The client should start to exhale at the beginning of each stretch; this will help relax the muscle.

For a greater stretch, you should add a little pressure at the end of their natural range of motion (R.O.M.).

Hold the stretch for 1.5 to 2 seconds and then let the muscle go back into its relaxed state. If you do this you are less apt to have the stretch reflex kick in and cause a contraction of the muscle you are stretching.
You should encourage your clients to take part in their own well being by giving them handouts of stretches they can do on their own.

The most important factor to increasing R.O.M. is your client’s ability to relax. If you provide the right environment and you gain their trust your session will have far reaching impact.

**Benefits of Stretching**

Optimizes muscle and tendon range of motion up to 1.6 times its resting length. Muscles will begin to tear and bleed beyond this point.

Facilitates the removal of metabolic waste products. Improved oxygenation eliminates carbon dioxide and improved circulation eliminates lactic acid build up.

Rehabilitates muscle, tendon and ligament injuries.
Facilitates the flow of lymphatic fluid that allows channeling toxic products out of the body.

Enhances athletic performance in conditioning. Optimal flexibility requires less energy expenditure in movement allowing for increased stamina and performance enhancement of speed, agility and strength.

Flexibility promotes improved blood circulation and oxygenation, nourishing cells, tissues and organs restoring health and wellness.

**Contraindications**

Clients with total hip replacement should not adduct the affected leg past the midline of their body.

Be aware of limited range of motion and work within your client’s comfort zone. This will be more apparent if you work with the elderly population.

Any condition that produces neuropathy (lack of sensation) should be taken under consideration when applying these hands on techniques.

Always remember: less is more.
**Client Communication**

Proper education and having passion for your craft is the first step in being able to reach your client.

You will first need to gain their trust.

Offer the option of being active or passive and explain the difference.

You must support their choice to be active or passive; it is their session.

---

**HIP EXTENSOR SINGLE LEG SUPINE**

**Technique**
Supporting client’s knee and foot, move knee toward chest.

**Muscles Stretched**
Proximal hamstrings, gluteus maximus, proximal end of hip adductors, low back and sacrospinalis muscles.

**Muscles Contracted**
Psoas major, iliacus, rectus abdominis, oblique abdominis muscles.
**Gluteus Maximus Supine**

**Technique**
Flex leg at hip to 90° angle then adduct inactive leg across midline and internally rotate. Then assist client in adducting knee toward opposite hip.

**Muscles Stretched**
Lower back rotators, outer hip and especially gluteus maximus muscle.

**Muscles Contracted**
Hip flexors, abdominals, medial hip rotators and hip adductors.

---

**Gluteus Maximus Oblique**

**Technique**
Flex leg at hip to 90° angle then adduct inactive leg across midline and internally rotate. Then assist client in adducting knee toward opposite shoulder.

**Muscles Stretched**
Lower back rotators, outer hip and especially gluteus maximus muscle.

**Muscles Contracted**
Hip flexors, abdominals, medial hip rotators and hip adductors.
**Piriformis Femoral Attachment Supine**

**Technique**
Flex leg at hip to 90° angle then adduct inactive leg across midline and internally rotate. Then rotate hip to a 45° angle and adduct. Then assist in external rotation of the femur by pressing the foot down toward floor.

**Muscles Stretched**
Femoral attachment of piriformis (external hip rotator) and gluteus maximus.

**Muscles Contracted**
Hip adductors, hip external rotators.

---

**Piriformis Sacral Attachment**

**Technique**
Flex leg at hip to 90° angle then adduct inactive leg across midline and internally rotate. Then rotate hip to a 45° angle and adduct. Then assist in external rotation of the femur by pressing the foot down toward floor.

**Muscles Stretched**
Femoral attachment of piriformis (external hip rotator) and gluteus maximus.

**Muscles Contracted**
Hip adductors, hip external rotators.
Gastrocnemius (Calf) Stretch Supine

Technique
Placing neutral hand above client's knee, place active hand under heel and foot and lean forward.

Muscles Stretched
Gastrocnemius

Muscles Contracted
Anterior tibialis, extensor digitorium longus, extensor digitorium brevis, extensor hallucis longus and extensor hallucis brevis.

Calves with Inversion
Calves with Everson

Hamstring (Neutral) Stretch Distal

**Technique**
Flexing client’s hip to a 90º angle with knee bent, support knee and extend lower leg.

**Muscles Stretched**
Distal hamstrings, including the semitendinosus, semimembranosus and biceps femoris.

**Muscles Contracted**
Quadriceps, including vastus medialis, vastus lateralis, vastus intermedius and rectus femoris.
Focusing on: Simitendinosus / Semimembranosus

Distal Internal Rotation
(Hamstrings)

Distal External Rotation
(Hamstrings)

Focusing on: Biceps Femoris
Hamstring (Neutral) Stretch Proximal

**Technique**
Raise leg from the hip with client's leg straight and dorsiflexed foot.

**Muscles Stretched**
Proximal hamstrings, including semitendinosus, semimembranosus and biceps femoris.

**Muscles Contracted**
Quadriceps, including vastus medialis, vastus lateralis, vastus intermedius and rectus femoris.

---

Proximal External Rotation
(Hamstrings)

**Focusing on:** biceps femoris
Proximal Internal Rotation
(Hamstrings)

Focusing on: Simitendinosus / Semimembranosus

Psoas Stretch
**Iliacus and Sartorius Stretch**

**Iliacus 10\(^\circ\) adduction**

**Sartorius 20\(^\circ\) adduction**

**Quadriceps Stretch Side-Lying Distal**

**Technique**

With client’s knee flexed and foot supported by therapist’s hip, move heel toward gluteus maximus.

**Muscles Stretched**

Rectus femoris, vastus lateralis.

**Muscles Contracted**

Gluteus maximus and hamstrings.
**Quadriceps Side-Lying Proximal**

**Technique**
Start with client’s heel close to gluteus then extend hip.

**Muscles Stretched**
Rectus femoris, vastus lateralis.

**Muscles Contracted**
Gluteus maximus and hamstrings

---

**Hip Adductor (Groin) Stretch Supine**

**Technique**
Supporting client’s leg above inside of knee with toes pointing up, abduct leg with toes upward.

**Muscles Stretched**
Pectineus, gracilis, adductor magnus, adductor longus and adductor brevis.

**Muscles Contracted**
Gluteus medius, glutæus minimus, tensor fascia latae and sartorius
**Lateral Hip Stretch Supine**

**Technique**
Placing neutral hand on client’s lower leg and not allowing it to externally rotate, move active leg toward midline.

**Muscles Stretched**
Gluteus medius, vastus lateralis, tensor fasciae latae and the iliotibial band.

**Muscles Contracted**
Adductors-pectineus, gracilis, adductor magnus, adductor longus and adductor brevis.

---

**Medial Hip Muscle Stretch**

**Technique**
Client is supine and crosses one leg over the other with their knee bent and placed proximal to other knee. You will support their foot and ankle pinned to their femur. Then assist your client in moving their active leg, knee toward the table. You will pin the opposite hip to minimize rotation of the pelvis.

**Muscles Stretched**
Gluteus minimus, gluteus, pectineus, psoas, iliacus, gracilis, adductor magnus, adductor longus and adductor brevis

**Muscles Contracted**
Six deep external rotators and gluteus maximus
**Hip External Rotation**

**Technique**
Client should bend their knee to a 90° angle the natural leg should be adducted about 20° angle past the mid line. Place one hand on lateral side of the ankle and the other hand supporting the client’s knee. Your client will then turn their hip out rotating externally.

**Muscles Stretched**
Gluteus minimus, glutus medius, pectineus, psoas major and tensor fascia latae

**Muscles Contracted**
The six external rotators and glutus maximus
**Hip Internal Rotation**

**Technique**
Client must bend their knee to a 90° angle then the client will internally rotate their thigh to stretch external rotators. With abducting the thigh 10° from the midline of the body moving 10° each time you will stretch the following muscle in this order:

**Muscles Stretched**
- Obturator externus
- Inferior gemellus
- Obturator internus
- Superior gemellus

**Muscles Contracted**
- Gluteus minimus
- Gluteus medius
- Pectineus
- Tensor fascia latae

---

**Double Leg Pelvic Tilt**

**Technique**
Bring both legs up off the table so the thighs are both at a 90° angle to the pelvis. Then as the client brings their knees toward their chest, you assist by cupping their sacrum and supporting their knees. The belt must be tight just above the pelvis to help pin the lumbar spine.

**Muscles Stretched**
- Gluteus maximus
- Sacrospinalis muscles
- Sacral and coccyx muscles

**Muscles Contracted**
- Psoas major
- Iliacus
- Rectus femoris
- Rectus abdominis
- Internal and external obliques