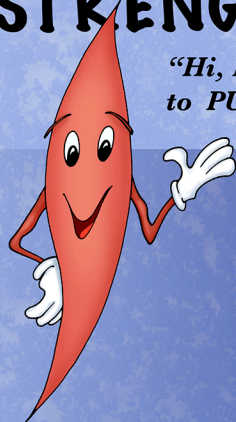
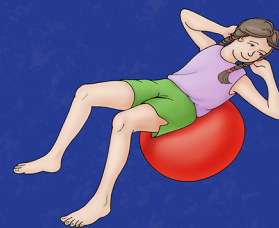


# STRENGTH TRAINING FOR KIDS AND TEENS



*"Hi, I'm Mike the Muscle Fiber and I'm here to PUMP YOU UP.....the right way!"*



## Preteen Muscles

Prior to adolescence, growth is characterized by a steady increase in height but minimal increase in muscle mass. The lack of adult hormones limits the benefits of resistance training. At best, muscles can only be trained to become about 30% stronger. This increase in strength is not because the muscle fibers grow larger, but because more muscle fibers are active during a particular exercise. This small gain in strength is not permanent.

## Teenage Muscles

Around age 12 in girls and 14 in boys, children begin to mature physically. Bone growth speeds up and then stops, usually finishing by age 14 in girls and age 16 in boys. Adult hormone production begins, causing a wide range of changes in the appearance of your body and the way it functions. Overall, your body begins to take on an adult shape. Hair growth patterns change and muscles are able to increase in size in response to training.

Strength training in late adolescence can begin to include increased resistance to increase muscle bulk.

### Preteen Strength Training

Name \_\_\_\_\_ Date \_\_\_\_\_  
Address \_\_\_\_\_ City & State \_\_\_\_\_

- R<sub>x</sub>**
- Pre-participation physical
  - Keep the level of resistance low. Good technique is more important than the amount of weight.
  - Perform 8-12 repetitions/2-3 sets
  - Increase resistance slowly for a moderate challenge
  - Train 2 times/week
  - Always have adult supervision

*John Goodbody, M.D.*  
Dispensing As Written

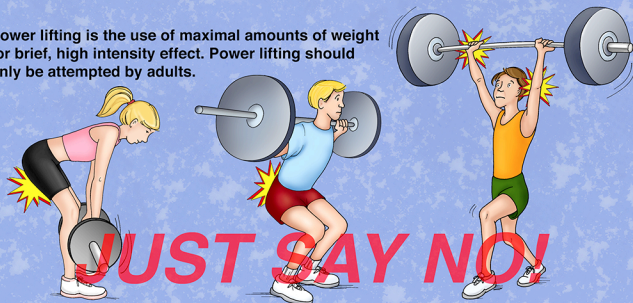
### Teenage Strength Training

Name \_\_\_\_\_ Date \_\_\_\_\_  
Address \_\_\_\_\_ City & State \_\_\_\_\_

- R<sub>x</sub>**
- Pre-participation physical
  - Maintain good technique
  - Perform 10-15 repetitions/2-3 sets
  - Record starting weights and increase 2-5 pounds / week
  - Train 2-3 times per week

Label \_\_\_\_\_ Refill \_\_\_\_\_ times  
*John Goodbody, M.D.*  
Dispensing As Written

Power lifting is the use of maximal amounts of weight for brief, high intensity effect. Power lifting should only be attempted by adults.



Children and teens should avoid power lifting due to increased risk of injury to growing bones. Over 17,000 injuries/year are reported from power lifting maneuvers, poor supervision and over-aggressive weight strengthening programs.

Strength training can be safe and beneficial if done correctly. A physical exam or general health assessment is essential prior to starting a strength training program. Proper supervision is necessary at all times during your strength training program. Good technique and the development of flexibility along with strength are much more important than the amount of weight being lifted.

**Above all, strength training for kids and teens should be enjoyable, not painful!**



Orthopaedics for Kids

John T. Killian, MD • Sharon K. Mayberry, MD