CHILDREN SPORTS TRAINING

THEORY AND PRACTICE OF COACHING 2

Children & Sports Training

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Foundation of sports performance

Top Performance

Physical Fitness
Goals of Physical Fitness Training

- To develop a person’s functional versatility
- To raise the level of motor abilities
- To prevent the negative result of one-sided, specialised training loads.
## Age based training methods

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Type of Training</th>
<th>Exercises</th>
<th>Duration per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-10</td>
<td>Body weight</td>
<td>Body weight exercises. Flexibility.</td>
<td>15 min x 3 per week.</td>
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<tr>
<td></td>
<td></td>
<td>Simplified Team Games. Emphasis on play. No formal training.</td>
<td>Up to 4 hours per week.</td>
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<tr>
<td>11-14</td>
<td>&gt;10 Repetition</td>
<td>&gt;10 Repetition weight exercises. Flexibility.</td>
<td>30 min x 3 per week.</td>
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<tr>
<td></td>
<td>strength &amp;</td>
<td></td>
<td>Team Games. Long easy intervals.</td>
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<td></td>
<td>power</td>
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<tr>
<td>15-19</td>
<td>&lt;10 Repetition</td>
<td>&lt;10 Repetition weights. Flexibility.</td>
<td>45 min x 3 per week.</td>
</tr>
<tr>
<td></td>
<td>strength &amp;</td>
<td></td>
<td>Long and short intervals. Train at anaerobic threshold.</td>
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<tr>
<td></td>
<td>power</td>
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</tbody>
</table>

**Muscular Fitness**

**Energy Fitness**
Beginning Training
-Sensitive periods.

- Max strength: 12-14 (f) 14-16 (m)
- Explosive strength: 10-12 (f) 12-14 (m)
- Strength Endurance: 12-14 (f) 14-16 (m)
- Aerobic Endurance: 8-10 (f & m)
- Anaerobic Endurance: 12-14 (f) 14-16 (m)
- Speed of Reaction: 8-10 (f & m)
- Maximal Speed: 10-12 (f) 12-14 (m)
- Coordination: 5-8 (f & m)
Elements of Coordination

- Balance
- Sense of Rhythm
- Spatial Orientation
- Kinesthetic Differentiation
- Reactivity to acoustical and visual signals
Coordination

• Goal is to introduce athletes/children to as many NEW and DIFFERENT movement patterns as possible.

• Once developed, motor pattern is stored and can be more easily retrieved in the future.
Coordination

• Balance
  – Static balance (eg balance beam)
  – Dynamic balance (eg swerving, tumbling)

• Training Examples
  – Rotate arms and legs - different directions.
  – Squat and arm raise
  – Sit, pedal feet and move arms in frontal plane
  – Rotations into Airplane positions
Coordination

• Sense of Rhythm
  – Ability to determine the extent or range of movements in time appropriate to a given exercise.

• Training Examples
  – A, B, C drills (& variations)
  – Running over obstacles at uniform distances
Coordination

• Spatial Orientation
  – Ability to sense the position of your body in space.

• Training Examples
  – Ball throw, rotate and catch
  – Ball throw overhead and catch behind
  – Bouncing two balls whilst performing activity
  – Trampoline exercises
  – Playing modified games—two balls, smaller field.
Coordination

• Speed of Reaction
  – Ability to quickly respond to stimulus (sight, touch, sound).

• Training Examples
  – Catch ball released from partner
  – Mirror movement of partner
  – Touch partner, move that direction
  – move on command from partner
Coordination

• Synchronisation of movements
  – Ability to have unrelated limb movements occurring simultaneously

• Training Examples
  – One arm large circle, hopping, punching other arm lateral.
  – Rotate hips and wrists (each in different direction)
  – Skip in place, bounce ball, large circle with arm
Coordination

• Kinesthetic Differentiation
  – Ability to adjust muscular tension to achieve desired result.

• Training Examples.
  – Jump set distance, (open and closed eyes)
  – Throw balls of varying weight set distances
  – Jump over obstacles different heights and distances
Speed

• Speed is reliant upon many factors
  – Strength, Power, flexibility, coordination, reaction time, morphology
  – Adolescent Growth Spurts can have negative effect upon speed capacity.

• Goals should be in developing correct movement patterns and stimulating the nervous system regularly.
Speed Principles

- Practice mastered movements faster than the individuals currently normal speeds.
- Go from simple to complex, from easy to difficult, from known to new.
- Combine speed exercises with techniques of the sport.
- Vary exercises regularly - include coordination.
- Vary conditions in which speed exercises are done.
Speed Principles

- Prefer doing more sets to increasing the duration of one set.
- Schedule long rest breaks.
- Take advantage of the sensitive periods in development of speed
  - Develop reaction time and frequency of movements early in life, and the forms of speed based on strength and anaerobic capability later.
Speed Principles

• Training Exercises
  – Fun is the key to all these training elements
  – Running, races and relays
  – Reaction exercises with signal
  – Uphill, downhill, sand, towing
  – Plyometrics emphasising speed off the ground
Boys increase in strength much faster than girls from 12-15 years.
- Especially shoulders and back muscles

There is a secondary “growth spurt” with females from 17-20. (small % of population)
- Can lead to rapid decrease in performance capability.
Principles of Strength Training

- Precede strength training with musculoskeletal evaluation
- Focus on functional strength, particularly postural muscles
- Strength training in stages
  - General strength
  - Functional strength
  - Specific strength
Exercises for Strength Development

- Obstacle courses
- Climbing, hanging
- Medicine balls
- All body weight exercises
- Plyometric activities
- Partner exercises
- Single, alternate leg/arm exercises
Flexibility

- Highest of all physical attributes in children
- Three kinds of flexibility
  - Static
  - Dynamic
  - Static Active
- After 10 years, with the onset of AGS flexibility decreases rapidly
Principles of Flexibility

• Combine flexibility with strength
• Work on specific joints
• Dynamic over static with young children

• Avoid hyperextension exercises where possible.