

Chapter Three

Lesson One: Health - Related Fitness

Health-Related Fitness, Skill-Related Fitness, and You

Agility, coordination, and power are **skill-related fitness** components that can be improved through practice.

Health-related fitness can be improved by participating in many physical activities that are not necessarily related to sports or games.

5 Components of Health-Related Fitness

1. Cardiovascular Fitness

the ability of your body to work continuously for extended periods of time.

2. Muscular Strength

refers to the maximum amount of force a muscle or muscle group can exert against an opposing force.

3. Muscular Endurance

contributes to more efficient movement and reduces your **energy cost**.

4. Flexibility

the ability to move a body part through a full range of motion - moderate to high level of flexibility is central to efficient physical movement

5. Body Comp

the relative percentage of body fat to lean body tissue.
7-19% men; 12-24% women

Health-Related Fitness vs. Skill-Related Fitness

The Benefits of Flexibility

Helps reduce your risk for muscle and bone injuries.

Improves performance fitness.

**Reduces some types of muscle soreness following
physical activity or exercise.**

Improves functional health and fitness.

Skill-Related Fitness has six components:

1. **Agility** accounts for an athlete's "quick feet."

1. **Balance** ability to control or stabilize the body while standing or moving.

2. **Coordination** requires using a combination of different muscle groups at once.

1. **Speed** largely determined by heredity, speed can be increased.

2. **Power** is a function of both speed and muscular strength.

3. **Reaction time** The ability to react or respond quickly to what you hear, see, or feel.

Your Exercise Prescription

Exercise prescription is the “dose” of exercise you need to maintain a high level of fitness.

The factors of an exercise prescription are referred to as FITT.



Term to Know

Exercise prescription

This is a breakdown of how **often** you need to work, how **hard**, the length of **time** per session, and the **type** of activity or exercise performed.

Your Exercise Prescription

Frequency: how often you work.

Intensity: how hard you work.

Time: the length of time, or duration, that you work.

Type: the specific type or mode of activity you choose.



Your Exercise Prescription

Exercise prescriptions are governed by the specificity principle, the progression principle, and the **overload principle**.

Term to Know

The overload principle

In order to improve your level of fitness, you must increase the amount of regular activity or exercise that you normally do.

Your Exercise Prescription

These scientific principles are applied to an exercise program by adjusting all the FITT factors in your prescription.

The first FITT factor is **frequency**.



Term to Know

Frequency

Refers to the number of times per week you engage in physical activity or exercise.

Your Exercise Prescription

Frequency considerations are:

- Your specific fitness goals. One basic goal should be **cardiovascular conditioning**
- Your current level of fitness.
- Other priorities and responsibilities in your daily life.

Term to Know

Cardiovascular conditioning

Exercises or activities that improve the efficiency of the heart, lungs, blood, and blood vessels.



Your Exercise Prescription

The second FITT factor is **intensity**.



Term to Know

Intensity

The difficulty or exertion level of your physical activity or exercise.

Your Exercise Prescription

For cardiovascular conditioning, a reliable measure of intensity is a percentage of your maximum **heart rate**.



$220 - \text{age} = \text{Max Heart Rate}$
60-70% of MHR

Term to Know

Heart rate

The number of times your heart beats a minute.

Your Exercise Prescription

Another method of determining intensity is using **perceived exertion** or Ratings of Perceived Exertion (RPE).

RPE are based on your awareness of specific body cues; such as how hard you are breathing, your heart rate, or body temperature.



Term to Know

Perceived exertion

A measure of how hard you feel you are working during physical activity or exercise.

Your Exercise Prescription

Another method for monitoring your intensity is the **talk test**.




Term to Know

Talk test

A measure of your ability to carry on a conversation while engaged in physical activity or exercise.

Your Exercise Prescription

The third FITT factor is **time**.

- A workout that is too brief may result in limited progress.
 - A workout that is too long will increase your risk for injuries.
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Term to Know

Time

The duration of a single workout, usually measured in minutes or hours.

Your Exercise Prescription

The fourth FITT factor is **type**.

The choice and type of activity you participate in are up to you.



Term to Know

Type

The particular type of physical activity or exercise you choose to do.

Your Exercise Prescription

The type of activity and the particular activity you do should be guided by these considerations:

What you enjoy doing

How much time you have for the activity

**How much money you can afford to
spend on needed equipment**



Your Exercise Prescription

- For **weight training**, a useful gauge of intensity is a percentage of your maximum strength.
- Maximum strength is a measure of how much weight you can lift one time for a given exercise.

F: how many sets

I: increase the amount of weight

T: repetition of each exercise



Specificity

To apply the **specificity principle** effectively, you need to evaluate your personal fitness goals and design a plan that will target specific areas of your fitness.

Examples:

Short term goal: **Run 5K** in 9 weeks in under 30 minutes
Work: Run. Run for endurance, with a little speed work once/week.



Long-term Goal: **Be a fit person**

Work: Run, walk, jog, swim, bike 3-5 days/week.

Wt. train twice/week.

Stretch regularly and safely.

Practice health nutrition and moderation.

Term to Know

Specificity principle

Overloading a particular component will lead to fitness improvements in that component alone.

Progression principle

- As your fitness levels increase, so do the factors in your FITT.
- When acquiring any new skill, you start slowly, then progress to more advanced levels.
- If you increase all the factors in your FITT at once, you risk and **overuse injury**.

Stages of Progression

Initial Stage

Improvement Stage

Maintenance Stage

These factors affect progression:

- Your initial fitness level
- Your heredity
- The rate at which you overload your body or change your FITT
- Your specific goals
- Your **trainability**

Trainability

The rate at which an individual's fitness levels increase during fitness training.

Progression

Trainability is determined, to a large extent, by heredity.

Different people train at different rates.

Training plateaus are a natural part of the training process.



Term to Know

Training plateau

A period of time during training when little, if any, fitness improvement occurs.

Progression

People experience **detraining** if they lose the battle of will when a training plateau occurs.




Term to Know

Detraining

The loss of functional fitness that occurs when one stops fitness conditioning.

Progression

One measure that can prevent detaining, particularly if you are injured, is **cross-training**.



Term to Know

Cross-training

Varying your exercise or activity routine or type.

Progression

Overtraining is the leading cause of overuse injuries and burnout.



Term to Know

Overtraining

Exercising, or being active to a point where it begins to have negative effects.

Progression

Health problems from overtraining include:

Chronic **fatigue**

Insomnia

Constant muscle soreness

Rapid weight loss

Loss of appetite

Elevated resting heart rate

Elevated blood pressure

Weakened immune system

In females, absence of menstrual cycles, and possible infertility

Terms to Know

Fatigue

The feeling of being tired all the time.

Insomnia

Sleeplessness



Progression

The speed of **restoration** depends on your FITT.

If you exercise daily, you will need to recover more quickly than if you worked out every other day.



Term to Know

Restoration

Ways in which you can optimize your recovery from physical activity or exercise.

Progression

Factors That Influence Restoration

» Age

- Experience

- Environment

- Amount of rest

- Nutrition, including fluids



Components of a Complete Workout

There are three components of a complete workout:

- A warm-up
- The workout itself
- A cool-down

Components of a Complete Workout

A **warm-up** should always precede moderate to vigorous physical activity.



Term to Know

Warm-up

A portion of a complete workout that consists of a variety of low-intensity activities that prepare the body for physical work.

Components of a Complete Workout

There are two main methods of warming up.

- **Active warm-up**
- **Passive warm-up**



Terms to Know

Active warm-up

Raises body temperature by actively working the body systems centering on the muscles, skeleton, heart, and lungs

Passive warm-up

Raises the body temperature through the use of outside heat sources.

Components of a Complete Workout

An active warm-up will have two phases.

A cardiovascular phase is designed to gradually increase your heart rate and body temperature. It may include jogging slowly or running in place on a treadmill.

A muscular-skeletal phase is designed to loosen up the muscles and connective tissues. It may include dynamic body stretches.



Components of a Complete Workout

Warm-up Guidelines

Remember to do a cardiovascular and muscular-skeletal phase in every warm-up.

Start slowly, and gradually increase intensity.

Warm up for five to fifteen minutes in temperate weather. When it is cold, you may want to take more time to warm up.

Design a specific warm-up intended for your exercises.

Make your warm-up intensity high enough to produce an increase in heart and breathing rates and a light sweat.



Components of a Complete Workout

The **workout phase** of your fitness program is the period of time that you should spend daily in physical activity or exercise.



Components of a Complete Workout

The **cooldown phase** will ensure a safe and more effective recovery. Its purpose is to lower your heart rate gradually.



Components of a Complete Workout

The cooldown portion of your routine is as important as the warm-up.

This gradual decrease will prevent **blood pooling**.



Term to Know

Blood pooling

A condition in which blood collects in the large veins of the legs and lower body.

Components of a Complete Workout

The cooldown has two phases:

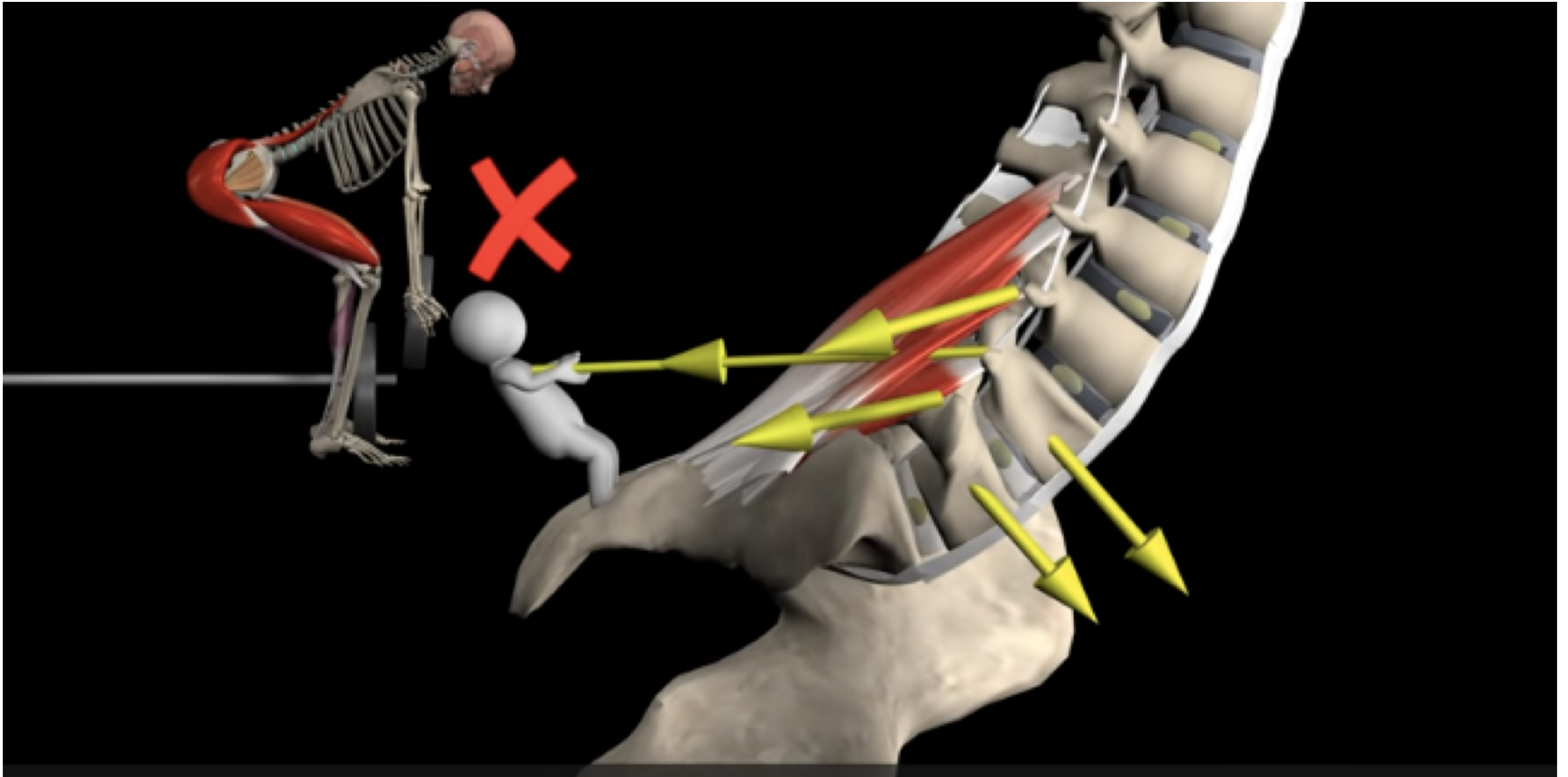
- A **cardiovascular cooldown**
- A **stretching cooldown**



Stretching cooldown

Involves three
to five
minutes of
stretching.

How to Avoid Injuries While Lifting



<https://www.youtube.com/watch?v=IVxnRAiuGas>