

Stretching Program

The four basic types of stretch techniques include ballistic, dynamic, static, and proprioceptive neuromuscular facilitation (PNF).

1. Ballistic

The oldest technique is the ballistic stretch, which makes use of repetitive bouncing movements. It has been virtually abandoned by almost all experts in the field due to safety concerns.

2. Dynamic

Dynamic stretching incorporates movements that mimic a specific sport or exercise in an exaggerated yet controlled manner; often included during the warm-up or in preparation for a sports event.

3. Static

The static technique involves passively stretching a muscle to the point of mild discomfort by holding it in a maximal stretch for an extended period. It remains a very effective, relatively safe, and popular method of stretching. Recommendations for the optimal holding time are varied, ranging from 10 seconds to 60 seconds.

4. PNF

PNF (proprioceptive neuromuscular facilitation) techniques involve a partner actively stretching the participant by some combination of altering contraction and relaxation of both agonist and antagonist muscles. Some of the different PNF techniques used include slow reversal hold, contract-relax, and hold relax. PNF stretching usually involves a 10 second push phase followed by a 10 second relaxation phase, typically repeated a few times. PNF stretching is capable of producing greater improvement in flexibility compared to other techniques. Its disadvantage is that it typically requires a partner, although stretching with a partner may have some motivational advantage for some individuals.

Important rules for stretching:

- 1) Never stretch cold muscles. Always prepare muscles for stretching by ensuring they have been adequately warmed up and that blood flow to the muscles has been increased.
- 2) Do not bounce. Go into a stretch slowly and hold gently. Stretch to the point of feeling a gentle pull, but never to the point of pain. Stop stretching if extreme pain, numbness or tingling is experienced.
- 3) Hold each stretch for 20 to 40 seconds. If you have problems with a particular area stretch that area twice.
- 4) DO NOT hold your breath during stretches. When stretching the muscles you need to relax into the stretch. Maintaining your breathing in a slow, deep manner will assist this relaxation.
- 5) Stretching is not a warm-up. A warm-up should be gradual and progressive so as to increase the muscles temperature, core body temperature and increase blood flow to all muscles.

Benefits of Stretching:

“Normal” flexibility varies among each individual. Young people tend to be more flexible than others. But everyone can stretch to better prepare the body for an activity and also facilitate recovery from that activity. Flexibility is generally defined as the range of motion around a joint. The goal of stretching is to improve your flexibility to enable you to perform an activity without compromising joint stability. Improved flexibility has many benefits:

1. **Increased range of motion of your joints** – increased flexibility requires less energy to move a joint and provides a safer and more efficient movement.
2. **Injury prevention** - although there is insufficient evidence to fully prove this, it is believed that by improving your range of motion, the soft tissue's resistance to stretch is decreased. Soft tissue damage may not occur, as this elastic limit of the tissue is not exceeded.
3. **Decreased muscle soreness** - stretching after exercise can prevent or reduce delayed muscle soreness and enhance recovery. (This may be attributed to the increased muscle temperature, circulation, enhanced blood supply and nutrients available to the muscle and joint during the stretching activity)
4. **Increased blood supply, nutrients and joint synovial fluid** - regular stretching and proper warm-up increases the deep muscle and tissue temperature, which decreases the synovial fluid thickness. This enables nutrients to be transported more easily to the joint articular and hyaline cartilage, possibly decreasing degenerative joint changes and allowing increased joint range of motion.
5. **Better posture** - by improving your flexibility, better postural alignment and muscular balance can occur. Studies show that by improving pelvic mobility and strength, decreased low back pain is noted.
6. **Stress reduction** - stretching encourages muscular and mental relaxation. These positive adaptations should lead to healthy, supple muscles that are more resistant to fatigue and injury.

Lying Glute Stretch

Preparation

Lie on floor or mat. Bend knees with feet on floor. Cross lower leg over thigh of other leg. Grasp back of thigh of lower leg with both hands.

Execution

Pull leg toward torso. Hold stretch. Repeat with opposite leg. 20s-30s both legs. Repeat each leg 2x.

Lying Wall Glute Stretch (option)

Preparation

Sit on floor with hip and thigh against wall. Lift back of legs up against wall by pivoting on hips and lying on back. Cross lower leg over thigh of straight leg.

Execution

Bend knee of straight leg while lowering heel on wall. Hold stretch. Repeat with opposite leg. 20s-30s both legs. Repeat each leg 2x.

Muscles

Target

- Gluteus Maximus
- Piriformis



Seated Pretzel Stretch

Preparation

Sit on floor or mat with knees straight. Place one foot on the floor to outside of other knee. Turn torso toward the side of bent knee supporting body with extended arm behind. Place elbow of opposite arm to the outside of bent knee.

Execution

Push side of knee with elbow so bent leg further crosses thigh of straight leg. Hold stretch. Repeat with opposite side. 30s both sides. Repeat each side 2x.

Muscles

Target

- Gluteus Muscle Set

Other

- Obliques
- Erector Spinae



Kneeling Hip Flexor Stretch

Preparation

Lunge forward with knee on padded mat. Position foot beyond forward knee. Place hands on knee.

Execution

Straighten hip of rear leg by pushing hips forward. Hold stretch.
Repeat with opposite side.
30s both sides. Repeat each side 2x.

Muscles

Target

- Iliopsoas

Other

- Gluteus Maximus
- Adductors
- Soleus



Standing Single Leg Quad Stretch

Preparation

Stand and touch wall or stationary object for balance. Grasp top ankle or forefoot behind. Pull ankle or forefoot to rear end.

Execution

Straighten hip by moving knee backward. Hold stretch. Repeat with opposite side.
30s each leg. Repeat each leg 2x.

Comments

During stretch, do not allow knee to flare outward to the side. If knee is not completely flexed Iliopsoas may be stretched; Quadriceps will not be stretched significantly.

Muscles

Target

- Rectus Femoris (Quadriceps)



Seated Single Leg Hamstring Stretch

Preparation

Sit on floor or mat with legs apart and knees straight.

Execution

Reach toward one foot or bring torso toward one leg. Hold stretch for 25 seconds. Repeat with opposite leg. Repeat each leg 2x.

Lying Hamstring Stretch (option)

Preparation

Sit on mat or floor with knees bent. Position towel under middle of foot with hands grasping towel on both ends. Lie back and raise leg straight above maintaining grip on towel with both hands.

Execution

Pull leg back while keeping knee straight. Hold stretch. Repeat with opposite leg. 25s each leg. Repeat each leg 2x.

Muscles

Target

- Hamstrings
- Erector Spinae



Lying Groin Stretch

Preparation

Lie on floor or mat. Place soles of feet together on floor close to body with knees far apart.

Execution

Lower knees toward floor. Hold stretch 30s. Repeat 2x.



Seated Groin Stretch (option)

Preparation

Sit on floor or mat with soles of feet together on floor and close to body. Grasp feet with both hands and position elbows on the inside of lower legs.

Execution

Press knees toward floor with elbows. Hold stretch 30s. Repeat each leg 2x.



Muscles

Target

- Adductors, Hip

Bent Leg Achilles Stretch

Preparation

Place both hands on wall with arms extended. Lean against wall with one leg bent forward and the other leg extended back. Bend rear knee slightly, positioned foot directly forward, and place heel to floor.

Execution

Lower knee until just before heel rises. Hold stretch for 25 seconds. Repeat with opposite leg. Repeat each leg 2x

Muscles

Target

- Gastrocnemius
- Soleus



Floor Board Calf Stretch

Preparation

Face wall with both knees slightly bent. Position fore foot on wall with heel on floor.

Execution

Straighten knees and lean body toward wall. Hold stretch 30s. Repeat with opposite leg. Repeat each leg 2x.



Straight Leg Calf Stretch (option)

Preparation

Place both hands on wall with arms extended. Lean against wall with one leg bent forward and the other leg extended back with knee straight and foot positioned directly forward.

Execution

Push rear heel to floor and move hips slightly forward. Hold stretch 30s. Repeat with opposite leg. Repeat each leg 2x.

Muscles

Target

- Gastrocnemius
- Soleus



Standing Neck Extensions

Preparation

Bow head forward with jaw shut. Depress chin into top of sternum.

Execution

Slightly turn head to one side. Hold stretch 20s each side. Repeat to other side. Repeat stretch 2x.

Standing Neck Rotations

Preparation

Standing erect

Execution

Turn head over shoulder to one side. Hold stretch 20s each side. Repeat to other side. Repeat stretch 2x.

Muscles

Target

- Sternocleidomastoid
- Trapezius

Other

- Erector Spinea



Wall Deltoid Stretch

Preparation

Face away from wall. Bend over and place hands slightly wider than shoulder width as high as possible on wall with fingers positioned upward.

Execution

Bring rear end and back toward wall and squat down. Hold stretch for 25 seconds. Repeat stretch 2x.

Muscles

Target

- Deltoid

Other

- Pectoralis Major
- Biceps Brachii



Side Deltoid Stretch

Preparation

Position arm across chest. Place opposite hand on elbow.

Execution

Push elbow toward chest. Hold stretch 30s. Repeat with opposite arm. Repeat each arm 2x.



Rear Deltoid Stretch

Preparation

Position arm across neck. Place opposite hand on elbow.

Execution

Push elbow toward neck. Hold stretch 30s. Repeat with opposite arm. Repeat each arm 2x.

Muscles

Target

- Deltoid (Posterior and Lateral)

Other

- Trapezius
- Rhomboids



Overhead Tricep Stretch

Preparation

Put one arm overhead. Position forearm as close as possible to upper arm. Grasp elbow overhead with other hand.

Execution

Pull elbow back and toward head. Hold stretch 30s. Repeat with opposite arm. Repeat each arm 2x.

Muscles

Target

- Triceps

Other

- Latissimus Dorsi



Standing Bicep Stretch

Preparation

Clasp hands behind back with palms together. Straighten arms and rotate arms (inside down) so palm turn downward.

Execution

Raise arms away from body. Hold stretch 25s. Repeat stretch 2x.

Muscles

Target

- Biceps Brachii

Other

- Deltoid
- Pectoralis Major



Wrist Flexor Stretch

Preparation

With palm facing downward, grasp underside of fingers with other hand and straighten elbow.

Execution

Pull finger and wrist upward and back toward forearm. Hold stretch 20s. Repeat with opposite arm. Repeat each arm 2x.

Wrist Extensor Stretch

Preparation

With palm facing downward, pull wrist and fingers downward toward forearm.

Execution

Extend or straighten elbow. Hold stretch 20s. Repeat with opposite arm. Repeat each arm 2x.

Muscles

Target

- Wrist Flexors
- Wrist Extensors



Side Reach Lat Stretch

Preparation

Stand with feet far apart. Place one arm on side of thigh. Put the opposite arm overhead.

Execution

Lean and reach to the side away from the raised arm. Hold stretch 25s. Repeat with opposite arm. Repeat each side 2x.



Lower Back Stretch

Preparation

Lie supine on floor or mat. Raise both knees and grasp back of thighs behind knees.

Execution

Pull knees toward shoulders allowing hips to be raised further off floor. Hold stretch 30s. Repeat stretch 2x.

Muscles

Target

- Latissimus Dorsi
- Erector Spinae



Lying Abdominal Stretch

Preparation

Lie prone on mat or floor. Position hands on floor to sides of shoulders.

Execution

Push torso up keeping pelvis on floor. Hold stretch 30s. Repeat stretch 2x.

Muscles

Target

- Rectus Abdominus

Other

- Iliopsoas



Straight Arm Chest Stretch

Preparation

With arm extended, position hand on fixed structure shoulder height. Standing in doorway works well.

Execution

Turn body away from positioned arm. Hold stretch 30s. Repeat with opposite arm. Repeat each arm 2x.

Comments

Upper chest becomes more stretched with elbow lower. Lower chest and pectoralis minor become more stretched with elbow higher.

Muscles

Target

- Pectoralis Major

Other

- Pectoralis Minor

