




Proprioceptive Neuromuscular Facilitation (PNF) stretching stretches involve applying an isometric contraction against the stretch to invoke a greater relaxation response and thus enable further ROM to be reached. The protocol is to take the stretch to the initial end point and hold that position. After about 20 seconds, the athlete opposes the position with a strong 10-second isometric contraction pushing against the partner or obstacle. The athlete then relaxes, breathes out, and the stretching muscle should relax, allowing the stretch to be taken it further. This is repeated 3 times.

Protocol is to start from core and work out and to work in opposing muscle groups (ie hamstrings, then quads)

<p>Instructions</p> <p>Preparation</p> <p>On floor or mat, lie supine with arms extended to sides. Lift one leg straight up.</p> <p>Execution</p> <p>Lower leg to opposite side toward hand. Hold stretch. Repeat with opposite side.</p> <p>Comments</p> <p>Maintain 90° flexion in hip with both shoulders flat on floor.</p> <p>Also see Lying Crossover Stretch for Obliques for similar exercise which can be performed with this stretch.</p> <p>Muscles</p> <p>Target</p> <ul style="list-style-type: none"> • Gluteus Medius • Gluteus Minimus <p>Other</p> <ul style="list-style-type: none"> • Obliques • Erector Spinae 	
<p>Instructions</p> <p>Preparation</p> <p>Lie prone on mat or floor. Position hands on floor to sides of shoulders.</p> <p>Execution</p> <p>Push torso up keeping pelvis on floor. Hold stretch 20 s.</p> <p>Drive arms down into floor hard for 10 secs</p> <p>Relax and increase stretch to hold for 10 secs</p> <p>Comments</p> <p>None.</p> <p>Muscles</p> <p>Target</p> <ul style="list-style-type: none"> • Rectus Abdominis <p>Other</p> <ul style="list-style-type: none"> • Iliopsoas 	

<p>Instructions</p> <p>Preparation</p> <p>Stand facing close to elevated platform. Place outside of foot on bench with knee bent out to side.</p> <p>Execution</p> <p>Lean down, lowering torso toward thighs. Hold stretch 20 secs. Drive foot down into bench hard for 10 secs. Relax and increase stretch and hold for 10 secs.</p> <p>Repeat with opposite leg.</p> <p>Comments</p> <p>Hands may be placed on elevated platform to maintain balance. Spine may be kept straight. Pelvis may be tilted forward to intensify stretch.</p> <p>Muscles</p> <p>Target</p> <ul style="list-style-type: none"> • Gluteus Maximus 	 <p>© 2008 ExRx.net</p>
<p>Instructions</p> <p>Preparation</p> <p>Sit on floor with hip and thigh against wall. Lift back of legs up against wall by pivoting on hips and lying on back. Place back of legs against wall. Hold stretch for 20 secs. Drive heels into wall hard for 10 secs. Relax and increase stretch to hold for 10 secs.</p> <p>Execution</p> <p>Spread legs. Hold stretch.</p> <p>Comments</p> <p>Keep back of legs against wall.</p> <p>Muscles</p> <p>Target</p> <ul style="list-style-type: none"> • Adductors. Hip 	 <p>©1999 ExRx.net</p>

Instructions**Preparation**

Sit on floor or mat reclining back with support of both arms behind body. Bend knees approximately 90 degrees with feet on floor. Cross lower leg (just above ankle) over thigh of opposite leg.

Execution

Bring torso upright by walking hands closer to hips, keeping arms straight. Lean forward and hold stretch. Drive back against arms for 10 seconds. Relax and increase stretch to hold for 10 seconds. Repeat with opposite leg.

Notes

Spine may be kept straight. Pelvis may be tilted forward to intensify stretch.

Muscles**Target**

- [Gluteus Maximus](#)

**Instructions****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 20 secs. Drive rear foot into floor hard for 10 secs. Relax and increase stretch to hold for 10 secs. Repeat with opposite side.

Comments

Position foot further beyond knee if stretch is felt in Adductor Magnus of forward thigh.

Muscles**Target**

- [Iliopsoas](#)

Other (See Comment)

- [Gluteus Maximus](#)
- [Adductor Magnus](#)
- [Soleus](#)



Instructions

Preparation
 Lasso lower thigh with towel and lie on floor or mat. Bend knees with feet on floor. Cross lower leg over thigh of lassoed leg. Holding each side of towel position towel under knee.

Execution
 Pull both ends of towel so leg travels toward torso. Hold stretch for 20 secs. Drive top leg into lassoed leg hard for 10 secs against resistance of lasso. Relax and increase stretch to hold for 10 seconds. Repeat with opposite leg.

Comments
 This exercise can be performed if thigh can not be reached or held on to during [Lying Glute Stretch](#).

Muscles

Target

- [Gluteus Maximus](#)



Instructions

Preparation
 Lie on back and lift knee up. Grasp behind thigh near knee with both hands. Pull knee close to chest.

Execution
 Extend knee while maintaining knee close to chest. Hold stretch for 20 secs. Drive leg away against hand/arm resistance for 10 secs. Relax and increase stretch to hold for 10 secs. Repeat with opposite leg.

Comments
 Far leg can be bent at knee and hip particularly if hip flexors are tight and greater spinal flexion will not irritate existing lower back injury. Alternative method (pictured low right) involves pulling leg toward chest with knee nearly straight. Also see [Lying Hamstring Stretch](#) with towel.

Muscles

Target

- [Hamstrings](#)



Instructions

Preparation

Lie prone on mat or floor. Grasp top ankle or forefoot behind.

Execution

Pull ankle or forefoot to rear end. Hold stretch for 20 secs. Drive foot against resistance of hand for 10 secs hard. Relax and increase stretch to hold for 10 secs. Repeat with opposite side.

Comments

A thickly folded towel can be placed under upper hip if [lumbar spine hyperextension](#) would otherwise be uncomfortable. A thickly folded towel can be placed under knee to further stretch [Rectus Femoris](#).

[Tibialis Anterior](#) can be stretched if ankle is completely [Plantar flexed](#).

Muscles

Target

- [Rectus Femoris](#)

Other

- [Quadriceps](#)



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Instructions

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 for 20 secs. Drive foot away against resistance of towel for 10 secs hard. Relax and increase stretch to hold for 10 secs. Repeat with opposite leg.

Comments

Far leg can be straightened keep hip from rolling up or bent for comfort. Also see [Lying Hamstring Stretch](#) without towel.



Muscles


Target

- [Hamstrings](#)



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<p>Instructions</p> <p>Preparation</p> <p>With foot on bench or floor place towel around ankle. Grasp both ends of towel behind ankle with closest hand. Stand on opposite leg and touch wall or stationary object with other arm for balance. Pull foot to rear end with towel.</p> <p>Execution</p> <p>Straighten hip by moving knee backward. Hold stretch for 20 secs. Drive foot against towel hard for 10 secs. Relax and increase stretch to hold for 10 secs.. Repeat with opposite side.</p> <p>Comments</p> <p>Alternatively, hip may be initially extended, then ankle can be slowly pulled towards rear end. With either technique, do not allow knee to flare outward to side. If low back is sensitive to hyperextension, hip should be postured in more neutral position than demonstrated. If knee is not completely flexed Iliopsoas may be stretched; Quadriceps will not be stretched significantly. If range of motion permits try Standing Quadriceps Stretch with out towel.</p> <p>Muscles</p> <p>Target</p> <ul style="list-style-type: none"> • Rectus Femoris <p>Other</p> <ul style="list-style-type: none"> • Quadriceps 	
<p>Instructions</p> <p>Preparation</p> <p>Sit on floor or mat with legs apart and knees straight.</p> <p>Execution</p> <p>Reach toward one foot or bring torso toward one leg. Hold stretch for 20 seconds. Drive heel into floor for 10 secs hard. Relax and increase stretch for 10 secs. Repeat with opposite leg.</p> <p>Comments</p> <p>Alternatively, leg not being stretched can be bent so sole of foot is next to stretched thigh. Keep knee of stretched leg straight by tensing Quadriceps. Knees may inadvertently bend if feet are extended off of thick mat or bench. Spine may be kept straight. Pelvis may be tilted forward to intensify stretch.</p> <p>Muscles</p> <p>Target</p> <ul style="list-style-type: none"> • Hamstrings <p>Other</p> <ul style="list-style-type: none"> • Erector Spinae 	

<p>Instructions</p> <p>Preparation</p> <p>Place foot on bench or elevation.</p> <p>Execution</p> <p>Reach toward foot on bench or bring torso toward leg. Hold stretch for 20 secs. Drive heel into bench for 10 secs hard. Relax and increase stretch to hold for 10 secs. Repeat with opposite leg.</p> <p>Comments</p> <p>Avoid throwing leg up onto high elevation. Keep forward knee straight by tensing Quadriceps. Spine may be kept straight. Pelvis may be tilted forward to intensify stretch.</p> <p>Muscles</p> <p>Target</p> <ul style="list-style-type: none"> • Hamstrings <p>Other</p> <ul style="list-style-type: none"> • Erector Spinae 	 <p>A man in a black tank top and light-colored shorts is performing a hamstring stretch. He is leaning forward with his right foot placed on a white bench. His left leg is bent at the knee, and his torso is reaching towards his right foot. The background shows a gym setting with a white wall and a window.</p> <p>© 2004 ExRx.net</p>
<p>Instructions</p> <p>Preparation</p> <p>Sit of floor or mat and place towel or band under foot. With both ends of towel or band in each hand, straighten leg with towel under foot.</p> <p>Execution</p> <p>Pull towel and hold stretch for 20 secs. Drive foot against towel through ankle for 10 secs. Relax and increase stretch to hold for 10 secs.. Repeat with opposite leg.</p> <p>Comments</p> <p>Opposite leg may be keep bent or straight off to side.</p> <p>Muscles</p> <p>Target</p> <ul style="list-style-type: none"> • Gastrocnemius 	 <p>A woman in a black t-shirt and leggings is sitting on a grey mat on the floor. She is performing a gastrocnemius stretch using a white towel. She has one leg bent and the other leg extended straight out with the towel under the foot. She is pulling the towel towards her body. The background is a blue wall with some graffiti.</p> <p>© 2008 ExRx.net</p>
<p>Instructions</p> <p>Preparation</p> <p>Place both hands on wall with arms extended. Lean against wall with one leg bent forward and other leg extended back with knee straight and foot positioned directly forward.</p> <p>Execution</p> <p>Push rear heel to floor and move hips slightly forward. Hold stretch. For 20 secs. Drive ball of foot hard into floor for 10 secs. Relax and increase stretch for 10 secs. Repeat with opposite leg.</p> <p>Comments</p> <p>None.</p> <p>Muscles</p> <p>Target</p> <ul style="list-style-type: none"> • Gastrocnemius 	 <p>A woman in a black sports bra and shorts is performing a gastrocnemius stretch against a white wall. She is leaning against the wall with her arms extended. Her right leg is bent forward and her left leg is extended back with the foot flat on the floor. She is pushing her right heel into the floor.</p> <p>© 1999 ExRx.net</p>

Instructions

Preparation

Kneel on both knees with buttocks over both heels and feet extend back.

Execution

Sit down on or toward heels. Hold stretch.

Comments

Do not allow feet to wing out and do not sit between ankles. Certain knee problems maybe aggravated by this stretch.

Muscles

Target

- [Tibialis Anterior](#)

Other

- [Quadriceps](#)

