

# Adolescent Resistance Training

February 14th, 2012 By: Joe Cannisi & Dan Villanova

## Special Tips!

- Safety Safety Safety!
- Proper Supervision
- Education
- Proper Technique
- No Harmful effects

## References

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## Beneficial or Hazardous?

### What is Resistance Training?

- Resistance training is a type of exercise that requires musculature contraction against force<sup>1</sup>
- It's a method of physical conditioning that is used to increase the ability of an individual to exert or resist force<sup>2</sup>

### General Effects of Resistance Training

- Neural Adaptations<sup>4</sup>
- Muscle Hypertrophy
- Changes in muscular strength, power and endurance<sup>4</sup>
- Increased Bone Mineral Density
- Increased Connective Tissue strength<sup>4</sup>

### Benefits for Adolescents

- Favorable changes in body composition<sup>5</sup>
- Can maximize bone mineral density during childhood<sup>5</sup>
- Improvement in motor performance skills<sup>5</sup>
- Improvement in muscular strength<sup>5</sup>
- Improvement in sport performance<sup>5</sup>
- Reduction in sports-related injuries<sup>5</sup>
- Decrease number and severity of injuries<sup>5</sup>
- Positive psychosocial effects<sup>5</sup>
- Potential benefits for various conditions including obesity, diabetes, cancer, and other disabilities<sup>5</sup>

### Risks in Resistance Training

- With proper safety and supervision, adolescents are at minimal risk during resistance training<sup>5</sup>
- Resistance training programs do not influence growth in both height and weight<sup>3</sup>



## Guidelines for RT in Adolescence

### Screening Evaluation<sup>6</sup>

- An evaluation by a sports medicine physician should be conducted prior to participation to identify any medical conditions including pulmonary, cardiovascular and orthopedic screening.
- The adolescent's physical, cognitive and psychosocial development should also be assessed.

### Program Design<sup>5</sup>

- The RT program should be designed around the adolescents experience and physical fitness.
- The adolescent RT program should be focused around the goal of promoting overall good health.

### Warm Up<sup>5</sup>

- The warm-up prepares the body for the activity of the RT program. Its function is to increase ROM, raise body temperature, and increase muscle activity.
- It should consist of two main components: general and specific phases

### Order of Exercises

- As the adolescents experience advances the programs exercises can progress from simple single joint exercises to complex multijoint movements.
- For each session, more complex movements should be preformed before single joint movements.

### Load<sup>5,6</sup>

- This is the amount of weight or resistance for the specific movement/exercise being performed
- Body Weight and low-loads should be selected according to each individual.

### Sets/Repetitions<sup>5,6</sup>

- For adolescents, the amount of sets should be low, around 2-3
- The amount of repetitions should be high, from 8-15

### Frequency<sup>6</sup>

- The number of training sessions per week.
- 2-3 nonconsecutive sessions per week

### Cool-Down<sup>6</sup>

- The cool-down is a 5 min period to bring the heart rate down and to perform stretching.