

General Principles of Exercise Prescription

EXS 150
Chap 3



Basic Principles of Exercise Training

Overload



Progression



Specificity



Training principles

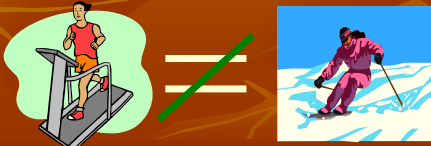
- **Overload principle** - stimulating the involved muscles or organs at an increased level, causing adaptation
 - intensity
 - frequency
 - Duration
- **Progression** – overload should be increased gradually during the course of a fitness program
 - Ten percent rule

Progression Principle



Training principles

- *Specificity* - in order to increase the ability to perform a task, one must train the specific muscles or organ systems involved in the task
 - identification of organ system involved
 - use sport-specific modalities



Is $\dot{V}O_2$ pk specific?

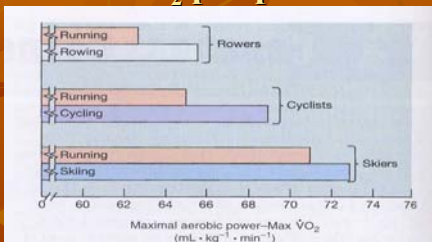


Figure 12.2

The max $\dot{V}O_2$ of three different groups of athletes—rowers, cyclists, and skiers—was determined while they ran on a treadmill and while they performed their specific sport activity. The max $\dot{V}O_2$ was higher when performing the specific sport activity than when running.

(Data from Stromme et al.)

Related Fitness Concepts

“Recuperation” and Overtraining

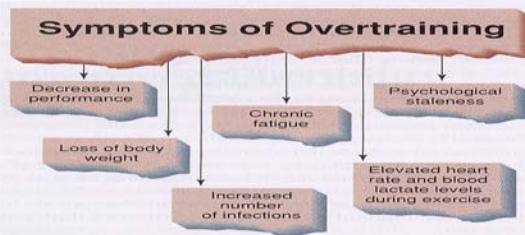


Figure 21.6
Common symptoms of overtraining.

Fig. 21.6, pg404,
Powers and Howley.

Related Fitness Concepts

Reversibility –
“don’t use it,
you’ll loose it!”
(Figure 3.3)

Where did
those
muscles
go?



The Exercise “Science Artist”

“...exercise prescription is the successful integration of exercise science with behavioral techniques that result in long-term program compliance and attainment of the individual’s goals.”

ACSM Guidelines for Exercise Testing and Prescription, 2000, pg 140.

Step One: Goal Setting

- Set a few basic goals for activity
- Open-ended, yet specific
 - Short-term w/ long-term in mind
 - Use confidence levels to help set intended goals (0–100%)
 - Recognize obstacles to achieving goals



Ask yourself a few basic questions

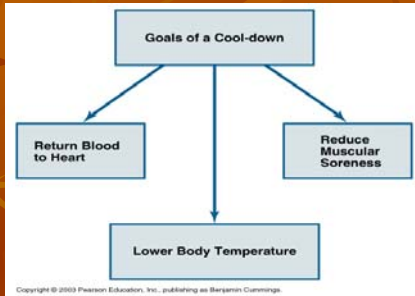
- Do I want to be physically active or physically fit?
- How ready am I to make this change?
 - Motivation – willingness to change is important here
 - You can rate yourself on intention to change from 0 to 10
- What types of activities do I like?
- Do I like to exercise by myself, with someone, or both?



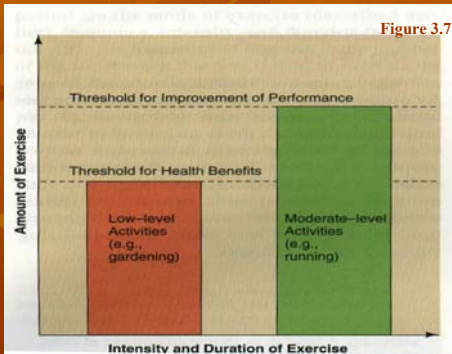
Basics: The Exercise Session

- Decide on the mode of activity you like
- The exercise session (Figure 3.5 and 3.6)
 - Warm-up
 - Endurance phase
 - Recreational activities (optional)
 - Cool-down

The "Cool-down"



Threshold for Benefits of Exercise



Summary

- Progressive overload principle is most important.
- Recovery periods are required.
- Physical fitness can be reversed.
- Exercise prescription: mode, warm-up, intensity, frequency, duration, and cool-down.
- Training programs must be individualized.
- A threshold exists for achieving health benefits.
