Vitamin and Mineral Supplements

• Many people take dietary supplements for dietary insurance and health insurance.
• Some take multi-nutrient/vitamin pills daily.
• Others take large doses of single nutrients. (Vitamin C, vitamin E, beta-carotene, iron, and calcium)
• Self-prescribed supplementation is not advised.
• A valid nutrition assessment by professionals determines the need for supplements.
  – Even if warranted, still preferred to improve food choices and eating habits
• There are many arguments for and against supplements.

Arguments for Supplements

• Correct Overt Deficiencies
  – Generally physician prescribed; therapeutic dose 2-10 times RDA; supplement now acting as a drug
• Support Increased Nutrient Needs
  – Iron for women during menstruation; folate during pregnancy; infants whether breastfed or receiving formula
• Improve Nutrition Status
  – i.e. elderly, vegetarians
• Improve the Body’s Defenses in case of addiction, extensive illness, injury, or stress
• Reduce Disease Risks

Arguments against Supplements

• Toxicity
• Life-Threatening Misinformation
• Unknown Needs
• False Sense of Security

Who Needs Supplements?

• People with nutritional deficiencies
• People with low energy intake – less than 1600 calories per day
• Vegans and those with atrophic gastritis need vitamin B₁₂
• People with lactose intolerance, milk allergies, or inadequate intake of dairy foods

Arguments for Supplements

• Who Needs Supplements?
  – Infants need iron and fluoride
  – Women of childbearing age need folate
  – Pregnant women need folate and iron
  – Elderly need vitamins B₁₂ and D
  – People with diseases, infections, or injuries, and those who have had surgery that affects nutrient digestion, absorption or metabolism
  – People with inadequate milk intakes, limited sun exposure, or heavily pigmented skin - VitaminD
  – People taking medications that interfere with the body’s use of specific nutrients
Arguments against Supplements

• Other Invalid Reasons:
  – Belief that food supply and soil contain inadequate nutrients
  – Belief that supplements provide energy
  – Belief that supplements enhance athletic performance or lean body mass without physical work or faster than work alone
  – Belief that supplements will help a person cope with stress
  – Belief that supplements can prevent, treat or cure conditions

Bioavailability and Antagonistic Actions:
- Body absorbs nutrients best from foods
- When taken in pure, concentrated form, nutrients likely to interfere with one another’s absorption or absorption of nutrients in foods eaten at the same time:
  - Zinc interferes with copper and calcium
  - Iron interferes with zinc
  - Calcium interferes with magnesium and iron
  - Magnesium interferes with calcium and iron
  - Vitamin A can interfere with Vitamin E on a long term
  - Vitamin E antagonizes Vitamin K
- If diet inadequate – improve diet to get needed nutrients from food
  - If necessary a multivitamin-mineral supplement that supplies between 50 and 150 percent of the Daily Value for each of the nutrients.

Selection of Supplements

• What form do you want?
• What vitamins and minerals do you need?
  – Do not exceed Tolerable Upper Intake Levels.
  – Be careful about greater than 10 mg of iron.

Regulation of Supplements

• Nutritional labeling for supplements is required.
• Labels may make nutrient claims according to specified criteria.
• Labels may claim that lack of a nutrient can cause a deficiency disease and include the prevalence of that disease.
• Labels may make health claims that are supported by significant scientific agreement.

Selection of Supplements

• Are there misleading claims?
  – Ignore organic or natural claims.
  – Avoid products that make high potency claims.
  – Watch fake preparations.
  – Be aware of marketing ploys.
  – Be aware of preparations that contain alcohol.
  – Be aware of the latest nutrition buzzwords.
  – Internet information is not closely regulated.

• What about the cost?
  – Local or store brands may be just as good as nationally advertised brands.
Regulation of Supplements

- Labels may claim to diagnose, treat, cure, or relieve common complaints but not make claims about specific diseases.

- Labels may make structure-function claims if accompanied by Food And Drug Administration (FDA) disclaimer:
  - Role a nutrient plays in the body
  - How the nutrient performs its function
  - How consuming the nutrient is associated with general well-being