



CARDIOVASCULAR CONDITIONING: HEART AND LUNG CONDITIONING

The KEY is to encourage them develop a consistent activity pattern of vigorous exercise a week (usually 4-5 days a week)

It is generalized.

PRINCIPLES TO INCREASE CARDIOVASCULAR FITNESS

1. START A CARDIOVASCULAR
CONDITIONING PROGRAM 5-6 WEEKS
BEFORE THE SPORTS SEASON BEGINS
(e.g. Running Programs)

2. EXERCISE 30-40 MINUTES, 4-5 TIMES A WEEK

PRINCIPLES TO INCREASE CARDIOVASCULAR FITNESS

3. KEEP IT FUN. ANY ACTIVITY YOUR CHILD/ ATHLETE ENJOYS THAT KEEPS THE HEART RATE UP WILL IMPROVE CARDIOVASCULAR FITNESS

e.g. Basketball, dancing, swimming, cycling et al

MUSCULAR CONDITIONING: STRENGTH TRAINING

Strength Training:

- 1. Increases muscle power
- 2. Improves bone density
- 3. Generally helpful for all athletes

STRENGTH TRAINING vs POWER LIFTING

STRENGTH TRAINING	POWER LIFTING
it is repetitive lifting of light weights	it is heavy lifting
designed to increase baseline strength by developing more muscle fiber	designed to maximize muscle bulk
safe for children and teens	not safe for children and teens

- Strength-training programs employ multiple repetitions of a combination or resistance activities to increase baseline strength
 - * prepares and makes athletes better
- strength can increase by 40-50% over a sixweek period of training (muscle fiber recruitment)
 - * prevents injuries

• Strength-training program**6**:

I. LEG STRENGTHENING

- It is important for all sports but specially for running-based and jumping sports
 - 2 Major Muscle groups:

Quadriceps femoris

Hamstrings (strengthening of this muscle group is the only proven prevention strategy for ACL injuries)

Strength-training programs:

II. CORE STRENTHENING

- It is important for all sports and all ages
- the "core" refers to the combined strength of the abdominal muscles and low-back muscles

Strength-training programs:

III. SHOULDER STRENTHENING

- It is important for all sports especially for overhead sports (e.g. swimming, tennis, baseball, anything that involves throwing)
 - includes the "rotator cuff" muscles

Strength-training programs:

III. FOREARM STRENGTHENING

- the Forearm muscles are responsible for controlling the movement of the wrist
- helps prevent throwing-related injuries (e.g. little league injury, tennis elbow)

Strength-training programs:

III. CHEST STRENGTHENING

- the "pectorals" protect the front torso and help generate force in high contact sports (e.g. wrestling)
- helps prevent throwing-related injuries (e.g. little league injury, tennis elbow)

	Muscles	Results of strength training	Sports it benefits
Q	RUADS	Faster running, higher jumping, stronger push-off when throwing. Short bursts of speed and jumping ability	Running-based and jumping sports
H	AMSTRINGS	Reduced chance of ACL injuries Better long distance running ability	Running-based sports
Al	BS	Well functioning, long-lasting body; reduced chance of low-back pain, improved CV fitness due to the ability to use abdominal muscles to breath easier	All sports, all ages
LC	OW BACK	Better posture, less stress on bone structures along the spine, better running form Better jumping ability	Running-based and jumping sports

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Muscles	Results of strength training	Sports it benefits	
SHOULDER (ROTATOR CUFF MUSCLES)	Shoulder working properly with over-head activities Reduction of injuries	Swimming, tennis, pitching baseball et al	
FOREARM	More powerful wrist flexion-extension movements	Baseball, tennis	
CHEST	Protection of the upper body, generation of force in high-contact sports	All sports, but specially football, basketball, wrestling	

"... but one thing I do, forgetting those things which are behind and reaching forward to those things which are ahead. I press toward the goal for the prize of the upward call of God in Christ Jesus." -Saint Paul of Tarsus