How Young is Too Young?

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Goals

• Be able to describe several factors that are involved in preventing weight lifting injuries
• Be able to describe the risks and benefits of distance running in children
• Be able to recognize the signs and symptoms of overtraining or burnout
The Pediatric Athlete

- Physiologically and psychologically different needs
  - Can vary from child to child regardless of age
- Lack of skeletal maturity
- Decreased lean muscle mass
- Increased hypermobility

The Pediatric Athlete

- Growth spurts may increase risk of physeal stress injuries
- There is a steady decline in flexibility until puberty
- Flexibility may be a component of injury but no true causal relationship shown
  - Overuse injuries can occur in hypermobile as well as inflexible young athletes
Where Do I Start?

• Set a goal
  – How much time will you be spending?
  – How do I get there?
• Consult with your doctor and make sure your child doesn’t have any health conditions that would preclude him or her from starting a strength training program

Where Do I Start?

• *You have to crawl before you can walk*
• Most kids will benefit the most from basic agility and coordination training
• Learn the *rules* of your sport first
• Make sure your athlete is old enough to follow instruction well
Resistance Training

Resistance Training Myths

- Weight Training can harm young athlete’s bones
  - Bone mineral density benefits
- You’ll stunt your growth if you lift weights too young
Resistance Training Myths

• Younger athletes can be easily injured while lifting weights
• It doesn’t do any good to lift weights until adolescence anyway
• If you do too much cardio, it will hinder gains in strength

Resistance Training

• Difference between athlete’s chronological age and their biological age
• Should be based on “training age”
  – Baseline fitness level
  – Motor skill development
  – Movement competencies
  – Other medical issues
Resistance Training

- Difficult to increase muscle mass before puberty
- Must be properly supervised
- Contraindicated if hypertensive (>99th percentile systolic BP)

Resistance Training

- Goals of resistance training
  - Strength
  - Power
  - Hypertrophy
  - Endurance
Resistance Training

- Start with basic exercises before the more complicated or advanced ones
- Body weight exercises are OK!
- Young athletes may not necessarily “bulk up”
- A properly designed weight training program has not been shown to cause harm to the “growth plates” of young athletes’ bones

Performance Training
Performance Training

• Plyometrics – training method that focuses on power and explosiveness, often involving some form of jumping
• Neuromuscular retraining

The Core

• Core muscles areas:
  – Abdominal
  – Lumbar paraspinals
  – Gluteal
  – Pelvic and hip
Emphasizing the Core

• No clear evidence that better core stability correlates with decreased injury rates
• We do know core stability is important to proper biomechanics

Distance Running
Distance Running

• Not a lot of research has been done
• AAPs stance is that if kids enjoy it, then its ok
• Need to be aware of the risks
• Proper training and supervision needed

https://www.healthychildren.org/English/healthy-living/sports/Pages/Running.aspx
Burnout

A real problem!
Overtraining syndrome
or “burnout”

- Prolonged decrease in sports performance (> 2 weeks)
- Premature fatigability
- Emotional/mood changes
- Lack of motivation
- Sleep disorders
- Pronounced vegetative somatic complaints
- Overuse injuries
- Immune dysfunction
Burnout

• Need to evaluate: training load, sleep, rest, competitive stress, psychological state

• Treatment involves a multidisciplinary approach (physician, trainers, nutritionist, psychologist)

Burnout

• Some sources recommend a fatigue workup along with 2-3 weeks of rest at initial visit.
  – CBC, chem 10, ESR, CRP, Thyroid studies, monospot, β-hCG, etc.

• If improved at follow up then more physiologic fatigue that needs training adjustments

• If NOT improved, then more pathologic and needs prolonged rest
Burnout

- Emotion plays a big component
- Often kids’ entire identities can revolve around a sport
- Sports specialization or the “year-round” athlete

Burnout

- A potential negative effect of early sports specialization
- Unnecessary stress in sports
  - Child dependent
- Children quit for a variety of reasons
- “Parent as coach” concerns
Burnout

• AAP Council on Sports Medicine and Fitness (COMSF) recommends:
  – Young athlete not play 1 sport more than 5 days a week and should have 2-3 months off a year

Summary

• Set realistic goals!
• Resistance training is safe in kids if done right
• Encourage young runners to do so properly
• Burnout is a problem and needs to be addressed
References


