Sports Performance Stimulant Use & Abuse
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Agenda
• Defining Stimulants
• Common Sources
• Effects on Health and Athletic Performance
• Practical Recommendations

Stimulants
• A substance that raises levels of physiological or nervous activity in the body
• Increases:
  – Alertness
  – Attention
  – Energy
  – Blood Pressure
  – Heart Rate
  – Respiration
Common Stimulant Sources

• Dietary Supplements
• Energy Drinks
• Prescription Stimulants

Dietary Supplements

• “A dietary supplement is a vitamin, mineral, herb, botanical, amino acid, metabolite, constituent, extract, or a combination of these ingredients”

Dietary Supplements

• Dietary Supplement Health and Education Act (DSHEA) of 1994
• Supplement Facts Labels
  – Suggested serving size, type and quantity of ingredients
  – Term “Proprietary Blend” can be used
    • Does not state how much of a product is in supplement, just what type is in it
  – Health claims, but not therapeutic claims may be found on labels
Dietary Supplements

Supplement Facts

Texas Health
Sports Medicine

Food and Drug Administration (FDA) requires the following statement to appear on the label:
– “This product is not intended to diagnose, treat, cure or prevent any disease.”

Under DSHEA, the FDA does not have the authority to require that supplements be approved for safety before they are marketed
– Dietary supplements that appear on the market are presumed to be safe until it is proven otherwise
  * Cannot be removed from market until proven unsafe

Dietary Supplements

• Common supplement categories that contain stimulants:
  – Pre-Workout
  – Weight Loss
  – Sexual Enhancement
Dietary Supplements

• Third-party testing ensures the supplement contains what is listed on the label

Energy Drinks

• Energy Drinks
  – High caffeine-containing beverages that often contain a combination of vitamins, minerals, amino acids, and herbal ingredients
  – Marketed to athletes and the general public as a quick and easy way to reduce fatigue and improve athletic performance

Energy Drinks

• Classified as dietary supplements by FDA
• Safety determinations are made by the manufacturer
• No requirements for testing, warning labels, or restriction against sales/consumption by minors
Energy Drinks

- Concerns:
  - No caffeine limit
  - Proprietary blends
  - Herbal ingredients
  - Nutrient interactions
  - Unknown ingredient amounts
  - Mixing with alcohol

Nutrition Concerns

- Concerns associated with energy drink consumption:
  - Skipping breakfast
  - Calorie/sugar intake
  - Hydration status
  - Energy status
  - Late bedtimes/sleeping problems

Nutrition Concerns

- Gastrointestinal symptoms
  - High concentration of carbohydrates may delay gastric emptying
  - Can cause bloating, diarrhea

- Dehydration
  - Energy drinks should not be used for pre- or rehydration
Health Concerns

• Among Children and Adolescence:
  – Bone Mineralization
  – Source of nutrient-empty calories
  – Associated with increased intake of fast food or junk food
  – Associated with increased rates of smoking, alcohol, and other substance abuse

Prescription Stimulants

• Often prescribed for:
  – ADHD
  – Narcolepsy
  – Depression

Prescription Stimulants

• Abuse:
  – Sharing with a friend
  – Taking prescription stimulant in a way other than prescribed
  – Taking prescription to get high
  – Mixing with alcohol and/or drugs
Prescription Stimulants

- 62% of college students prescribed stimulant medications report having shared or sold their pills at least once

Caffeine

- Can increase exercise performance in adults by ~2-4%
- Dose: 3-6 mg/kg body weight
- Banned in NCAA with urinary caffeine levels >15 mcg/mL
- Has not been studied in children and adolescents

Practical Recommendations

- Increase awareness and education
- If supplementing, choose a third-party tested supplement
- Choose age appropriate beverages
- Encourage healthy dietary behaviors to promote optimal fueling, recovery, and hydration status
References