PE 1- Assignment #6

Name: _____

Per:_____ Date: _____

Teacher:_____

INJURY PREVENTION AND CARE

When people are active- injuries can happen. Luckily most injuries you will encounter in keeping fit will probably be minor. However, you should always pay close attention to any injury. Seek medical attention if the injury interferes with your ability to perform daily tasks or participate in your fitness program for more than a few days. The most common injuries involve muscle, connective tissue, and bones. Luckily there are a few things you can do to lower your chances of getting injured while participating in your fitness program.

Warm-up/Cool Down

You're ready to hit the elliptical machine or the running trails. But, before you do, consider doing a brief warm-up followed by a quick cool-down session when you're done exercising. Sure, a warm-up and cool-down may add a few minutes to your exercise routine, but they also might help you prevent injuries and stay healthier. If you're taking a dance class, for example, an experienced teacher knows to start the class with movements that ease your body into the physical activity. If you are not part of an organized workout and set your own pace, it is especially important to incorporate a warm up that prepares your body. If you plan to run five miles, for example, you can warm up your muscles by first walking faster and faster before taking off on that run.

Why should you Warm-Up and Cool Down

When done correctly, warming up and cooling down may offer help in reducing your risk of injury and improving your athletic performance. Warm-ups and cool-downs generally involve doing your activity at a slower pace and reduced intensity. When you do a proper warm up, you ease your body into your workout activity. Warming up gradually revs up your cardiovascular system, increases blood flow to your muscles and raises your body temperature. Jumping into an aerobic workout without preparing your body could lead to problems such as muscle strain or other injury.

When you are ready to wrap up your workout, it is sometimes tempting to just finish up and hit the shower. Once your heart rate is up and your muscles have been taxed, this is an important time to give your body a chance to cool down. Cooling down after your workout may help gradually reduce the temperature of your muscles, and return your heart rate to normal, especially if you've had an intense workout. Cooling down may also help reduce muscle injury, stiffness and soreness.

THE WARM UP

There are scientific principles related to the warm-up. The primary purpose of any warm-up is to raise your heart rate gradually before activity. This gradual increase causes a slight rise in muscle temperature. This in turn enables your muscles to work safely and more efficiently. In fact your whole body benefits. Muscles, bones, and nerves perform better when the body temperature is slightly increased. Evidence suggests that warming up also helps prevent injuries, including reducing muscle soreness after activity. In addition to these physical benefits- the warm-up also gets your body mentally prepared for the activity you are about to do

How to warm up

A well-designed warm-up will help you participate in a safe, successful, and enjoyable workout. Unfortunately, many people warm up too quickly or not at all. The warm-up consists of low-intensity activities that prepare the body for physical activity and should be done right before you plan to start your workout. A warm-up may cause mild sweating, but it shouldn't leave you fatigued.

Experts recommend an "active warm-up" for the best results. An active warm-up raises body temperature by actively working the body systems focusing on the muscles, joints, heart, and lungs. There are two parts to the active warm up.

- Cardiovascular Phase: designed to gradually increase your heart rate and body temperature. This can include jogging, skipping, jumping etc..
- Muscular -Skeletal Phase: designed to loosen up the muscles and connective tissue. This phase includes stretching the large muscles groups as well as anything specific for the activity you are about to do.

In general, warm up by focusing first on large muscle groups, such as your hamstrings, then you can do exercises more specific to your sport or activity.

What kind of warm-up activities do you do in or before class:

Cardiovascular	
Muscular-Skeletal	

THE COOL DOWN

The cool down portion of your routine is every bit as important as the warm-up. Yet, just like with the warm-up, many people cool down too quickly or not at all. Cooling down is similar to warming up. You generally continue your workout session, but at a slower pace and reduced intensity. Cooling down may be most important for elite athletes, such as well-conditioned marathoners. For them, cooling down is important because it helps regulate blood flow. For others, cooling down may simply become an enjoyable ritual as part of an overall exercise program. A well-designed cool down after every workout will ensure a safe and more effective recovery.

How to cool down

The cool down also follows physiological principles. The main job of the cool down is opposite of that in the warm-up. It is to LOWER your heart rate gradually. This gradual decrease will help you prevent blood pooling in the lower body. This is a condition in which the blood collects in the large veins of the legs and lower body causing you to become dizzy and light headed. This is because less blood is being pumped to your heart and brain. Blood pooling typically results from stopping abruptly at the end of an intense exercise (like running the mile).

The Cool Down should include the same two phases as the warm-up.

- Cardiovascular cool down: moving slowly and continuously for three to five minutes after exercise. (ex.. jogging slowly, walking…)
- Muscular-Skeletal cool down: three to five minutes of stretching to help minimize stiffness and muscle soreness. This will look a lot like the stretching you did during the warm-up.

Stretching during the cool down is extremely important. Your muscles are at their warmest during this time, which makes it the perfect time to deepen your stretch. Take the time to stretch each muscle group that you exercised. Breathe deeply through the cool down period to help your muscles melt into the stretch. You will find when you stretch during the cool down that you will feel less soreness from your workout. Besides helping to prevent injuries, this decrease in soreness is important for maintaining your motivation to adhere to your workout routine day in and day out.

REST AND RECOVERY

In addition to warming up and cooling down, another important principle to work into your fitness routine is that of Rest and Recovery. The principle of rest and recovery indicates that you need to allow your body time to rest and recover after a workout. For this reason the average person should allow at least a day between doing the same workouts. For example, if you run on Monday- choose another activity on Tues and come back to running on Wed. Or, if you are lifting weights- alternate days between upper and lower body muscle groups to allow time for those muscles to rest and recover in between workouts. This will also help you prevent some of the common injuries associated with activity.

COMMON INJURIES

When people are active- injuries can happen. Luckily most injuries you will encounter in keeping fit will probably be minor. However, you should always play close attention to any injury. Seek medical attention if the injury interferes with your ability to perform daily tasks or participate in your fitness program for more than a few days. The most common injuries involve muscle, connective tissue, and bones.

Muscle Injuries:

- Cramp: painful spasm that occurs during physical activity. Most muscle cramps are associated with dehydration or an imbalance of electrolytes. Some cramps can be caused by a lack of oxygen getting to the muscle itself (ex. Side stitch while running).
- Strain: also called a "pulled" muscle. This is caused when the muscle or tendon tissue is stretched or torn as a result of fatigue, overuse, or improper use of a muscle.. Strains are also caused by decreased flexibility, not warming up, or overuse.
- Delayed Onset Muscle Soreness: (DOMS) occurs 24-48 hours after a vigorous workout. Caused by small tears in the muscle tissue. It's okay to exercise when you are sore- in fact that can help you recover.

Connective Tissue Injuries:

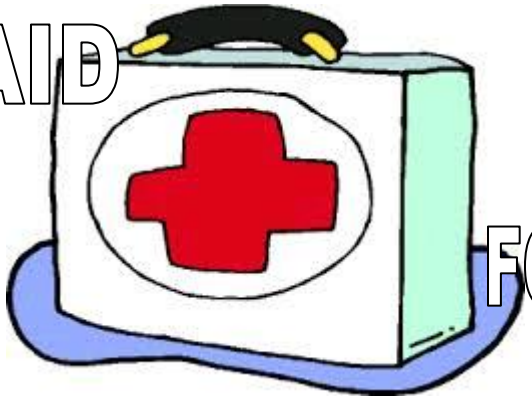
- Sprain: is a stretching or tearing of the ligament surrounding a joint. This is caused by twisting the joint past it's normal R.O.M. (ex. "rolling" your ankle)
- Shin Splints: while this term can be used in association with any general pain in the shin area-it is most often associated with inflammation (irritation) of the tendons in this area. This inflammation is typically caused by improper footwear, running on hard surfaces, or muscle imbalances in the lower leg.

Bone Injuries: Injuries to bones are more serious and require medical care.

- Stress Fracture: caused by repetitive stress and over use, this injury is difficult to diagnose as it will not show up on an X-ray for several weeks. This injury starts as small crack in the bone resulting in pain. Overtime the fracture will grow until it can be seen on the X-ray.
- Fracture: broken bone caused by compression, twisting or getting hit too hard.

CARING FOR INJURIES

If you suffer an injury such as a sprain, strain, muscle pull, or tear, immediate first aid treatment can prevent complications and help you heal faster. One of the most popular acronyms to remember if you get a sports injury is RICE, which stands for Rest, Ice, Compression and Elevation. Using these immediate first aid measures is believed to relieve pain, limit swelling and protect the injured soft tissue.

FIRST AID  FOR INJURIES

Use the RICE Method for treating most soft tissue injuries like Sprains and Strains

R

REST:
Remove from activity to protect from further injury.

Immobilization may be necessary

I

ICE:
Apply ice to injured area for at least 20 minutes to reduce swelling and pain.

C

COMPRESSION:
Use an elastic bandage to wrap the injury to prevent further swelling. Make sure wrap is not too tight.

E

ELEVATE:
Raise the injured body part above the level of the heart as long as it does not increase pain. This will help reduce swelling.

PE 1- Assignment #6

Name: _____

Per:_____ Date: _____

Teacher:_____

REVIEW QUESTIONS:

1. A warm-up should be completed _____ activity and a cool down should be completed _____ the activity.

2. List two benefits of a good Warm-Up:

-
-

3. List two benefits of a proper Cool-Down

-
-

4. DISCUSS (in your own words) the purpose of the warm-up and why it's important in preventing injuries.

5. DESCRIBE a proper warm-up. Ex… what should it include and why?

6. What is "blood pooling" and how can you prevent it?

7. Explain why Stretching is an important part of the COOL DOWN.

8. Complete the chart: Use information from your text <u>as well as other reliable resources</u>

Injury	Type of Body Part Affected	Cause	Signs and symptoms	Treatment/Care
Cramp		Dehydration		
Strain				
Soreness	Muscle			
Sprain			Pain Swelling	
Shin Splints				
Stress Fractures			Inflammation of tendons	
Fracture				Medical Care

9. The RICE method is commonly used for what types of injures?

10. Explain the steps involved in using the RICE method to treat injures: