Infants - high protein, high mineral

Adolescent - protein, calcium, iron, iodine, b complex

Youth/Middle Adult - nutrients needed for energy, maintenance, and repair

Older Adult - problems swallowing, vitamins and minerals important, medication can affect taste

Anabolism
Catabolism

Essential Nutrients - needed outside of normal diet and body

Macronutrients - essential for supply energy and build tissue ex: carbs

Micronutrients - smaller amounts regulate and control ex: minerals

Nonessential Nutrients - do not need to be supplied, and are not required for body functioning

6 Classes of Nutrients:
- Supply energy: Carbs, protein, lipids
- Regulate body processes: Vitamins, minerals, water

We lose energy by activities

Basal metabolic rate - males have a higher BMR because of muscle mass, growth, fever, emotional tension, extreme environmental temp, certain hormones affect it.

BMR decreases with aging, prolonged fasting, sleep

Normal BMR

IBM = ideal body weight

Body mass index - ratio of ht to wt

Weight in lbs divided by height in inches squared times a number

BMI equal to or greater than 25 is overweight

Diets losing more than 2lbs a week are not recommended

Calculate REE

PEM

Mayasmus
Kwashiorkor

Known simple and complex monosaccharides

Too much carb gets turned into fat

50 - 100g is needed to prevent ketosis

Proteins are vital to every living cell, important for genes, enzymes, muscle, bone matrix, and hemoglobin

Complete Protein - in animal products and maintain nitrogen balance

Incomplete Protein - lack one of the nine essential amino acids

HDL - high density lipoprotein (good)

LDL - low density lipoprotein (bad)

Biproduct of protein breakdown is amino acids

Nitrogen balance - a comparison between catabolism and anabolism measured by comparing nitrogen intake and nitrogen excretion

Positive nitrogen balance occurs during growth, pregnancy, lactation

Negative nitrogen balance during surgery, illness, trauma, and stress

Protein Calorie Malnutrition results from stress of illness, surgery, or prolonged simple IV solutions with no oral intake.

Symptoms of protein deficiency include edema, retarded growth and maturation, mental apathy, muscle wasting, and changes in the hair and skin.

Saturated Fat - animal

Unsaturated Fat - liquid

Fat Digestion - secreted by the gallbladder, pancreatic lipase can break down fat, most fats are absorbed into the lymphatic circulation and transported to the liver

Vitamins - catalyst to aid in metabolism

VitB12 for alcohol abuser

ADEK are fat soluble vitamins

Known normal calcium, magnesium, and phosphorous normal levels

NPO

Nothing per mouth

NG tube - short term

PEG - long term

Always check gag reflex, abdomen assessment, check placement of tube

No feeding to stomach with malabsorption then consider TPN PPN

TPN - total nutrition in central line which is done by ER doctor or radiologist central line associated blood stream infection

PPN - through peripheral iv access goes through a peripheral line only, look for signs of redness, inflammation, phlebitis

Insert central line when peripheral nutrition is needed or absolutely needed

Can not discharge person with central line

Hyperalimentation

IBW = ideal body weight

For adult female 100lb for ht of 5ft +5lb for each additional inch

For adult male 106lb for +6lb for each inch over 5ft

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For nutrition calculation

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