Diet and Energy: Where Athletes Go Wrong

Jill Castle, MS, RDN
Academy of Nutrition and Dietetics
Author, Speaker, Consultant
New Canaan, CT
Reality Check

- 5% of MS and HS students use anabolic steroids (up by 2% since 2009)
- More than 1/3 of boys and 1/5 of girls use protein powders
- 10% use non-steroid anabolic aids (creatine)
- 11% of 9-12th graders use HGH w/o prescription (more than 2x rate since 2012)

- Dietary supplements: Vitamins, minerals
  - 2012: $32 billion
  - By 2021: $60 billion
  - Sports nutrition supplements: $6 billion

The Seductive Promise

- Improved performance
  - Strength, power, speed, endurance
- Alter body weight or composition
- Change behavior (excitability, pain perception)

- Popular amongst young athletes:
  - Building muscle
  - Improving appearance

The Research

- Whether they take them
- Which ones are being used
- What we don’t know:
  - How do supplements behave in the young athlete’s body?
- Ethical issues

Risk Associated with Supplements

- **Creatine** (AAP and ACSM: no)
  - Weight gain, digestive problems, dehydration, kidney problems

- **Amino acids**
  - Science doesn’t support the claims in youth athletes
  - Most kids meet protein needs w/ food (2-3 x RDA)
  - Dehydration, excess weight gain (as fat)

- **Stimulants** (caffeine)
  - Addictive qualities; some banned by FDA (ephedra)

- **Steroids** (illegal in sport)
  - 3-8% in boys; 0.5-3% in girls
  - Average starting age: 14 years
  - Liver problems, early growth plate closing (stunting), more tendon injuries & other side effects

Highlight: Energy Drinks

- **Caffeine**: toxic amounts for kids
  - Limit: 1.25 mg per pound or no more than 100 mg/day
  - Side effects: jitters, heart palpitations, seizures
  - Caffeine powder: 1 teaspoon=1600 mg

- **Herbs**
  - Act like caffeine or strengthen the effect of caffeine (Guarana, taurine)

- Interferes with sleep cycle
  - Drives the need for more energy

- Incomplete ingredient lists, ? contaminants

- AAP, ACSM and others: NO
Issues with Supplements

- **Accessibility**: over-the-counter; online (illegal substances)

- **Toxicity**: rates between 2-10% for liver

- Combo products and combination use:
  - Energy drinks (ER visits doubled 2007-2011)
  - Unknown effects

- **Contamination** (caffeine, ephedrine, anabolic steroids, pro-hormones)
  - Up to 25% of supplements may be contaminated (IOC)

- **Claims**
  - Unfounded and little to no scientific evidence in youth
A Call to Action

• Parents
  • Gatekeeper (watch, know and discuss: energy drinks, supplements)

• Coaches
  • Set team policy on energy drinks, supplements

• Leagues
  • Marketing, funding sources,

• Consumer Protection
  • Fight for policy changes: labeling, marketing to youth, regulation
Thank You!

- Coming Soon (7.8.15)
- Questions?
- Jill Castle, MS, RDN
- Jill@JillCastle.com