

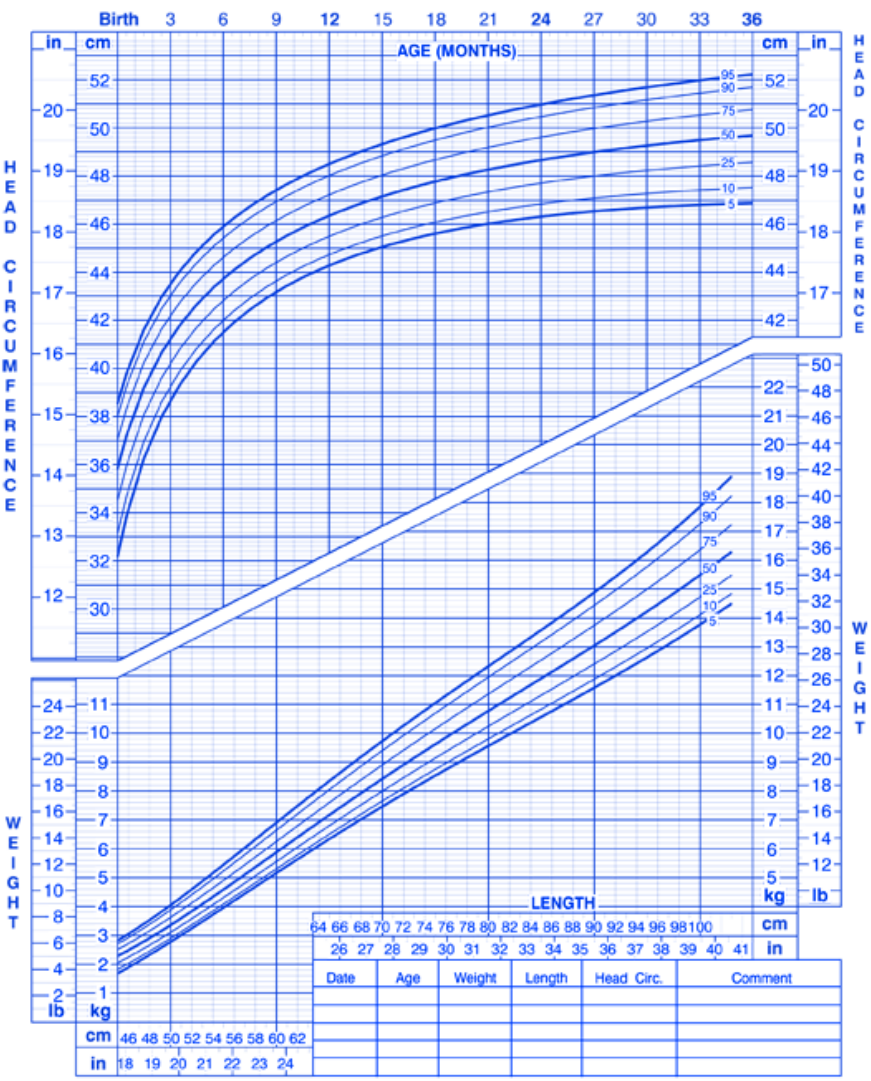
Growth charts

- Pediatric *growth charts* are used by pediatricians, nurses, and parents to track the *growth* of infants, children, and adolescents
- **Growth charts** are used to compare the child's **height**, weight, and head size against children of the same age and sex.
- **Charts** can help the health care provider to follow children as they **grow**.
- These **charts** may provide an early warning that the child has a medical problem.
- **Girls** and **boys** are measured on **different growth charts** because they **grow** in **different** patterns and at **different** rates.

Growth Charts

Birth to 36 months: Boys Head circumference-for-age and Weight-for-length percentiles

NAME _____
RECORD # _____



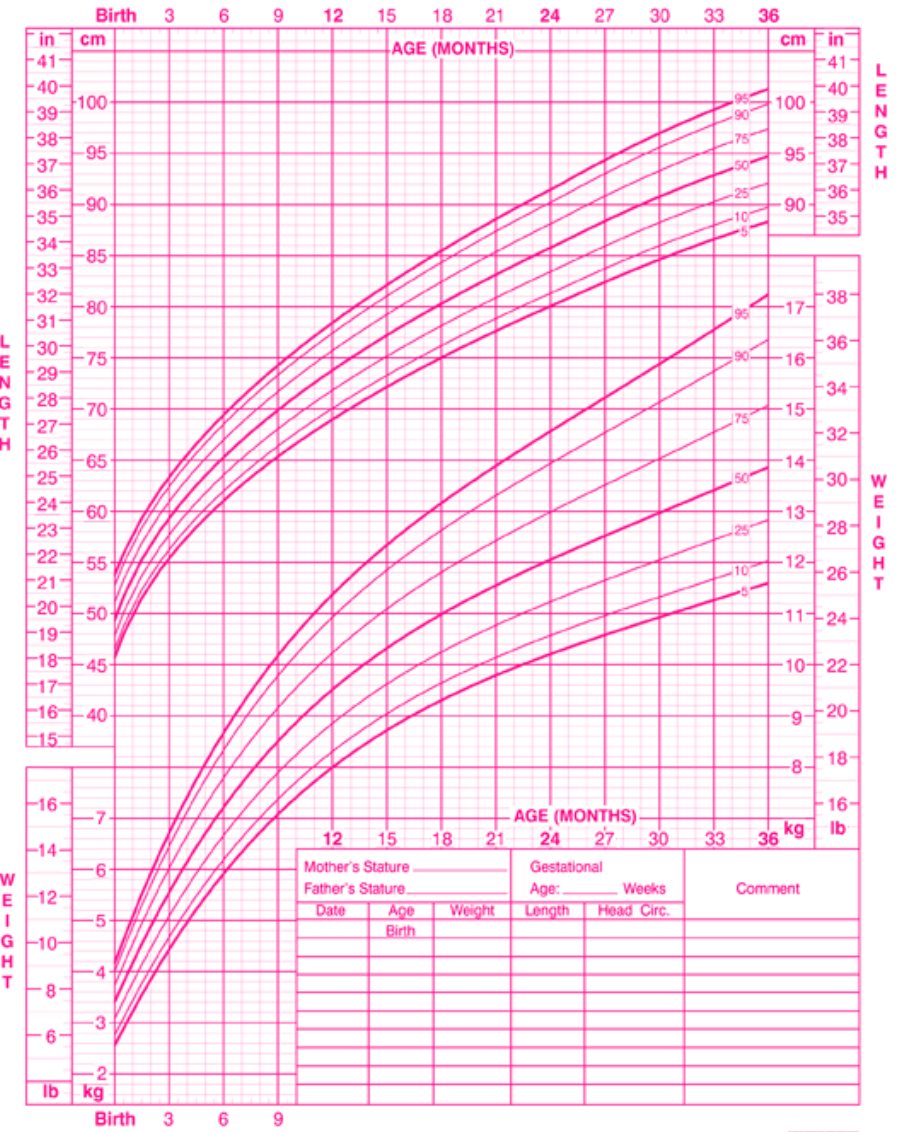
Published May 30, 2000 (modified 10/16/00).
SOURCE: Developed by the National Center for Health Statistics in collaboration with
the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>



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Birth to 36 months: Girls Length-for-age and Weight-for-age percentiles

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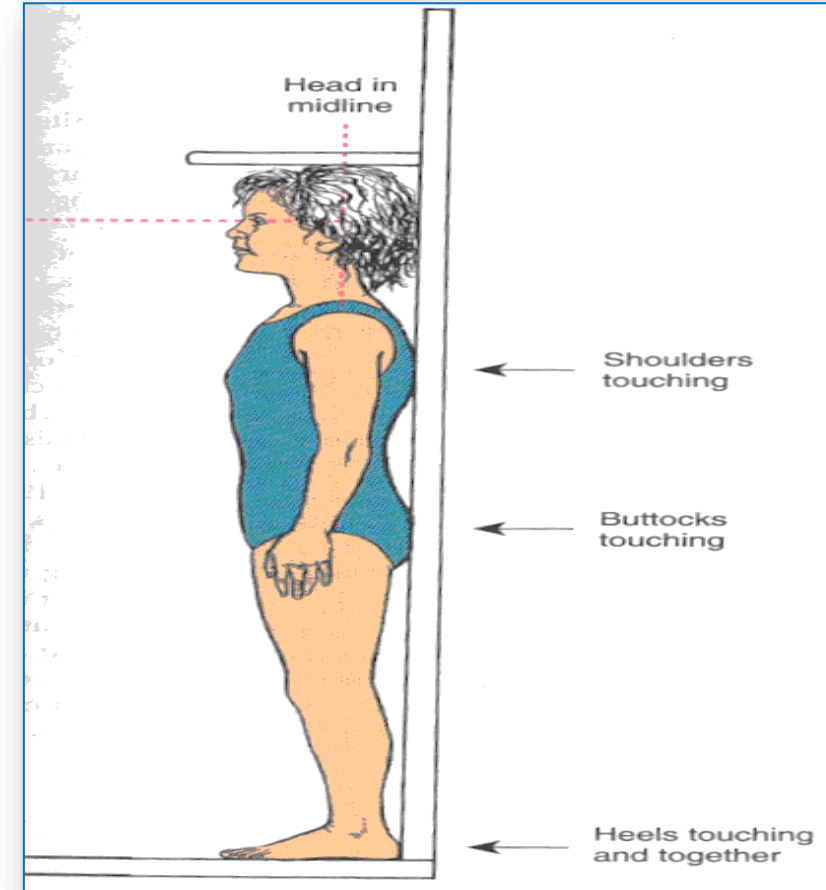
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Assessment of Growth

- Observe and record growth parameters over a period of time
 - Weight
 - Height / length
 - Head circumference
 - **Weight early affected by malnutrition**
 - **Height affected by malnutrition/illness >6 months**



Length

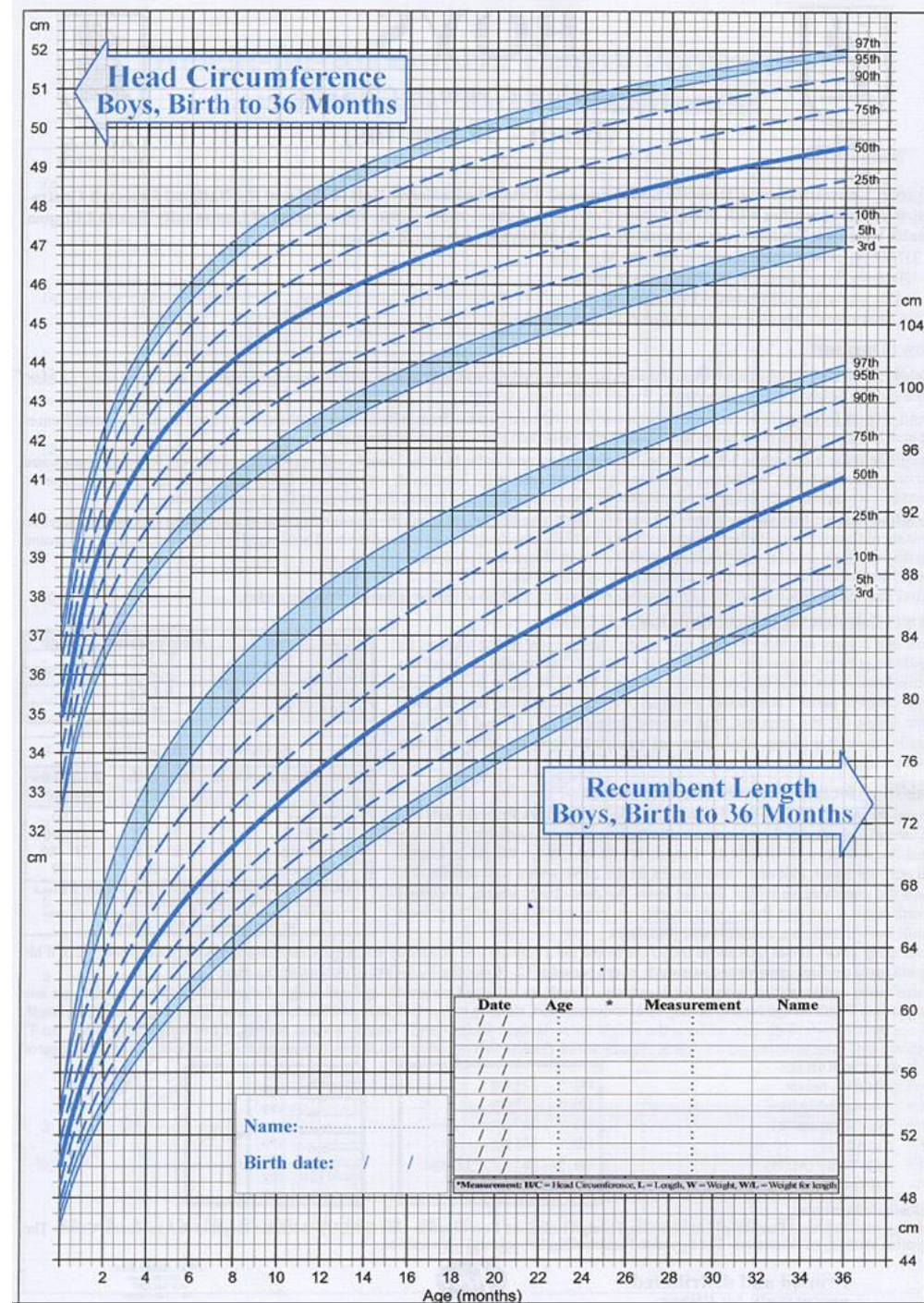
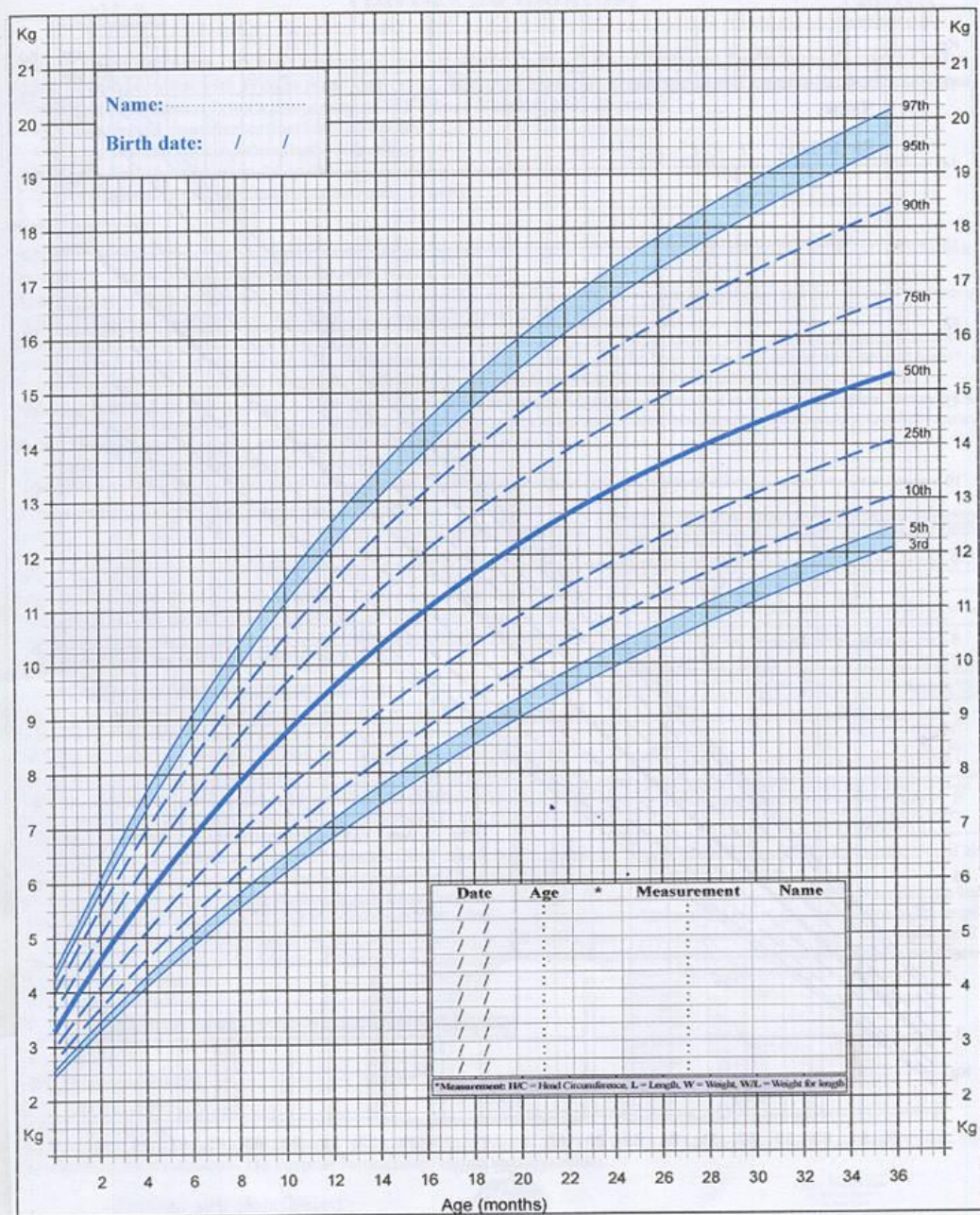


Height



- Measurements are **compared to** the “**standard**” or **normal range of children** of the same age and gender
- **Reference children** were healthy of upper socioeconomic class, with **adequate nutrition and health care** including immunization & optimal care
- **Centile charts** are available for ages from **birth-36 months** and from **2-21years**

Weight-for-Age Percentiles: Egyptian Boys, Birth to 36 Months



Growth charts

- Series of percentile curves for distribution of selected body measurements
 - **Wt for age**
 - **Height for age**
 - **Wt for length**
 - **Head circumference for age**
- **Charts between 3rd and 97th centile**
- **Average (Mean) 50th percentile**

- Normal percentiles lie **between 5th and 95th percentiles**
- By serial measurements, Any deviation of the child's percentile on growth charts should be investigated.
- We usually don't worry about insufficient (or excessive) **growth** until a child's **growth** rate has crossed at least two **percentile** lines
(e.g., from above the 90th **percentile** to below the 50th) by serial measurements of growth charts

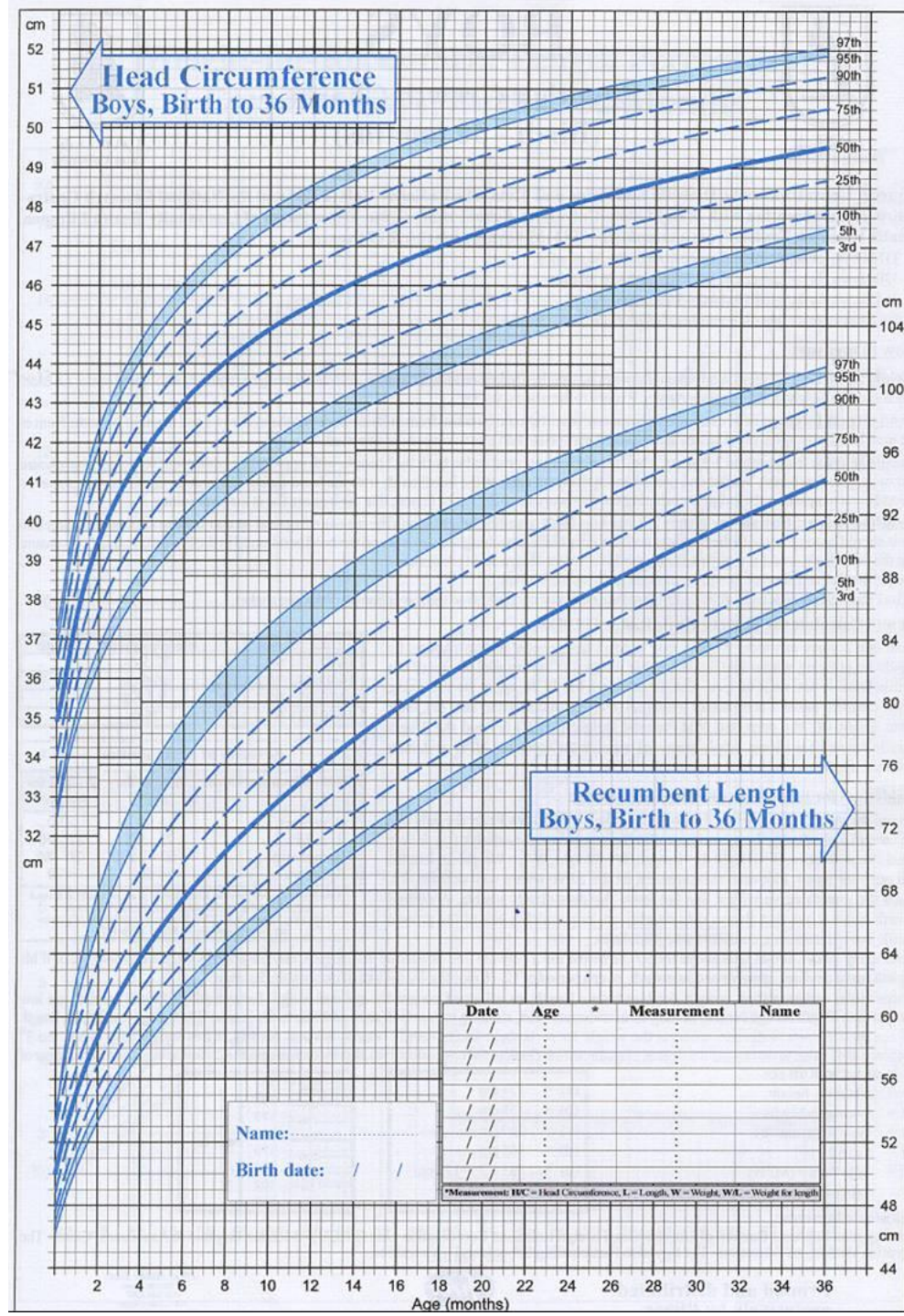


Measurement of head circumference



Measuring head circumference. The measuring tape passes just above the eyebrows and around the prominent posterior aspect of the head.

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How to Use Growth chart

1- Choose the correct chart : according to age & sex

2- Find the measurement :

eg. Age of child on horizontal axis, then draw an **imaginary vertical line** from it to **intersect** another **imaginary horizontal line** at level of weight or length (vertical axis)

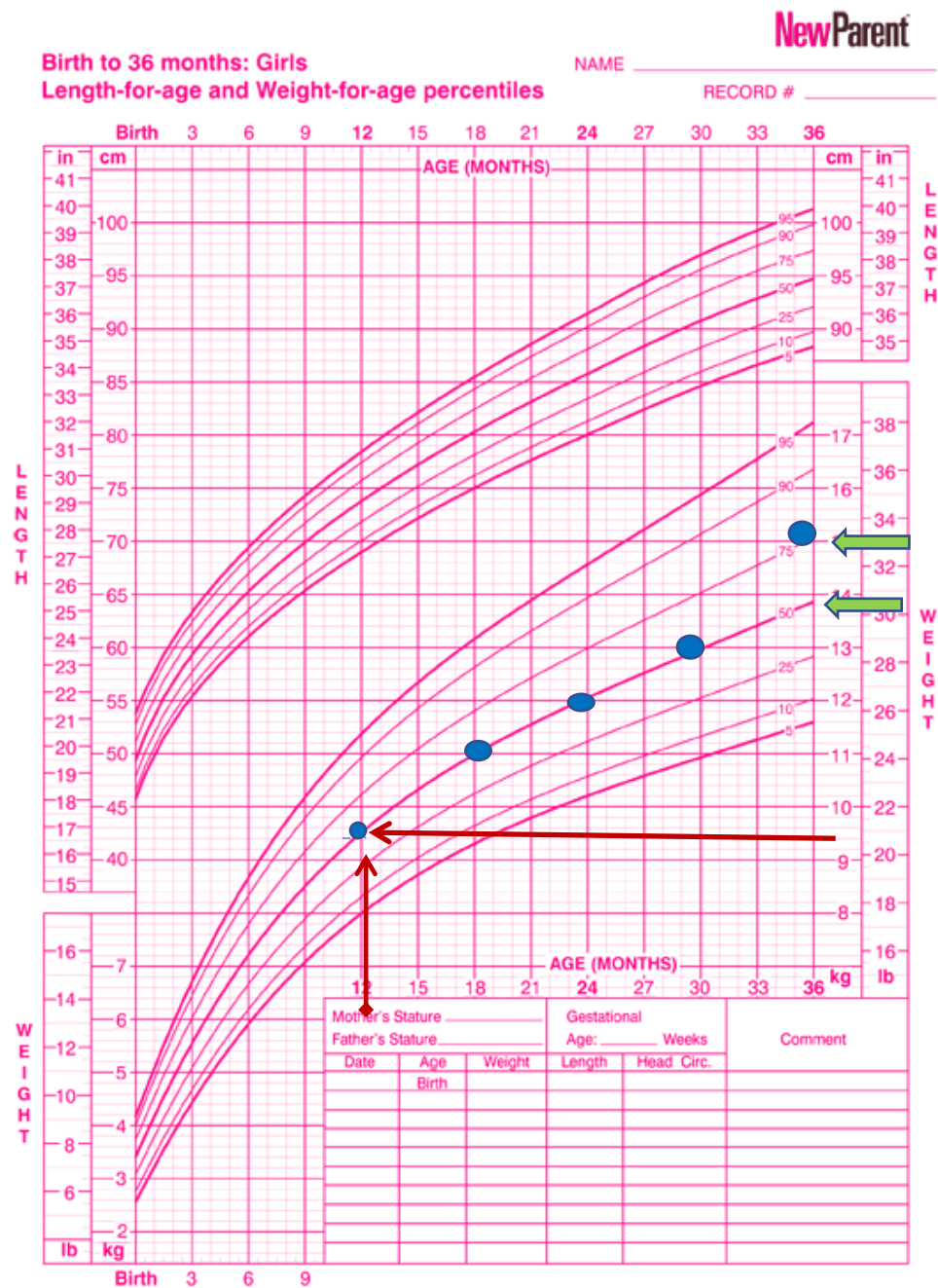
3-intersecting point is the position of a child on chart

4-Find on which **centile** the **point** falls

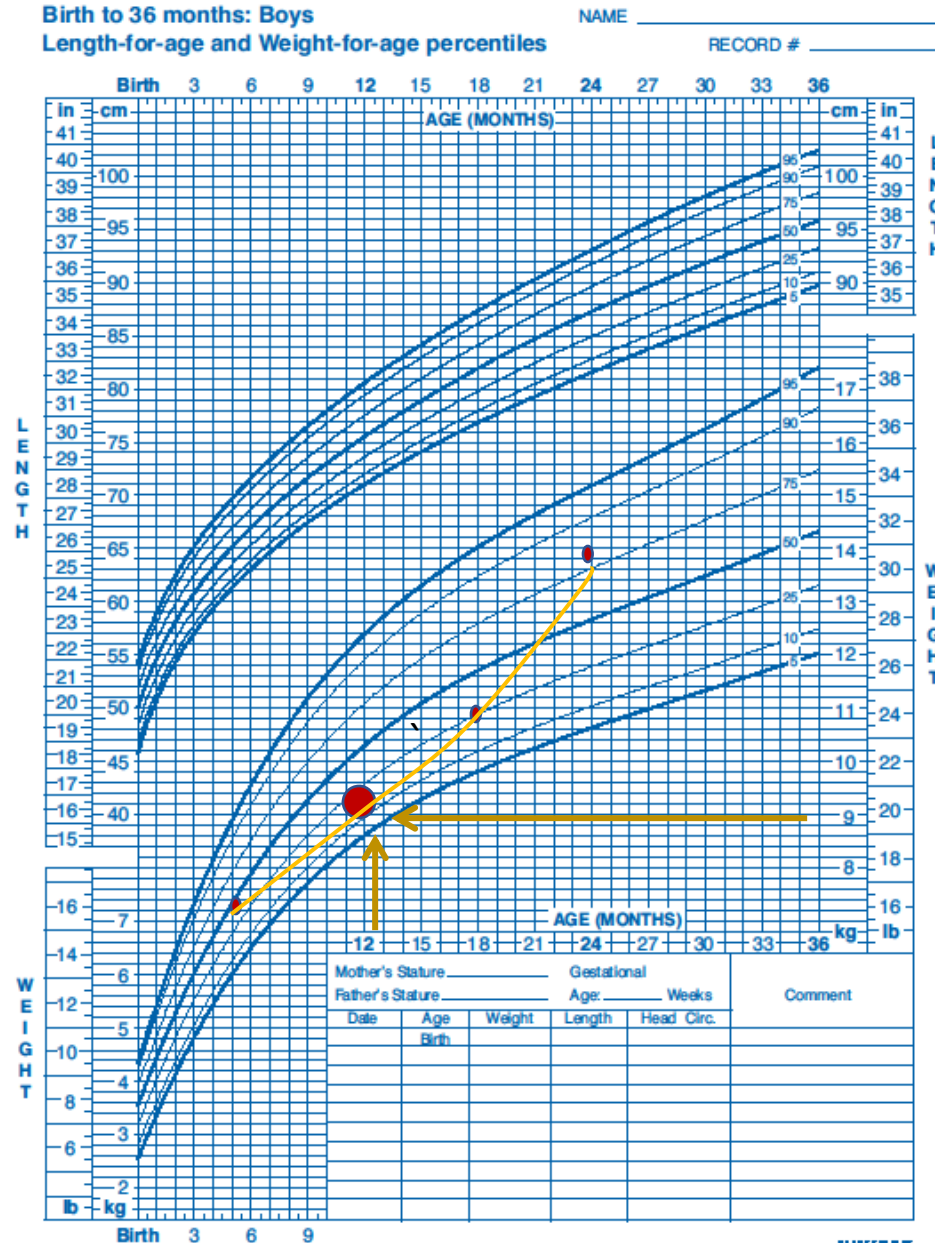
- **Reading the Figure at the right end of centile curve**
- If the point falls between 2 curves, calculate midpoint

Jana, at

- 1 yr – 9.5kg
- 1.5yr - 11kg
- 2yrs – 12 kg
- 3 yrs - 15 kg



- Khaled, at
- 6months - 7kg
 - 12mo- 9kg
 - 18 mo - 11kg
 - 2 yr - 14 kg



What are the types of malnutrition?

- Malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients.
- There are **4 broad categories of undernutrition**: wasting, stunting, underweight, and deficiencies in vitamins and minerals
- **Low weight-for-height** is known as **wasting**.
- **Low height-for-age** is known as **stunting**.

References & suggested reading

- https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html