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Unit -III

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AEROBIC EXERCISE, UNIT-3



Aerobic Exercise

UNIT 3

Cardio respiratory Endurance Training; proper movement forms, i.e., correct stride, arm movements, body alignment; proper warm-up, cool down, and stretching, monitoring heart rates during activity. Assessment of cardio respiratory fitness and set goals to maintain or improve fitness levels. Cardio respiratory activities including i.e. power walking, pacer test, interval training, incline running, distance running, aerobics and circuits.

CARDIO REPIRATORY ENDURANCE TRAINING

Cardiorespiratory endurance (CRE) training improves your heart and lung strength and overall cardiovascular health. It can help you perform better in long-duration activities like running and hiking, and it can reduce your risk of developing heart disease and other preventable illnesses.

Exercise regularly

Try to exercise at least three to five days a week.

Choose aerobic activities

Examples include walking, running, dancing, cycling, swimming, rowing, and stair climbing.

Vary your training

Try cross-training to expose your cardiovascular system to different stresses and help it adapt.

Start gradually

Pick something you enjoy and gradually work up to more challenging activities.

Warm up and cool down

Stretch before and after your workout, and slow down for 5 to 10 minutes before

PROPER MOVEMENT FORMS

Here are some proper movement forms for aerobic exercises:

Cycling

Keeps your upper body, core, and lower body engaged.

Swimming

Keeps your arms and legs moving continuously, which keeps your heart rate at a moderately high level.

Walking

One of the easiest ways to increase your physical activity and improve your health.

Rowing

An efficient full-body workout that's great for your heart.

Jumping rope

Trains your cardio and coordination.

Elliptical

A good cardiovascular workout that's less stressful on your knees, hips, and back than running or using a treadmill. When using an elliptical, look forward, not down, and use the handlebars if you feel unsteady.

High-intensity interval training

Involves alternating periods of intense exercise with periods of recovery.

Step aerobics

An intense and effective form of aerobic exercise that gets your blood pumping and exercises your lungs.

Jumping jacks

A high-intensity jumping cardio exercise that works your entire body.

PROPER WARM-UP, COOL DOWN , AND STRECTCHING

Warm up

Start with light aerobic exercise like walking briskly, jogging slowly, or cycling on a stationary bike for 5-10 minutes. You can also do dynamic stretches that mimic the movements you'll be doing during your activity, such as walking lunges, jumping jacks, or toe touches. Dynamic stretches can help prevent muscle pulls.

Cool down

Stretch while your muscles are still warm to help them relax and restore their resting length. Stretching can also help improve flexibility and reduce stiffness after exercise.

Start slowly

When you begin your run, start with a slow jog and gradually increase your speed. Pay attention to your posture and form.

Listen to your body

Slow down if you feel out of breath

MONITORING HEART RATES DURING ACTIVITY

Wearable devices:

Smart watches, fitness monitors, and heart rate straps can track your heart rate. Chest strap monitors are considered the most accurate, especially when used properly.

Sensors on cardio equipment:

Some cardio machines have sensors that can track your heart rate.

Manual check:

You can check your pulse by placing two fingers on your wrist or neck and counting your heartbeats for 15 seconds. To calculate your beats per minute, multiply the number of beats by four.

Smart phone apps: Many smart phone apps can help track your target heart rate.

Monitoring your heart rate can help you understand how your body is responding to exercise and workload. There are five heart rate zones, each corresponding to a different level of intensity and benefit. For example, a moderate aerobic endurance effort is in the 50% to 70% of your maximum heart rate (MHR) zone.

ASSESSMENT OF CARDIO RESPIRATORY FITNESS AND SET GOALS TO MAINTAIN OR IMPROVE FITNESS LEVELS

To assess cardiorespiratory fitness, the most accurate method is to measure your VO_2 max (maximal oxygen uptake) through a cardiopulmonary exercise test, which typically involves running on a treadmill while monitoring heart rate and oxygen consumption; this provides a clear picture of your body's ability to utilize oxygen during strenuous activity.

Key components of a cardiorespiratory fitness assessment:

VO_2 max test:

Considered the gold standard, this test directly measures your maximum oxygen consumption during exercise.

Submaximal exercise test:

If a full VO₂ max test isn't feasible, options like the 1-mile walk/run test or the step test can provide a good estimate of fitness level.

Heart rate monitoring :

Tracking your resting heart rate and heart rate during exercise can indicate fitness level and training intensity.

Body composition analysis :

Measuring body fat percentage can provide insight into overall health and fitness potential, as it relates to cardiorespiratory function

SETTING GOALS TO MAINTAIN OR IMPROVE FITNESS LEVELS

Specific goals :

Clearly define your desired outcome, such as improving your VO2 max by 10%, running a 5k at a specific pace, or being able to walk briskly for 30 minutes without fatigue.

Gradual progression :

Start with a manageable exercise routine and gradually increase intensity, duration, or frequency over time to avoid injury.

Variety is key:

Incorporate different types of cardio exercise like running, swimming, cycling, and dancing to target different muscle groups and prevent plate

Intensity levels :

ate zones to monitor exercise intensity and ensure you're working at an appropriate level for your fitness goals.

CARDIO RESPIRATORY ACTIVITIES

POWER WALKING

Speed: Power walking is usually done at a speed of 4 to 5.5 miles per hour (15-13 minute mile).

Form: Keep at least one foot on the ground at all times. Move your feet from heel to toe with each step.

Arm motion: Pump your arms while keeping them bent at a 90-degree angle.

Core engagement: Engage your core to improve your balance and build strength.

Safety and effectiveness: Focus on proper form to make your power walking workouts safer and more effective.

Enjoyability: Make walking more enjoyable by asking a friend to join you, listening to music, or joining a walking group.

PACER TEST

The PACER test, also known as the beep test or multi-stage fitness test, is a running test that measures a person's aerobic capacity. The test involves running back and forth across a marked 20-meter track, keeping time with beeps that get faster each minute. The test ends when a participant fails to complete a lap before the beep twice.

test:

Mark a 20-meter distance in a straight line before starting
Don't run across the line until you hear the first beep Both feet must cross the finish line before the next beep for that line to count Wait for the next beep to start the next lap

INTERVAL TRAINING

Interval training is a type of training exercise that involves a series of high-intensity workouts interspersed with rest or break periods. The high-intensity periods are typically at or close to anaerobic exercise, while the recovery periods involve activity of lower intensity

INCLINE RUNNING

Increased stamina

Enhances balances

Increased fat burning

Faster running speed

An improved cardio
exercise

Great heart health

Better flexibility in your legs

Improves posture

Variety in your exercise

DISTANCE RUNNING

distance running, or endurance running, is a form of continuous running over distances of at least 3 km (1.9 mi). Physiologically, it is largely aerobic in nature and requires stamina as well as mental strength.

AEROBICS AND CIRCUITS

Aerobic exercise Also known as cardio, this type of exercise is meant to improve cardiovascular conditioning. Examples include running, cycling, swimming, and rowing.

Circuit training This type of exercise combines aerobic exercise with resistance training, and is often done at different stations in a circuit. Circuit training is considered a full-body workout that can help you get fit and tone up.