

Malnutrition

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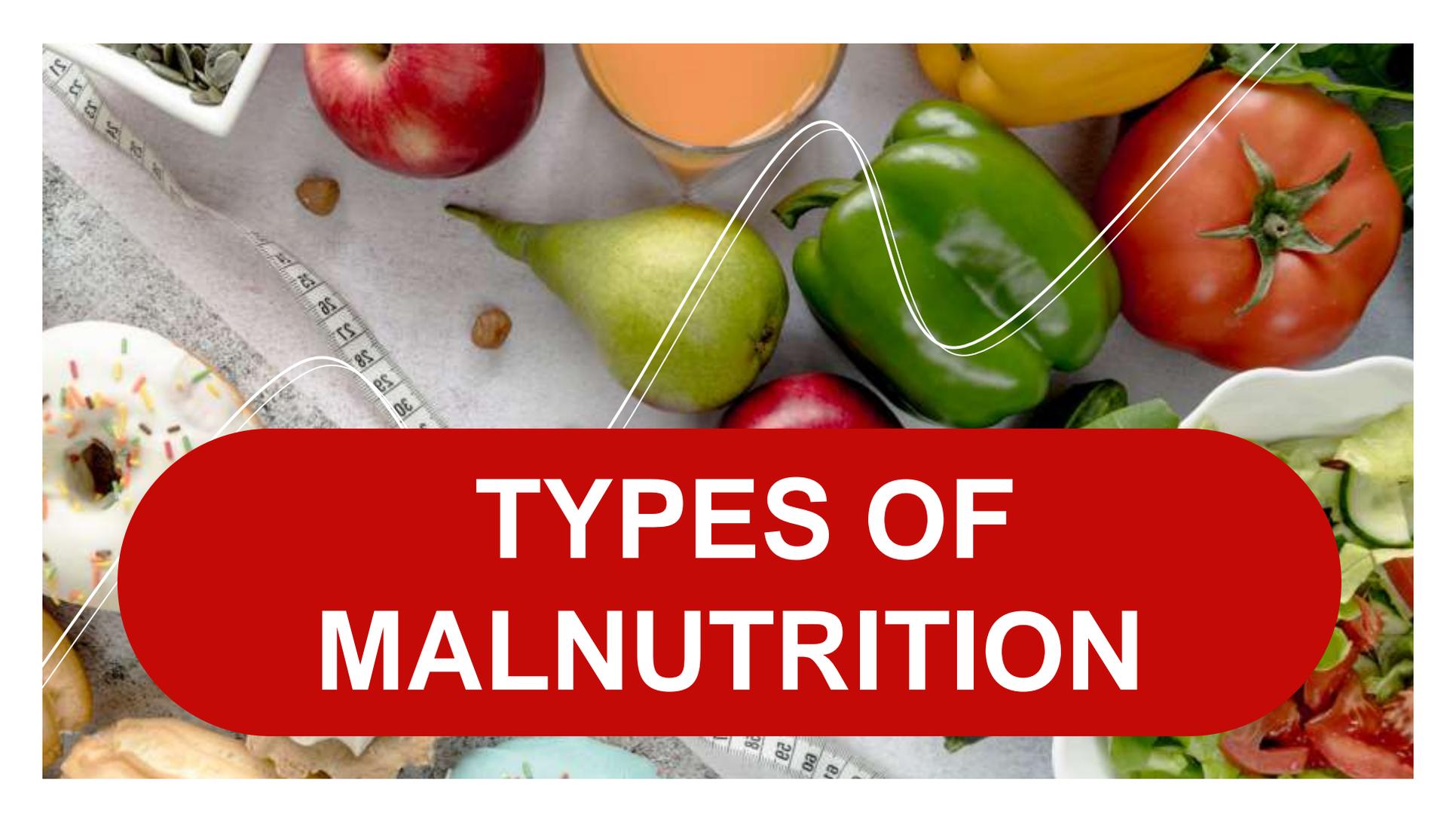
INTRODUCTION

Malnutrition is defined as imbalance between the body's need and intake of nutrients, which can lead to nutritional disorders.

Malnutrition is the condition that develops when the body does not get the right amount of the vitamins, minerals and other nutrients it needs to maintain healthy tissues & organ function.

According to WHO





TYPES OF MALNUTRITION

Malnutrition is divided into two main types :

- . Under-nutrition
- . Over-nutrition

In **under-nutrition** nutrients are undersupplied, and in **over-nutrition** nutrients are over supplied > both causes nutritional disorders



About malnutrition....



Undernutrition

This happens if one doesn't follow an adequate diet, meaning that a person can be **BOTH** undernourished & overweight *at the same time.*



Overnutrition

The WHO has recently added recognized overnutrition to refer to the excessive intake of nutrients, and how detrimental it can be to children. This includes the effects of being overweight & obese



Causes of Malnutrition

Primary:

- 01** Low income, low purchasing power
- 02** Ignorance & erroneous food habits
- 03** Scarcity of food supply & Overpopulation

Secondary:

- 01** Diarrhea & intestinal malabsorption
- 02** Metabolic & renal diseases
- 03** Hepatobiliary disorders & Insulin resistance





Risk factors :

01

Social factors

02

Chronic disorders

03

Eating disorder

04

Mental disorders

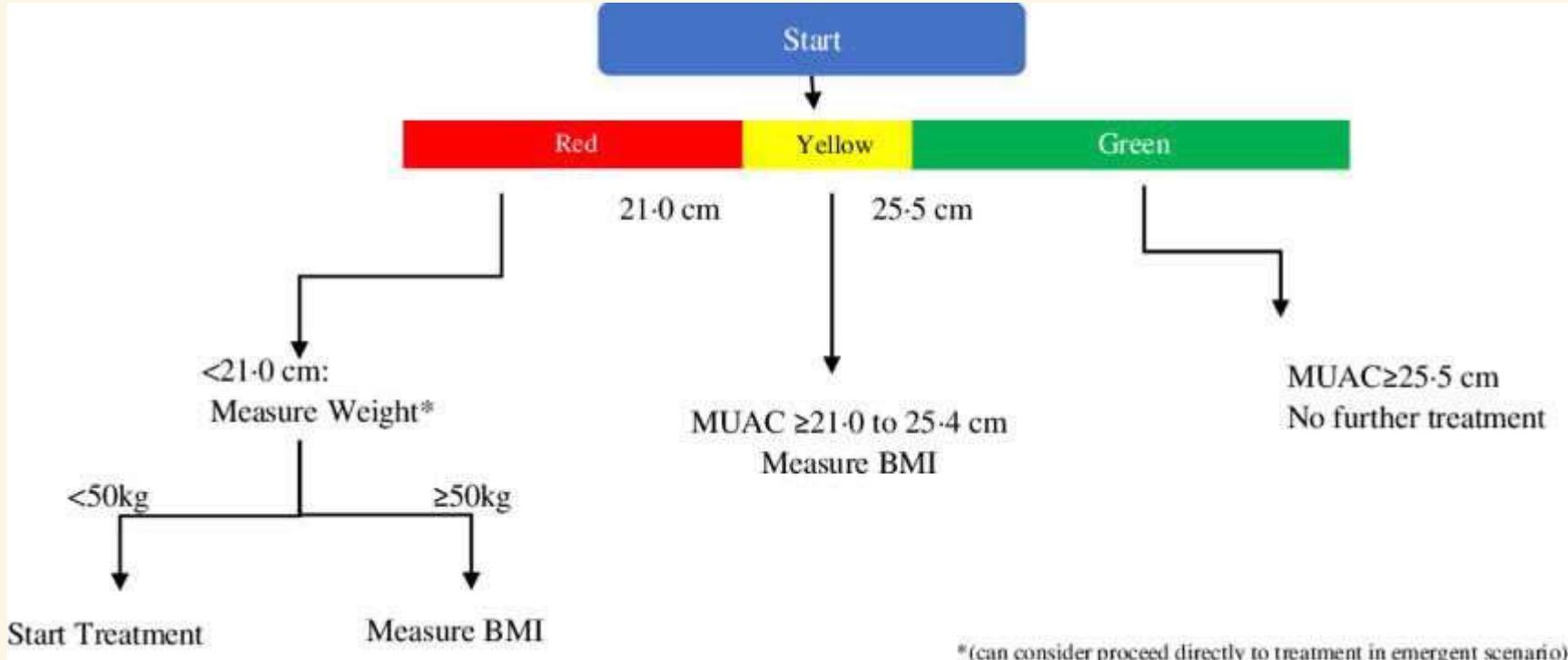
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Dental disorders

06

Age

MUAC



*(can consider proceed directly to treatment in emergent scenario)

Malnutrition data

42 million

children under the age of 5 years are obese

50 million

children are too thin for their height



460 million

Adults worldwide are underweight

1.9 billion

Adults worldwide are overweight

Prevention of Malnutrition:

1. Use of modern agricultural techniques to increase the agricultural production
2. Proper education to people regarding importance of food
3. Enrichment of food
4. Fortification of food
5. Genetic engineering for the development of new varieties eg- golden rice
6. Government projects to provide healthy food to pregnant women
7. Use of probiotic microorganism
8. Global public health and disease control measures



Disorders due to Malnutrition

1. Protein-energy malnutrition

-Kwashiorkor

-Marasmus

2. Under nutrition of vitamins & minerals

3. Obesity





01

BERIBERI

Thiamine (vitamin B1) deficiency



Biochemically, there is accumulation of pyruvic & lactic acid in body fluids, causing:

1. Cardiac dysfunction such as cardiac enlargement especially right side, edema of interstitial tissue.
2. Degeneration of myelin & axon cylinders resulting in peripheral neuropathy
3. Weakness of eye movement, ataxia of gait and mental disturbance.





TYPES OF BERIBERI



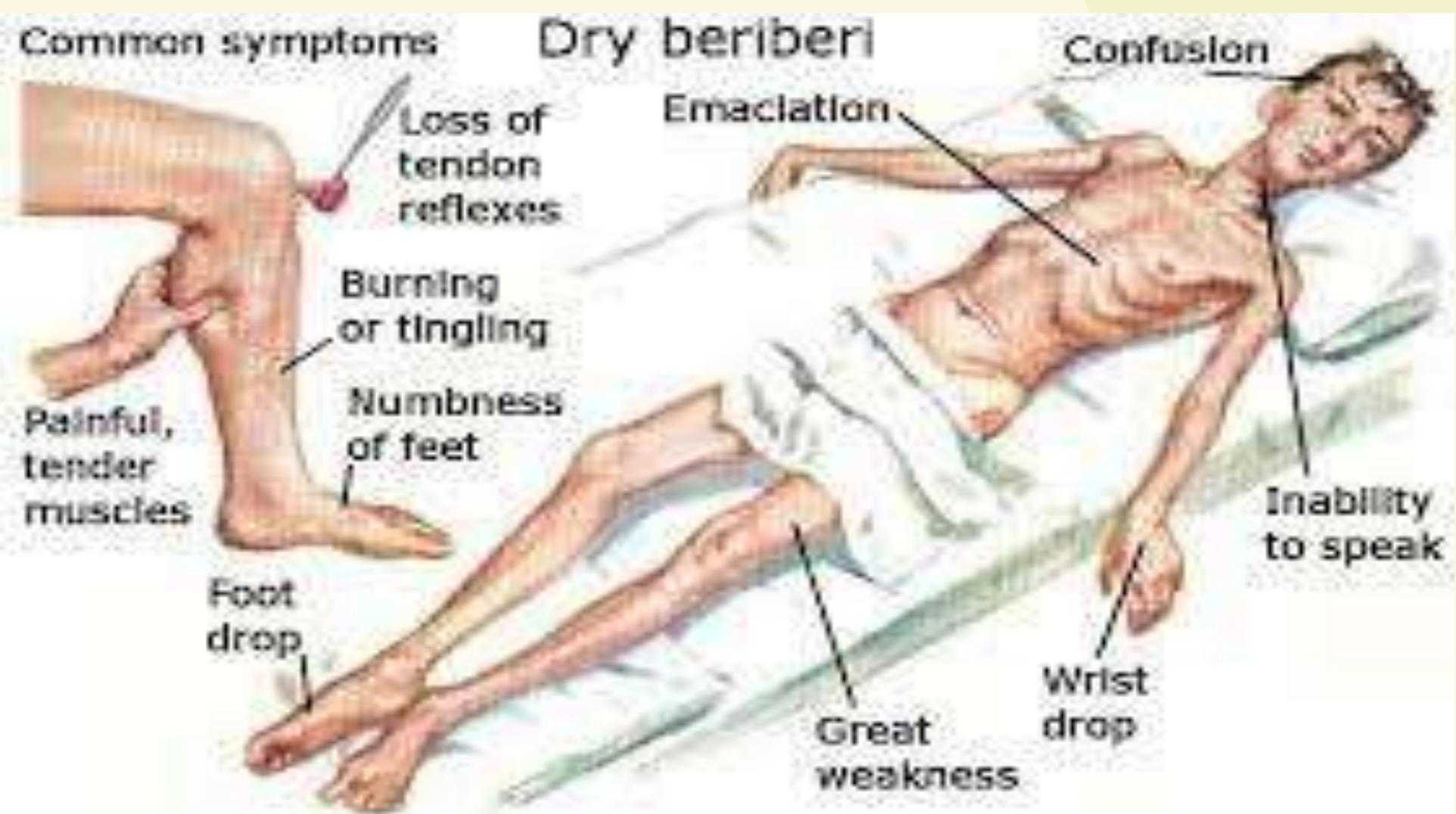
1. Wet beriberi :

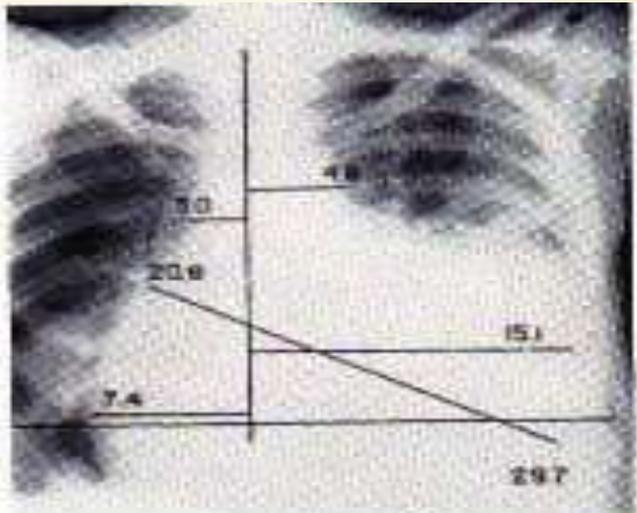
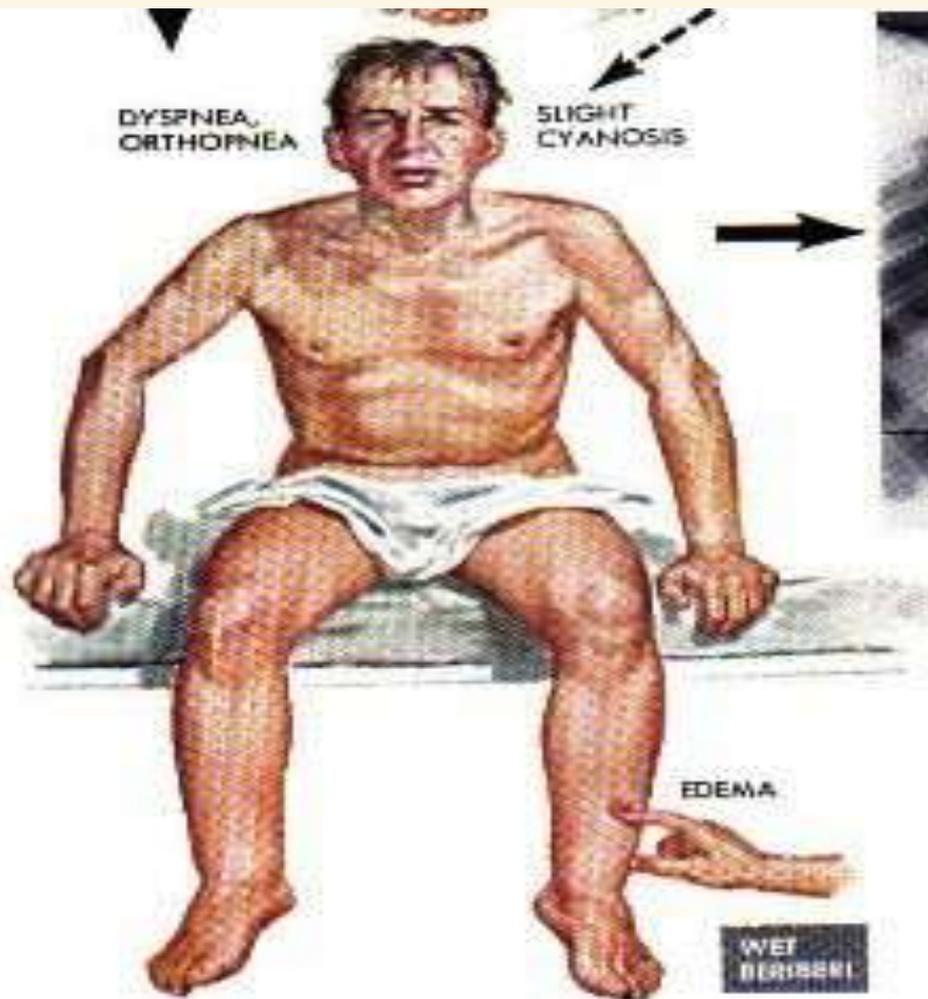
generalized edema, acute cardiac symptoms and prompt response to thiamine administration

2. Dry beriberi :

edema not present and neurological







DILATATION OF
RIGHT HEART,
HEART FAILURE

F. Netter M.D.
©CIBA

WERNICKE'S
SYNDROME

OPHTHALMOPLEGIA
(6th NERVE PALSY)
↓
CONFUSION
↓
COMA
↓
DEATH





02

RIBOFLAVIN

(vitamin B2) deficiency



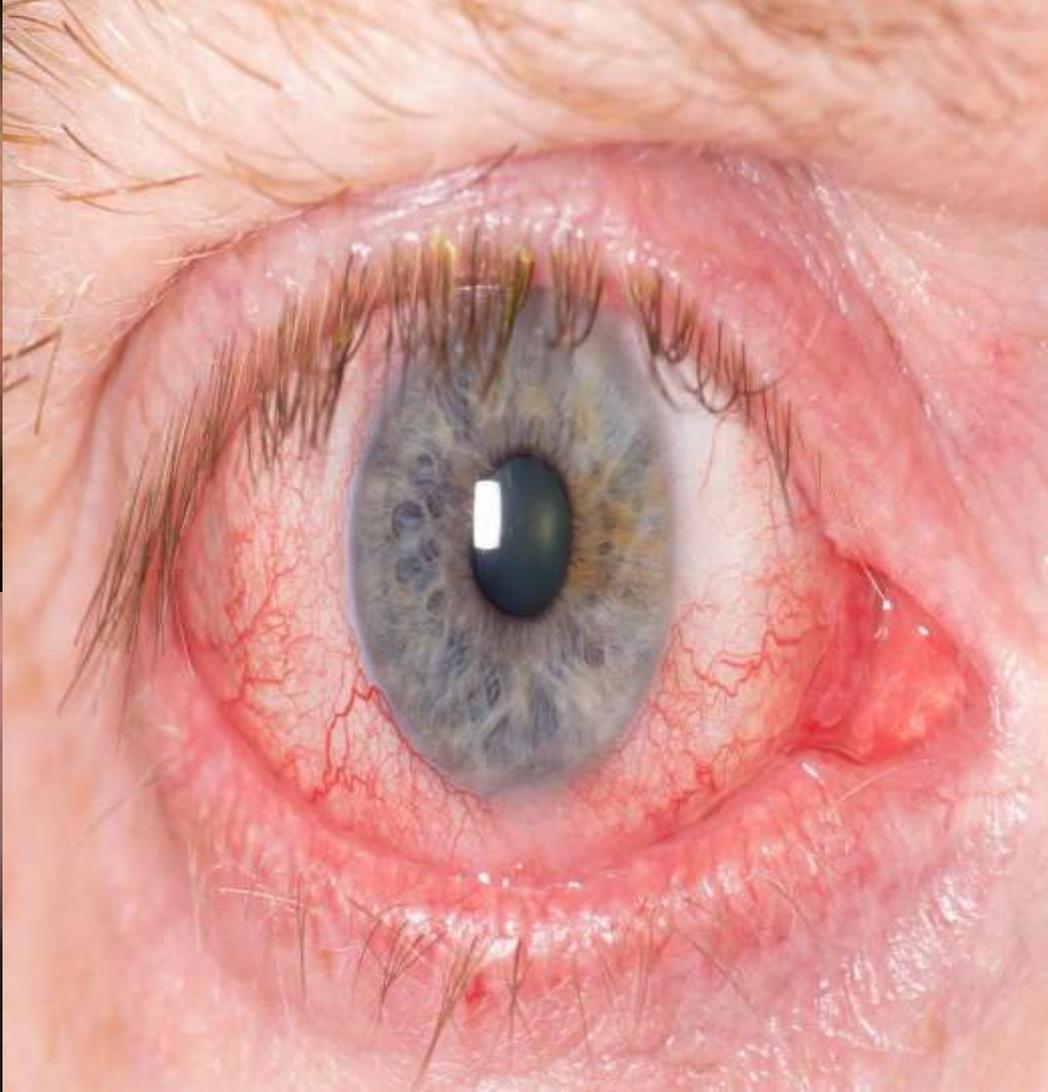
* Riboflavin deficiency (also called ariboflavinosis) results in Stomatitis including painful red tongue with sore throat, chapped and fissured lips (cheilosis), and inflammation of the corners of the mouth (angular stomatitis).



Signs & Symptoms

1. Itchy & red eyes
2. Sore throat
3. Skin disorders
4. Degeneration of the liver & nerves system
5. Hair loss
6. Angular stomatites
7. Cheilosis







03

PELLAGRA

Niacin (vitamin B3) deficiency



Pellagra is a disease caused by a lack of the vitamin niacin (vitamin B3) or tryptophan in the diet.

Symptoms include: skin, diarrhea, dementia and sores in the mouth.

Dermatitis may develop insidiously to sunlight or heat.





CAUSES...:

1. Diets low

In niacin &/or tryptophan

2. Excessive alcohol use

3. Amino acid imbalance

As result of malabsorption
& in Gastrointestinal diseases

4. Weight loss (bariatric) surgery





04

Goiter

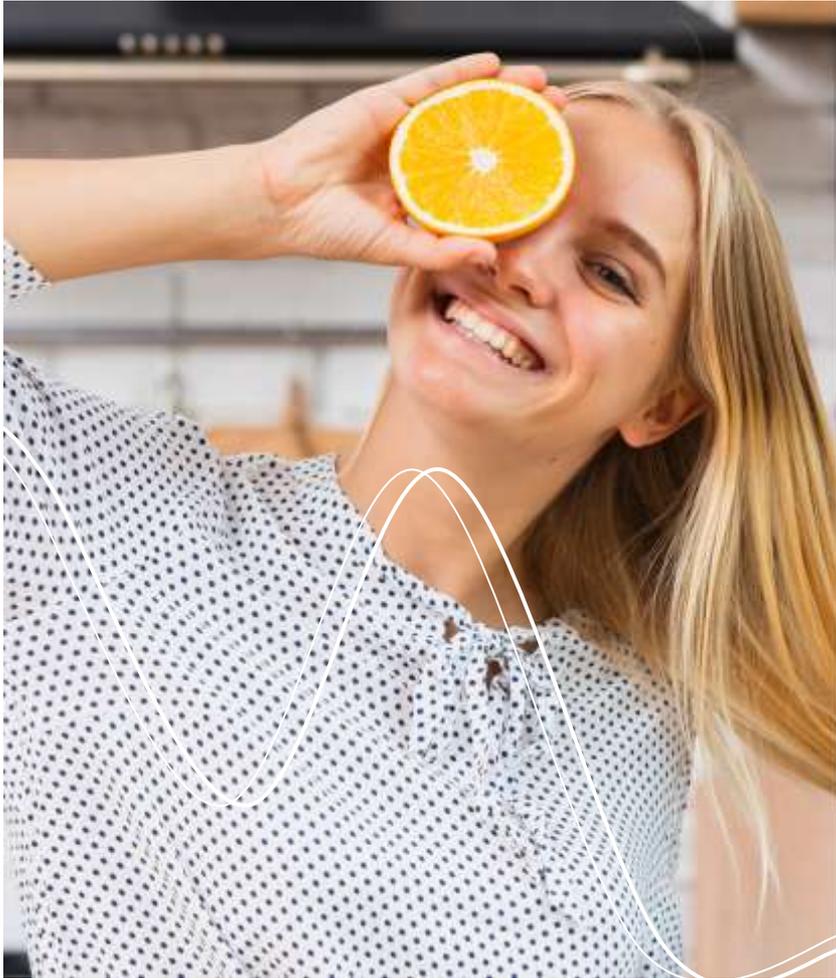


A swelling of the neck resulting from enlargement of the thyroid gland.

A Goiter commonly develops as a result of iodine deficiency.

The primary symptom of a goiter is noticeable swelling in your neck.





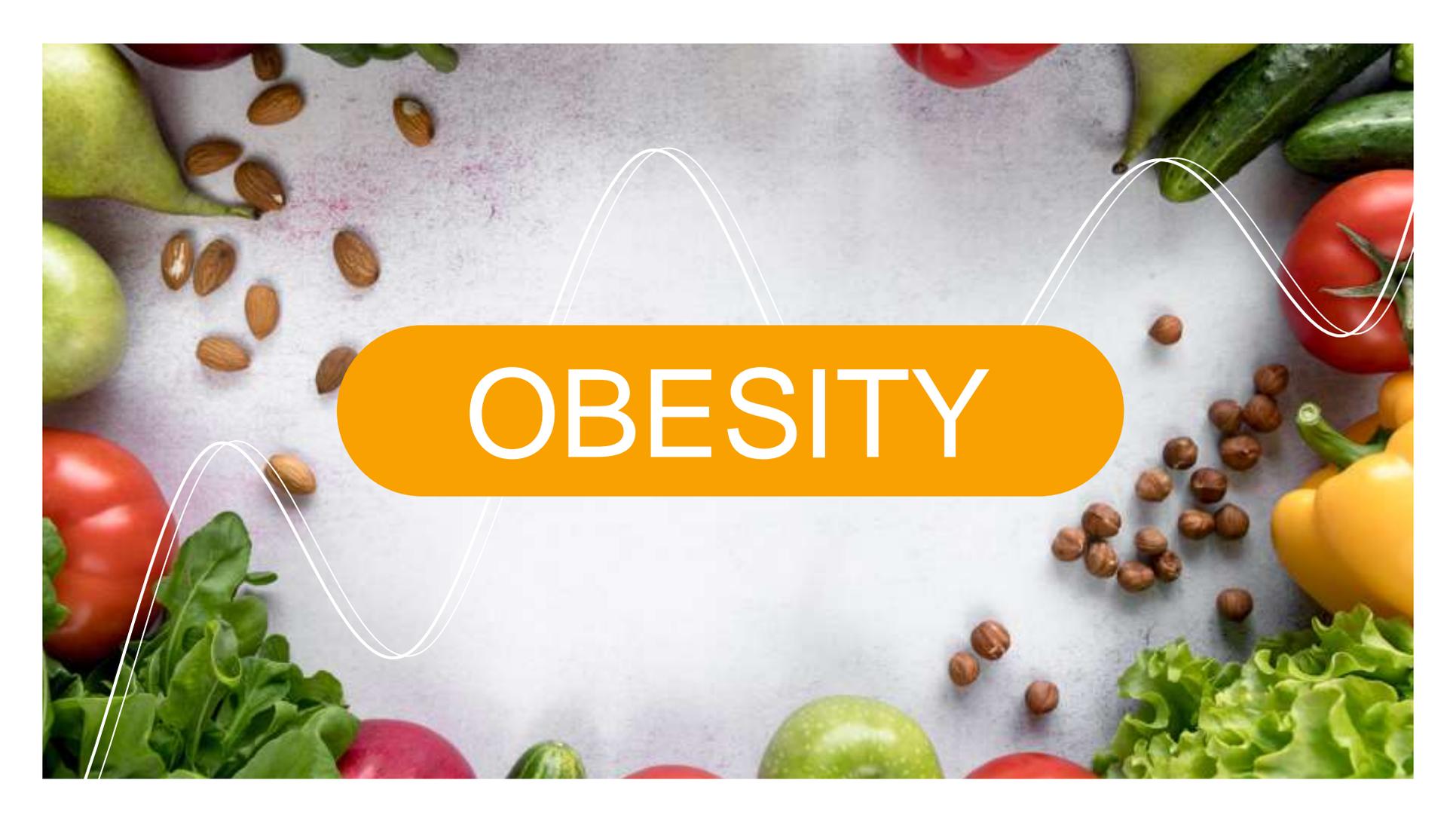
Treatment

1. Balanced diet

- Eating foods high in energy with nutrients
- support of families to manage underlying factors affecting the child's nutritional intake

2. Supplements

Vitamin and mineral supplements



OBESITY

Malnutrition in Obesity: Is It Possible?



Malnutrition with obesity, often referred to as “overnutrition” or “hidden hunger”, is a paradoxical condition where a person’s diet provides an excessive amount of calories but lacks essential nutrients.

We tend to associate malnutrition with being underweight due to hunger and starvation. In fact, although this is indeed the case, obesity is also a major cause of malnutrition. Research shows that micronutrient (vitamin and minerals) deficiency is more common in those with a raised BMI than in those of the same age and sex who are not obese.



*Why are obese people malnourished?

1. Too much calorie-dense food with a low nutrient content-

Obesity is often associated with eating processed and ultra-processed foods which are generally high in fat, sugar and salt.

2. Those suffering from disabilities, physical and mental health difficulties

3. Food is less nutritious than it used to be

4. Making poor dietary choices



Malnutrition with OBESITY is a complex health issue, the coexistence of obesity and malnutrition cause:

- 1.obese individuals who are malnourished may experience issues like cardiovascular diseases, diabetes and other chronic diseases due to the excessive calorie intake and lack of key nutrients.
- 2.Fatigue, tiredness, loss of energy, confusion and poor concentration
- 3.losing muscle
- 4.wounds heal more slowly, skin treats more easily
- 5.A weakened immune system, which might manifest in infections





****Most malnutrition in the obese population
is unseen and undiagnosed****

Diagnosing malnutrition in people with obesity is quite difficult.
to determine the occurrence of malnutrition in a patient, an
assessment of nutrition and nutritional status should be performed



Identifying and treating malnutrition, Malnutrition is often overlooked, and when overweight or obese people are affected, identifying it can become increasingly difficult. One easy way to find out whether your loved one or patient is at risk of malnutrition is to use **the Malnutrition Screening Tool (MST)**

STEP 1: DETERMINE OVERALL RISK

1 Have you lost weight recently without trying?

No	0
Unsure	2

Yes, how much weight have you lost?

1-5 kg	1
6-10 kg	2
11-15 kg	3
>15 kg	4
Unsure	2



**YOUR WEIGHT
LOSS SCORE:**

2 Have you been eating poorly because of a decreased appetite?

No	0
Yes	1



**YOUR
APPETITE SCORE:**

Add weight loss and appetite score

**YOUR
MST SCORE:**

STEP 2: DECISION & ACTION

MST = 0 OR 1



NOT AT RISK

ACTIONS

- Observe
- Re-screen Monthly

MST = 2 OR MORE



AT RISK

ACTIONS

- High Protein High Energy Diet
- Start Nutrition Supplements (e.g. AdVital Powder)
- Make an Appointment to see a Dietitian
- Weigh Weekly

Remember:

malnutrition isn't always visible. It isn't always obvious. Sometimes the signs can be as simple as eating less food, or unintentionally losing a little bit of weight. Most importantly, malnutrition can affect anyone. You don't need to be underweight to be malnourished, and even overweight or obese people can be at risk.



Thanks!

