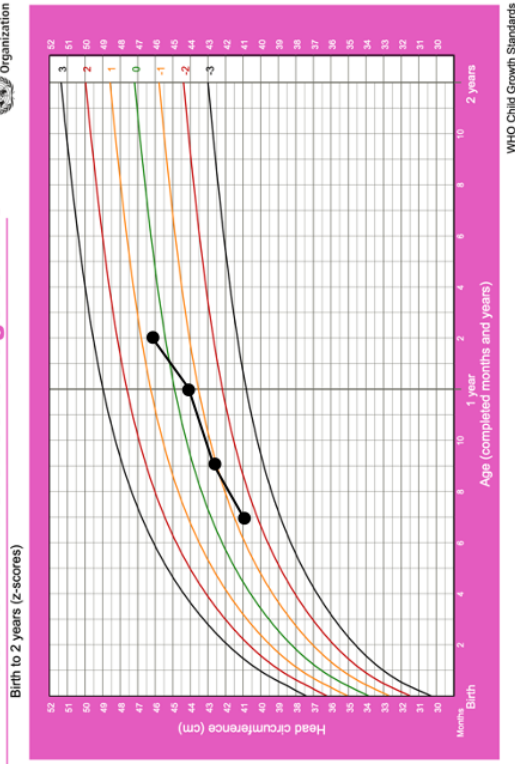
- microcephaly
- hydrocephaly
- a head circumference normal for age
- a head growing at a normal rate

Do we need to measure the head circumference on the next visit?

- No, because we did not identify any concerns
- Yes, because we need to establish a growth pattern

Scenario 2

Head circumference-for-age GIRLS



Sex: Boy Girl

Age: Younger than 2 years Older than 2 years

The growth chart shows head circumference measurements for ____ visits.

- 3
- 4
- 5
- 6

Based on the last visit, you notice that the head size has experienced a ____.

- normal growth
- sharp incline
- sharp decline
- flat growth

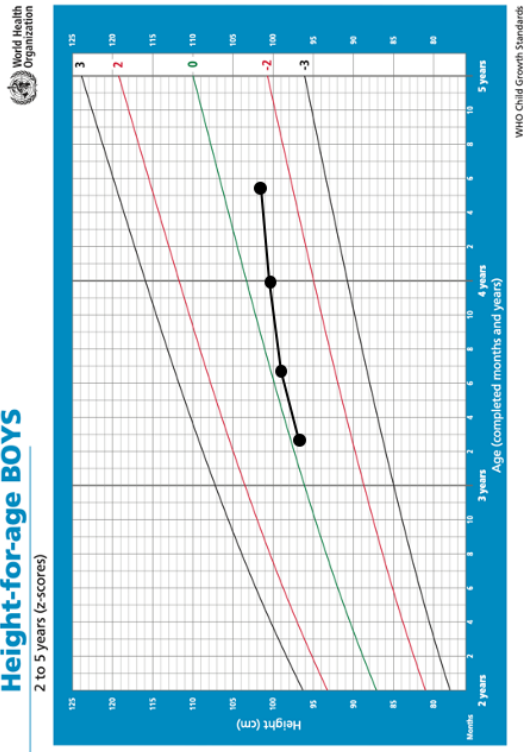
Judging from the growth pattern, you conclude that the head size is growing _____.

- slower than is expected for age and requires further evaluation
- faster than is expected for age and requires further evaluation
- at a normal rate for age and is not of concern

Scenario 3

Height-for-age BOYS

2 to 5 years (z-scores)



Sex: Boy Girl

Age: Older than 5 years Younger than 2 years Younger than 5 years

This child has height measured ___ times. 3 4 5 6

Judging from the growth pattern, you conclude that the child is experiencing a _____.

- normal growth
- sharp incline
- sharp decline
- flat growth

As of the last visit, has the child become stunted?

- No, because the child is still above the -2 z-score
- Yes, because the child is below the median

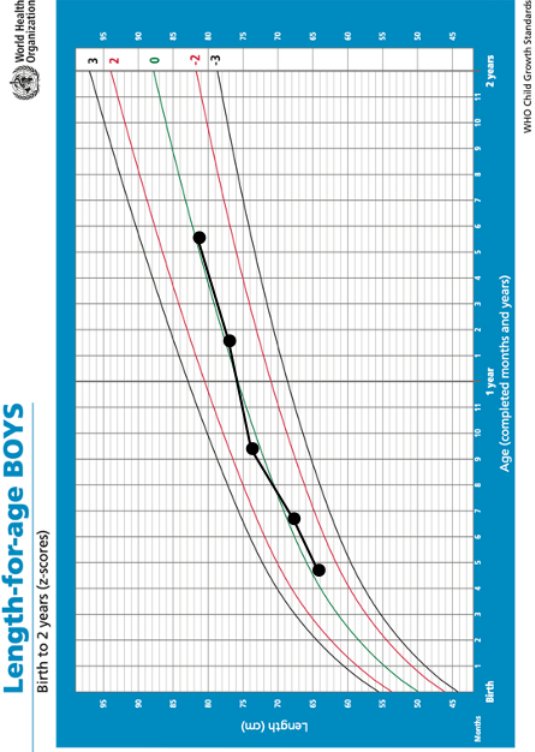
What do you recommend for next steps?

- Refer child to a program for the management of acute malnutrition
- Investigate the cause of poor growth and review other growth charts
- Measure child again in six months

Scenario 4

Length-for-age BOYS

Birth to 2 years (z-scores)



Sex: Boy Girl

Age: Older than 2 years Younger than 2 years

This child has his length measured ___ times. 3 4 5 6

Judging from the growth pattern, you conclude that the child _____.

- is growing consistently and well
- has experienced concerning rapid growth on his third visit
- has experienced concerning slow growth on his fourth visit

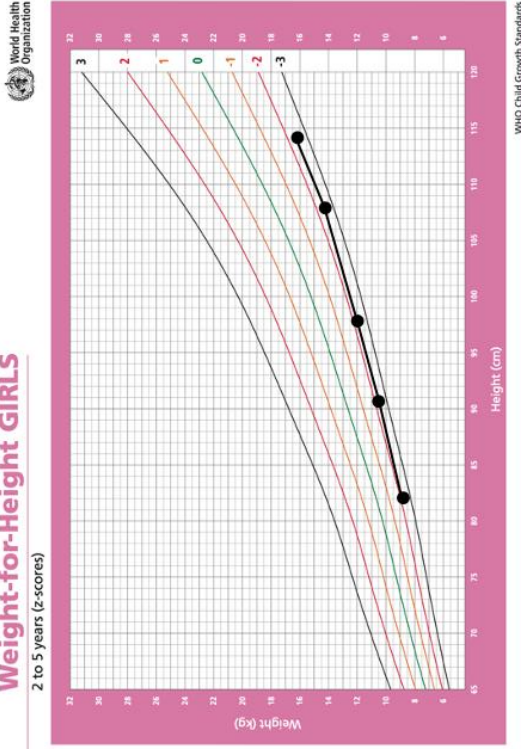
What other growth charts should you review?

- head circumference-for-age and BMI-for-age
- head circumference-for-age and weight-for-length
- weight-for-age and weight-for-height

An appropriate recommendation for this child is to continue proper nutrition and care and measure again in one month. True False

Scenario 5

Weight-for-Height GIRLS
2 to 5 years (z-scores)



- Sex: Boy Girl
- Age: Older than 5 years Younger than 2 years Between 2 and 5 years
- What measurements is this growth chart showing?
 Weight and length Weight and height Weight and age
- This child was weighed and measured ___ times. 3 4 5 6

Judging from the growth pattern, you conclude that the child _____.

- is growing in height but not weight
 is growing in weight but not height
 is growing in both weight and height

The growth pattern shows a _____.

- normal trend sharp incline sharp decline flat growth

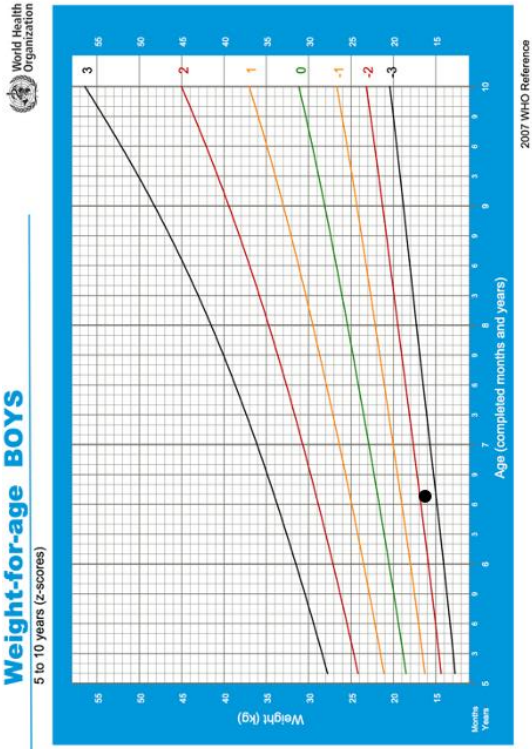
Even though this child's growth line tracks below the -2 z-score, the child is growing consistently and well. True False

An appropriate step for this child is to _____.

- learn about the child's overall health and food intake
 refer the child to an in-patient program for the management of acute malnutrition

Scenario 6

Weight-for-age BOYS
5 to 10 years (z-scores)



- Sex: Boy Girl

- Age: Older than 5 years Younger than 5 years Older than 10 years

How does this child's weight-for-age compare to the median?

- It is above the median
 It is at the median
 It is below the median

Judging from the plotted point, you consider this child _____.

- stunted wasted overweight

This child is underweight because the child is likely _____.

- short and/or thin short only thin only

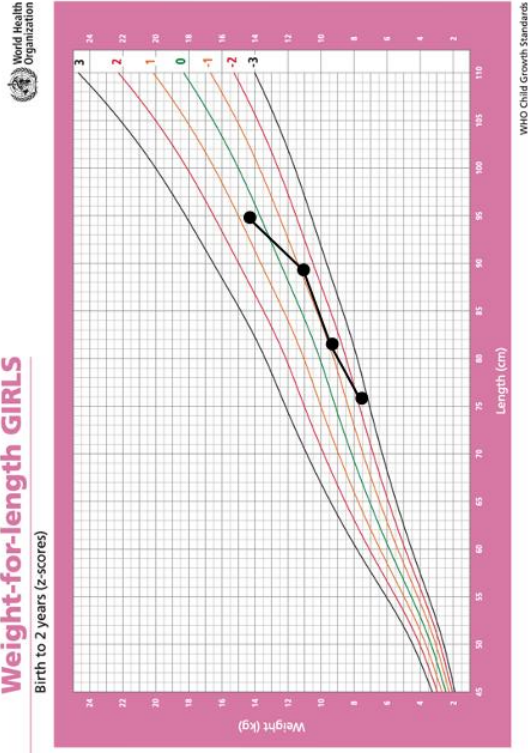
Another growth chart you recommend reviewing is the child's _____.

- height-for-age length-for-age head circumference-for-age

Scenario 7

Weight-for-length GIRLS

Birth to 2 years (z-scores)



Sex: Boy Girl

Age: Older than 2 years Younger than 2 years

This child was weighed and measured during ___ visits. 3 4 5 6

Judging from the growth pattern, you conclude that the child _____.

- is growing in length but not weight
- is growing in weight but not length
- is growing in both weight and length

The growth pattern shows a _____.

- typical growth rate indicating normal trend
- sharp incline indicating catch-up growth
- sharp decline indicating risk for overweight

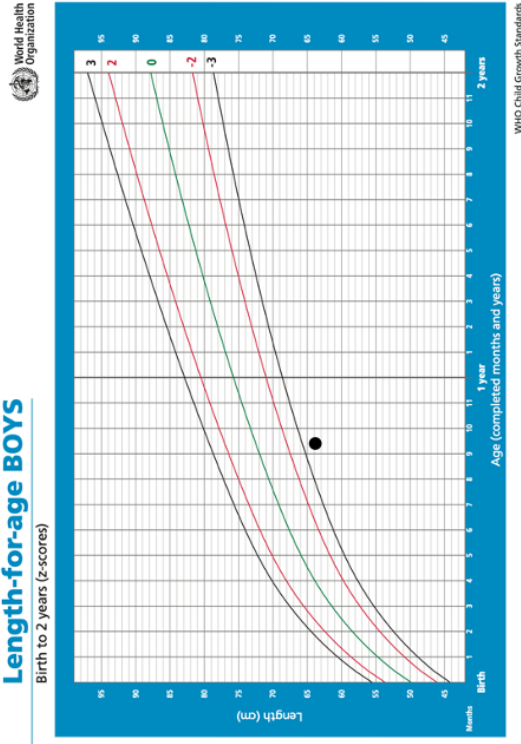
Should we refer this child to a program for the management of acute malnutrition?

- No, the child is responding well to interventions and is already catching up
- Yes, we do not want the child to become malnourished again

Scenario 8

Length-for-age BOYS

Birth to 2 years (z-scores)



Sex: Boy Girl

Age: Older than 1 year Younger than 1 year

How does this child's length compare to that of other children of the same age?

- The child has the same length as most children
- The child is taller than most children
- The child is shorter than most children

Judging from the plotted point, does this child seem to have any growth concerns?

- No, this child does not have growth concerns
- Yes, this child is stunted
- Yes, this child is underweight

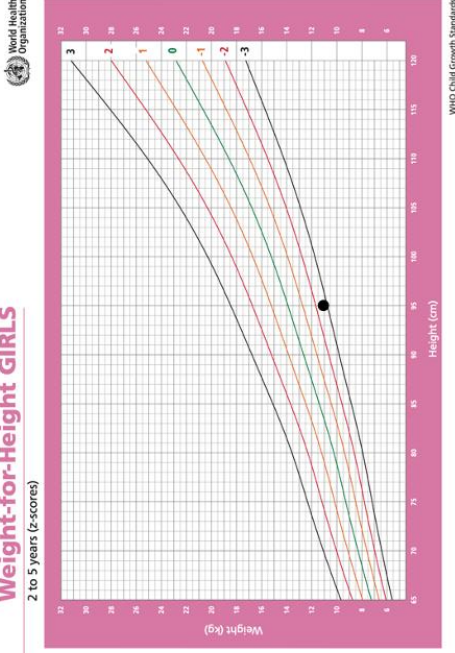
Is it possible to reverse stunting in this child?

- Yes, if we improve the care and nutrition to this child
- No, the child cannot catch-up the deficit in length

Scenario 9

Weight-for-Height GIRLS

2 to 5 years (z-scores)



Sex: Boy Girl

Age: Older than 5 years Younger than 2 years Between 2 and 5 years

Between which z-score lines is this child's weight-for-height?

- Between the -2 and -3 z-score lines
- Below the -3 z-score line
- Between the -1 and the -2 z-score lines

Judging from the plotted point, you consider this child _____.

- stunted wasted underweight

You suspect that this child has experienced poor nutrition over a _____ period of time. long short

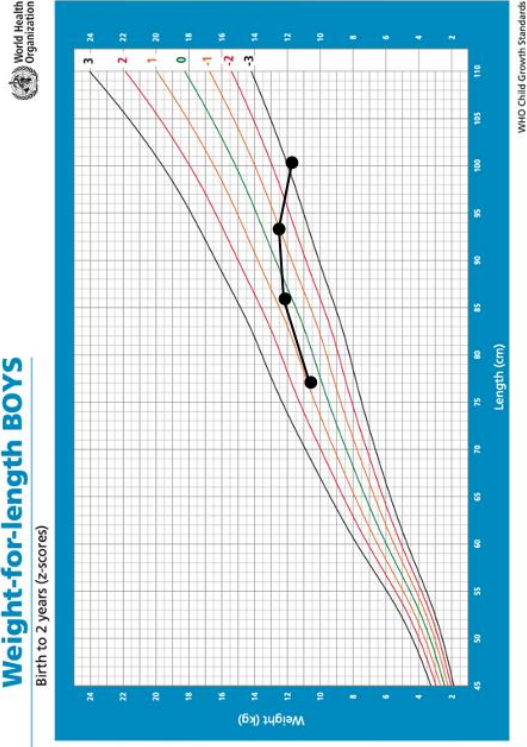
Is it possible to reverse wasting for this child?

- Yes, only with proper nutrition and care
- No, because the child is too old to be able to catch up

Scenario 10

Weight-for-length BOYS

Birth to 2 years (z-scores)



Sex: Boy Girl

Age: Older than 2 years Younger than 2 years

This child has his weight and length measured _____ times. 3 4 5 6

Judging from the growth pattern, you conclude that the child _____.

- is growing in weight and length
- has lost weight but is growing in length
- is growing in weight but not length

As of his last visit, the child is considered _____.

- stunted wasted underweight

An appropriate recommendation for this child is to _____.

- refer him to a health facility for further evaluation and management of acute malnutrition
- continue current care and measure the child again at the next visit

Next Best Activity

Read the examples of ideal behaviors that might be recommended to a caregiver. Identify at least 1-2 smaller steps the caregiver could take that are “on the way” to the ideal behaviors.

Ideal Behaviors	“On the way” Behaviors
Offer fruits and vegetables that are orange, yellow, red, or dark green at least three times a week.	
Always feed your infant when early hunger cues are observed.	
Offer iron-rich foods like meat, eggs, beans, and nuts at least once every day.	
Wipe your infant’s gums and/or clean teeth with a clean towel after every feeding.	
Offer a food high in protein like meat, eggs, beans, and nuts in every meal.	
Introduce a cup for drinking liquids. Choose one meal or snack to consistently give liquid from a cup every day.	
Offer foods from at least four food groups every day.	

Counseling Caregivers Role Play

Using knowledge from the training and a scenario below, role play a counseling session. One participant will be the Feeding and Nutrition Counselor and will apply the steps to counseling. Another, playing the caregiver, will demonstrate a challenging attitude throughout the role play.

SCENARIO 1

Christopher, a 7-month-old, has been recovering well from his cleft repair surgery that took place last month. He just started to eat plain maize porridge. In addition, he has been receiving cow's milk.

You have just completed his growth assessment and identified that he is experiencing poor growth. He is still recovering from his surgery and may not be receiving enough calories and nutrients from his diet.

This is a critical time for Christopher because he is healing from surgery and he is at an age where he is growing rapidly and may not be receiving enough food to keep up with his body's demands.

Feeding and Nutrition Counselor

Counsel Christopher's mother about his growth and provide recommendations to improve his diet by including nutrient-dense complementary foods.

Think about strategies for:

- promoting intake nutrient-dense complementary foods high in protein
- addressing the intake of cow's milk
- enriching the porridge with foods for growth, energy, and protection

Caregiver Attitude

Resistant to change. Caregiver may understand that there is a challenge, but does not want to change practices or behaviors.

SCENARIO 2

Ruth is 1-month old infant with bilateral cleft lip and palate. After completing an assessment, you are concerned about her risk for poor growth.

Her mother shares that she has been having trouble with breastfeeding and is growing frustrated with how difficult it is for Ruth and how long it takes.

Feeding and Nutrition Counselor

Counsel Ruth's mother about her concerning growth and provide recommendations to support improved breastfeeding.

Use strategies to support breastfeeding for infants with cleft lip and/or palate including:

- Feed often—at least every 2 hours.
- Sit upright and position infant upright.
- For bilateral cleft: position infant upright, face-to-face with cleft-modified football hold.
- Burp frequently.

Caregiver attitude

Too busy to listen and too busy to change behaviors and practices.

SCENARIO 3

Joseph is a 2-year-old with a cleft palate who is awaiting surgery for repair. You complete a follow-up growth assessment and identify possible concerns.

His mother shares that he eats mashed foods and drinks milk, but recently, he has been having diarrhea.

Developmentally, Joseph is ready to advance the textures of food that he eats, but has not yet been offered the opportunity.

Feeding and Nutrition Counselor

Counsel Joseph's mother about his growth concerns and provide recommendations to improve his diet including advancing to more appropriate food textures.

Think about strategies for:

- advancing food textures
- addressing nutrient loss caused by diarrhea
- prevention of diarrhea

Caregiver attitude

Denies there is a problem.

Principles of Adult Learning

Characteristics of Adults	Description	Classroom Application
Autonomous and self-directed	<ul style="list-style-type: none"> • Need freedom to direct own learning 	<ul style="list-style-type: none"> • Provide freedom to take control of learning, by allowing them to make decisions, give input, and set the pace of learning
Bring prior knowledge and life experience to learning	<ul style="list-style-type: none"> • Have life experience relevant to training topics, which can supplement training content 	<ul style="list-style-type: none"> • Respect and acknowledge that participants bring their own experiences and knowledge to the classroom • Use and build on group’s knowledge and experience to support training content
Need learning to be immediately relevant	<ul style="list-style-type: none"> • Want to see a connection with their roles in their work or life 	<ul style="list-style-type: none"> • Provide clear links between training and life/work situations • Choose realistic and “familiar” case studies, scenarios, and examples
Problem-oriented	<ul style="list-style-type: none"> • Want to be equipped to apply what they are learning 	<ul style="list-style-type: none"> • Provide opportunities to practice new skills during training through active participation (e.g., activities that include solving or developing something) • Avoid activities that have participants learn by memorizing or repeating
Internally and externally motivated	<ul style="list-style-type: none"> • Motivations for training are more often personal growth and development, instead of external recognition 	<ul style="list-style-type: none"> • Demonstrate how learning will benefit participants • Remember that adults are ready to learn what they need to learn without being pushed, rewarded, or bribed

<p>Respond best to safe, inclusive environments</p>	<ul style="list-style-type: none"> • Learn best in an environment where they do not fear judgement 	<ul style="list-style-type: none"> • Create a nurturing learning environment where participants are comfortable taking risks, asking questions, seeking assistance, or opting out
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Facilitator Self-Assessment

Review the skills and attributes of a facilitator. Provide a rating for yourself on each of the skills and attributes, then answer the questions below. When rating yourself, use the scale: 1= competent; 2= somewhat competent, but need additional practice; 3= not competent, need additional training/practice.

Facilitator Skills	Rating
Opening, transitioning, and closing topics/sessions	
Leading discussions and learning activities	
Giving and receiving feedback	
Managing conflict and disruptions	
Identifying and solving problems	
Facilitator Attributes	Rating
Warm/friendly —make others feel welcome, respected, and appreciated through words and actions	
Confident —able to demonstrate your expertise without arrogance, able to model behavior/skills	
Authentic —able to admit when you don't know something, willing to learn with participants	
Open-minded —open to differing viewpoints, opinions, and styles of learning and communication	
Attentive —aware of needs and feelings of individuals and the group	
Flexible —willing and able to adjust as needed	
Positive/enthusiastic —encouraging and affirming, shows interest in training content and participants	
Culturally sensitive —understand how cultural background impacts behavior, values, and worldview	
Collaborative —able to give and receive assistance and feedback from participants	

Questions

1. What skills and attributes are you most confident about as a facilitator?
2. What 2-3 skills or attributes are you least confident about as a facilitator?
3. What concrete actions will you take to improve the skills and attributes that you are least confident about?

SUPPORTING NUTRITION CLEFT CARE THROUGH FEEDING AND NUTRITION
Pre-Training Questionnaire

<p>DATE:</p> <p>YOUR NAME:</p> <p>YOUR PROFESSION:</p>

PLEASE READ CAREFULLY THE FOLLOWING QUESTIONS.

TELL US WHICH ANSWER(S) ARE THE MOST RELEVANT BY TICKING BOX(ES):

PREVIOUS TRAINING AND EXPERIENCE	
<p>Q1. Are you a trained nutritionist or dietitian?</p> <p><input type="checkbox"/> Yes [Go directly to Q3]</p> <p><input type="checkbox"/> No</p>	
<p>Q2. If you are <u>not</u> a trained nutritionist/dietitian, did you gain any knowledge in nutrition through your work?</p> <p><input type="checkbox"/> Yes, a lot</p> <p><input type="checkbox"/> Yes, a little</p> <p><input type="checkbox"/> Not at all</p>	
<p>Q3. Are you currently involved in any of the following processes at your workplace?</p> <p><input type="checkbox"/> Feeding counselling – i.e. identifying feeding difficulties and helping mothers overcome them</p> <p><input type="checkbox"/> Nutrition education – i.e. teaching caregivers best feeding and nutrition practices</p> <p><input type="checkbox"/> Nutrition assessment – i.e. measuring body size and proportions to monitor child growth and identify growth anomalies and malnutrition</p> <p><input type="checkbox"/> Management of malnutrition – i.e. treating children according to national/international rehabilitation protocols</p>	
<p>Q4. Do you currently work with patients with cleft?</p> <p><input type="checkbox"/> Yes, all the time</p> <p><input type="checkbox"/> Yes, sometimes</p> <p><input type="checkbox"/> Yes, but rarely</p> <p><input type="checkbox"/> No</p>	
<p>Q5. Please review the following topics in relation to the care of patients with cleft. Which one(s) do you feel you need to learn more about:</p> <p><input type="checkbox"/> Strategies to optimize breastfeeding</p> <p><input type="checkbox"/> Breast milk expression and storage</p> <p><input type="checkbox"/> Breast milk alternatives</p>	

<input type="checkbox"/> Introduction of solid foods <input type="checkbox"/> Post-surgery diet <input type="checkbox"/> Nutrition assessment using anthropometry	
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PLEASE READ CAREFULLY ALL THE FOLLOWING STATEMENTS.

TICK THE BOX TO ACKNOWLEDGE WHETHER A STATEMENT IS TRUE OR FALSE:

KNOWLEDGE CHECK	
STRATEGIES TO OPTIMIZE BREASTFEEDING	
<p>Q6. The World Health Organization recommends that infants are exclusively breastfed for the first 6 months of life, but this does not apply to infants with cleft.</p> <input type="checkbox"/> True <input checked="" type="checkbox"/> False	1
<p>Q7. Breastfeeding helps strengthen the muscles around the mouth and face. These muscles are critical for speech as the infant grows.</p> <input checked="" type="checkbox"/> True <input type="checkbox"/> False	1
<p>Q8. Dental decay is an infection that can be passed from the mother to her infant.</p> <input checked="" type="checkbox"/> True <input type="checkbox"/> False	1
<p>Q9. Pasteurization (heat-treatment) of milk destroys most bacteria and viruses yet preserves most nutrients.</p> <input checked="" type="checkbox"/> True <input type="checkbox"/> False	1
BREAST MILK EXPRESSION AND STORAGE	
<p>Q10. If an infant cannot feed at the breast, the mother can be encouraged to hand express breast milk. Expressed breast milk can be kept at room temperature for 1 day.</p> <input type="checkbox"/> True <input checked="" type="checkbox"/> False	1
BREAST MILK ALTERNATIVES	
<p>Q11. When breast milk is not available, breast milk substitutes (like commercial formula and animal milk) are the only option to replace breast milk. You need to assess the capacity for a mother to procure and prepare them adequately and safely at home.</p> <input checked="" type="checkbox"/> True <input type="checkbox"/> False	1

<p>Q12. Like breast milk, cow's milk and commercial formula milk contain hormones/growth substances that help the infant grow and develop.</p> <p><input type="checkbox"/> True</p> <p><input checked="" type="checkbox"/> False</p>	1
INTRODUCTION TO SOLIDS	
<p>Q13. A child with a cleft palate should not be fed solid foods until the palate is repaired.</p> <p><input type="checkbox"/> True</p> <p><input checked="" type="checkbox"/> False</p>	1
FOOD CHOICES FOR CHILDREN	
<p>Q14. Foods high in protein include meat, dairy products, legumes, and pulses.</p> <p><input checked="" type="checkbox"/> True</p> <p><input type="checkbox"/> False</p>	1
<p>Q15. Traditional porridge is a good source of vitamins and minerals.</p> <p><input type="checkbox"/> True</p> <p><input checked="" type="checkbox"/> False</p>	1
<p>Q16. The simplest and most cost-effective way to prevent disease is handwashing.</p> <p><input checked="" type="checkbox"/> True</p> <p><input type="checkbox"/> False</p>	1
POST-SURGERY DIET	
<p>Q17. Within 2 weeks after cleft palate surgery, it is recommended to feed a child using a feeding bottle.</p> <p><input type="checkbox"/> True</p> <p><input checked="" type="checkbox"/> False</p>	1
MEASURING AND INTERPRETING GROWTH	
<p>Q18. Regular health assessments are not necessary for children who are well fed.</p> <p><input type="checkbox"/> True</p> <p><input checked="" type="checkbox"/> False</p>	1
<p>Q19. The nutritional status of a child can be assessed by measuring weight only.</p> <p><input type="checkbox"/> True</p> <p><input checked="" type="checkbox"/> False</p>	1
NUTRITION AND FEEDING COUNSELING	
<p>Q20. Limited access to sufficient, nutritious, safe, and affordable foods constitutes a major barrier for a mother to change her nutrition and feeding practices.</p> <p><input checked="" type="checkbox"/> True</p> <p><input type="checkbox"/> False</p>	1

SUPPORTING COMPREHENSIVE CLEFT CARE THROUGH FEEDING AND NUTRITION
POST-TRAINING TEST
WITH KEY ANSWERS

DATE: Updated in November 2022

YOUR NAME: Barbara Delage

READ CAREFULLY ALL QUESTIONS AND STATEMENTS.

FOR MULTI-CHOICE QUESTIONS:

- MORE THAN ONE STATEMENT CAN BE CORRECT

- TICK THE CORRECT STATEMENT(S):

STRATEGIES TO OPTIMIZE BREASTFEEDING	
<p>Q1. WHO recommends:</p> <p><input type="checkbox"/> Exclusive breastfeeding for 2 years</p> <p><input checked="" type="checkbox"/> Initiation of breastfeeding within 1 hour of birth</p> <p><input checked="" type="checkbox"/> Exclusive breastfeeding for 6 months and then introduction of solid food together with continued breastfeeding</p> <p><input type="checkbox"/> Introduction of solid food as early as possible if breastfeeding fails</p>	<p>1</p> <p>1</p>
<p>Q2. Give 2 benefits associated with breastfeeding:</p> <p>1> Breast milk feeding is associated with a lower risk of ear infections</p> <p>2> Breastfeeding helps strengthen the muscles around the face and mouth to promote better speech as the infant grows</p>	<p>1</p> <p>1</p>
<p>Q3. Name 2 reasons why a mother of a baby with cleft may not produce enough breast milk</p> <p>1> Milk production decreases because the baby has trouble latching and/or suckling</p> <p>2> Maternal stress may also affect milk production</p>	<p>1</p> <p>1</p>
<p>Q4. Give 2 recommendations to a mother to help increase breast milk supply</p> <p>1> Breastfeed on-demand: every 2-3 hours</p> <p>2> Breastfeed exclusively</p>	<p>1</p> <p>1</p>

<p>Q5. Name 3 breastfeeding positions that can promote a good latch for infants with a cleft</p> <p>1> Modified cradle hold</p> <p>2> Rugby hold</p> <p>3> Dancer hand position</p>	<p>1</p> <p>1</p> <p>1</p>
<p>Q6. Which statements are true:</p> <p><input checked="" type="checkbox"/> A good latch is needed to ensure that lips, gum, and tongue massage the milk out of the breast</p> <p><input checked="" type="checkbox"/> The movement of face muscles, jaw, and tongue are different between infants who are breastfed and infants who are fed with a bottle, leading to differences in jaw development</p> <p><input type="checkbox"/> All infants with cleft cannot be breastfed because they cannot latch on the breast correctly</p> <p><input checked="" type="checkbox"/> A low breast milk supply may be a sign of a bad latch</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>
<p>Q7. Which signs may suggest that an infant is not getting enough to eat?</p> <p><input checked="" type="checkbox"/> He/she wets less than 5-7 diapers a day per day 5</p> <p><input checked="" type="checkbox"/> He/she is not putting on weight</p> <p><input type="checkbox"/> He/she is calm and active when awake</p>	<p>1</p> <p>1</p> <p>1</p>
<p>Q8. Which signs may suggest that an infant is hungry?</p> <p><input checked="" type="checkbox"/> He/she is crying</p> <p><input type="checkbox"/> He/she is falling asleep</p> <p><input checked="" type="checkbox"/> He/she is putting his/her hands to his/her mouth</p> <p><input checked="" type="checkbox"/> He/she is making sucking (rooting) motions with the mouth when the cheek or lip is touched</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>
<p>Q9. Which statements are true:</p> <p><input checked="" type="checkbox"/> Dental caries are caused by bacteria that turn sugars from food into acid</p> <p><input checked="" type="checkbox"/> Poor oral hygiene of the mother can contribute to dental caries in her infant</p> <p><input type="checkbox"/> Limiting sugar intake increases the risk of dental caries</p> <p><input checked="" type="checkbox"/> Oral hygiene is important from the time of birth</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>
<p>Q10. Name 4 circumstances that would make breast milk from a donor mother unsuitable</p> <p>1> The donor mother takes medications and/or herbal supplements that are not compatible with breastfeeding</p> <p>2> The donor mother has HIV or is at risk of HIV</p>	<p>1</p> <p>1</p>

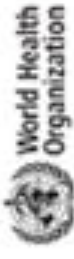
3> The donor mother consumes alcohol	1
4> The donor mother smokes tobacco	1
Q11. Number the steps for home breast milk pasteurization in the correct order:	1
<input type="text" value="1"/> Place milk in a heat resistant glass jar with a lid	
<input type="text" value="6"/> Feed the milk at room temperature within up to 6 hours or refrigerate or freeze it	
<input type="text" value="5"/> Let the jar cool down to room temperature	
<input type="text" value="2"/> Place the jar of milk in a small pan of water	
<input type="text" value="3"/> Heat water until it boils	
<input type="text" value="4"/> Remove the jar immediately from boiling water	
BREAST MILK EXPRESSION AND STORAGE	
Q12. Which statements are true:	
<input type="checkbox"/> The first milk that is produced after birth is called colostrum. This milk is high in fat and low in protein	
<input checked="" type="checkbox"/> Colostrum contributes to protect infants against germs as it contains antibodies and components that block the growth of pathogens	1
<input checked="" type="checkbox"/> Mature milk that is produced about 10 days after birth is high in fat and sugar	1
Q13. Describe the 5 steps to express breast milk	
1> HOLD breast with fingers and thumbs cupped around the breast in a C shape, near but not touching the areola	1
2> PRESS fingers and thumb back towards the chest	1
3> COMPRESS the breast between fingers and thumb, moving them slightly towards the nipple without lifting them from the breast	1
4> RELEASE without moving hand from the breast	1
5> REPEAT moving hand to a different place around the breast after every few compressions. Releasing and repeating rhythmically helps to mimic the action of an infant breastfeeding	1
Q14. Fill the gaps with the durations:	
Breast milk can be stored at room temperature for up to 4 hours	1
Breast milk can be stored in the fridge for 4 months	1
Breast milk can be stored in the freezer for 6 months	1
BREAST MILK ALTERNATIVES	
Q15. Name 3 components of breast milk that are not in cow's milk or commercial formula	

>1 Hormones/Growth substances – that help the infant grow and develop	1
>2 Antibodies – that help protect the infant against pathogens	1
>3 Digestive substances – that help digest milk	1
Q16. Which statements are correct:	
<input type="checkbox"/> Modified cow’s milk is nutritionally similar to breast milk	
<input checked="" type="checkbox"/> Poorly diluted cow’s milk can put strain on the baby’s kidneys, cause dehydration, seizures, and even death	1
<input checked="" type="checkbox"/> Babies fed modified cow’s milk are likely to be deficient in vitamins and minerals	1
<input type="checkbox"/> Cow’s milk is more easily digested than breast milk	
Q17. Name 2 types of bacteria that are destroyed by pasteurization	
1> Salmonella	1
2> Listeria	1
<i>Other: E-coli, Brucella, Cryptosporidium, Campylobacter, Staphylococcus aureus</i>	
Q18. The best source of nutrition for an infant is breast milk and you need to try all interventions possible to promote it. If it fails, name at least 2 factors to consider before advising modified cow’s milk as an alternative.	
1> Availability of clean water/hygienic and sanitary conditions	1
2> Access and affordability to multivitamin/mineral supplements	1
<i>Other potential answers: availability of fuel to pasteurize milk, mother counseled on how to pasteurize and prepare modified cow’s milk recipe</i>	
INTRODUCTION TO SOLIDS	
Q19. Which statements are true:	
<input checked="" type="checkbox"/> The presence of unrepaired cleft lip/palate should not prevent a child from advancing oral motor skills and be gradually presented with different solid food textures	1
<input type="checkbox"/> A child shows developmental readiness to begin spoon feeding after 1 year	
<input checked="" type="checkbox"/> A child who can crawl can usually eat mashed or ground foods	1
<input checked="" type="checkbox"/> A child who can walk along furniture or independently is usually able to eat soft pieces of most foods	1
<input checked="" type="checkbox"/> Food coming from the nose is uncomfortable for the child but not harmful	1
FOOD CHOICES FOR CHILDREN	
Q20. Give:	
1> 1 example of a food rich in animal protein: meat, chicken, fish, eggs, etc.	1
2> 1 example of a food in the oil/fat food group: soybean oil, sunflower oil, nuts	1

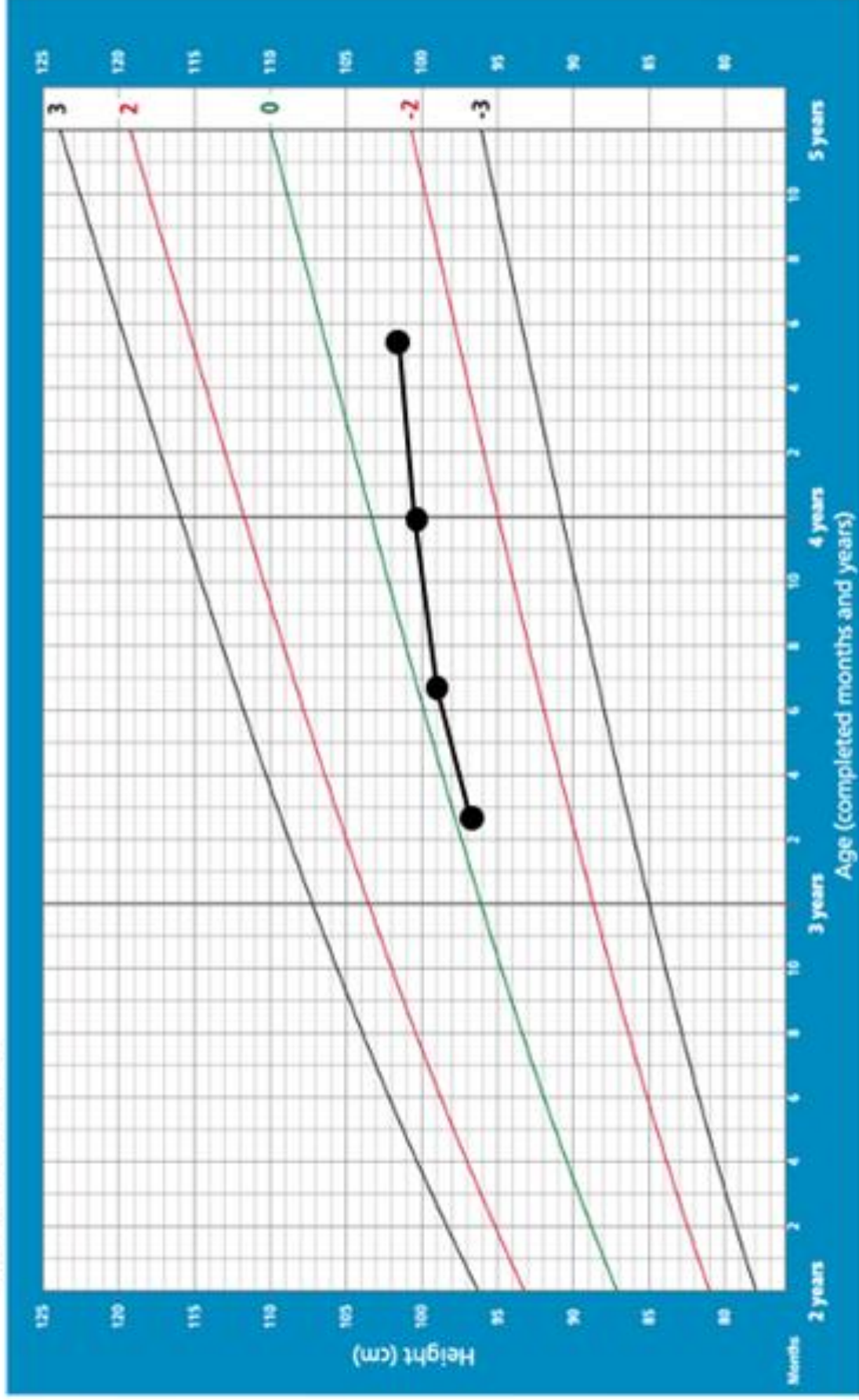
<p>Q21. Which statements are true:</p> <p><input checked="" type="checkbox"/> Fruit and vegetables are a good source of certain vitamins and minerals</p> <p><input checked="" type="checkbox"/> Animal products are a good source of certain vitamins and minerals</p> <p><input checked="" type="checkbox"/> Foods high in protein include meat, dairy products, legumes, and pulses</p> <p><input type="checkbox"/> Porridge is a good source of proteins</p>	<p>1</p> <p>1</p> <p>1</p>
<p>Q22. Explain how plain porridge can be modified to increase its nutritional value</p> <p>By adding pounded groundnuts, beans, or dried fish flour, adding shredded green leafy vegetables, adding red palm or vegetable oil, and/or adding fatty fish or meat</p>	<p>1</p>
<p>Q23. Which statements are true:</p> <p><input checked="" type="checkbox"/> Diarrhea is a major cause of death in children <5 years old</p> <p><input checked="" type="checkbox"/> Unsafe food handling and food preparation increase the risk of diarrhea</p> <p><input type="checkbox"/> Diarrhea and malnutrition are not related</p> <p><input checked="" type="checkbox"/> The simplest and most cost-effective way to prevent disease is handwashing</p>	<p>1</p> <p>1</p> <p>1</p>
<p>POST-SURGERY DIET</p>	
<p>Q24. When dealing with a child within 2 weeks after cleft palate surgery, you recommend:</p> <p><input checked="" type="checkbox"/> To feed the child with liquids and smooth purees</p> <p><input type="checkbox"/> To feed the baby using feeding bottles</p> <p><input checked="" type="checkbox"/> To offer foods just when pain medication has been freshly administrated</p> <p><input checked="" type="checkbox"/> To give a drink of clean water to rinse the mouth after each meal</p> <p><input type="checkbox"/> To use toothbrushes</p> <p><input type="checkbox"/> To use a pacifier to calm the baby</p>	<p>1</p> <p>1</p> <p>1</p>
<p>MEASURING AND INTERPRETING GROWTH</p>	
<p>Q25. Which statements are true:</p> <p><input checked="" type="checkbox"/> Growth reflects a child’s overall health and nutritional status</p> <p><input checked="" type="checkbox"/> Optimal growth and development in the first 5 years is critical to children’s long-term health and well-being</p> <p><input checked="" type="checkbox"/> Regular health assessments help identify and address growth problems</p> <p><input type="checkbox"/> Regular health assessments are not necessary in children who are well fed</p>	<p>1</p> <p>1</p> <p>1</p>
<p>Q26. Number the growth assessment steps in the right order (1-5):</p> <p><input type="text" value="3"/> Design a care plan</p> <p><input type="text" value="1"/> Weigh and measure the child</p>	<p>1</p>

<input type="checkbox"/> 4 Counsel the caregiver <input type="checkbox"/> 5 Plan a follow-up visit <input type="checkbox"/> 2 Compare measurements to WHO growth standard																
Q27. Which statements are correct: <input type="checkbox"/> A MUAC band can be used over a child's clothes <input checked="" type="checkbox"/> A head size measuring tape should be positioned over the most prominent part of a child's forehead <input checked="" type="checkbox"/> If the length of a child ≥ 2 years is measured, the measurer should subtract 0.7 cm to convert it to height <input checked="" type="checkbox"/> Weight should be measured to the nearest 0.01 kg <input type="checkbox"/> Standing height can be measured using a measuring tape taped to a wall	1 1 1															
Q28. (A) Plot the following measurements on the height-for-age growth chart (<u>on the next page</u>) and connect the points together with straight lines.	1															
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Visits</th> <th style="padding: 5px;">Age</th> <th style="padding: 5px;">Height (cm)</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">#1</td> <td style="padding: 5px;">3 years and 2.5 months</td> <td style="padding: 5px;">96.5</td> </tr> <tr> <td style="padding: 5px;">#2</td> <td style="padding: 5px;">3 years and 6.5 months</td> <td style="padding: 5px;">99.0</td> </tr> <tr> <td style="padding: 5px;">#3</td> <td style="padding: 5px;">4 years</td> <td style="padding: 5px;">100.5</td> </tr> <tr> <td style="padding: 5px;">#4</td> <td style="padding: 5px;">4 years and 5.5 months</td> <td style="padding: 5px;">101.5</td> </tr> </tbody> </table>	Visits	Age	Height (cm)	#1	3 years and 2.5 months	96.5	#2	3 years and 6.5 months	99.0	#3	4 years	100.5	#4	4 years and 5.5 months	101.5	
Visits	Age	Height (cm)														
#1	3 years and 2.5 months	96.5														
#2	3 years and 6.5 months	99.0														
#3	4 years	100.5														
#4	4 years and 5.5 months	101.5														
(B) Next, observe the growth pattern and answer the following questions: Sex: <input checked="" type="checkbox"/> Boy <input type="checkbox"/> Girl Age: <input type="checkbox"/> Older than 5 years <input type="checkbox"/> Younger than 2 years <input checked="" type="checkbox"/> Younger than 5 years This child has his/her height measured ____ times: <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 Judging from the growth pattern, you conclude that the child is experiencing: <input type="checkbox"/> a normal growth <input type="checkbox"/> a sharp incline <input type="checkbox"/> a sharp decline <input checked="" type="checkbox"/> a flat growth As of the last visit, has the child become stunted? <input checked="" type="checkbox"/> No, because the child is still above the -2 z-score growth line <input type="checkbox"/> Yes, because the child is below the median What do you recommend for next steps? <input type="checkbox"/> Refer child to a program for the management of acute malnutrition <input checked="" type="checkbox"/> Investigate the cause of poor growth and review other growth charts <input type="checkbox"/> Measure child again in six months	1 1 1 1 1 1															

Height-for-age BOYS



2 to 5 years (z-scores)

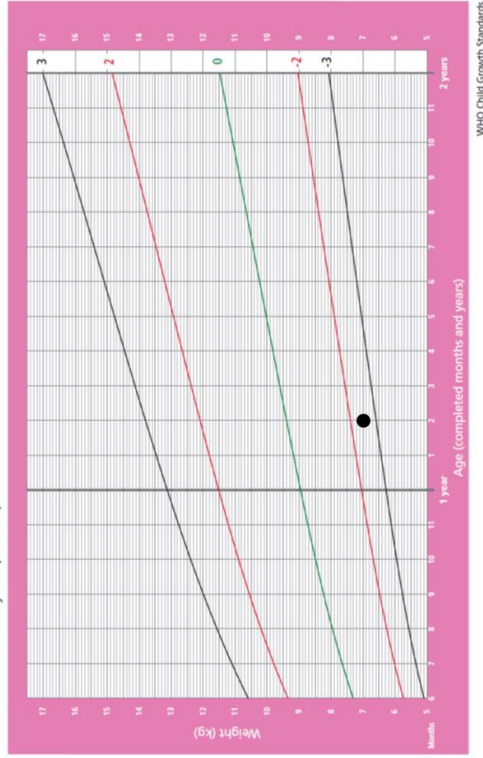


Q29. Answer the questions regarding the two following scenarios:

Scenario 1

Weight-for-age GIRLS

6 months to 2 years (z-scores)



Sex: Boy Girl

Age: Older than 1 year Younger than 1 year Older than 2 years

How does this child's weight-for-age compare to the median?

- It is above the median
- It is at the median
- It is below the median

Judging from the plotted point, you consider this child:

- stunted wasted underweight

This might be due to the child being:

- too short and/or too thin too short only too thin only

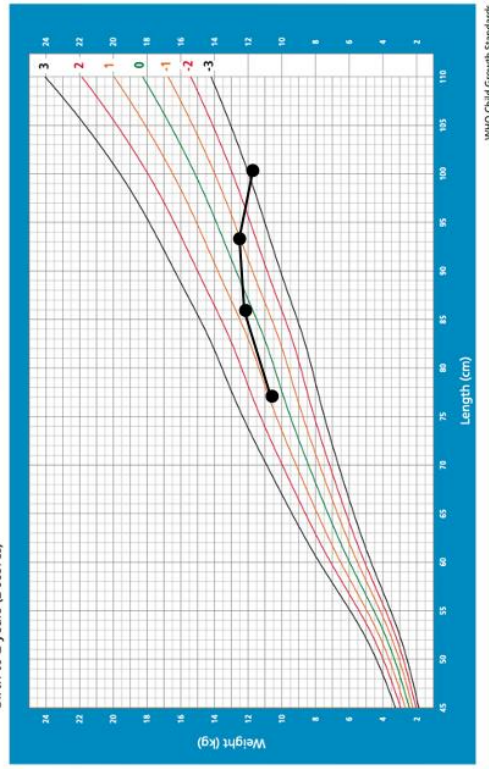
Other growth charts you recommend reviewing are the child's:

- height-for-age length-for-age weight-for-length

Scenario 2

Weight-for-length BOYS

Birth to 2 years (z-scores)



Sex: Boy Girl

Age: Older than 2 years Younger than 2 years

This child has his/her weight and length measured ___ times: 3 4 5 6

Judging from the growth pattern, you conclude that:

- the child's growth is following a normal trend
- the child has been failing to meet the expected weight for his/her length
- the child has been failing to meet the expected length for his/her age

As of the last visit, the child is considered:

- stunted wasted underweight

An appropriate recommendation for this child is to:

- refer him/her for further evaluation and management of acute malnutrition
- continue current nutrition and care and measure again at the next visit

NUTRITION AND FEEDING COUNSELING	
<p>Q30. Which statements are correct:</p> <p><input type="checkbox"/> Sharing best feeding practices with caregivers should be enough to see a change in feeding practices</p> <p><input checked="" type="checkbox"/> Your role is to share best feeding practices with the caregiver, motivate her, and help her overcome obstacles that can prevent a change in feeding practices</p> <p><input checked="" type="checkbox"/> Cultural and social norms around mothers may dictate their nutrition and feeding practices and may sometimes prevent them from adopting best nutrition and feeding practices</p> <p><input checked="" type="checkbox"/> Limited access to sufficient, nutritious, safe, and affordable foods constitutes a major barrier to adopting and sustaining changes in nutrition and feeding practices</p>	<p>1</p> <p>1</p> <p>1</p>
<p>Q31. Which statements are correct:</p> <p><input checked="" type="checkbox"/> Asking questions and listening to caregivers is the first step in the process of counseling in nutrition and feeding practices</p> <p><input checked="" type="checkbox"/> Understanding the caregiver’s situation and concerns is essential before developing and prioritizing recommendations</p> <p><input type="checkbox"/> Advising a mother to adopt all best nutrition and feeding practices at once is essential even if it frustrates her and reduces her trust</p> <p><input checked="" type="checkbox"/> Prioritizing small doable actions that can build upon each other overtime can help a caregiver adopt and sustain changes in their nutrition and feeding practices</p> <p><input checked="" type="checkbox"/> Asking questions to the mother along the way at each counseling visit helps check for her understanding and identify potential new concerns and challenges</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>
END	