Flexibility

- Flexibility is an important component of physical fitness which is often overlooked by regular exercisers.

- Incorporating a stretching program into your fitness routine can reduce the likelihood of an injury and correct muscle imbalances.

- Muscles can be stretched in different ways utilizing different techniques to accommodate different body and joint types.

- Stretching regularly can help us to lead a more active, fulfilling and pain free life.

Introduction and Recommendations

- Flexibility refers to the total range of motion of a joint or group of joints.
- Flexibility differs from person to person (largely due to joint structure).
- The structural characteristics of the joints and the mechanical properties of the connective tissues of the muscle-tendon structures largely affect the extent of movement around a given joint.
- The goal of all stretching programs is to optimize joint mobility while maintaining joint stability.
- For a general fitness program, the American College of Sports Medicine recommends stretching for most individuals that is preceded by an active warm up, at least 2-3 days per week (Page, 2012).
**Types of Joints**

- Joints (articulations) are positions where bones connect.
- Joints are divided into three classifications, fibrous, cartilaginous and synovial joints.
- Joints can be further classified functionally based on degree of movement.
- Diarthrosis are classified as freely moveable joints, such as your elbow, knee, shoulder and hips.

**Muscle Imbalances and Injuries**

- Tight muscles can cause serious muscle imbalances and make us more susceptible to injury (Page, 2012). For example....
  
  - Tight Quadriceps and hip flexors will... Decrease stride distance in running and walking, decrease the extension at the hip and increase the arch in your lower back that can lead to low back pain.
  
  - Tight hamstrings will...Cause your lower back to reduce its natural curve and thus increasing the risk of injury, and cause a higher incidence of hamstring tears, pulls or cramping.
  
  - Tight shoulders and chest muscles will...Cause rounded shoulder and poor posture, increase the risk of shoulder and neck pain, and contribute to rotator cuff injuries.
  
  - Tight calves can cause... calf strains and Achilles tendon problems, shin splints and ankle sprains, eversion of the foot upon landing, plantar fasciitis, and a pronated foot which results in less shock absorption ability.
Types of Stretching

- **Static:** a muscle or muscle group is gradually stretched to the point of limitation, and then typically held in that position for a period of 15 to 30 seconds (Kravitz & Heyward).

- **Passive:** usually performed with an outside force such as a towel or partner who applies a stretch to a relaxed joint. Requires close communication between partners.

- **Proprioceptive Neuromuscular Facilitation (PNF):** a set of stretching techniques commonly used in clinical environments to enhance both active and passive range of motion in order to improve motor performance and aid rehabilitation. Generally an active PNF stretch involves a shortening contraction of the opposing muscle to place the target muscle on stretch. This is followed by an isometric contraction of the target muscle.

Benefits of Stretching

*An examination of the reported research and empirical evidence support the following benefits of stretching:

- Reduction of low back pain and injury (Bach, Green & Jensen, 1985).
- Reduction in the incidence and severity of injury (Kravitz & Heyward, 2013).
- Improvement in posture and muscle symmetry (Page, 2012).
GUIDELINES FOR HOME EXERCISE

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Please consult your fitness professional before performing any of these exercises

**Frequency**
- 2-3 days per week
- 2-4 sets

**Intensity**
- Each stretch should be held to the point where slight discomfort or mild tightness is experienced

**Type**
- Static (non-movement) or dynamic (with movement)

**Time**
- Should not interfere with cardiovascular training
- Hold each stretch for 15-30 seconds

**Key Aspects:**
- Use slow, controlled movements
- Exhale on exertion
- Avoid straining
- Stop stretching if you have any joint pain during the movement
- Minimize rest between sets

STOP EXERCISE IMMEDIATELY IF YOU EXPERIENCE ANY PAIN.
Upper Body – Neck and trapezius

Neck and Trapezius Stretch
- Begin by standing upright or sitting in a chair.
- Keep your body upright and you're back straight.
- Slowly bring your right ear toward your right shoulder.
- You should feel a gentle tightness throughout the movement.
- Hold this position for 10-30 seconds.
- Return to the starting position and repeat on the opposite side.

Upper back and Trapezius Stretch
- Begin by standing upright or sitting in a chair.
- Keep your body upright and you're back straight.
- Slowly bring your chin toward your chest.
- You should feel a gentle tightness throughout the movement.
- Hold this position for 10-30 seconds.
Upper Body – Chest and shoulders

Chest stretch

- Begin by standing upright or sitting in a chair.
- Keep your body upright and you’re back straight.
- Interlock your fingers together and place them behind your head.
- With your elbows flared out, push them back toward the wall behind you.
- You should feel a gentle tightness throughout the movement.
- Hold this position for 10-30 seconds.
- Return to the starting position.

Shoulder stretch

- Begin by standing upright or sitting in a chair.
- Keep your body upright and your back straight.
- Straighten your right arm and bring it across your body.
- With your arm across your body, gently push on your elbow.
- You should feel a gentle tightness on the back of your shoulder.
- Hold this position for 10-30 seconds.
- Return to the starting position and repeat on the opposite side.
Upper Body – Middle, Lower Back and Latissimus Dorsi

Side Bends

- Begin by standing upright or sitting in a chair.
- Place both arms overhead.
- With your right hand grab your left wrist.
- Pull on your left wrist and bend to the opposite side.
- Keep your back and arms straight throughout the movement.
- Hold this position for 10-30 seconds.
- Return to the starting position and repeat on the opposite side.

Low Back

- Begin by standing upright or sitting in a chair.
- Keep your body upright and your back straight.
- Gently lean forward until you feel a gentle stretch in your lower back.
- Hold this position for 10-30 seconds.
- Avoid this stretch if you experience vertigo or light-headedness.
Lower Body Stretches – Hamstrings, Glutes, Hips, Quadriceps and calves

**Hamstring Stretch - Chair**
- Sit upright in your chair.
- Stick your right leg straight out in front of you with your heel on the floor.
- Point your toe to the sky and gently lean forward.
- Keep your upper back straight as you bend forward at your hips.
- Hold each stretch for 10-30 seconds and then switch sides.

**Hamstring Stretch – Floor**
- Lie flat on your back with your knees bent and feet on the floor.
- Straighten your right leg as much as possible and point your heel to the sky.
- Keep your hips and glutes on the floor.
- Hold each stretch for 10-30 seconds and then switch sides.

**Glute/Piriformis Stretch – Chair**
- Sit upright in your chair.
- Gently cross your right leg over and rest your right ankle on your left knee.
- Keep your right knee bent throughout the stretch.
- Keep your back straight throughout the stretch.
- Hold each stretch for 15 seconds and then switch sides.
Glute/Piriformis Stretch – Floor
- Lie flat on your back with your knees bent and feet on the floor.
- Gently cross your right leg over and rest your right ankle on your left knee.
- Keep your right knee bent throughout the stretch.
- Keep your back straight throughout the stretch.
- Hold each stretch for 10-30 seconds and then switch sides.

Calf Stretch - Standing
- Stand facing wall, or hands on a chair.
- Step forward with uninvolved leg, leaning hips toward chair.
- Keep rear leg straight with heel on the floor.
- Hold for 10-30 seconds and switch sides.

References


