

# Training Course on Child Growth Assessment

WHO Child Growth Standards

## Girl's Growth Record

Your child's growth from birth to 5 years



Child's name: \_\_\_\_\_

Date of birth: \_\_\_\_\_



World Health  
Organization

## **Girl's Growth Record**

**For use by parents and other care providers to monitor and promote her health, growth, and development**

This is the main record of your daughter's health, growth and development.

This booklet contains recommendations for feeding and caring for your daughter at different ages: as a girl grows, her needs change.

The record is to be used jointly by you and others who care for her. Therefore, keep it in a safe place and **carry it with you whenever you bring her to:**

- a health centre (whether it is for a well-baby visit or because she is sick)
- a doctor or other health care provider
- a hospital outpatient department or emergency department
- any other health appointment

## Personal Data

**Child's name** \_\_\_\_\_

Identification/Record number \_\_\_\_\_

Parents' names \_\_\_\_\_

\_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

☐ Girl

*If a boy,  
must use a  
Boy's Growth  
Record*

### Birth information:

Date of birth \_\_\_\_\_

Gestational age at birth \_\_\_\_\_ Single/multiple birth? \_\_\_\_\_

Measurements at birth:

Weight \_\_\_\_\_ Length \_\_\_\_\_ Head circumference \_\_\_\_\_

Birth rank \_\_\_\_\_

Date of birth of next younger sibling (born to mother) \_\_\_\_\_

### Feeding:

Age at introduction of any foods or fluids \_\_\_\_\_

*More details of feeding history*

Age at termination of breastfeeding \_\_\_\_\_

*may be recorded in Visit Notes*

### Adverse events (dates):

(such as death of parent, death of sibling age <5 years) \_\_\_\_\_

\_\_\_\_\_

## Table of Contents

	Page
Personal data .....	1
Table of contents .....	2
Recommended immunization schedule .....	4
Other national programme recommendations .....	5
Visit notes .....	6–11
When special care or advice may be needed .....	12
Recommendations for feeding	
Up to 6 months of age .....	14
Recommended foods for babies and children age 6 months to 5 years ..	15
Age 6 months to 1 year .....	16
Age 1 to 2 years .....	18
Age 2 to 5 years .....	19
Recommendations for food safety and hygiene .....	20
Care for development messages	
Key messages about care for all times .....	21
Age 0 to 4 months .....	22
Age 4 to 6 months .....	23
Age 6 months to 1 year .....	24
Age 1 to 2 years .....	25
Age 2 years and older .....	26

Growth charts for girls .....	27
<i>Understanding growth charts</i> .....	28
 <i>Birth to 6 months GIRLS</i>	
Length-for-age .....	29
Weight-for-age .....	30
Weight-for-length .....	31
BMI-for-age .....	32
 <i>Age 6 months to 2 years GIRLS</i>	
Length-for-age .....	33
Weight-for-age .....	34
Weight-for-length .....	35
BMI-for-age .....	36
 <i>Age 2 to 5 years GIRLS</i>	
Height-for-age .....	37
Weight-for-age .....	38
Weight-for-height .....	39
BMI-for-age .....	40
Gross motor milestones.....	41
 Annex: Immunization schedule for infants recommended by the WHO Expanded Programme on Immunization.....	
	42

## Sample Immunization Schedule (EPI)

Age	Vaccine	Date received	Place received
2–3 months	DPT-1		
	Hib		
	Hepatitis B		
	OPV-1		
4–5 months	DPT-2		
	Hib		
	Hepatitis B		
	OPV-2		
6–7 months	DPT-3		
	Hib		
	Hepatitis B		
	OPV-3		
12–15 months	MMR		
	Yellow fever		
18 months	DPT		
	OPV		
5 years	DPT		
	OPV		
	MMR		

Bring your child back for the next immunizations on:

\_\_\_\_\_

## **Other National Programme Recommendations for Children under Age 5 Years**

*(Recommendations to be inserted with space to record supplements given, etc))*

**Micronutrient supplementation given, such as iron, Vitamin A:**

*(note date, supplement, amount given)*

**Deworming:**

**Developmental assessment:**

Date of birth:

## Visit Notes

Date of visit	Age today (Completed years/months or weeks)	Measurements (Record below; then plot on charts)			Reason for visit, observations, recommendations
		Weight (kg)	Length/Height (cm)	BMI*	

\* BMI (body mass index) = weight in kilograms divided by length or height in meters squared ( $\text{kg}/\text{m}^2$ )



## Visit Notes

**Feeding: Notes on history, any problems, counselling given**

Other information ( such as drug or food allergies, chronic conditions):

Date of birth:

## Visit Notes

Date of visit	Age today (Completed years/months or weeks)	Measurements (Record below; then plot on charts)			Reason for visit, observations, recommendations
		Weight (kg)	Length/Height (cm)	BMI*	

\* BMI (body mass index) = weight in kilograms divided by length or height in meters squared ( $\text{kg}/\text{m}^2$ )

## Visit Notes

**Feeding: Notes on history, any problems, counselling given**

Other information (such as drug or food allergies, chronic conditions):

Date of birth:

## Visit Notes

Date of visit	Age today (Completed years/months or weeks)	Measurements (Record below; then plot on charts)			Reason for visit, observations, recommendations
		Weight (kg)	Length/Height (cm)	BMI*	

\* BMI (body mass index) = weight in kilograms divided by length or height in meters squared ( $\text{kg/m}^2$ )

## Visit Notes

**Feeding: Notes on history, any problems, counselling given**

Other information (such as drug or food allergies, chronic conditions):

## **When Special Care or Advice May be Needed**

Any time that you have concerns about your child's growth or development, seek the advice of a health care provider. He or she can assess your child and advise you.

Other times that special care or advice may be needed include:

- ♥ If the child's growth curve is too far from the centre line (labelled '0'), it may be a sign that she is undernourished or overweight. If she is not within the normal range, a health care provider can help you find ways to help her grow normally. For example, changes may be needed in the type of foods she is given, or the frequency or quantity of feeding. Or she may need more emotional support, or stimulation, or physical activity that will help her become healthy.
- ♥ If the child is severely undernourished, she needs urgent specialized care.
- ♥ If the child is obese, she needs medical assessment and specialized management. Discuss this with the health care provider.
- ♥ If a mother suspects that she may be HIV positive, she should be encouraged to go for counselling and testing.
- ♥ If a pregnant woman or the mother of an infant knows that she is HIV positive, she needs specialized counselling about her options for feeding the baby.

## Recommendations for feeding and care of infants and children



- ♥ If your child is sick, feed her according to the recommendations for her age group provided in this section. Also give more fluids (breastfeed more for a breastfed child) and encourage her to eat soft, varied, appetizing, favourite foods. After illness, give food more often than usual and encourage the child to eat more.



## **Recommendations for feeding an infant up to 6 months of age**

- Feed your baby only breast milk until she is 6 months of age (180 days).
- Breastfeed as often as your baby wants, day and night, at least 8 times in 24 hours.
- Breastfeed when your baby shows signs of hunger: beginning to fuss, sucking fingers, or moving her lips.
- At each feeding, encourage your baby to empty the breast and then offer the other breast.
- Do not give her other foods or fluids. Breast milk quenches your baby's thirst and satisfies her hunger.





## **Recommended foods for babies and children age 6 months to 5 years**

Breast milk continues to be an important source of nutrients up to age 2 years and beyond. Your baby needs other foods and liquids in addition to breast milk once she reaches 6 months of age (180 days). This page lists examples of recommended foods. The following pages recommend how much, how often and how to feed your child at different ages.

- Staple foods give your child energy. These foods include cereals (rice, wheat, maize, millet, quinoa), roots (cassava, yam, potato), and starchy fruits (plantain, breadfruit).
- Staple foods do not contain enough nutrients by themselves. You also need to give animal-source and other nutritious foods. Your child should eat a variety of these foods:
  - Animal-source foods: Liver, meat, chicken, fish, eggs
  - Milk products: Cheese, yoghurt, curds (milk, for non-breastfed children)
  - Pulses: Chickpeas, lentils, cow peas, black-eyed peas, kidney beans, lima beans (For vegetarians, these are important alternatives to animal-source foods.)
  - Green leafy and yellow-coloured vegetables: Spinach, broccoli, chard, sweet potatoes, carrots, pumpkin
  - Fruits: Banana, orange, guava, mango, peach, kiwi, papaya
  - Oils and fats: Vegetable oils, butter
  - Groundnut paste, other nut pastes; soaked or germinated seeds such as sesame, pumpkin, sunflower, melon seeds
- Feed your child different foods from the groups above, together with the staple food.

## Recommendations for feeding an infant age 6 months to 1 year



- Breastfeed as often as your baby wants.
- To initiate complementary feeding, begin offering her small amounts of other foods at age 6 months (180 days). Introduce new foods one at a time. Wait 3–4 days to be sure that she can tolerate a new food before introducing another food.
- Give her staple foods and a variety of animal-source and other nutritious foods (listed on page 15).
- Increase the quantity of food as she grows older while continuing to breastfeed frequently.
  - **At 6–8 months of age**, start by offering 2–3 tablespoons of thick porridge or well-mashed foods 2–3 times per day. Increase the amount gradually to 1/2 cup.\* By 8 months, give her small chewable items to eat with her fingers. Let her try to feed herself, but provide help. Avoid foods that can cause choking (such as nuts, grapes, raw carrots). Give 1–2 snacks between meals depending on her appetite.
  - **At 9–11 months of age**, offer finely chopped or mashed foods and foods that baby can pick up, about 1/2 cup, at 3–4 meals per day plus 1–2 snacks depending on her appetite.



- Feed her from her own plate or bowl.
- Patiently help your baby eat. Talk to her lovingly, look into her eyes and actively encourage her to eat, but do not force her.
- If she loses interest while eating, remove any distractions and try to keep her interested in the meal.
- After 6 months of age, babies may need more water even when they drink the recommended amounts of milk. To find out if your baby is still thirsty after eating, offer her some water (that has been boiled and cooled).

\* In these recommendations, a cup refers to 250 ml or an 8 ounce cup and a tablespoon refers to a 15 ml tablespoon. Each country should specify customary measures that mothers will understand.

The suggested amounts assume an energy density of 0.8–1.0 Kcal/g. If the foods given are thin and lower in nutritional content (i.e. about 0.6 Kcal/g), meals should increase to 2/3 cup at 6–8 months and to 3/4 cup at 9–11 months.

## Recommendations for feeding a child age 1 to 2 years

- Breastfeed as often as your child wants up to age 2 or beyond.
- Continue to give 3–4 meals of nutritious foods, chopped or mashed if necessary,  $\frac{3}{4}$ –1 cup\* at each meal. Also give 1–2 snacks per day between meals depending on her appetite.
- At each meal, feed your child a staple food along with different nutritious foods from the groups listed on page 15.
- Feed her from her own plate or bowl. Continue to actively help her to eat.



\* The suggested amount assumes an energy density of 0.8–1.0 Kcal/g. If the foods given are thin and lower in nutritional content, the child should receive a full cup at each meal.



## Recommendations for feeding a child age 2 to 5 years

- Give family foods at 3 meals each day. Also, twice daily between meals, give nutritious snacks such as:

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- Offer a variety of foods such as those on page 15. If she refuses a new food, offer her “tastes” of it several times. Show that you like the food.
- Do not force her to eat. Give realistic portions depending on her age, size and activity level. Increase the quantity of food as she grows older.



## **Recommendations for Safe Food Preparation and Hygiene**

Practise good hygiene to prevent illness:

- Wash your hands with soap before preparing food, before feeding a baby, and after using the latrine or toilet.
- Obtain clean water for drinking, treat it properly,\* store it in clean covered containers, and use a clean scoop to draw it.
- Wash your child's cup or bowl thoroughly with soap and clean water or boil it.
- Avoid using feeding bottles which are difficult to clean.
- Prepare food using clean utensils. Feed a baby with a clean spoon.
- Keep food preparation surfaces clean by using water and soap or detergent to clean them after each use.
- Cook foods thoroughly, especially meat, poultry, eggs and seafood. Reheat cooked food thoroughly, for example, bring soups and stews to boiling point.
- Cover food that is left over, and refrigerate it if possible. Discard cooked food that is left at room temperature for longer than two hours.
- Avoid contact between raw and cooked foods and store them in separate containers.
- Have a clean, functioning latrine that is used by all family members old enough to do so. Quickly collect the stool of a young child or baby and put it into a latrine. Promptly clean a child who has passed stool. Then wash your hands and hers.

\* Boil water vigorously for a few seconds. Cover and let it cool down on its own without adding ice. This water is safe for the baby to drink.

## Key Messages about Care for All Times

- ♥ Brain development is most rapid in the first two years of life, so young children need to be stimulated by playing with others, moving around, hearing sounds, and having things to see, touch, and explore.
- ♥ Daily routines regarding eating, sleeping, hygiene, etc. help children to develop regular patterns and to feel secure.
- ♥ Teach your child to communicate by speaking to her, listening to her, and playing with her.
- ♥ Play is children's work. It gives them many chances to learn and develop the ability to solve problems. They learn by trying things out and by observing and copying others.
- ♥ Fancy toys are not needed for development. Toys to stimulate development can be made at home.
- ♥ Illness interferes with normal growth and development. To prevent illness, have your child immunized and feed her as described in the *Growth Record*. When she is ill, take her to a health care provider.
- ♥ Children learn most rapidly when they are in nurturing and stimulating relationships with their caregivers. The mother, father, and siblings can all contribute to the child's development by caring for and playing with her.
- ♥ Protecting children from physical harm and emotional distress (due to violence or strong anger) helps them gain confidence to explore and learn.

## **Care for development messages**

### **Age 0 to 4 months**

#### ***Emotional development***

- A healthy child can see, hear, and smell at birth. She recognizes her mother from her voice, scent, and face.
- Her father plays an important role in the child's development and should be involved in caring for her.
- She can learn a lot from older siblings, and they from her, so they too should play with and help care for her.
- Soothing her when she is distressed will help her learn to trust and communicate with you.
- Breastfeeding is a good time for cuddling, nurturing, and emotional bonding.

#### ***Communication***

- Look into your child's eyes and smile at her (for example, when feeding). Talking face to face with her, repeating her sounds and gestures, and singing to her will teach her to communicate.
- She will respond to her mother's touch, looks, smiles and sounds. She will try to communicate her needs through movements, cooing sounds, and cries.

#### ***Movement***

- She will soon discover her hands and feet. Letting her move her arms and legs freely will help her grow strong.
- She will begin to reach for objects and put them in her mouth because she learns by taste and touch.
- She will try to raise her head to see around. Help by carrying her, raising her head and back so she can see. Letting her roll on a safe surface will help her develop her muscles.



## Care for development messages

### Age 4 to 6 months

#### **Emotional development**

- Children love to see people and faces, so family members should hold and carry the baby, smile, laugh, and talk with her.
- She is now attaching to her mother and may feel uncomfortable with strangers. Leaving her with people she knows will help her feel secure.

#### **Communication**

- She enjoys making new sounds like squeals and laughs. She will respond to someone's voice with more sounds, copy the sounds she hears, and start learning about making a conversation with another person.
- To prepare her for talking, repeat her sounds and talk to her about what she feels, sees and wants.



#### **Movement**

- As she sees her world, she will want to touch, taste, and explore. Giving her safe clean colourful household objects that she can touch, bang, throw, and put into her mouth will help her learn and develop hand skills. Keep away small objects that can go into the mouth and be swallowed.
- Letting her sit with support and roll around safely will help her muscles develop.

## Care for development messages

### Age 6 months to 1 year

#### **Emotional development**

- She may not want to separate from you. Help her cope with separation by gently telling her when you will need to leave her and by leaving her with people she is familiar with. Peek-a-boo and hide-and-seek are well-known games to teach her that you are not gone forever when she cannot see you.
- She will notice when people express strong anger and may be upset by it. Avoid exposing her to such emotional distress and reassure her if it does happen.
- The love and time you give her, your interest in what she is doing, and your support for her curiosity will help her self-confidence.

#### **Communication**

- Respond to her sounds and interests. Talk to her, sing for her, give meaning to her babbling, take notice, and respond when she tries to tell you something. Telling her stories, reading to her, and telling her the names of things and people will help her learn to speak and communicate.

#### **Movement**

- Playing with safe clean household items like non-breakable plates, cups and spoons, banging pots and pans, opening and closing lids, stacking and sorting objects, and feeding herself with her fingers will help her learning and hand skills.
- Letting her move freely and play in a safe environment will help her muscles develop.



## Care for development messages

### Age 1 to 2 years

#### **Emotional development**

- Give her opportunities to do things for herself, and rejoice in what she does to help her develop self-esteem.
- She may be angry and frustrated when she cannot have all that she wants. Tell her about her feelings. She will learn rules quicker if there are not many of them and if they are clear and consistent.
- She may want to do everything on her own and appear stubborn. She may want to stay an infant and also be grown up at the same time. Understanding this phase of her childhood, holding her when she wants to be a baby, and giving her some independence when she wants to be grown up will help her.

#### **Communication**

- This age is important for her to learn to speak and understand words. Encourage her learning by watching what she does and naming it. Use every chance to make conversation with her (for example, when feeding, bathing, or working near her).
- Ask her simple questions and respond to her attempts to talk. Encourage her to repeat words. Listening when she uses gestures or words will increase her efforts to talk. Imaginary play, books, songs, rhymes, stories, and taking turns in games will enrich her development.

#### **Movement**

- She will begin to use one hand more frequently and skilfully. Let her use whichever hand the brain has selected. She can practice hand skills while she is feeding and dressing herself, drawing, scribbling, playing with water, playing with things she can stack or combine, and putting things in and out of containers.
- Take her outside so that she can run, jump, climb, and grow strong.



## **Care for development messages**

### ***Age 2 years and older***

#### ***Emotional development***

- The love and time you give her, your interest in what she is doing, your belief that she will succeed, and your support for her curiosity will help her self-confidence and desire to learn.
- At this age she can understand what is right and wrong. She can be taught how people should behave through stories, songs, and games. She will learn better if she is told what is correct first, and she should be corrected gently so that she does not feel ashamed.
- Cooking and doing errands together, sorting clothes, and doing other household chores will boost her self-confidence and improve her learning.

#### ***Communication***

- Listen to what she is telling you, encourage her to ask questions, and try to answer them. Let her talk about whatever she has experienced or wants to tell you. Encourage her to tell stories. Teach her to name things, to count, and to compare and match sizes, shapes and colours of things around her.

#### ***Movement***

- Drawing, writing, colouring, stacking, sorting, and helping prepare food will improve her hand skills.
- Playing out of doors and with other children will enrich all of her development.
- Encourage her active play and movement. Provide opportunities for activities such as marching, jumping, kicking and hopping.



## Girl's Growth Charts



## Understanding Growth Charts

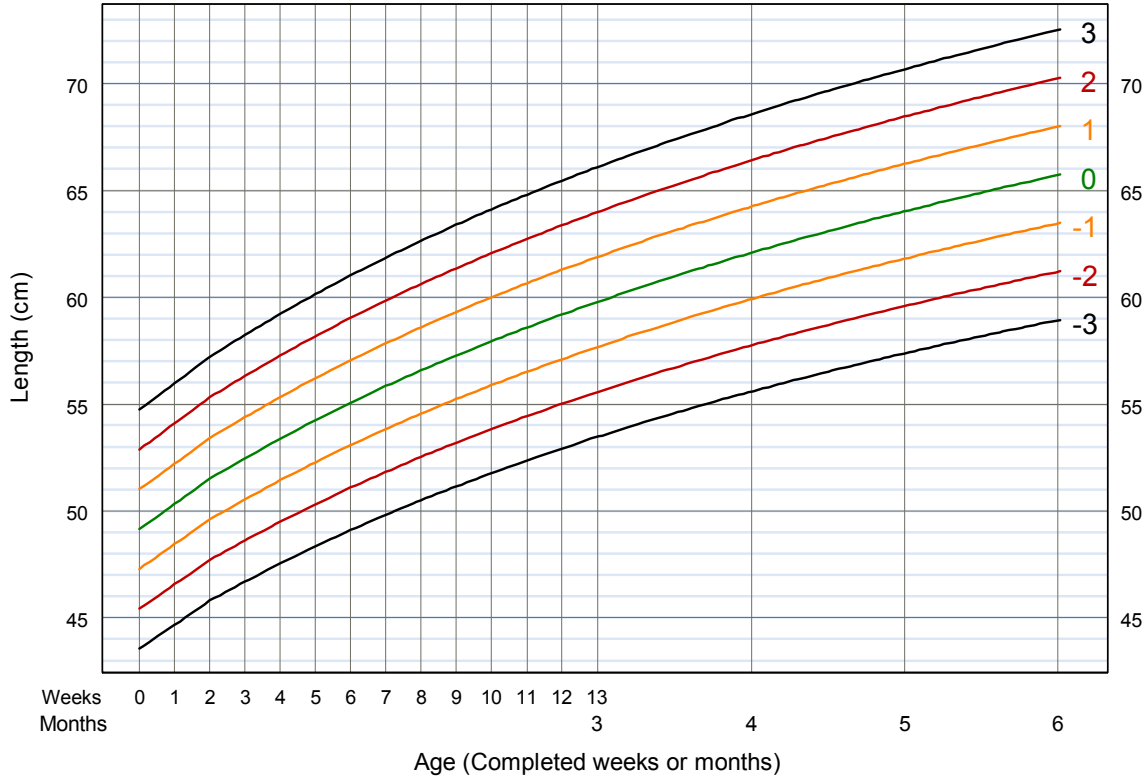
Normal growth in individual children can vary a great deal. Plotting a child's measurements over time on growth charts can show whether a child is growing normally or not.

A health care provider weighs and measures your child and records these measurements. Then the child's measurements are plotted as dots on the charts. Measurements taken at later visits are also plotted, and the dots are joined by a line. This line is your child's growth curve or trend.

### Interpreting Growth Curves

- The line labelled 0 on the growth chart is the median which is, generally speaking, the average. The other lines, called z-score lines, indicate distance from the average. A point or trend which is far from the median, such as 3 or -3, indicates a growth problem.
- The growth curve of a normally growing child will usually follow a track that is roughly parallel to the median. The track may be above or below the median.
- Any quick change in trend (the child's curve veers upward or downward from its normal track) should be investigated to determine its cause and remedy any problem.
- A flat line indicates that the child is not growing. This is called stagnation and may also need to be investigated.
- A growth curve that crosses a z-score line may indicate risk. A health care provider can interpret risk based on where (relative to the median) the change in trend began and the rate of change.

## Length-for-age GIRLS Birth to 6 months (z-scores)

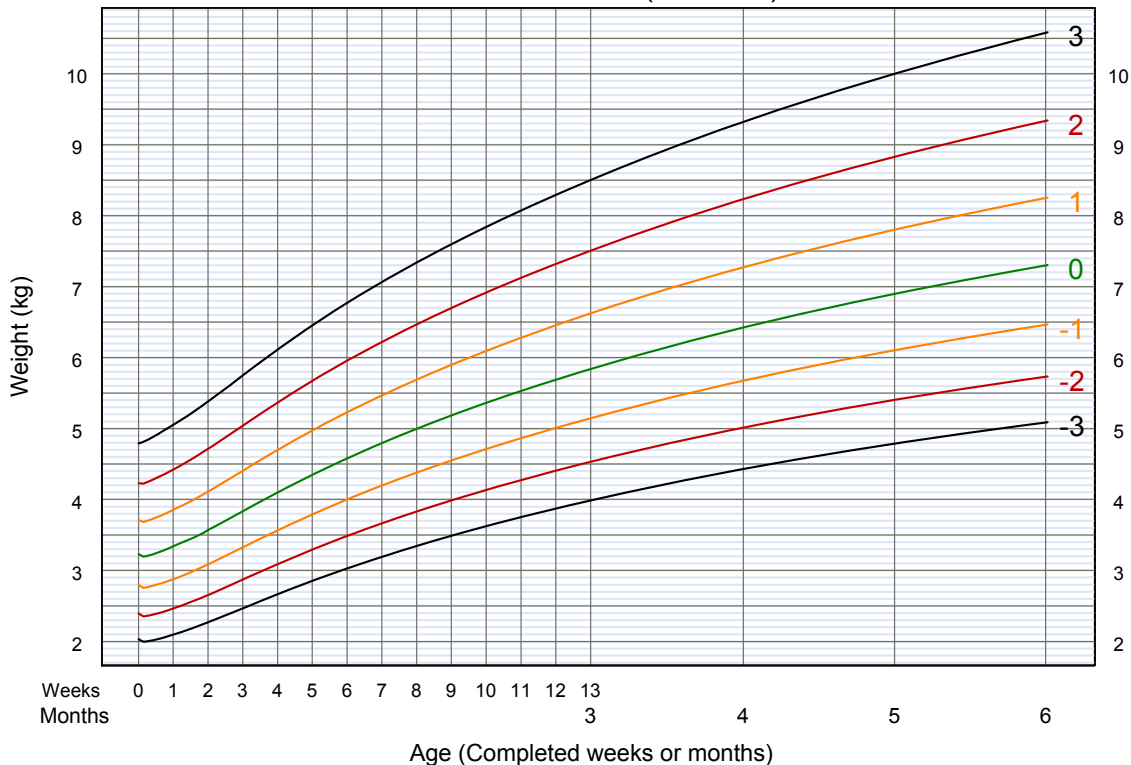


This **Length-for-age** chart shows attained length relative to age in comparison to the median (0 line).

- A child whose length-for-age is below the line -2 is **stunted**.
- Below -3 is **severely stunted**.

Birth to 6 months

## Weight-for-age GIRLS Birth to 6 months (z-scores)

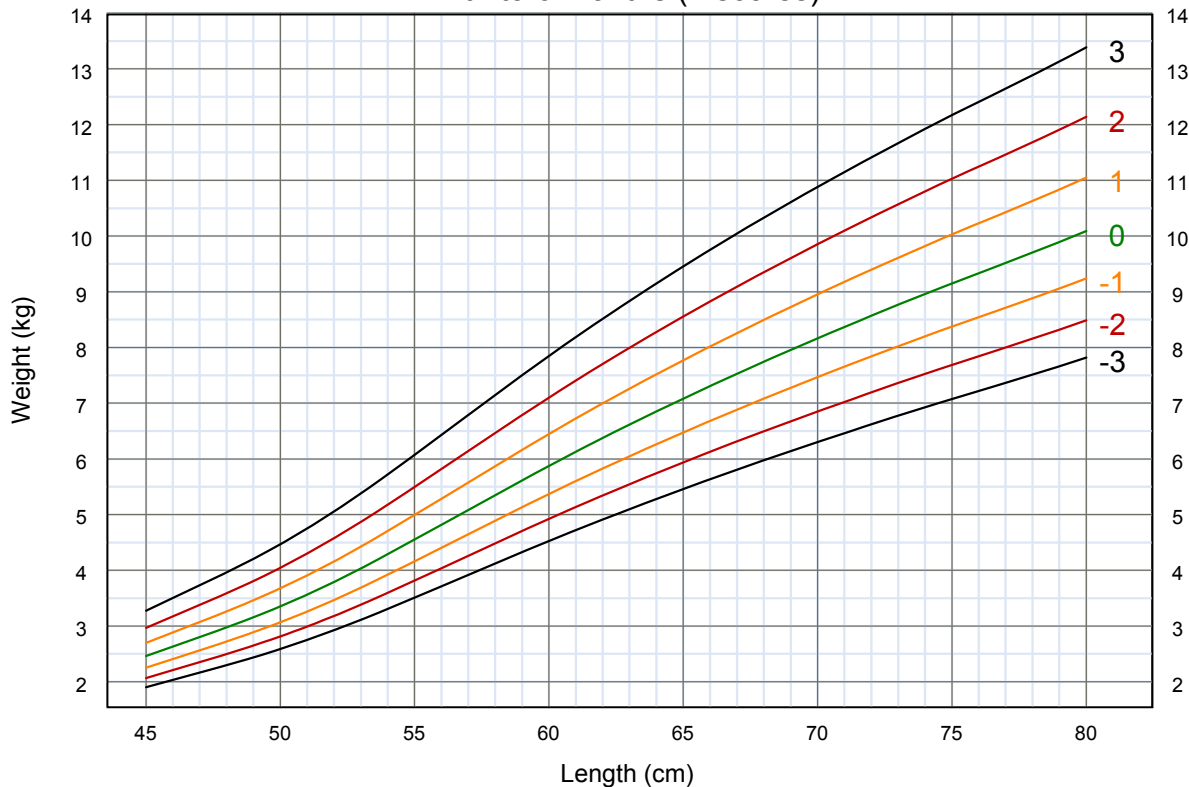


This **Weight-for-age** chart shows body weight relative to age in comparison to the median (0 line).

- A child whose weight-for-age is below the line -2 is **underweight**.
- Below -3 is **severely underweight**. Clinical signs of marasmus or kwashiorkor may be observed.



## Weight-for-length GIRLS Birth to 6 months (z-scores)



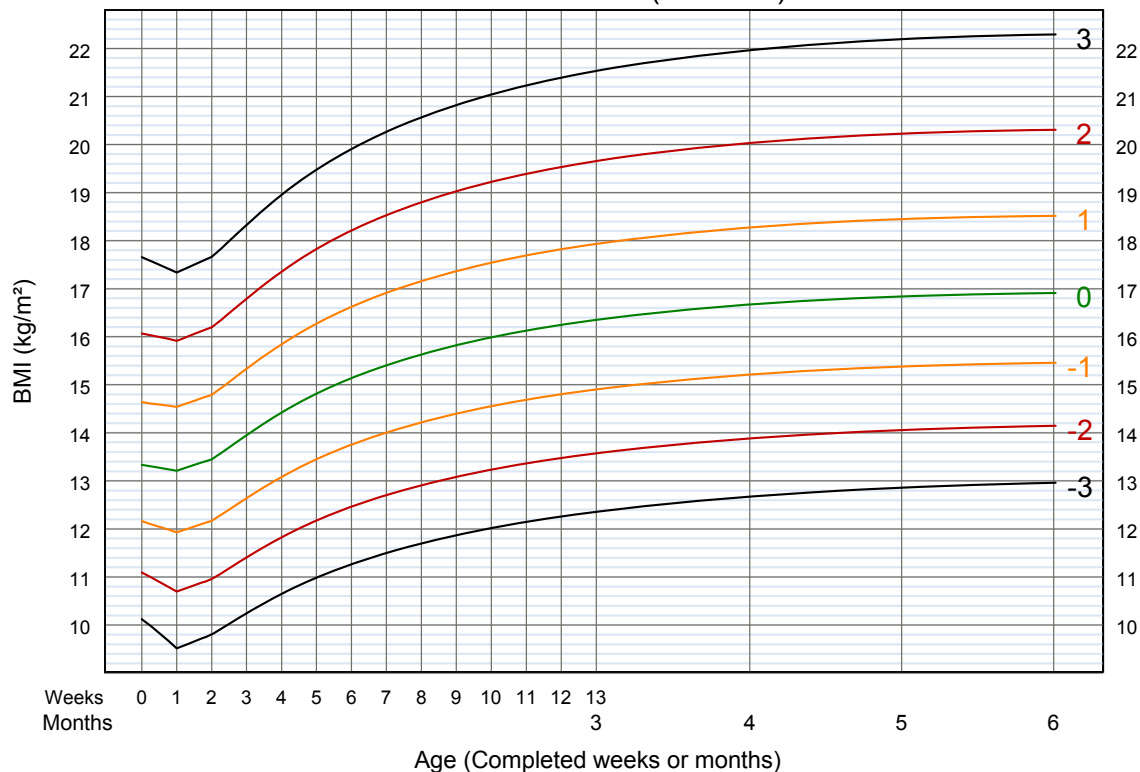
This **Weight-for-length** chart shows body weight relative to length in comparison to the median (0 line).

- A child whose weight-for-length is above the line 3 is **obese**.
- Above 2 is **overweight**.
- Above 1 shows possible **risk of overweight**.
- Below the line -2 is **wasted**.
- Below -3 is **severely wasted**. Refer for urgent specialized care.

Birth to 6 months

## BMI-for-age GIRLS

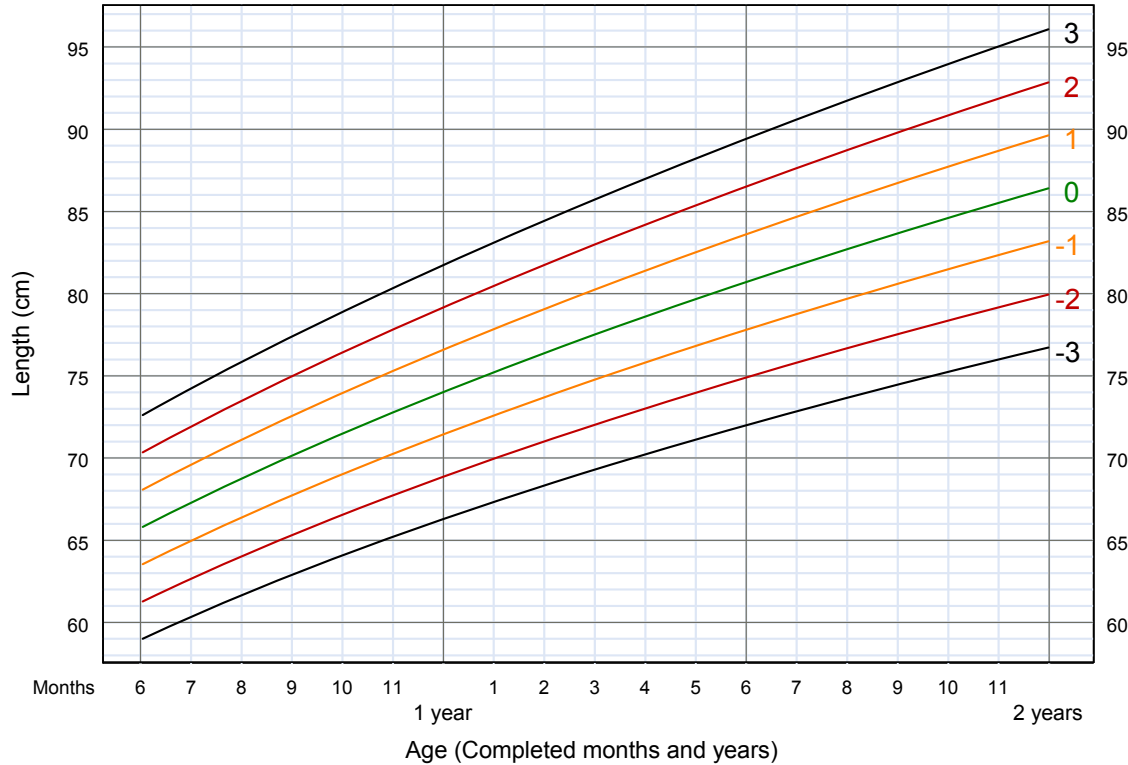
### Birth to 6 months (z-scores)



This **BMI-for-age** chart shows Body Mass Index (BMI, a ratio of body weight to length) for the child's age in comparison to the median (0 line). BMI-for-age is especially useful for screening for overweight.

- A child whose BMI-for-age is above the line 3 is **obese**.
- Above 2 is **overweight**.
- Above 1 shows possible **risk of overweight**.

## Length-for-age GIRLS 6 months to 2 years (z-scores)

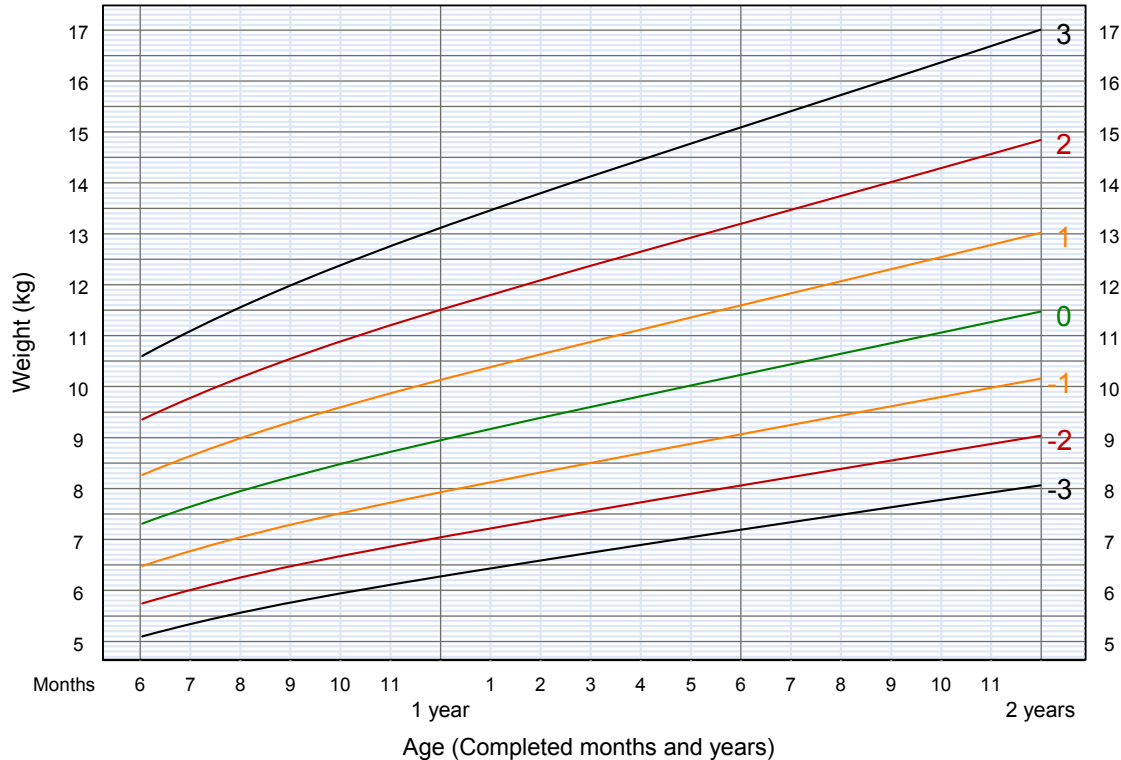


This **Length-for-age** chart shows growth in length relative to age in comparison to the median (0 line).

- A child whose length-for-age is below the line **-2** is **stunted**.
- Below **-3** is **severely stunted**.

6 months to 2 years

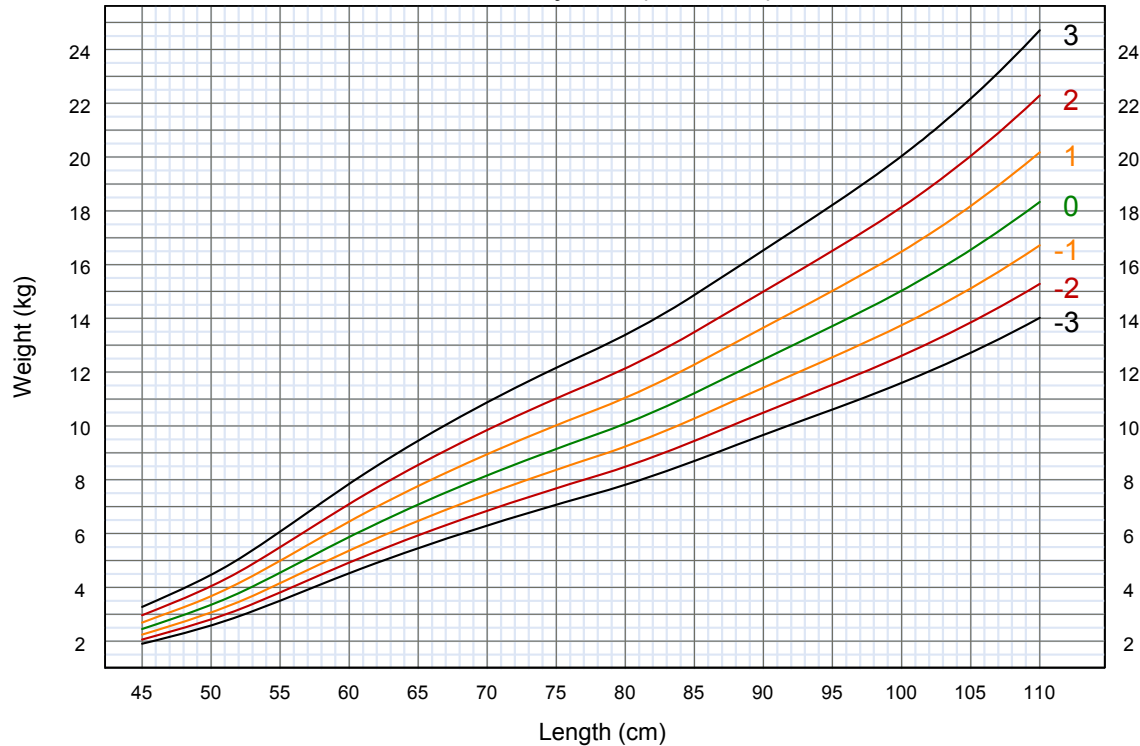
## Weight-for-age GIRLS 6 months to 2 years (z-scores)



This **Weight-for-age** chart shows body weight relative to age in comparison to the median (0 line).

- A child whose weight-for-age is below the line -2 is **underweight**.
- Below -3 is **severely underweight**. Clinical signs of marasmus or kwashiorkor may be observed.

## Weight-for-length GIRLS Birth to 2 years (z-scores)

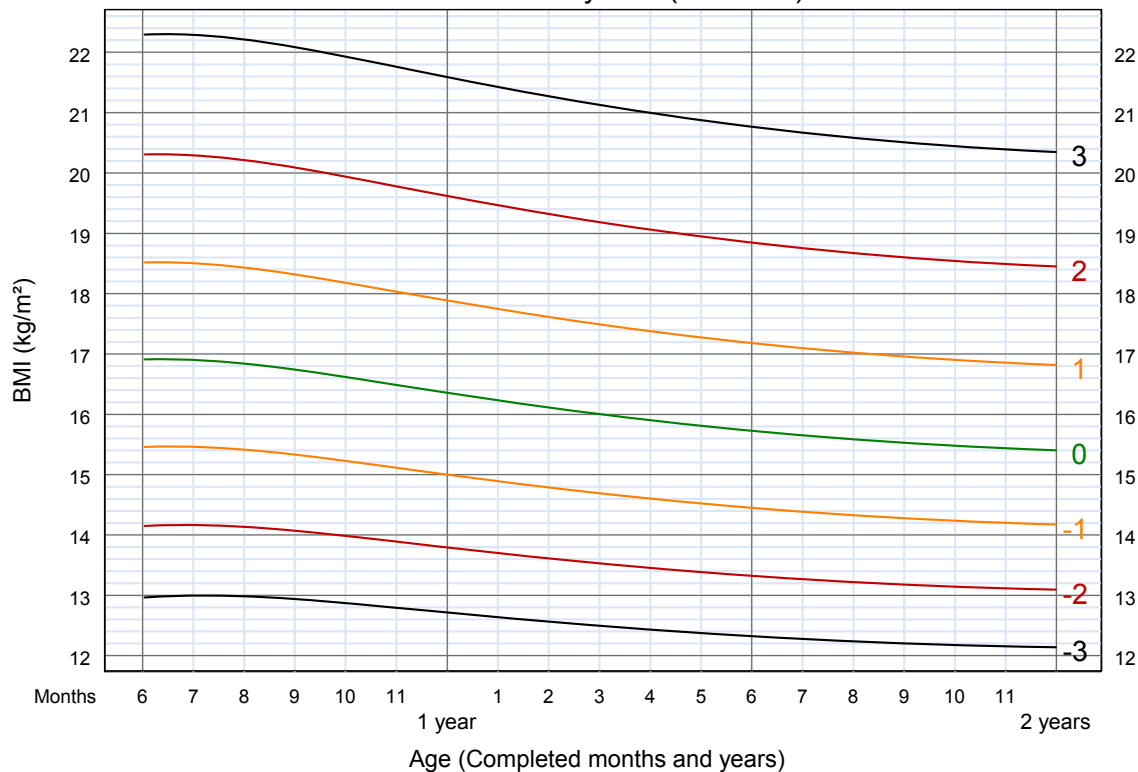


This **Weight-for-length** chart shows body weight relative to length in comparison to the median (0 line).

- A child whose weight-for-length is above the line 3 is **obese**.
- Above 2 is **overweight**.
- Above 1 shows possible **risk of overweight**.
- Below the line -2 is **wasted**.
- Below -3 is **severely wasted**. **Refer for urgent specialized care.**

6 months to 2 years

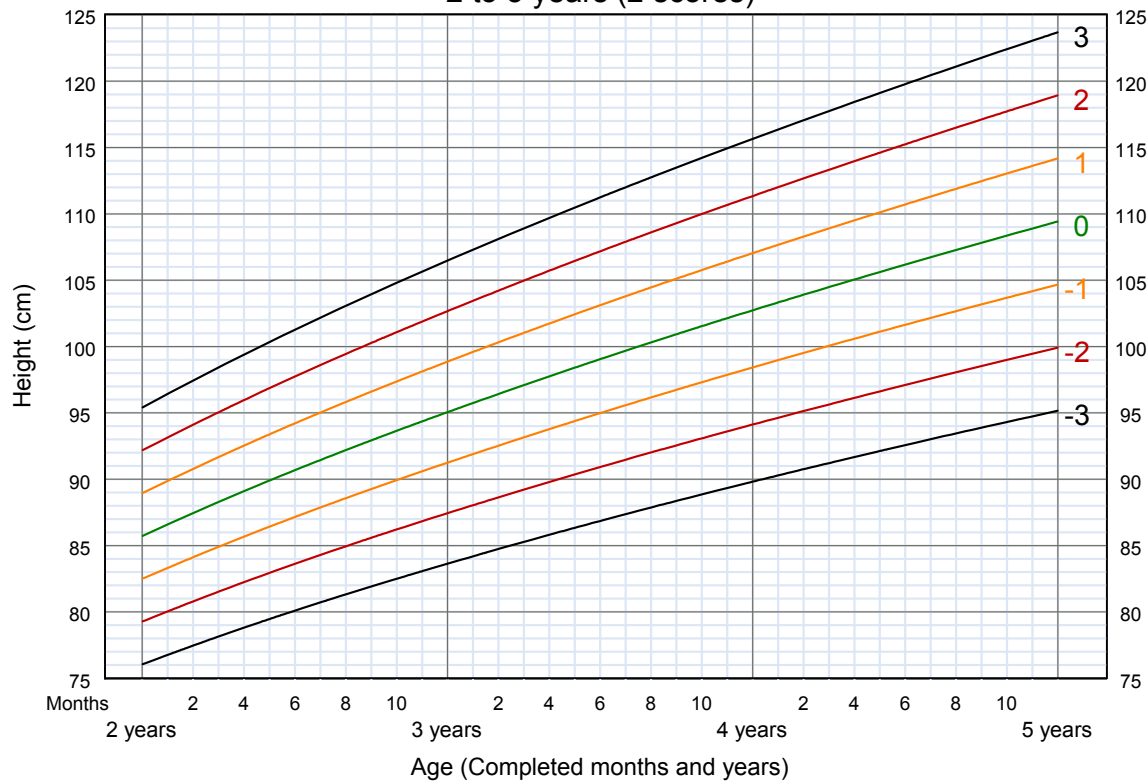
## BMI-for-age GIRLS 6 months to 2 years (z-scores)



This **BMI-for-age** chart shows Body Mass Index (BMI, a ratio of body weight to length) for the child's age in comparison to the median (0 line). BMI-for-age is especially useful for screening for overweight.

- A child whose BMI-for-age is above the line 3 is **obese**.
- Above 2 is **overweight**.
- Above 1 shows possible **risk of overweight**.

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

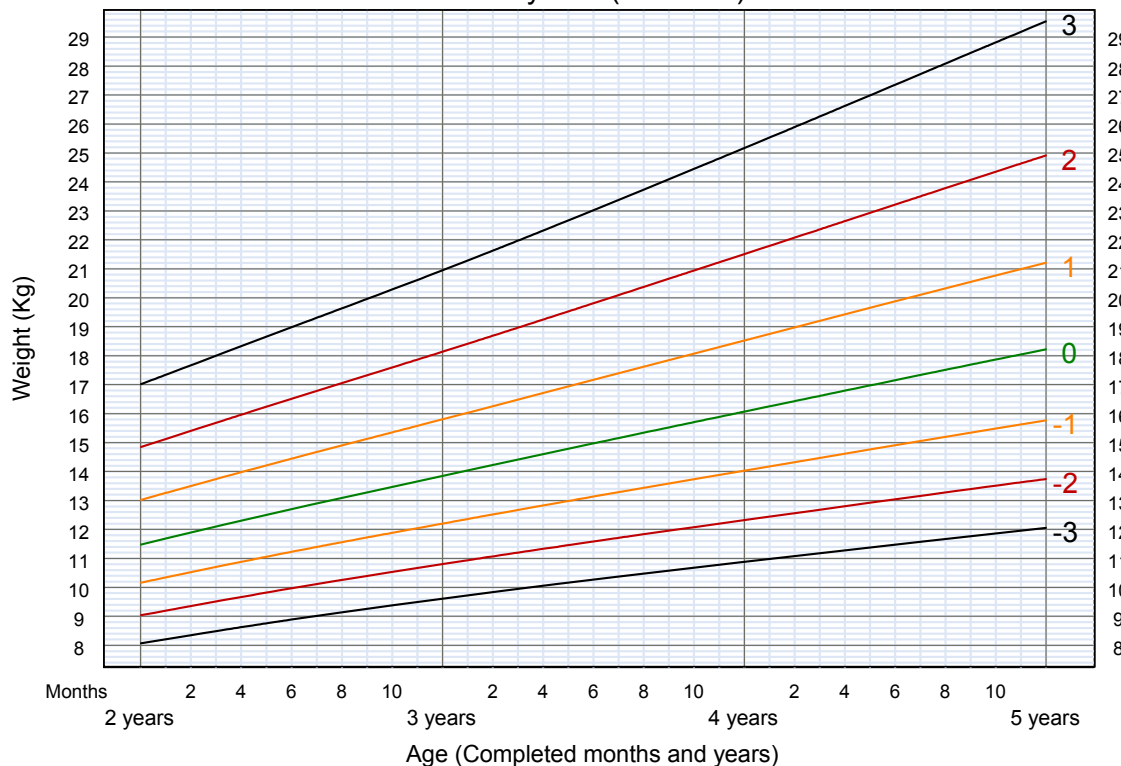


This **Height-for-age** chart shows growth in height relative to age in comparison to the median (0 line).

- A child whose height-for-age is below the line -2 is **stunted**.
- Below -3 is **severely stunted**.

2 to 5 years

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

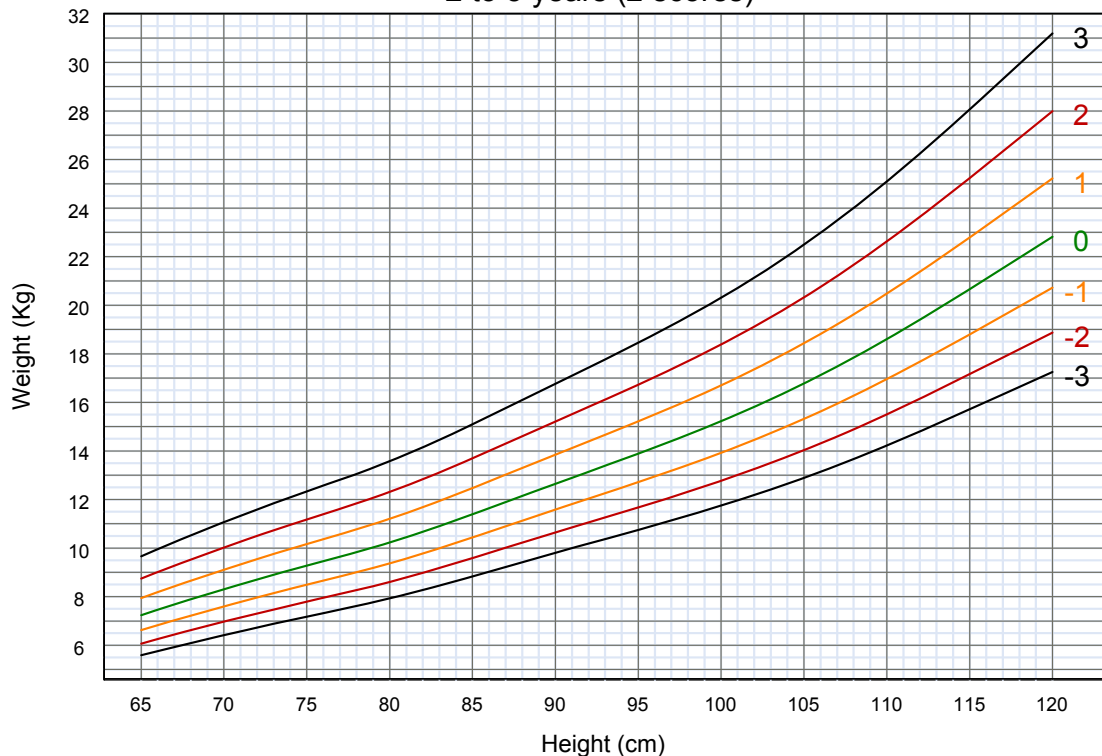


This **Weight-for-age** chart shows body weight relative to age in comparison to the median (0 line).

- A child whose weight-for-age is below the line **-2** is **underweight**.
- Below **-3** is **severely underweight**. Clinical signs of **marasmus** or **kwashiorkor** may be observed.



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

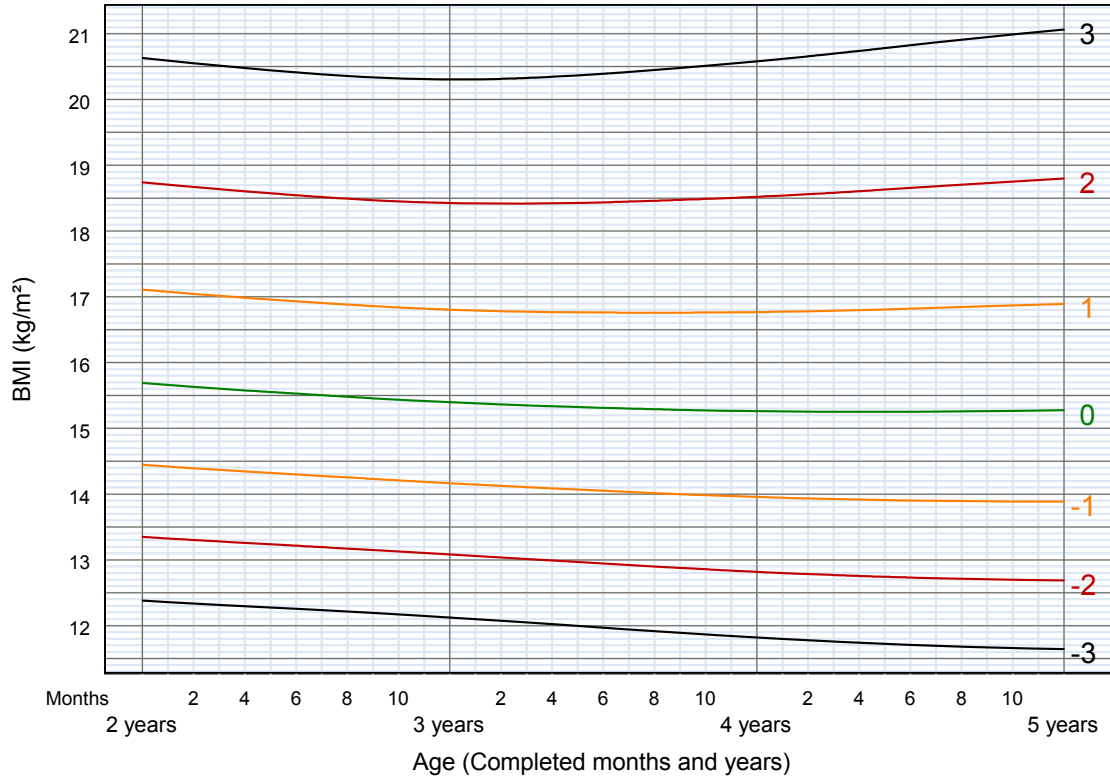


This **Weight-for-height** chart shows body weight relative to height in comparison to the median (0 line).

- A child whose weight-for-height is above the line 3 is **obese**.
- Above 2 is **overweight**.
- Above 1 shows possible **risk of overweight**.
- Below the line -2 is **wasted**.
- Below -3 is **severely wasted**. Refer for urgent specialized care.

2 to 5 years

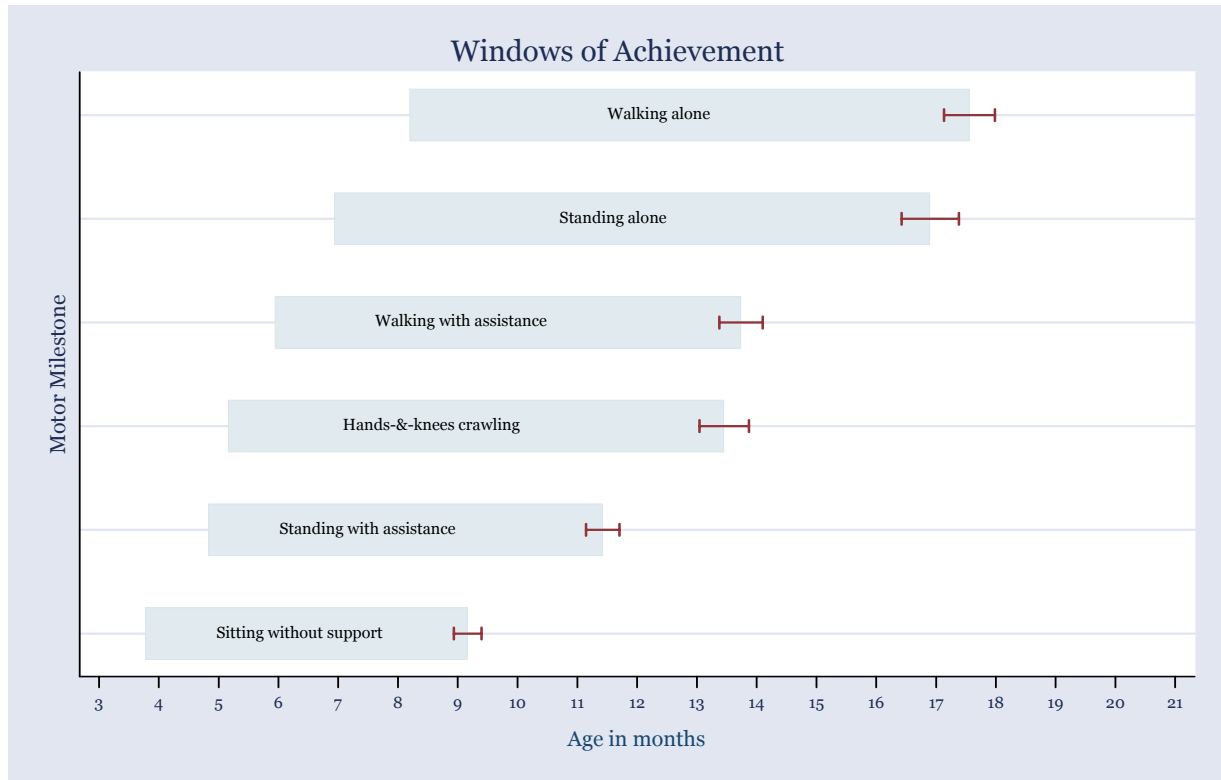
## BMI-for-age GIRLS 2 to 5 years (z-scores)



This **BMI-for-age** chart shows Body Mass Index (BMI, a ratio of body weight to length) for the child's age in comparison to the median (0 line). BMI-for-age is especially useful for screening for overweight.

- A child whose BMI-for-age is above the line 3 is **obese**.
- Above 2 is **overweight**.
- Above 1 shows possible **risk of overweight**.

## Gross Motor Milestones



*These windows show when the reference population for the WHO Child Growth Standards achieved these motor milestones.*

## Annex: Immunization schedule for infants recommended by the WHO Expanded Programme on Immunization

This chart would be used when developing the immunization schedule for a country, such as on page 4 of this booklet. (This page is not for mothers.)

Vaccine	Age				
	Birth	6 weeks	10 weeks	14 weeks	9 months
BCG	x				
Oral polio	x <sup>*</sup>	x	x	x	
DTP		x	x	x	
Hepatitis B      Scheme A <sup>a</sup> Scheme B <sup>a</sup>	x	x		x	
		x	x	x	
<i>Haemophilus influenzae</i> type b		x	x	x	
Yellow fever					x <sup>b</sup>
Measles					x <sup>c</sup>

<sup>\*</sup> *In polio-endemic countries*

<sup>a</sup> Scheme A is recommended in countries where perinatal transmission of hepatitis B virus is frequent (e.g. in South-East Asia). Scheme B may be used in countries where perinatal transmission is less frequent (e.g., in sub-Saharan Africa).

<sup>b</sup> In countries where yellow fever poses a risk.

<sup>c</sup> A second opportunity to receive a dose of measles vaccine should be provided for all children. This may be done either as part of the routine schedule or in a campaign.





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