

Nutritional requirements of various age group special group and balanced diet

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■ Indian Reference man

- 60 kg.
- employed for 8 hrs in occupation with moderate activity.

■ Reference woman

- 50 kg
- 8 hrs general household work, in light industry or other moderate work

- 20 - 39 yrs
- 8 hrs sleep
- 4-6 hrs sitting or moving around with light activity
- 2 hrs walking/ active recreation/ household duties
- free from disease and physically fit for active work.

■ Energy requirements

- Level of energy intake in relation to expenditure.

Vulnerable groups:

- Pregnancy - +300 kcal/day
- Lactating mothers - +550 kcal/ day (1st 6 months), +400 kcal (next 6 months)
- Children require proportionately more energy per kg of body weight than adults

Age	Kcal/kg/24hrs	Age	Kcal/kg/24hrs
<1yr	112	7- 9 yrs	80
1 - 3 yrs	100	Reference man	45
4 - 6 yrs	90	Reference woman	40

Energy requirements (ER) contd...

- Adults:
- ER decreases because of a fall in BMR and a decrease in physical activity.
- After 40 yrs, ER reduced by 5% every decade till 60 yrs and by 10% every decade thereafter.

■ BALANCED DIET

- A diet that contains a variety of foods
- in such quantities and proportions that
- the need for all nutrients is adequately met
- for maintaining health, vitality and general well being and
- also makes a small provision for extra nutrients to withstand short duration of leanness.

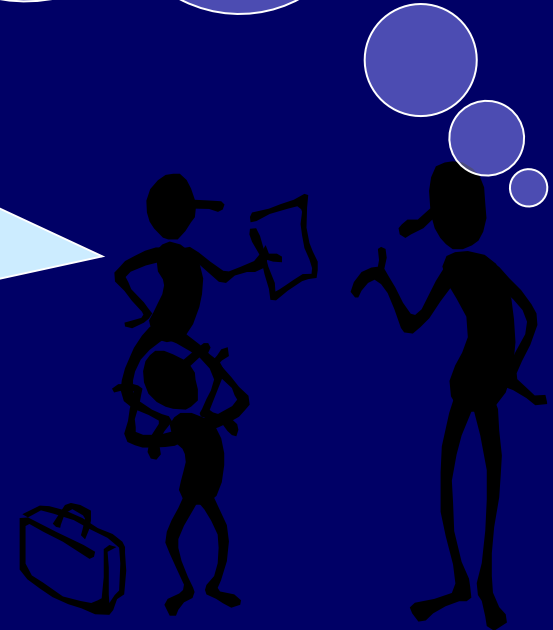
Principles to be followed:

- Protein: 10-15% of daily energy intake
- Fat: 15-30% of daily energy intake; saturated fat not more than 10%
- Carbohydrate intake rich in natural fibre should constitute the rest.
- Salt intake not more than 5 gm/d
- Junk foods s/b reduced.
- At least 8 glass of water

Malnutrition

So what is
malnutrition?

.. malnutrition is a
term that covers a
wide range of
clinical conditions
in children and
adults.



RISKS of being malnourished...

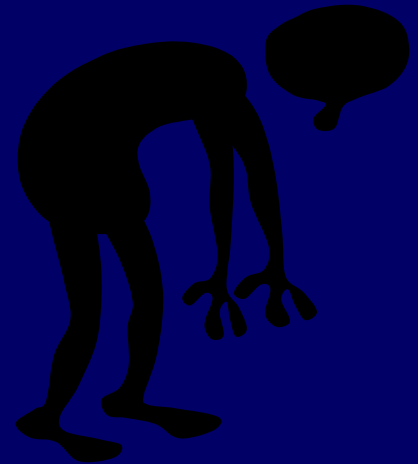
Lowered resistance to disease

Increased risk of mortality

(reducing malnutrition by 5% reduces child mortality by 30%)

Learning difficulties

Delayed Growth and Development



Why does an individual child become malnourished?

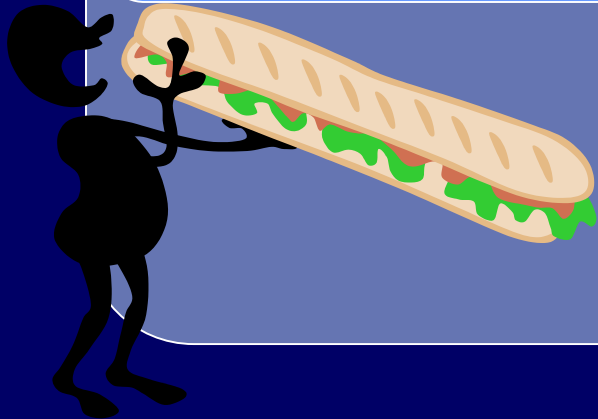
In an individual, malnutrition is the result of either:

An inadequate dietary intake



Infection

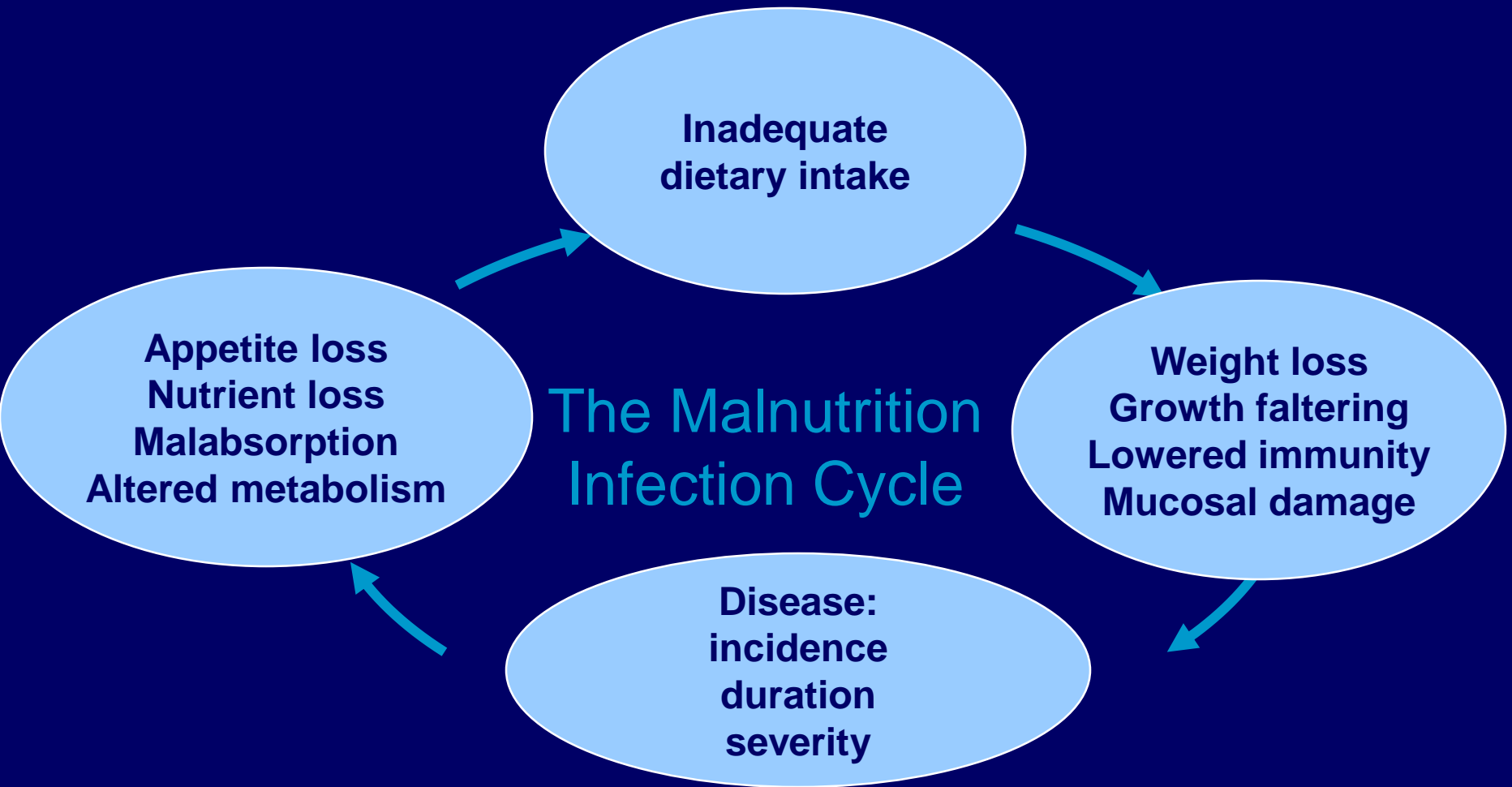
or a combination of both



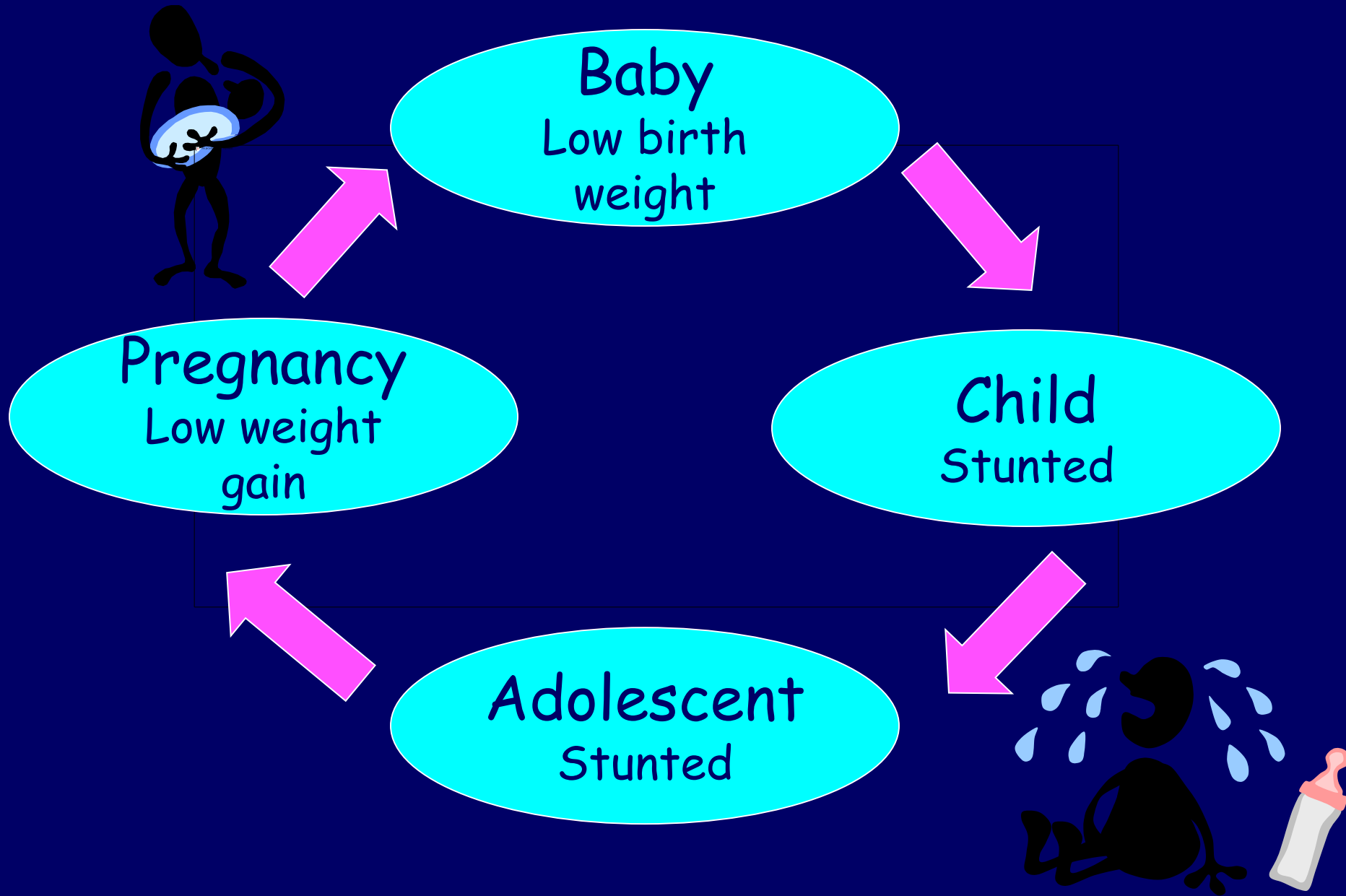
Contributing factors

1. Inadequate breast-feeding, improper weaning practices
2. Low SES
3. Ignorance, cultural and religious beliefs
4. Large families, over-crowding, population expansion
5. Famine, draught, other natural disasters
6. Malnourished mothers and low birth weight babies
7. Malabsorption syndromes

Spiral of Malnutrition and Infection



Nutrition throughout the life cycle



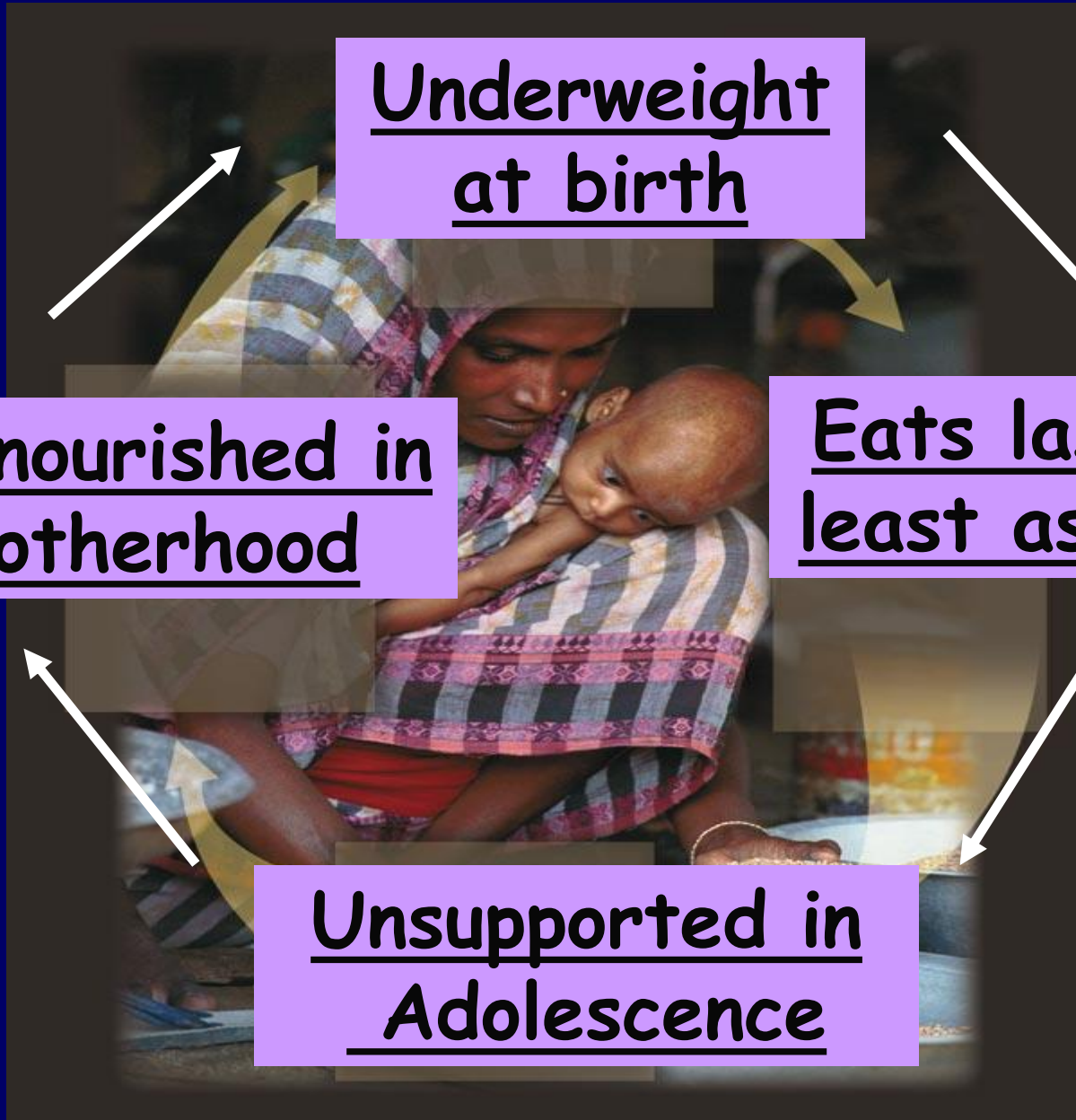
Nutrition and life cycle

Underweight
at birth

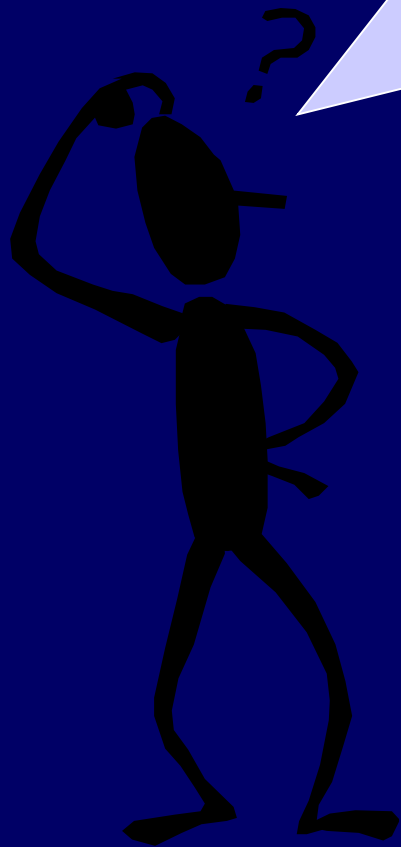
Malnourished in
motherhood

Eats last and
least as a girl

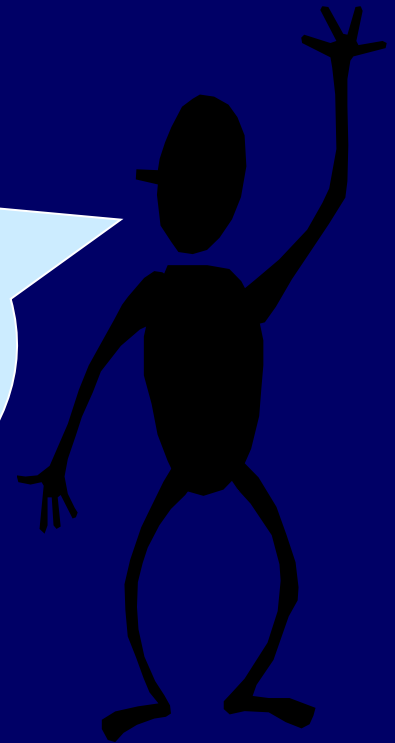
Unsupported in
Adolescence



What are the main
types of malnutrition?



Remember
there are
Two main types
of malnutrition

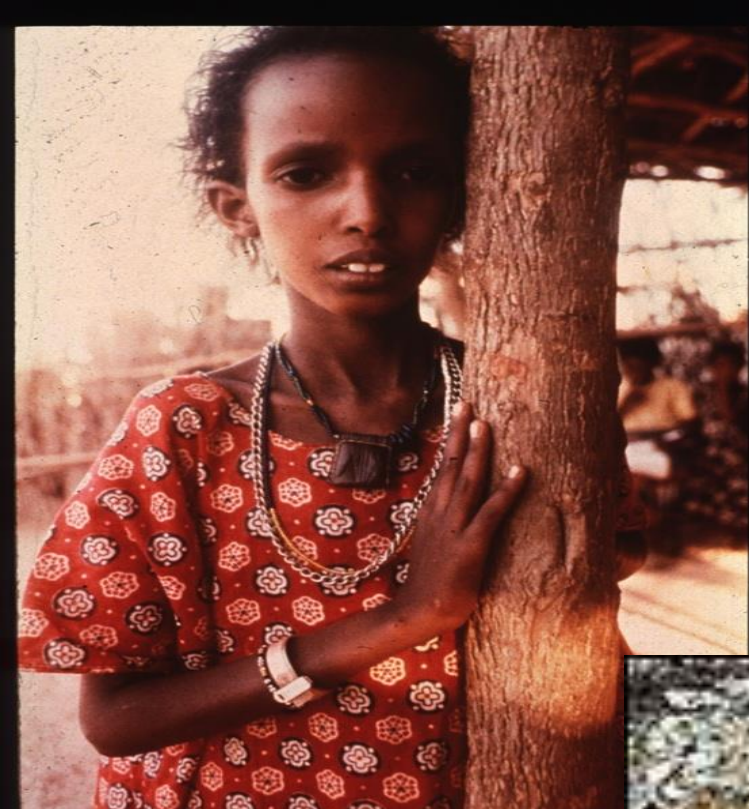


PROTEIN ENERGY MALNUTRITION (PEM)

...the most common form of malnutrition

MICRONUTRIENT DEFICIENCY DISEASES (MDD'S)

...occur as a result of
deficiencies in specific
micronutrients (*vitamins or
minerals*).



PEM

WHO DEFINITION (1973)

A range of pathological conditions arising from coincidental lack in varying proportions of proteins and calories occurring most commonly in infants & young children and commonly associated with infections