



NUTRITIONAL MANAGEMENT OF MDR TB

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NUTRITIONAL REQUIREMENTS

- DOUBLE BURDEN OF DISEASE
- TB IS STRONG – Whatever energy is consumed is used to fight the TB
- Higher
 - ENERGY
 - PROTEIN
 - Maintain muscle mass/LBM
 - Albumin – marker of mortality



NUTRITIONAL STATUS

- Food Insecure
- Diet Histories / Food Frequencies
 - ↑↑ Starch (variety but from the same group)
 - ↓ Protein
 - ↓ Dairy
 - ↓ Fruit and Vegetables



NUTRITIONAL MANAGEMENT OF...

- SIDE EFFECTS
 - NAUSEA
 - DIARRHOEA
 - VOMITING
 - CONSTIPATION



NUTRITIONAL ASSESSMENT

- MAJOR QUESTION
 - WHO QUALIFIES FOR SUPPLEMENTATION?



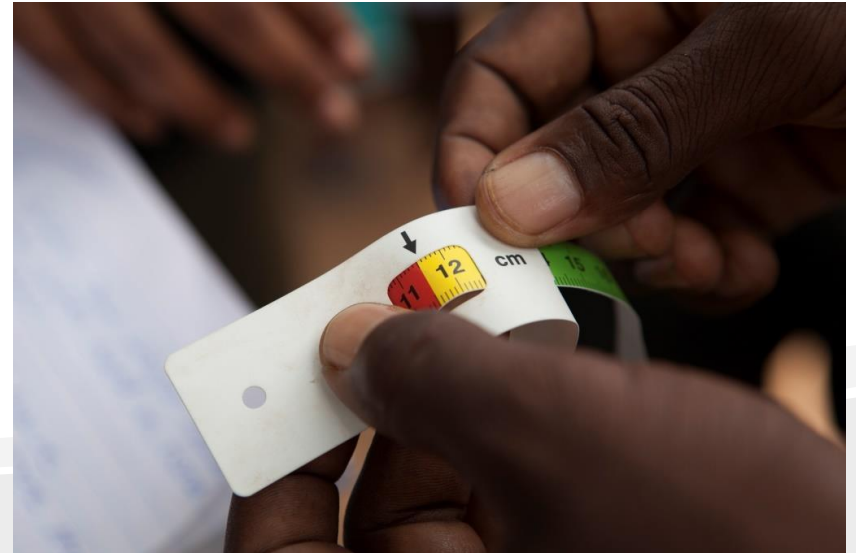


NUTRITIONAL ASSESSMENT

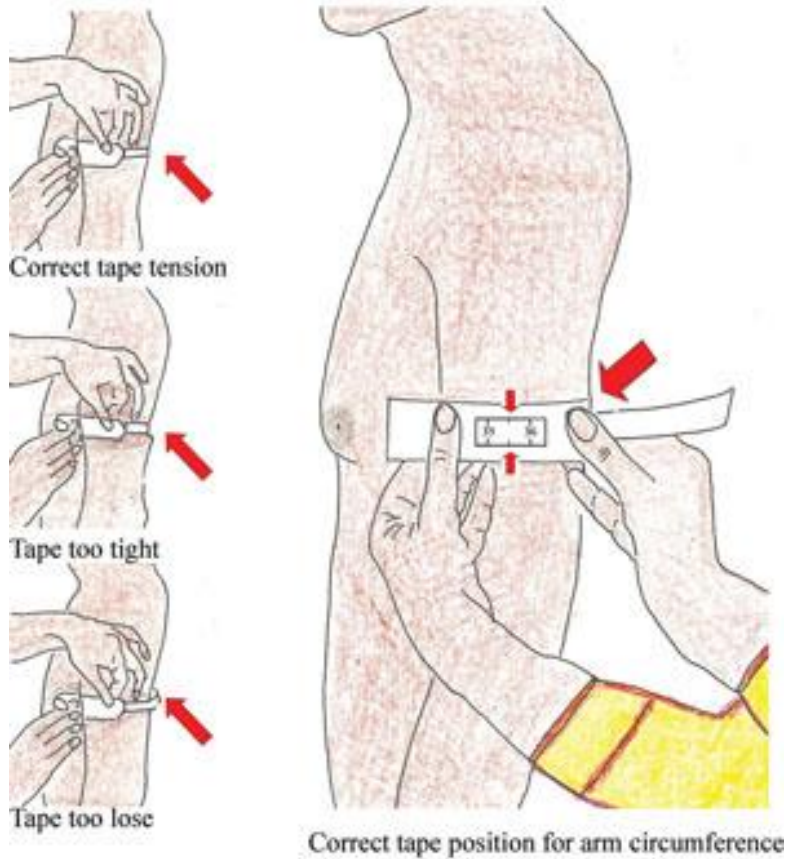
- 3 IMPORTANT MEASUREMENTS
 - WEIGHT
 - HEIGHT
 - MID-UPPER ARM CIRCUMFERENCE (MUAC)
 - The MUAC is vital in the event the patient is unable to stand. Why?

NUTRITIONAL ASSESSMENT

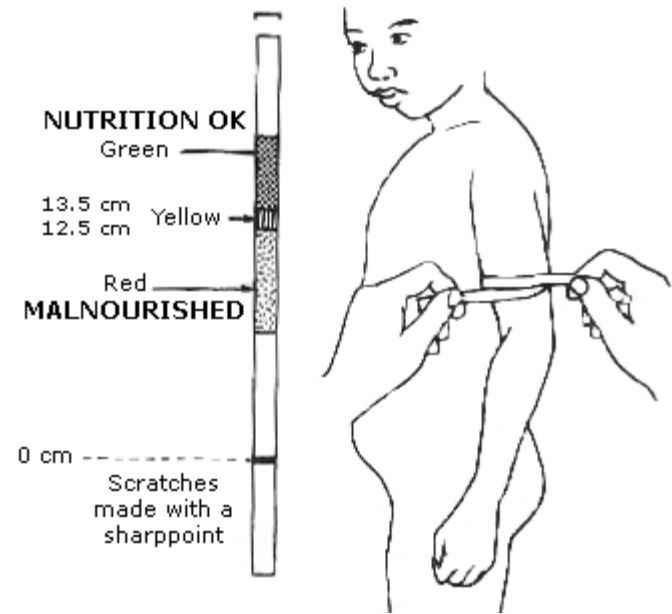
- MUAC
 - Indicator of malnutrition status – wasting
 - Paeds cut-offs
 - 5-9 yo (< 14.5cm)
 - 10-14yo (< 18cm)
 - < 5 yo (< 13cm)



MUAC MEASURE



MUAC measure for adults



MUAC measure for kids

NUTRITIONAL SUPPLEMENTATION PROGRAM

- Aka NSP
- Set criteria
 - Social cases
 - Fair to all



NUTRITIONAL MANAGEMENT

Paeds

- WHA (plot the weight against the age) - UWFA
 - Sign that the child is not the right weight for their age



NUTRITIONAL MANAGEMENT

Paeds

- HFA - STUNTED
 - Sign of Chronic Malnutrition



Stunting

More than 40% of all kids in Tanzania are stunted.

This line is the median height of 9-year-olds worldwide

We couldn't find a 9-year-old in Mirongoine, Tanzania who stood taller than this line

NUTRITIONAL MANAGEMENT

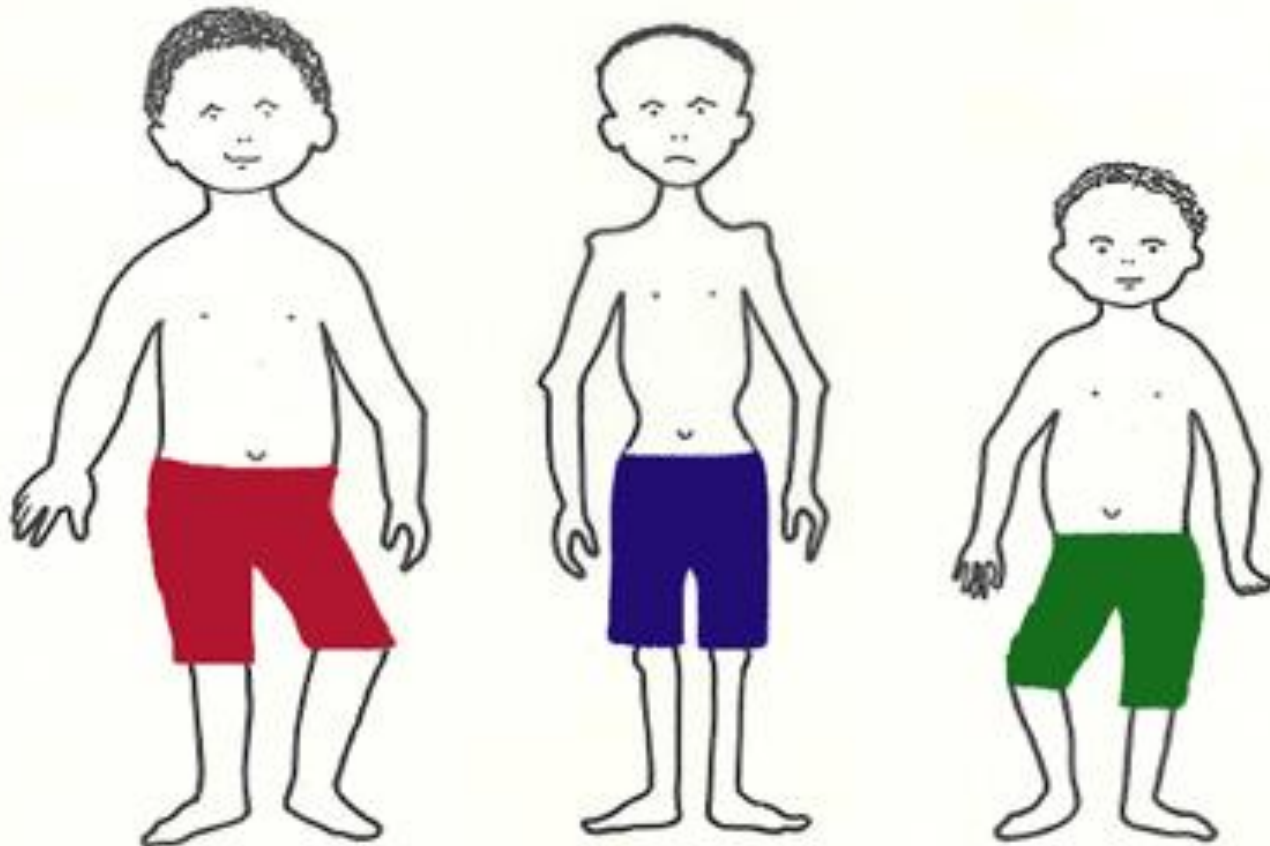
Paeds

- Weight-for-height (WZH)
 - The patient is not the right weight for their height
 - Sign of MALNUTRITION i.e. Wasting

A cartoon illustration of a young boy with a large, round head, wearing a red bow tie, and shouting "HURRAY!" in large, blue, block letters. He has his arms raised in excitement.



Wasted vs Stunted vs Underweight



Wasted
Stunted
Underweight

No
No
No

Yes
No
Yes

No
Yes
Yes



NUTRITIONAL MANAGEMENT

Adults

- BMI
 - $\text{Weight}/(\text{height})^2$ (kg/m^2)
 - Under $18.5 \text{ kg}/\text{m}^2$ (start to require supplementation)
- MUAC
 - Adults ($> 15\text{yo}$) cut-off
 - Under 23cm (alarm bells)



CLASSIFICATION OF MALNUTRITION

- NAM

Not Acutely Malnourished

- NAM at Risk

- MAM

Moderate Acute Malnutrition

- SAM

Severe Acute Malnutrition



NUTRITIONAL SUPPLEMENTATION

AGE	MAM	SAM
5 – 9 years	MUAC 13.5 – 14.5cm OR BMI-for-age is betw the (-2 & -3 SD)	MUAC <13.5 cm BMI for age < -3 SD OR Visible wasting/bilateral pitting oedema



NUTRITIONAL SUPPLEMENTATION

AGE	MAM	SAM
10 – 14 years	MUAC 16-18 cm OR BMI for age betw -3 & -2 SD	MUAC <16 cm OR BMI for age < -3SD OR Visible wasting/bilateral pitting oedema
> 15 years	BMI 16-18.5 kg/m² MUAC 21 – 23cm	BMI < 16 kg/m² OR MUAC < 21cm OR Visible wasting/bilateral pitting oedema



NUTRITIONAL SUPPLEMENTATION

Category	MAM	SAM
Pregnant & Lactating Women	MUAC 21 – 23 cm	MUAC < 21 cm Poor weight gain during preg OR Visible wasting/bilateral pitting oedema



NUTRITIONAL SUPPLEMENTATION

RTUF	Energy Drink	EMM
Imunut (do not give to Pregnant Women)	Mmmageu Ensure - adults Pediasure -Kids	Unity Meal for kids and adults

NUTRITIONAL ADVICE

- Food Based Dietary Guidelines
- Use plant proteins vs animal protein
 - Beans, lentils
- Dairy
 - Try for Maas, Milk
 - Not Ellis Brown/Cremora
- Indigenous foods
 - Amaranth, imifino etc



NUTRITIONAL MANAGEMENT

- Alternative advice

- Food gardens

- Space, lack of resources
- Communal gardens; barter system
- Also sit with the patient, work on the budget they have available for food, & help them make wiser choices
 - Cooldrink vs milk; buy Mealie Meal instead of Rice as the M/M can be eaten as Pap, Phutu or Porridge



 Thank you

