

FITNESS ST. GUIDE #4 (10-12)

SCHS PHYS. ED. DEPT.

Medical Screening

A **Medical Screening** is a basic assessment of a person's overall health and personal fitness. It includes a physical examination and may be performed by a doctor, nurse or other health care professional.

Who Should Have a Medical Screening? Everyone should have a medical screening before starting a program of vigorous physical activity, but it is especially important for people who fit one or more of the following descriptions:

- **People with poor lifestyle habits.**
- **People over 40.**
- **People who are overweight or suffer from obesity.**
 - **Obesity** – is a medical condition in which a person's ratio of body fat to lean muscle mass is excessively high.
- **People with a known chronic disease.**
 - **Chronic Disease** – a disease that is ongoing, for example, asthma. **Asthma** – a disease in which the small airways of the lungs become narrowed, making it difficult to breathe.

Environmental Conditions and Physical Activity

Extreme Heat and Fluid Balance – During physical activity, your body produces heat. This causes your body temperature to rise above normal. To prevent overheating, your body perspires. The sweat you produce evaporates on your skin. This, in turn, cools your body.

Fluid Balance is the body's ability to balance the amounts of fluid taken in with the amounts lost through perspiration or excretion.

Dehydration or body fluid loss, and it can put you at risk of several heat-related injuries.

Dangers of physical activity in heat and humidity include:

- **Heat Cramps** – are muscles spasms resulting from the loss of large amounts of salt and water through perspiration. Heat cramps are the mildest form of heat injury. They can be minimized by drinking plenty of fluids before and during physical activity.
- **Heat Exhaustion** – is an overheating of the body resulting in cold, clammy skin and symptoms of shock. Some other symptoms include weakness, headache, rapid pulse, stomach discomfort and dizziness. Any sign of these symptoms should stop physical activity immediately and get to a cool, dry place and drink plenty of fluids.
- **Heat Stroke** – a condition in which the body can no longer rid itself of heat through perspiration. **This is the most serious of heat-related injuries.** Symptoms include a very high body temperature, rapid pulse, and loss of consciousness. Heatstroke requires immediate medical attention. Move the person to a cool place and sponge with cold water until help arrives. Call 911.

How to Avoid Heat-Related Injuries

- **Acclimatization** – is the process of allowing your body to adapt slowly to weather conditions. You can become acclimated to working in the heat after five to ten days.
- **Fluid Intake** – To prevent dehydration, you need to **rehydrate** – restore lost water – by drinking plenty of fluids before, during, and after physical activity.
- **Clothing** – when choosing clothing for sports or activities in the heat, choose lightweight material.
- **Setting Limits** – One of the most important safeguards against heat-related injury is learning to use the **heat-stress index**. This is a scientific measure of the combined effects of heat and humidity on the body.

Physical Activity in Extreme Cold

- **Hypothermia** – a condition in which your body temperature drops below normal
- **Frostbite** – tissue damage from freezing. It occurs most often on the head, face, feet, and hands.
- **Wind-Chill Factor** – the combined influence of wind and temperature on the body.

Personal Safety – It is important to protect your personal safety when participating in physical activities. You can reduce the risk of becoming a victim of crime by developing an awareness of risk factors. You should use the following guidelines:

- Take time to examine and plan your outdoor routes.
- Exercise in well-lit areas.
- Exercise with friends, especially at night.
- Wear reflective clothing.

- Avoid exercising in high-crime neighborhoods.
- Avoid isolated trails or paths.
- Always let someone know where you are going. Make sure to say when you expect to return.

Movements for efficient and gentle jogging include:

- Relax your fingers, hands, arms, shoulders, neck and jaw.
- Bend your arms at the elbows at an angle of about 90 degrees.
- Hold your head up, and minimize your head motion.

Common Fitness Injuries and Treatment

Skin Injuries – include cuts, scrapes, bruises, and blisters. Blisters are usually caused by excessive friction between the skin and another surface.

Muscle Injuries – Muscle cramps may be associated with dehydration or an imbalance of minerals in the body. You can avoid most muscle cramps by making sure you follow a proper warm-up and cool down routine, and stay hydrated.

Connective Tissue Injuries – Connective tissue is the soft material that helps hold bones and joints of the body in place. There are three types of connective tissues:

- **Tendons** – bands of connective tissue that connect muscles to bones.
- **Ligaments** – bands of tissue that connect bone to bone and limit the movement of joints.
- **Cartilage** – tissue that surrounds the ends of bones at a joint to prevent the bones from rubbing against each other.

Shin Splint – inflammation of a tendon or muscle in the leg. A shin splint is often the result of overuse.

Strain – a pull or rip in a muscle or tendon.

Sprain – a tear of a ligament.

Treatment of Connective Tissue Injuries – If you are uncertain about any pain or injury you experience during or after physical activity or exercise, it is always best to seek medical attention as soon as possible. In the event of a strain or sprain, you should immediately use the **RICE** formula. This is a first-aid procedure for strains and sprains that become swollen.

- **Rest** the injured area.
- **Ice** the area to reduce swelling. Do not apply ice directly to the skin. Use an ice pack or ice wrapped in a towel.
- **Compress** the area by wrapping it in an elastic bandage.
- **Elevate**, or raise, the body part.

Injuries to Bones – injuries to bones are serious and require medical care. A stress fracture, is a break in the bone caused by overuse. Your doctor may not be able to diagnose a stress fracture for several weeks. Stress fractures start as a small crack in a bone. There is usually pain above and below the crack in the bone, and it is very tender to touch. Over time (four to six weeks), the stress fracture will worsen. At that time it can often be detected through X-ray examination.

Preventing Injuries – While it is important to be physically active, it is equally important to take proper caution to avoid injury. To prevent or safely treat common injuries, follow these guidelines.

- Include a proper warm-up and cool-down in your personal fitness program.
- If you run or walk along busy streets, always face oncoming traffic.
- Wear reflective clothing during night physical activities or exercise.
- Use proper safety equipment for activities with a higher injury risk, such as skateboarding, snowboarding, in-line skating, and cycling.

Why Some People Use Harmful Substances

- **Peer Influence** – the effect that people your own age have on your thoughts and actions.
- Individuals believe that smoking and drinking are viewed as cool. However, there is nothing cool about taking risks with your health and future.
- **Anabolic Steroids** – athletes choose to use steroids in hopes of excelling in sports.

Substance Abuse and Its Effects

Substance Abuse – any unnecessary or improper use of chemical substances for nonmedical purposes. This includes alcohol, nicotine, illegal drugs, and over-the-counter medications.

Addiction – physical and mental dependence. This causes the body and mind to crave more and more of the substance.

Tobacco

- Cigarettes contain over 40 poisonous chemicals.
- Smoking interferes with the normal working of the lungs.
- Smokers are also more prone to coughs and lung infections.
- Tobacco contains a stimulant drug, nicotine.
- Nicotine is powerfully addictive, making it difficult for smokers to quit when they want to.
- Smokeless Tobacco – tobacco that is sniffed through the nose or chewed.
- Smokeless tobacco releases 10 times the amount of cancer-causing substances into the bloodstream.
- It causes cancer of the mouth, lips, and gums.

Alcohol

- A depressant drug. It slows down the central nervous system, impairing vision, reaction time, and coordination.
- One of the most serious short-term dangers of using alcohol is impaired judgment, often increasing risk-taking behaviors.
- Long-term drinking increases the risk for high blood pressure, heart rhythm disorders, heart muscle disorders, and stroke.

Anabolic Steroids – chemicals similar in structure to the male hormone testosterone.

- Steroids can be used as a medicine to treat specific chronic diseases.
- All other uses of steroids are illegal and dangerous.
- Can be taken as pills or by injection.
- Often used as an attempt to increase weight, strength, and muscle mass.
- Although muscle size may increase, the tendons and ligaments that attach those muscles to the bones are not made stronger by steroid use.
- Imbalance between muscles and connective tissues can result in serious injury that can take a long time to heal.
- Anabolic steroid users can have wide mood swings,