Unit1: Nutritional Assessment (how to assess nutritional status?)

Weight

Height

Laboratory measurements of **blood** & **urine**

Physical examination

Dietary recall

BMI

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Anthropometry

Biochemistry

Clincal methods

Dietary intakes

Age

Fat composition

2018 – year of birth = **Age**

We can relate W,L, or H to age (growth plots)

Length

How to measure length?
A. Light clothing
B. Facing up
C. Straight back
D. Soles against footboard

Length board/ mat

Medical history review

FFQ:
Food frequency questionnaire

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Best of luck: Maitha Taleb Saeed

How to assess nutritional status?

ABCDs nutritional assessment

Measurements of the body (growth & development)

Anthropometric measurements:

Biochemical methods:

Clinical methods:

Dietary intakes:

Length (for babies under 2 years) they can't stand

Height

Weight

Body composition (fat content):

*Hip/ waist circumference.

*Fat percentage.

Laboratory measurements of items in blood or urine

Reviewing medical history and physical examinations.

1) Food Frequency Questionnaire (FFQ): shows how often you eat a specific food or drink/ only put tick marks ✔

**2) Dietary recall:** (remember the details of the foods & drinks consumed the day before)

The person should remember the following:

What they ate/ drank

The ingredients

The cooking method

The time they had it

The amount "portion size" & leftover

What are the benefits?
1) Reliable
2) Fast results
3) Suitable for hospitals
4) Early discovery of deficiencies
5) The patient is not asked to recall food intake

The following will be checked:
1) Mal-absorption of nutrients
2) Medications / supplement use
3) Physical appearance
4) Infection
5) Digestive issues
6) Ability to prepare meals
7) Financial & social resources

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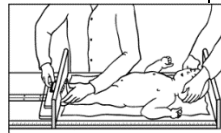
Unit1: Nutritional assessment
Lesson5: Body mass index (BMI) and body fat percentage

$$BMI = \frac{weight\ (kg)}{height^2 (m^2)}$$

Accurate weight measurement:
1) Make sure the scale is calibrated before measuring the weight.
2) Do not weight after having a big meal or doing strenuous exercises.
3) Make sure that you are not wearing heavy clothes or shoes.
4) Morning is the best time to measure weight.
5) Stand straight.
6) Take the weight in kilograms (Kg).

Accurate height measurement:
1) Take off your shoes.
2) Stand straight with good posture.
3) Keep your heels against the wall and feet together.
4) Look straight.
5) Take the height in meters (m).

WEIGHT CATEGORIES

UNDERWEIGHT	HEALTHY	OVERWEIGHT	OBESE
< 18.5	18.5-24.9	25.0-29.9	> 30.0

Waist circumference "WC": (distance around the waist)

How to measure waist circumference?
1. Place the tape on the mid-point between the top of the hip & lower ribs.
2. The tape not too loose or tight.
3. The abdominal muscles should not be tensed.
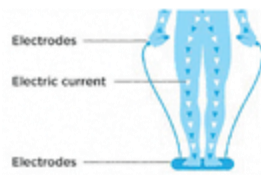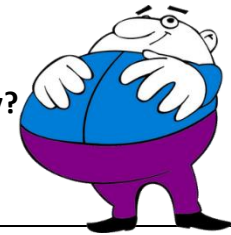4. After expiration (exhale/ breathing out).

80cm 88cm WOMEN
Increased risk   Greatly increased risk
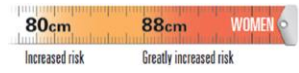
Note: bigger WC means more abdominal fats & more likely to develop metabolic disorders (age & ethnicity can affect the results)

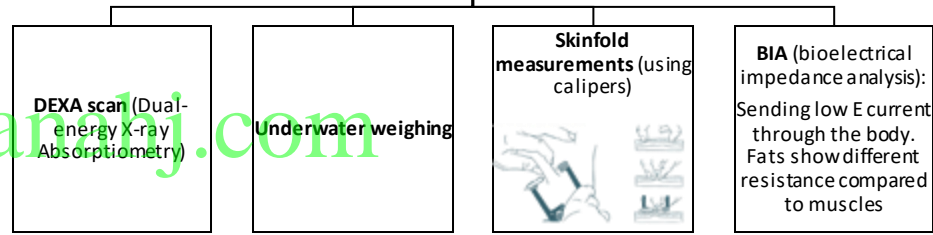**Calculating body fat percentage:**
*Why is fat important?
- Protect organs.
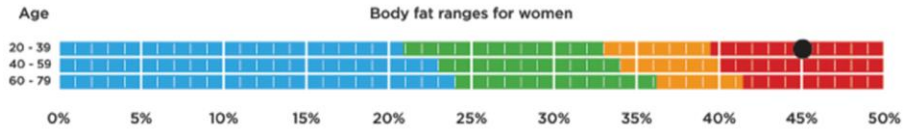- Provide energy.
- Stay warm.

*Too much fat is bad, why?
- Cancer.
- Diabetes.
- Heart disease.
- Stroke.

Electrodes / Electric current / Electrodes

How to measure body fat?

DEXA scan (Dual-energy X-ray Absorptiometry)	Underwater weighing	Skinfold measurements (using calipers)	BIA (bioelectrical impedance analysis): Sending low E current through the body. Fats show different resistance compared to muscles

$$Body\ fat\ percentage = \frac{Body\ fat\ (kg)}{Total\ body\ weight\ (TBW)} \times 100$$ & age

Body fat ranges for women

Age: 20-39, 40-59, 60-79 — 0% to 50%

Blue	Green	Amber	Red
Too little fat	Healthy amount of fat	Slightly above the healthy body fat	Too much body fat

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Nutritional status assessment (category)	Stands for	Definition	Examples	What kind of results or findings can it show?
A	**A**nthropometry	Body measurements	Age/ weight/ height / length/ BMI/ growth plot /fat composition (WC/ DEXA/ BIA/ skinfold/ water weighing)	Checks: 1) Growth & development. 2) Weight & fat content & if the person is under risk of developing diseases.
B	**B**iochemical methods	Laboratory measurements	Examine blood & urine samples	Show long or short term deficiency (iron deficiency "anemia"/ iodine deficiency "goiter"/ vitamin D & calcium deficiency "osteoporosis")
C	**C**linical methods	Physical examination + medical history review	Medication & supplement use etc.	Identify any signs of malnutrition
D	**D**ietary intakes	FFQ + dietary recall	Questions about consumed foods & drinks	Helps to decide if the patient is getting all the nutrients

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