

# Stretching



Ramstein  
**HAWC**  
Health & Wellness Center



# Guide





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## **Flexibility**

Flexibility is the ability to move muscles and joints through their full range of motion. In contrast, stretching refers to the process of elongating connective tissues, muscles, and other tissues. Flexibility and stretching exercises fall into several basic categories depending on the manner in which a muscle is stretched. Several of these more common flexibility categories are as follows:

- Static flexibility relates to a range of motion (ROM) about a joint with no emphasis on speed during stretching; hence, static flexibility is the result to static stretching. A common example is a “split”.
- Ballistic flexibility is usually associated with bobbing, bouncing, rebounding, and rhythmic motion. In ballistic stretching, momentum of a moving body or limb is used to increase the ROM forcibly. Consequently, the risk of injury is greater. An example of ballistic stretching is that it utilizes movement, but dynamic stretching includes movements that may be specific to a sport or movement pattern. An example of dynamic stretching would be a track sprinter performing high knees with an emphasis on knee height and arm action and not on horizontal speed. This type of stretching is not recommended as a primary means of increasing flexibility.
- PNF (Proprioceptive Neuromuscular Facilitation) stretching which combines alternating contraction and relaxation of both agonist and antagonist muscles (Quadriceps, Hamstring); this causes neural responses that inhibit the contraction of the muscle being stretched.
- Active flexibility refers to a range of motion accomplished by the voluntary use of one’s muscles without assistance. An example of active flexibility is an athlete slowly raising and holding the kicking leg to a 100-degree angle. Active flexibility may be static or dynamic.

Research has proven that flexibility does not exist as a general characteristic but is specific to a particular joint and joint action; that is, range of motion is specific to each joint in the body. For instance, an athlete may be flexible in the hips but tight in the shoulders, or tight in the right hip but flexible in the left hip.

Flexibility is specific to a given group of sports as well as to a given side, and a given speed. Even within sport groups, particular patterns of flexibility are related to frequent or unique joint movements in those activities, events, or positions. For example, a baseball pitcher’s dominant shoulder possesses an increased range of external rotation over his other shoulder.

Therefore, flexibility training focusing on improving a joint's ROM must be specifically tailored to the needs of the individual athlete and the sport in which he or she is participating.

There are many benefits in improving your flexibility through stretching. Some of them are listed below:

- Stretching can increase an athlete's mental and physical relaxation.
- Stretching can reduce the risk of joint sprain or muscle strain.
- Stretching can reduce the risk of back problems.
- Stretching can reduce muscle soreness.
- Stretching can reduce the severity of painful menstruation for female athletes.
- Stretching can reduce muscle tension.
- Stretching can promote development of body awareness.

The benefits listed above are not only beneficial to athletes. They apply to any person who improves their flexibility by stretching. However, stretching is only beneficial if done properly. For example, athletes need to make stretching a regular part of their training program and devote several minutes to stretching each day to see results. Athletes also need to stretch gradually, slowly, and using the correct technique to avoid injuring themselves during stretching. This is true for everyone, you need to start slow and be sure you are taking the right precautions so that you don't injure yourself. You should devote several minutes to stretching three to five days a week when you start out, but eventually work up to seven days a week.

\* Additional reference material is available at the HAWC.

Phone # 480-4292/2160

## **Bent-Over Toe Raise**

**Muscle Affected:** gastrocnemius and soleus

1. Stand with heel or right foot 15 to 20 cm in front of toes of left foot.
2. Flex right foot toward shin (dorsi-flexion) with heel in contact with floor.
3. Lean forward and try to touch right leg with chest while both legs are straight.
4. Continue to lean downward with upper body as the foot is dorsi-flexed near maximal toward the shin.
5. Hold for 10 to 15 s.
6. Repeat with the left leg (3).



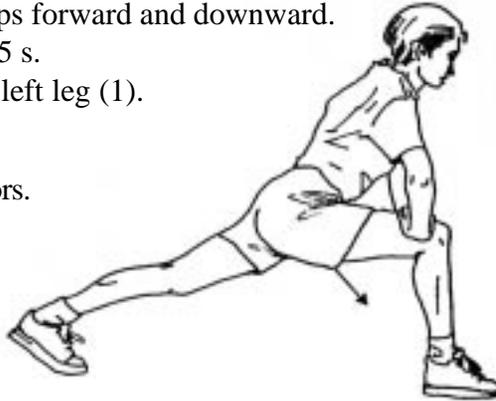
Stretching calves without a step.

## **Forward Lunge (Fencer)**

**Muscle Affected:** illoppoas, rectus femoris

1. Standing, take a long step forward (as with the lunge) with the right leg and flex the right knee until it is directly over the right foot.
2. Keep right foot flat on floor.
3. Keep back leg straight.
4. Keep back foot pointed in same direction as front foot; it is not necessary to have heel on floor.
5. Keep torso upright and rest hands on hips or front leg.
6. Slowly lower hips forward and downward.
7. Hold for 10 to 15 s.
8. Repeat with the left leg (1).

Stretching the hips flexors.



## **Supine Knee Flex**

**Muscle Affected:** hip extensors (gluteus maximus and hamstrings)

1. Lie on back with legs straight.
2. Flex right leg and lift knee toward chest.
3. Place both hands below knee and continue to pull knee toward chest.
4. Hold for 10 to 15 s.
5. Repeat with the left leg (1).



Stretching the gluteals and hamstrings.

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9. Calves

## **Look Right and Left**

**Muscle Affected:** sternocleidomastoid

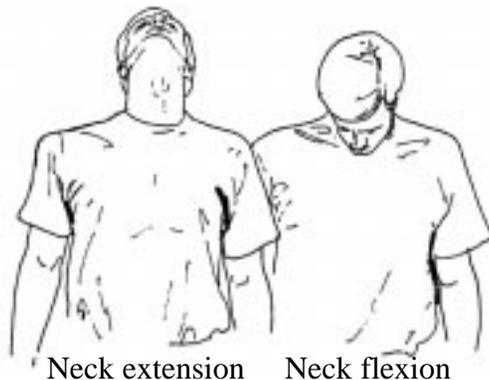
1. Stand or sit with head and neck upright.
2. Turn head to the right using a submaximal concentric contraction. Hold for 10 s.
3. Turn head to the left using a submaximal concentric contraction. Hold for 10 s (14).



Rotational flexion of the neck.

## **Flexion and Extension**

1. Standing or sitting with head and neck upright, flex neck anteriorly (forward) by tucking chin toward the chest; hold for 10 s.
2. If the chin touched the chest, try to touch lower on the chest with the chin.
3. Extend neck posteriorly (backward) by trying to touch the head to the trapezius; hold for 10 s.



## **Spinal Twist (Pretzel)**

**Muscle Affected:** internal oblique, external oblique, and spinal erectors

1. Sitting with legs straight and upper body nearly vertical, place right foot on left side of left knee.
2. Place back of left elbow on right side of right knee, which is now bent.
3. Place right palm on floor 30 to 40 cm behind hips.
4. Push right knee to the left with left elbow while turning shoulders and head to the right as far as possible. Try to look behind the back.
5. Hold for 10 s.
6. repeat with the left leg (1).

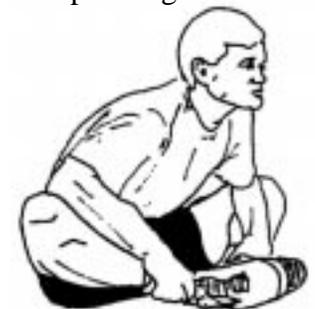


Stretching the low back and sides.

## **Butterfly**

**Muscle Affected:** adductors and sartorius

1. Sitting with the upper body nearly vertical and legs straight, flex both knees as the soles of the feet come together.
2. Pull feet toward body.
3. Place hands on feet and elbows on legs.
4. Pull torso slightly forward as elbows push legs down.
5. Hold for 10 to 15 s (1, 38).



## Arm Straight Up Above Head (Pillar)

Muscle Affected: latissimus dorsi and wrist flexors

1. Stand with arms in front of torso, fingers interlocked with palms facing each other.
2. Slowly straighten the arms above the head with palms up.
3. Continue to reach upward with hands and arms.
4. While continuing to reach upward, slowly reach slightly backward.
5. Hold for 10 s (14).



Stretching the shoulders, chest, and upper back.

## Semi-Leg Straddle

Muscle Affected: spinal erectors

1. Sitting, knees flexed 30 to 50 degrees, let the legs totally relax.
2. Point the knees outward; the lateral side of the knees may or may not touch the floor.
3. Lean forward from waist and reach forward with extended arms. Hold position for 10 to 15 s.
4. Bending and relaxing legs decreases hamstring involvement and increases lower back stretch.



## Seated Lean-Back

Muscle Affected: deltoids and pectoralis major

1. Sitting with legs straight and arms extended, place palms on floor about 1 ft (30 cm) behind hips.
2. Point fingers away (backward) from body.
3. Slide hands backward and lean backward.
4. Hold for 10 s (3).

Stretching shoulder joints-sitting.



## Straight Arms Behind Back

Muscle Affected: deltoids and pectoralis major

1. Standing, place both arms behind back.
2. Interlock fingers with palms facing each other.
3. Straighten arms fully.
4. Slowly raise the straight arms.
5. Hold for 10 to 15 s.
6. Keep head upright and neck relaxed (2).



## Cross Arm in Front of Chest

Muscle Affected: latissimus dorsi and teres major

1. Stand or sit with the right arm slightly flexed (10-30 degrees) and adducted across the chest.
2. Grasp the upper arm just above the elbow placing the left hand on the posterior side of the upper arm.
3. Pull the right arm across the chest (toward the left) with the left hand.
4. Hold for 10 s.
5. Repeat with the left arm.



Stretching the upper back.

## Side Bend With Straight Arms

Muscle Affected: external oblique, latissimus dorsi, and serratus anterior

1. Stand with feet 35 to 40 cm apart.
2. Interlace the fingers with the palms facing each other.
3. Reach upward with straight arms.
4. Keeping arms straight, lean from waist to left side. Do not bend knees.
5. After moving as far as possible, hold for 10 s.
6. Repeat to the left side (1).

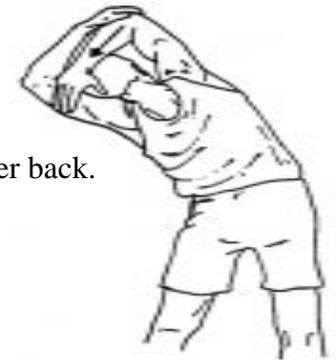


Stretching the sides, upper back, and shoulders.

## Side Bend With Bent Arm

Muscle Affected: external oblique, latissimus dorsi, serratus anterior, and triceps

1. Stand with feet 35 to 40 cm apart.
2. Flex right arm and raise elbow above head.
3. Reach the right hand down toward the left shoulder.
4. Grasp the right elbow (just above the elbow) with the left hand.
5. Pull elbow behind head.
6. Keeping arm bent, lean from waist to left side.
7. Do not bend knees.
8. After moving as far as possible, hold for 10 to 15 s.
9. Repeat with the left arm.



Stretching the sides, triceps, and upper back.

## Behind-Neck Stretch (Chicken Wing)

Muscle Affected: triceps and latissimus dorsi

1. Standing or sitting, flex right arm and raise elbow above head.
2. Reach the right hand down toward the left scapula.
3. Grasp right elbow with left hand.
4. Pull elbow behind head with left hand.
5. Hold for 10 s.
6. Repeat with left arm (1,3).

