

Ultrasonics cont'd

Use a light grasp for Ultrasonic scalers.
Can use the tip on calculus but not on tooth.

Sonic = audible sounds. Makes loud noise, slows down when instrumenting on a tooth

*Frequency – Cycles/ second. Is preset on most machines.

*Amplitude – power determines the stroke length

Magnetorestrictive materials have lattice.

Curvature of tip should be the same as the curvature of the **root surface** you're working on. Adapt the shape of the instrument to the shape of the tooth. Use a constant, but slow motion. Use face, back, or lateral sides, NOT tip.

Vertical stroke – in interproximal surfaces

Oblique/horizontal strokes - straight buccal or facial surfaces.

Explore to classify the patient, maps out where calculus is.

Don't keep scaling clean teeth, can do damage.

Module 3 Diet and Dietary Analysis Ch. 32

EAR – estimated average requirement

RDA - recommended daily allowance

AI – Adequate intake (when RDA cannot be established)

UL – tolerable upper limits

Essential nutrients – must come from outside of the body. Required for life.

Macronutrients - provide energy – Proteins, fats, and carbohydrates.

Vegan – strict vegetarian, no animal tissue or products. Lacks vitamins B12 and D.

Lacto-vegetarian – vegetarian but allows dairy products. No meat, no eggs.

Ovo-vegetarian – vegetarian. allows eggs but no dairy.

Lacto-ovo-vegetarian – excludes animal tissues, but allows dairy and eggs.

CARBOHYDRATES

Carbs 4 calories per g!

- Primarily for energy, provides bulk/fiber for peristalsis.

Monosaccharide:

- Glucose (most important – brain and nervous system)
- Galactase
- Fructose (fruit sugar)
- Sugar alcohol (Sorbitol)

Disaccharides: (reduces to monosaccharides)

- Maltose – glucose and glucose
- Sucrose – glucose and fructose
- Lactose – galactose and glucose (milk sugar)

Polysaccharides:

- Cellulose – non-digestible dietary fiber
- Starch
- Glycogen made in the liver – energy storage

Non-nutritive Sweeteners: (too much gives you diaherria)

- Saccharin
- Aspartame

PROTEIN

Protein 4 cal. Per g!

Organic compounds synthesized from amino acids

Essential amino acids (9) needed for protein synthesis

Non-essential amino acids (11) can be synthesized from the liver

-Growth and maintenance –Energy – fluid/electrolyte balance – Constituents of antibodies, enzymes, and hormones – DNA/RNA – Neurotransmitters – Regulation of pH – Blood clotting – Vision – Pigmentation

Malnutrition/ not enough protein causes:

Kwashiorkor – Delayed healing, decreased resistance to infection, skin lesions, alopecia or color

Marasmus - Muscle wasting, absence of subcutaneous fat, severe growth retardation, impaired brain function

Phenylketonuria – inability to metabolize phenylalanine

LIPIDS

Fat/Lipids 9 cal. Per g!!

Sterols – cholesterol metabolized in the liver. Needed to form bile, needed for cell membranes and production of hormones

Triglycerides – saturated, monounsaturated, polyunsaturated fatty acids, trans-fatty acids (bad),

Essential fatty acids (Good)

- Linoleic (Omega-6)
- Linolenic (Omega-3) prostaglandins, thromboxane, leukotriene

Artificial fat – made by chemically combining sugar, can cause indigestion

- Olestra
- Simplesse

FIBER

Water soluble – Delays absorption of glucose, lowers cholesterol

Water insoluble – provides bulk, speeds up transit time of GI tract, increases muscle tone, decreases the risk of colon cancer

MICRONUTRIENTS

B vitamins: many are coenzymes

<u>Water soluble vitamin</u>	<u>Jobs</u>	<u>Deficiency/Disease</u>
B1 (Thiamine)	Converts carbs to fat	Causes Beri beri
B2 (Riboflavin)		Causes riboflavinosis, angular cheilosis
B3 (Niacin)		Causes Pellegra (Dermatitis, Diarrhea, Dementia, Death)
B6 (Pyridoxine)	Hemoglobin synthesis	Causes dermatitis, depression, convulsions
B12 (Cobalamin)	Matures RBCs – requires intrinsic factor	Causes pernicious anemia (lack of intrinsic factor)
Folate (Folic acid)	Matures RBCs	Causes megaloblastic anemia, spina bifida
Vitamin C (Ascorbic acid)	Collagen synthesis for wound healing	Causes scurvy, increased perio. symptoms*

There's only Vitamin B12 in animal byproducts or fortified cereals.
Smokers are almost always deficient in Vitamin C.

<u>Fat Soluble Vitamins</u>	<u>Jobs</u>
Vitamin A (carrots)	Antioxidants, vision in dim light, bone and teeth
Vitamin D (dairy, sun)	Aids in absorption of Calcium and Phosphorus
Vitamin E (plant oils)	Antioxidant
Vitamin K	Synthesis of prothrombin for blood clotting

Fat soluble vitamins – Remember **KADE**

- Requires bile to be utilized
- First absorbed into the lymph system then released into the blood
- Stored in fatty tissues and liver
- Require protein carriers

Macrominerals

- Calcium
- Phosphorous
- Magnesium