TRAINING AND CONDITIONING GUIDELINES

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RISKS OF INJURY DURING SPORTS PARTICIPATION

Quiz: Of the following, which ranks #1 and which ranks #10 in terms of incidence of Injury (Injury Rate/1000 Athletic Exposures)?

1. Girls Cross Country
2. Football
3. Wrestling
4. Girl's Soccer
5. Boy's Cross Country
6. Girl's Gymnastics
7. Boy's Soccer
8. Girl's Basketball
9. Girl's Track
10. Boy's Basketball

Injuries by Body Part (All Sports)

1. Ankle
2. Knee
3. Hand, wrist, elbow
4. Shin, calf
5. Thigh, groin

READINESS TO PARTICIPATE IN SPORTS

Developmental Skills for Sports and Sports Recommendations

Ages 6-9

- Emphasize fundamental skills and beginning transitional skill
- Flexible rules of sports
- Allow free time in practices
- Short instruction time
- Minimal competition

Ages 10-12

- Emphasis on skill development
- Increased emphasis on tactics and strategy
- Emphasize factors promoting continued participation

**By age 15, 75% of children who have been involved in organized sports have dropped out*

"Prior to the onset of puberty, there are no significant differences in size, strength, endurance or motor skills that would preclude boys and girls from competing together or against one another"

"Children will not necessarily benefit from practice or repetition of skills until they reach their motor "milestones". There is no evidence to suggest that they achieve these milestones any sooner as a result of training."

EFFECTS OF TRAINING ON A CHILD'S BODY

- Repeated bouts of exercise stimulates adaptive physiologic responses which enhance performance
- Stresses of training within limits is beneficial
- Excessive training may lead to breakdown of tissue and resultant injury
- Natural growth and development lead to increased speed, endurance and strength which may obscure the effects of training

Prepubertal children may differ from adults in their adaptions to training

Aerobic Training

- Unlike adults, children can increase their aerobic capacity by only 5-10%
- Higher daily physical activity may have a training effect
- Spontaneous activity of children is usually short burst rather than sustained

Anaerobic Training

- Results unknown

Strength Training

- Supervised resistance training programs can increase strength by 20-30% without increasing muscle bulk
- No evidence that increased musculoskeletal injuries or loss of flexibility occurs with these programs

Cardiovascular System

- Pre-pubertal endurance athletes do not exhibit the same signs of the "athlete's heart" as do adults

Pulmonary System

- Differences between young endurance athletes and nonathletes is not consistently seen

Reproductive System

- May delay menarche or produce secondary amenorrhea

Musculoskeletal System

- Adolescents are three times more susceptible to stress fractures than children
- Stress fractures often develop when there is a change in activity
- A child with a stress fracture requires cessation of that activity with return to that activity only after a graded supervised program