Supplementation and Pediatric Population

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Objectives

A. Establish the importance of a multivitamin and mineral supplement in the pediatric population.
B. Demonstrate the effectiveness of a good quality protein supplement in the pediatric population.
C. Differentiate a good quality supplement versus a poor quality supplement.

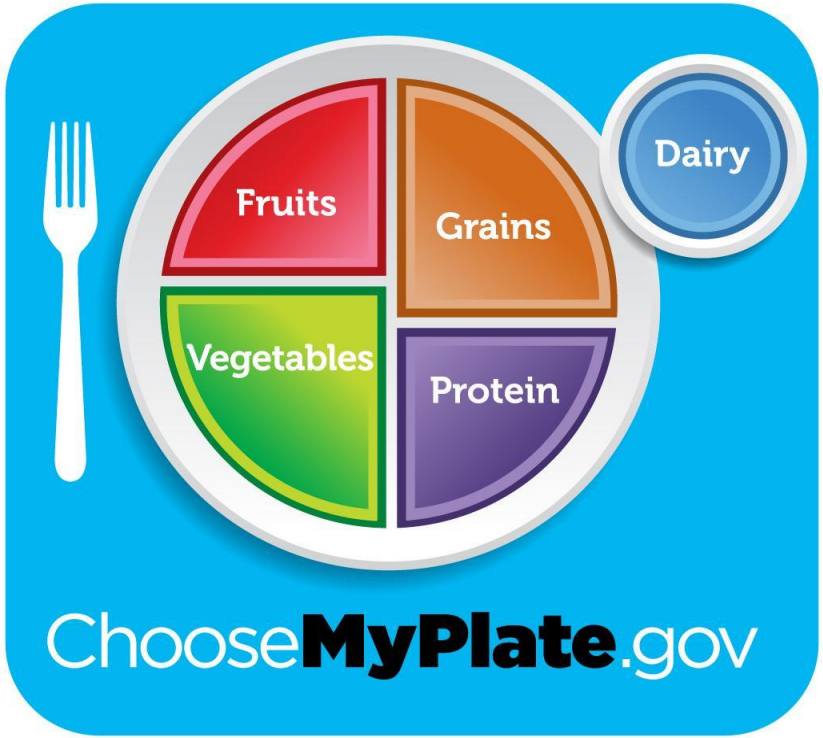
Overview

A. Introduction: Lydia and Cory
B. The problem we are facing in regards to health, fitness and supplementation
C. Practical approach and solutions

Adolescents Today

A. What our Children are dealing with..
    a. Obesity
    b. Low nutrient-dense intake
    c. Lower activity levels
    d. Higher stress and pressure to perform
B. How they are dealing…
    a. Supplements
        i. 46% of adolescents report taking supplements such as zinc, weight loss, and creatine (Wilson 2006)
    b. Weight loss pills
    c. Not dealing with it at all

MyPlate


Fruits
Grains
Dairy
Vegetables
Protein
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What is a Dietary Supplement?

A. Dietary ingredient
   a. A vitamin; mineral; herb or other botanical; amino acid; dietary substance for use by man to supplement the diet by increasing the total dietary intake; or a concentrate, metabolite, constituent, extract, or combination of the preceding substances
   b. Federal Food, Drug, and Cosmetic Act
B. Supplements include vitamins, minerals, herbs, amino acids and enzymes.
C. Manufactured in forms such as capsules, softgels, powders, tablets, and liquids

Importance of supplementation

A. Multivitamin
   a. Provides vitamins and minerals needed for growth
   b. Fills in the gaps in diet
   c. Meet RDAs
B. Protein
   a. Higher needs for active children
      i. 0.45-0.60 grams per pound of body weight
   b. Harder to meet needs
   c. Recommendations:
      i. 10-30% of calories should be protein
      ii. RDAs lower than actual for active needs

Recommended Dietary Allowance for Protein

	Grams of Protein Needed/Day
Children ages 1-3	13
Children ages 4-8	19
Children ages 9-13	34
Girls ages 14-18	46
Boys ages 14-18	52
Women ages 19-70+	46
Men ages 19-70+	56

Importance of supplementation

A. Omega 3
    a. Brain health & growth
        i. Concussions
    b. Fight inflammation
    c. Recommendation:
        i. 9 to 13 years (boys): 1.2 grams/day
        ii. 9 to 13 years (girls): 1.0 grams/day
        iii. 14 to 18 years (boys): 1.6 grams/day
        iv. 14 to 18 years (girls): 1.1 grams/day
B. Probiotic
    a. Promote healthy gut biome early
    b. Help growth and development of children
        i. Vitamin B

Selecting safe and effective supplements

A. Contamination
    a. 776 adulterated products between 2007 and 2016 (Tucker 2018)
    b. Common contamination:
        i. sildenafil for sexual enhancement supplements
        ii. sibutramine for weight loss supplements
        iii. synthetic steroids or steroid-like ingredients for muscle building supplements
    c. Unintentional
        i. Heavy Metals
        ii. Pesticides
        iii. Bacteria
    d. Intentional
        i. Erogenic aids
        ii. Banned weight loss agents i.e. Synephrine (bitter orange)

Selecting safe and effective supplements

A. Educate
    a. Increased education for young athletes regarding supplement use, parents and coaches should to be targeted to help the athletes make the appropriate choices. (McDowell 2007)
    b. Understand the label
B. Evaluate
    a. Quality control increased over years
    b. Low, Moderate, High contamination risk
C. Recommend
    a. Brands that can be trusted

Understanding the Label

Nutrition Facts

8 servings per container

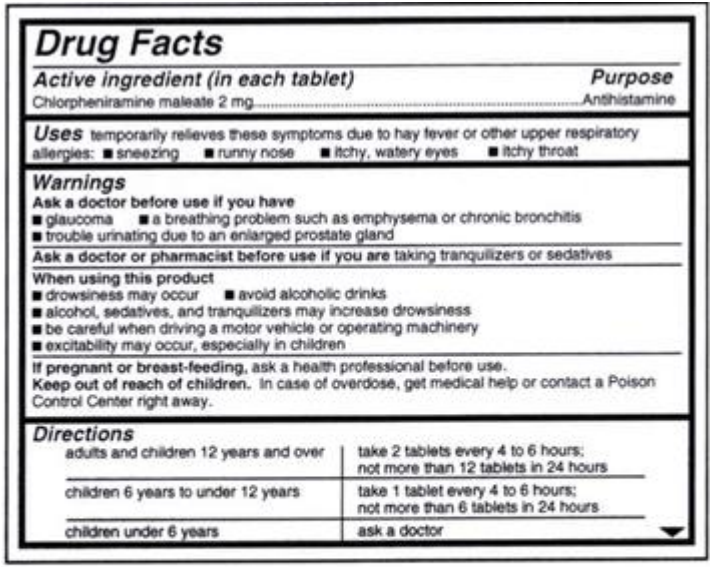
Serving size **2/3 cup (55g)**

Amount per serving

Calories **230**

	% Daily Value*
Total Fat 8g	**10%**
Saturated Fat 1g	**5%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 160mg	**7%**
Total Carbohydrate 37g	**13%**
Dietary Fiber 4g	**14%**
Total Sugars 12g	
Includes 10g Added Sugars	**20%**
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



Drug Facts

Active ingredient (in each tablet) **Purpose**

Chlorpheniramine maleate 2 mg ..... Antihistamine

Uses temporarily relieves these symptoms due to hay fever or other upper respiratory allergies: ■ sneezing ■ runny nose ■ itchy, watery eyes ■ itchy throat

Warnings

Ask a doctor before use if you have

■ glaucoma ■ a breathing problem such as emphysema or chronic bronchitis
■ trouble urinating due to an enlarged prostate gland

Ask a doctor or pharmacist before use if you are taking tranquilizers or sedatives

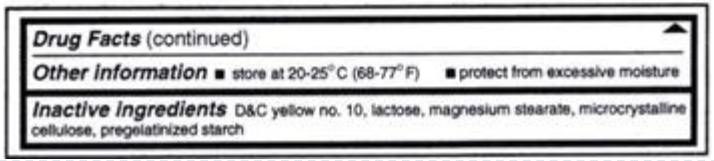
When using this product

■ drowsiness may occur ■ avoid alcoholic drinks
■ alcohol, sedatives, and tranquilizers may increase drowsiness
■ be careful when driving a motor vehicle or operating machinery
■ excitability may occur, especially in children

If pregnant or breast-feeding, ask a health professional before use.
Keep out of reach of children. In case of overdose, get medical help or contact a Poison Control Center right away.

Directions

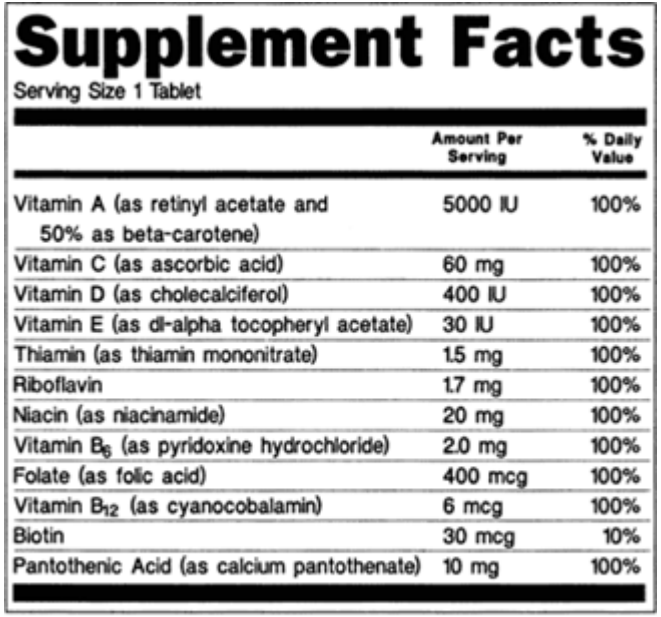
adults and children 12 years and over	take 2 tablets every 4 to 6 hours; not more than 12 tablets in 24 hours
children 6 years to under 12 years	take 1 tablet every 4 to 6 hours; not more than 6 tablets in 24 hours
children under 6 years	ask a doctor



Drug Facts (continued)

Other information ■ store at 20-25°C (68-77°F) ■ protect from excessive moisture

Inactive ingredients D&C yellow no. 10, lactose, magnesium stearate, microcrystalline cellulose, pregelatinized starch



Supplement Facts

Serving Size 1 Tablet

	Amount Per Serving	% Daily Value
Vitamin A (as retinyl acetate and 50% as beta-carotene)	5000 IU	100%
Vitamin C (as ascorbic acid)	60 mg	100%
Vitamin D (as cholecalciferol)	400 IU	100%
Vitamin E (as dl-alpha tocopheryl acetate)	30 IU	100%
Thiamin (as thiamin mononitrate)	1.5 mg	100%
Riboflavin	1.7 mg	100%
Niacin (as niacinamide)	20 mg	100%
Vitamin B_6 (as pyridoxine hydrochloride)	2.0 mg	100%
Folate (as folic acid)	400 mcg	100%
Vitamin B_{12} (as cyanocobalamin)	6 mcg	100%
Biotin	30 mcg	10%
Pantothenic Acid (as calcium pantothenate)	10 mg	100%

Other ingredients: Gelatin, lactose, magnesium stearate, microcrystalline cellulose, FD&C Yellow No. 6, propylene glycol, propylparaben, and sodium benzoate.

Brands to Trust

A. 3rd party Testing
    a. Look for seal of approval:
        i. USP
        ii. NSF for Sport
        iii. Informed Sport
B. Klean Athlete
C. Thorne
D. Orgain
E. Vega Protein

Resources

a. Natural Medicine Database
b. Drug/Nutrient Interaction Guide
c. NIH Nutrient Fact Sheets
d. USDA Database
e. Consumer Labs
f. USDA 411 Supplement Guide

Conclusion

A. Reviewing the need for supplementation
B. Informed decisions
C. Appropriate prescription
D. Educate, Evaluate, Recommend

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