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Warm-up and Cool down

Video –
The Benefits of a Warm-Up and Cool Down

https://www.youtube.com/watch?v=zMReVEkdEnI

Warming up enhances performance and decreases the chance of injury. It gives the body time to redirect blood to active muscles and the heart time to adapt to increased demands.

Why warm up and cool down?

- Warmups and cool-downs generally involve doing your activity at a slower pace and reduced intensity.
- Warming up helps prepare your body for the upcoming activity. A warmup gradually accelerates your cardiovascular system by **raising your body temperature** and **increasing blood flow to your muscles**.

- Cooling down after your workout allows for a gradual recovery of pre-exercise heart rate and blood pressure. Cooling down may be most important for competitive endurance athletes, such as marathoners, because it helps regulate blood flow.
- Warming up and cooling down seem to give your heart and blood vessels a chance to ease into — and out of — an exercise session.

https://www.mayoclinic.org/healthy-lifestyle

How to warm up?

- Warm up right before you plan to start your workout.
- A warm-up session should include low-intensity, whole-body movements similar and more specific to the activity that will follow.
- Begin by doing the activity and movement patterns of your chosen exercise, but at a low, slow pace that gradually increases in speed and intensity.
- A warmup may produce mild sweating, but generally won't leave you fatigued.
- An active warm-up of 5-10 minutes is adequate for most types of exercises. However, warm-up time will depend on your level of fitness, experience, and individual preferences.

Here are some examples of warm-up activities:

- To warm up for a brisk walk, walk slowly for five to 10 minutes.
- To warm up for a run, walk briskly for five to 10 minutes.
- To warm up for swimming, swim slowly at first and then pick up the tempo as you're able.

How to cool down?

- A cool down consisting of 5-10 minutes of reduced activity, should follow every workout to allow heart rate, breathing, and circulation to return to normal.
- Decrease the intensity of exercise gradually during your cool down.

Here are some examples of cool-down activities:

- To cool down after a brisk walk, walk slowly for five to 10 minutes.
- To cool down after a run, walk briskly for five to 10 minutes.
- To cool down after swimming, swim laps leisurely for five to 10 minutes.

A word about stretching

It's best to stretch dynamically with your warm-up and statically after the cool down.

- Stretching can improve flexibility and range of motion about a joint.
- Stretching may also help improve your performance in some activities by allowing your joints to move through their full range of motion.

6 common flexibility techniques

Static Stretching

The most common type of stretching, static stretching, is executed by extending the targeted muscle group to its maximal point and holding it for 30 seconds or more.

There are two types of static stretches:

- **Active:** Added force is applied by the individual for greater intensity.
- **Passive:** Added force is applied by an external force (e.g., partner or assistive device) to increase intensity.

https://www.acefitness.org/

Dynamic Stretching

Unlike static stretching, dynamic stretching requires the use of continuous movement patterns that mimic the exercise or sport to be performed.

The purpose of dynamic stretching is to improve flexibility for a given sport or activity.

An example of dynamic stretching would be a sprinter doing long, exaggerated strides to prepare for a race.

Ballistic Stretching

This type of stretching is typically used for athletic drills and utilizes repeated bouncing movement to stretch the targeted muscle group.

While these bouncing movements usually trigger the stretch reflex and may cause increased risk for injury, they can be safely performed if done from low-velocity to high-velocity and preceded by static stretching.

An example of ballistic stretching is bouncing up and down repeatedly to touch your toes.

Active Isolated Stretching (AIS)

This stretch technique is held for only two seconds at a time.
It is performed repeatedly for several repetitions, each time exceeding the previous point of resistance by a few degrees.

Much like a strength-training regimen, AIS is performed for several sets with a specific number of repetitions.

Myofascial Release

Using a foam roller or similar device, myofascial release relieves tension and improves flexibility in the fascia (a densely woven specialized system of connective tissue that covers and unites all of the body's compartments), and underlying muscle. Small, continuous back-and-forth movements are performed over an area of 2 to 6 inches for 30 to 60 seconds.

The individual's pain tolerance will determine the amount of pressure applied to the target area.

Proprioceptive Neuromuscular Facilitation (PNF)

This type of stretching capitalizes on the use of autogenic and reciprocal inhibition, and includes three types of techniques:

Hold-relax

- Perform a passive 10-second pre-stretch.
- Hold and resist force applied by the fitness professional, causing an isometric contraction in the target muscle group, for six seconds.
- Relax the muscle group and allow a passive stretch; hold for 30 seconds to increase range of motion (ROM).
- There should be a greater stretch during this final phase due to autogenic inhibition.

Proprioceptive Neuromuscular Facilitation (PNF)

Contract-relax

- Perform a passive 10-second pre-stretch.
- The fitness professional applies resistance, counteracting the client's force of concentric contraction of the target muscle group, without completely restricting the joint through its ROM.
- Relax the muscle group and allow a passive stretch; hold for 30 seconds to increase ROM.
- There should be a greater stretch during this final phase due to autogenic inhibition.

Proprioceptive Neuromuscular Facilitation (PNF)

Hold-relax with agonist contraction

- This technique is similar to the Hold-relax technique but differs for the final stretch.
- Relax the muscle group and allow a passive stretch. Concentrically contract the opposing muscle group of the target muscle group that is being stretched; hold for 30 seconds to increase ROM.
- There should be a greater stretch during this final phase due to reciprocal and autogenic inhibition.

Knowing the difference between each stretching technique and how to properly execute them is necessary for determining which stretch is best for your fitness.

Full body dynamic warmup for intense workout
https://www.youtube.com/watch?v=1e528F0pYPg

VIDEO - Football dynamic warm-up

https://www.youtube.com/watch?v=WBZllZFrcRc

The 5 Minute Dynamic Warm Up for Running
https://www.youtube.com/watch?v=dB5W4LZf0JU

VIDEO - Basketball warm-up

https://www.youtube.com/watch?v=obltBY1fEsA