

# Fizjoterapia w dysfunkcjach czynnościowych narządu ruchu - obręcz miednicza i kończyna dolna

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**MIĘSIEŃ POŚLADKOWY WIELKI**

# Mięsień pośladkowy wielki – anatomia i funkcja

## • ATTACHMENTS:

- o Posterior iliac crest, posterolateral sacrum, and the coccyx to the gluteal tuberosity of the femur and the iliotibial band

## • ACTIONS:

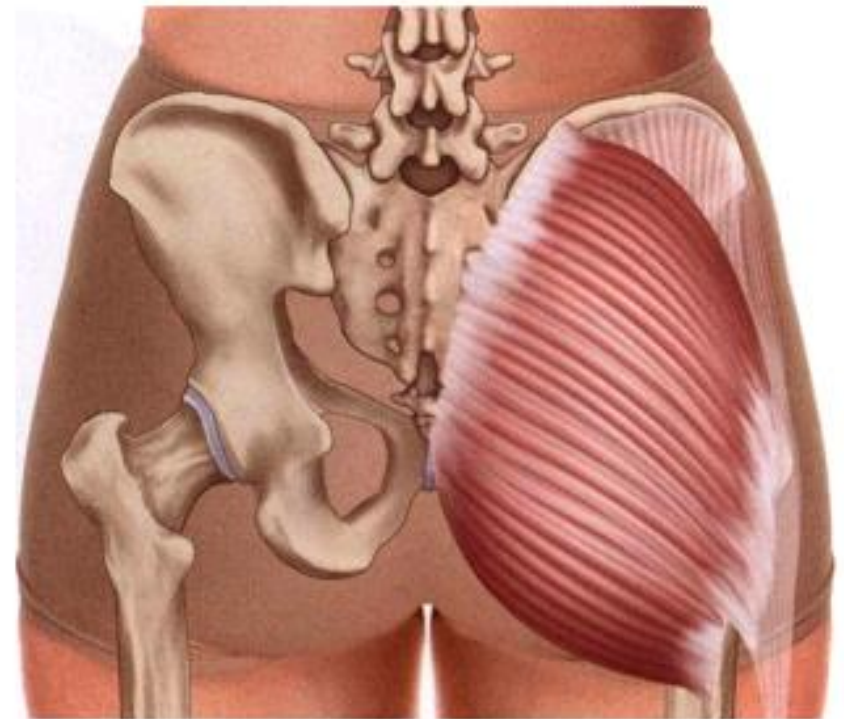
- o Extends and laterally rotates the thigh at the hip joint
- o The upper fibers abduct and the lower fibers adduct the thigh at the hip joint
- o Posteriorly tilts the pelvis at the hip joint

## Starting position (Figure 17-7):

- o Client prone
- o Therapist standing to the side of the client
- o Palpating hand placed lateral to the sacrum
- o Support hand placed on the distal posterior thigh if resistance is needed

## Palpation steps:

1. Ask the client to extend and laterally rotate the thigh at the hip joint, and feel for the contraction of the gluteus maximus (Figure 17-8).
2. With the muscle contracted, strum perpendicular to the fibers to discern the borders of the muscle.
3. Continue palpating the gluteus maximus laterally and inferiorly (distally) to its distal attachments by strumming perpendicular to its fibers.
4. If desired, you may add resistance to the client's thigh extension to better engage the gluteus maximus.
5. Once the gluteus maximus has been located, have the client relax it and palpate to assess its baseline tone.



**Figure 17-6** Posterior view of the right gluteus maximus. The tensor fasciae latae and iliotibial band have been ghosted in.

# Mięsień pośladkowy wielki - palpacja



**Figure 17-7** Starting position for prone palpation of the right gluteus maximus.



**Figure 17-8** Palpation of the right gluteus maximus as the client extends and laterally rotates the thigh at the hip joint against resistance.



## Alternate Palpation Position—Side Lying

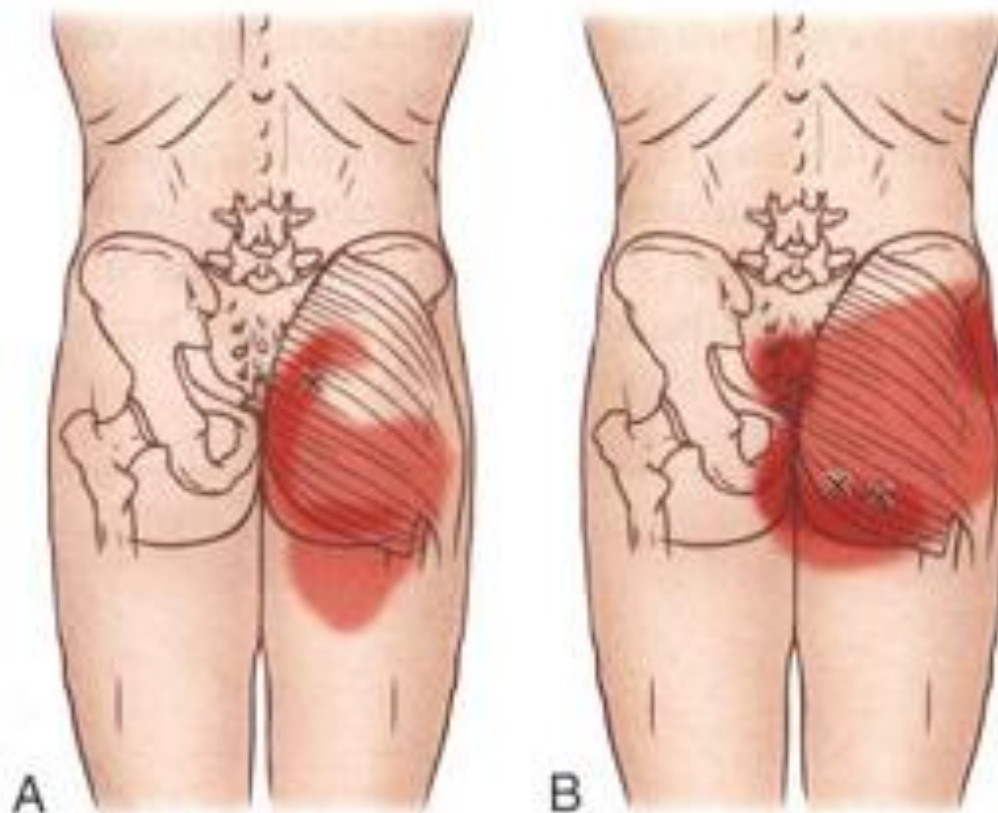
# Mięsień pośladkowy wielki - palpacja



**Figure 17-9** The gluteus maximus can also be palpated with the client side lying. Palpate the gluteus maximus on the side of the body away from the table while asking the client to actively extend and laterally rotate the thigh at the hip joint. However, because extension of the thigh is not against gravity when the client is side lying, the therapist must use the support hand to add resistance to extension to engage the gluteus maximus.



# Mięsień pośladkowy wielki – punkty spustowe i promieniowanie bólu



**Figure 17-10** Posterior views of common gluteus maximus TrPs and their corresponding referral zones.

# Mięsień pośladkowy wielki - stretching

**Figure 17-11** A stretch of the right gluteus maximus. With the knee joint flexed, the client uses the hands to pull the right thigh up and across the body toward the opposite shoulder. To better stretch the lower fibers of the gluteus maximus, the thigh should be brought straight up toward the same side shoulder. Note: If the client experiences a pinching sensation in the groin with this stretch, it is helpful to either first stretch the hip flexors (especially the sartorius and ilio-psoas) before doing this stretch, or to first laterally rotate and abduct the thigh at the hip joint to untwist and slacken the hip joint capsule before doing the stretch.





# MIĘSIEŃ POŚLADKOWY ŚREDNI I POSLADKOWY MAŁY



# Mięsień pośladkowy średni – anatomia i funkcja

## : **ATTACHMENTS:**

- o External surface of the ilium (from just inferior to the iliac crest) to the lateral surface of the greater trochanter of the femur

## : **ACTIONS:**

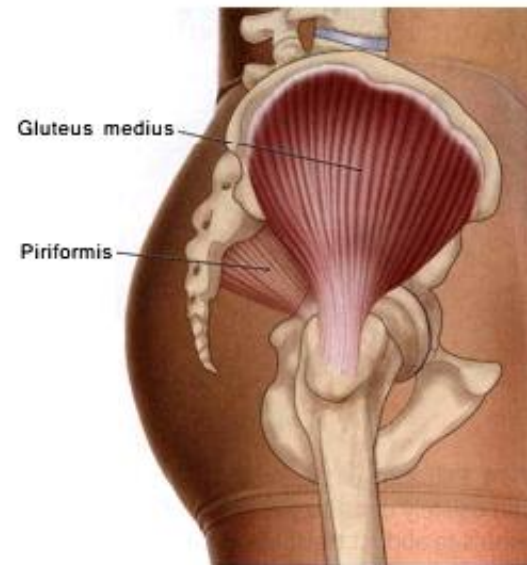
- o Posterior fibers:
  - o Abduct, extend, and laterally rotate the thigh at the hip joint
  - o Posteriorly tilt and depress the same side of the pelvis at the hip joint
- o Middle fibers:
  - o Abduct the thigh at the hip joint
  - o Depress the same side of the pelvis at the hip joint
- o Anterior fibers:
  - o Abduct, flex, and medially rotate the thigh at the hip joint
  - o Anteriorly tilt and depress the same side of the pelvis at the hip joint

## **Starting position (Figure 17-13):**

- o Client side lying
- o Therapist standing behind the client
- o Palpating hand placed just distal to the middle of the iliac crest, between the iliac crest and the greater trochanter of the femur
- o Support hand placed on the lateral surface of the distal thigh

## **Palpation steps:**

1. Palpating just distal to the middle of the iliac crest, ask the client to abduct the thigh at the hip joint and feel for the contraction of the middle fibers of the gluteus medius (Figure 17-14). If desired, resistance can be added to the client's thigh abduction with the support hand.
2. Strum perpendicular to the fibers, palpating the middle fibers of the gluteus medius distally toward the greater trochanter.



**Figure 17-12** Lateral view of the right gluteus medius. The piriformis has been ghosted in.

3. To palpate the anterior fibers, place palpating hand immediately distal and posterior to the ASIS, ask the client to flex and medially rotate the thigh at the hip joint, and feel for the contraction of the anterior fibers of the gluteus medius (Figure 17-15, A) (see Palpation Note #1). It may be necessary to add resistance.
4. To palpate the posterior fibers, place palpating hand over the posterosuperior portion of the gluteus medius, ask the client to extend and laterally rotate the thigh at the hip joint, and feel for the contraction of the posterior fibers of the gluteus medius (Figure 17-15, B) (see Palpation Note #1). It may be necessary to add resistance.
5. Once the gluteus medius has been located, have the client relax it and palpate to assess its baseline tone.

# Mięsień pośladkowy średni - palpacja



**Figure 17-13** Starting position for side lying palpation of the right gluteus medius. Note: The therapist usually stands behind the client, but is shown standing in front of the client here so that the reader's view is not obstructed.

# Mięsień pośladkowy mały – anatomia i funkcja

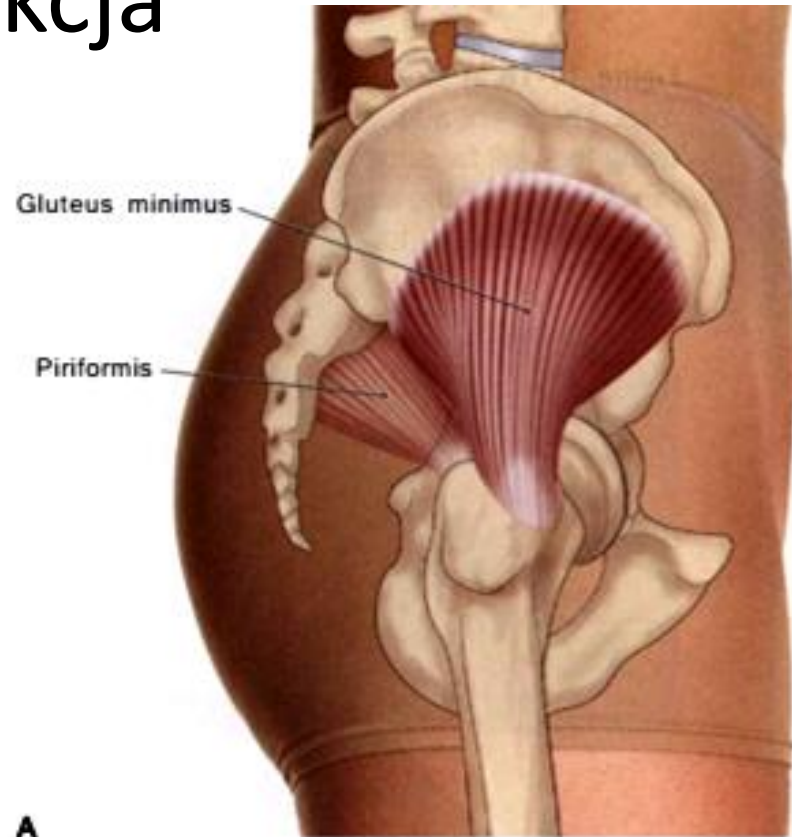
**Gluteus Minimus:** The gluteus minimus attaches from the external ilium to the greater trochanter of the femur and is deep to the gluteus medius. It also has the same actions as the gluteus medius. Therefore it is extremely difficult to discern from the gluteus medius.

*Trigger Points:*

1. Trigger points (TrPs) in the gluteus minimus often result from or are perpetuated by the same activities that create TrPs in the gluteus medius.
2. TrPs of the **gluteus minimus generally produce the same symptoms** as gluteus medius TrPs. However, the referral pain pattern for gluteus minimus TrPs often extends much farther distally (as far as the ankle joint) than the

pattern of either the gluteus medius or maximus. Furthermore, the pain of gluteus minimus TrPs is often persistent and severe.

3. The referral patterns of gluteus minimus TrPs must be distinguished from the referral patterns of TrPs in the gluteus maximus, gluteus medius, piriformis, hamstrings, tensor fasciae latae (TFL), gastrocnemius, soleus, fibularis longus and brevis, popliteus, and tibialis posterior.
4. TrPs in the gluteus minimus are often incorrectly assessed as L5 or S1 nerve compression, or trochanteric bursitis.
5. Associated TrPs often occur in the **gluteus medius**, piriformis, vastus lateralis, fibularis longus, gluteus maximus, TFL, and quadratus lumborum.



**Figure 17-19** Views of the right gluteus minimus. **A**, mus. The piriformis has been ghosted in. **B** and **C**, P minimus TrPs and their corresponding referral zones.

# Mięsień pośladkowy mały – punkty spustowe i promieniowanie bólu





**MIĘSIEŃ GRUSZKOWATY**



# Mięsień gruszkowaty – anatomia i funkcja

## • **ATTACHMENTS:**

- o Anterior surface of the sacrum to the greater trochanter of the femur

## • **ACTIONS:**

- o Laterally rotates the thigh at the hip joint
- o If the thigh is first flexed approximately 60 degrees or more, the piriformis becomes an abductor and medial rotator of the thigh at the hip joint.

## **Starting Position (Figure 17-21):**

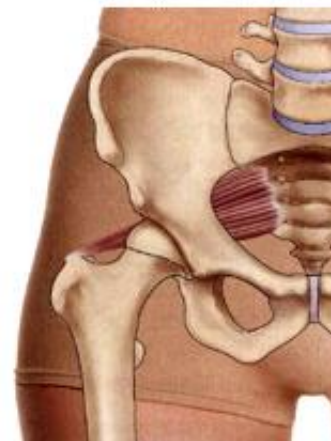
- o Client prone with the leg flexed to 90 degrees at the knee joint
- o Therapist standing to the side of the client
- o Palpating hand placed just lateral to the sacrum, halfway between the posterior superior iliac spine (PSIS) and the apex of the sacrum,
- o Support hand placed on the medial surface of the distal leg, just proximal to the ankle joint

## **Palpation Steps:**

1. Begin by finding the point on the lateral sacrum that is halfway between the PSIS and the apex of the sacrum. Drop just off the sacrum laterally at this point and you will be on the piriformis.
2. Resist the client from laterally rotating the thigh at the hip joint and feel for the contraction of the piriformis (Figure 17-22). Note: Lateral rotation of the client's thigh involves the client's foot moving medially toward the midline (and opposite side) of the body.
3. Continue palpating the piriformis laterally toward the superior border of the greater trochanter of the femur by strumming perpendicular to the fibers as the client alternately contracts (against resistance) and relaxes the piriformis.
4. Once the piriformis has been located, have the client relax it and palpate to assess its baseline tone.



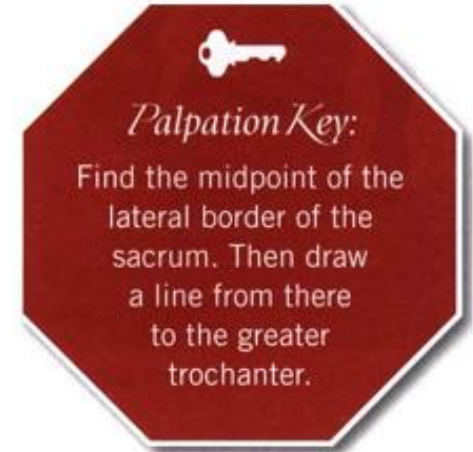
**A**



**B**

**Figure 17-20** Views of the piriformis. **A**, Posterior view. The piriformis has been drawn on both sides. The gluteus medius and superior gemellus have been ghosted in on the left. **B**, Anterior view of the right piriformis, showing its attachment onto the anterior surface of the sacrum.

# Mięsień gruszkowaty - palpacja



**Figure 17-21** Starting position for prone palpation of the right piriformis.



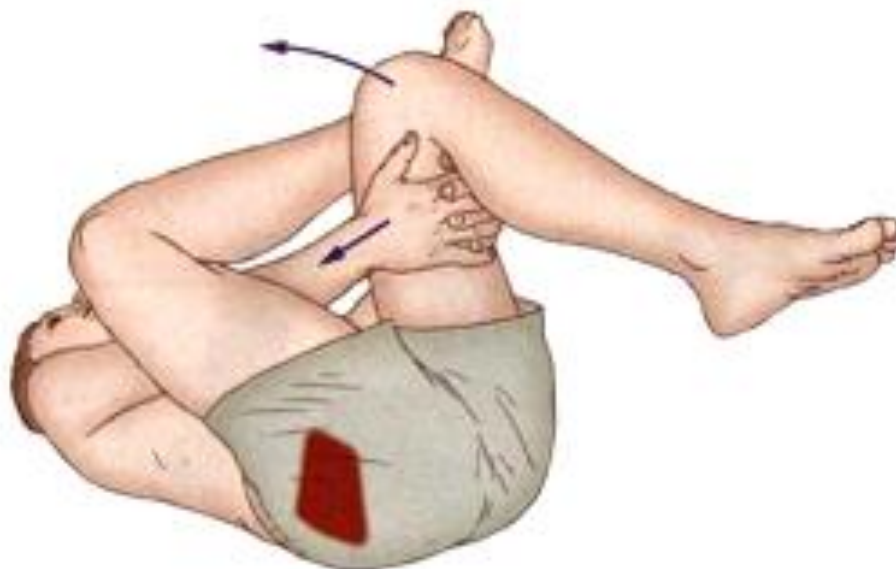
**Figure 17-22** Palpation of the right piriformis as the client attempts to laterally rotate the thigh at the hip joint against gentle to moderate resistance.

# Mięsień gruszkowaty – punkty spustowe i promieniowanie bólu



**Figure 17-24** Posterior view of common piriformis TrPs and their corresponding referral zones.

# Miesien gruszkowaty - stretching



**Figure 17-23** A stretch of the right piriformis. With the right leg crossed in front of the left thigh, the client uses the hands to pull the left thigh further into flexion. Note: Because the thigh is flexed so much, the piriformis being a medial rotator is stretched by lateral rotation. See also page 410, Figure 17-28, for another stretch of the piriformis.



**GRUPA MIĘŚNI KULSZOWO-  
GOLENIOWYCH**



# Mięśnie kulszowo-goleniowe – anatomia i funkcja

Lateral hamstrings: biceps femoris, long head and short head  
Medial hamstrings: semitendinosus and semimembranosus

## • ATTACHMENTS:

- o Biceps femoris: ischial tuberosity (long head) and the linea aspera of the femur (short head) to the head of the fibula and the lateral tibial condyle
- o Semitendinosus: ischial tuberosity to the pes anserine tendon at the proximal anteromedial tibia
- o Semimembranosus: ischial tuberosity to the posterior surface of the medial tibial condyle

## • ACTIONS:

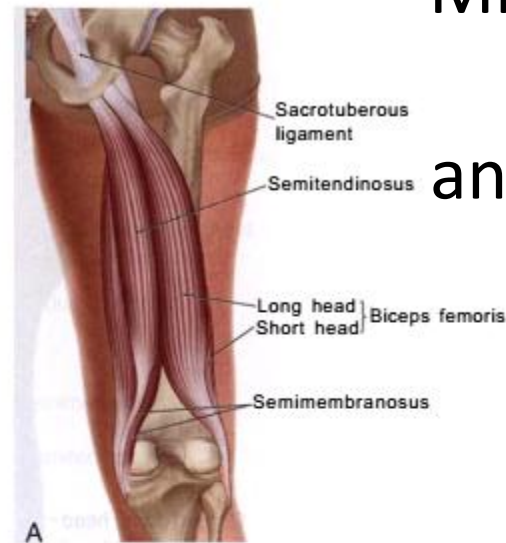
- o All three hamstrings flex the leg at the knee joint, extend the thigh at the hip joint, and posteriorly tilt the pelvis at the hip joint
- o Lateral hamstrings laterally rotate the leg at the knee joint; medial hamstrings medially rotate the leg at the knee joint
- o Note: The short head of the biceps femoris does not cross the hip joint and therefore does not have an action at the hip joint.

## Starting position (Figure 18-6):

- o Client prone with leg partially flexed at the knee joint
- o Therapist standing to the side of the client
- o Palpating hand placed just distal to the ischial tuberosity
- o Support hand placed around the distal leg, just proximal to the ankle joint

## Palpation steps:

1. Palpating just distal to the ischial tuberosity, resist the client from further flexion of the leg at the knee joint and feel for the contraction of the hamstrings.
2. Strumming perpendicular to the fibers, follow the biceps femoris toward the head of the fibula. Repeat this procedure from the ischial tuberosity to follow the medial hamstrings toward the medial side of the leg (Figure 18-7).
3. Once each of the hamstrings has been located, have the client relax it and palpate to assess its baseline tone.



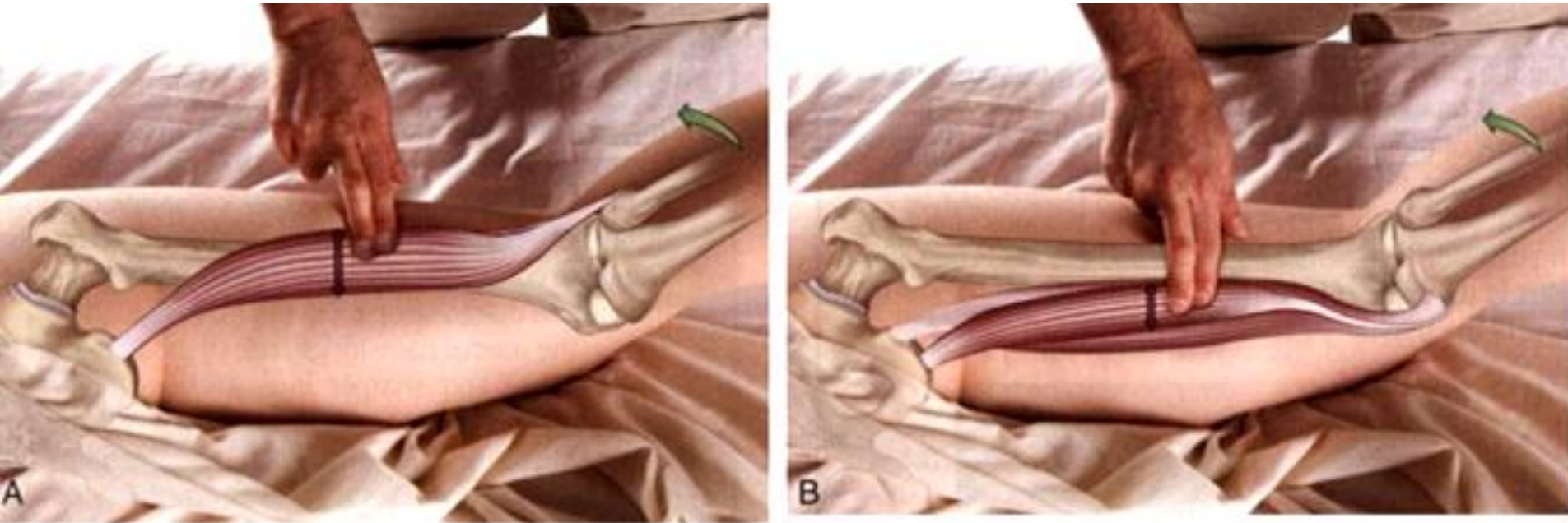
**Figure 18-5** Posterior views of the right hamstring group. **A**, Superficial view of all three hamstring muscles. **B**, Deeper view. The proximal and distal tendons of the semitendinosus and the long head of the biceps femoris have been cut and ghosted in.

# Mięśnie kulszowo-goleniowe - palpacja



**Figure 18-6** Starting position for prone palpation of the right hamstring.

# Mięśnie kulszowo-goleniowe - palpacja



**Figure 18-7** Palpation of the superficial hamstring muscles of the right thigh as the client attempts to flex the leg at the knee joint against resistance. **A**, Palpation of the long head of the biceps femoris on the lateral side. **B**, Palpation of the semitendinosus on the medial side.



# Mięśnie kulszowo-goleniowe - palpacja

## Palpation Notes:

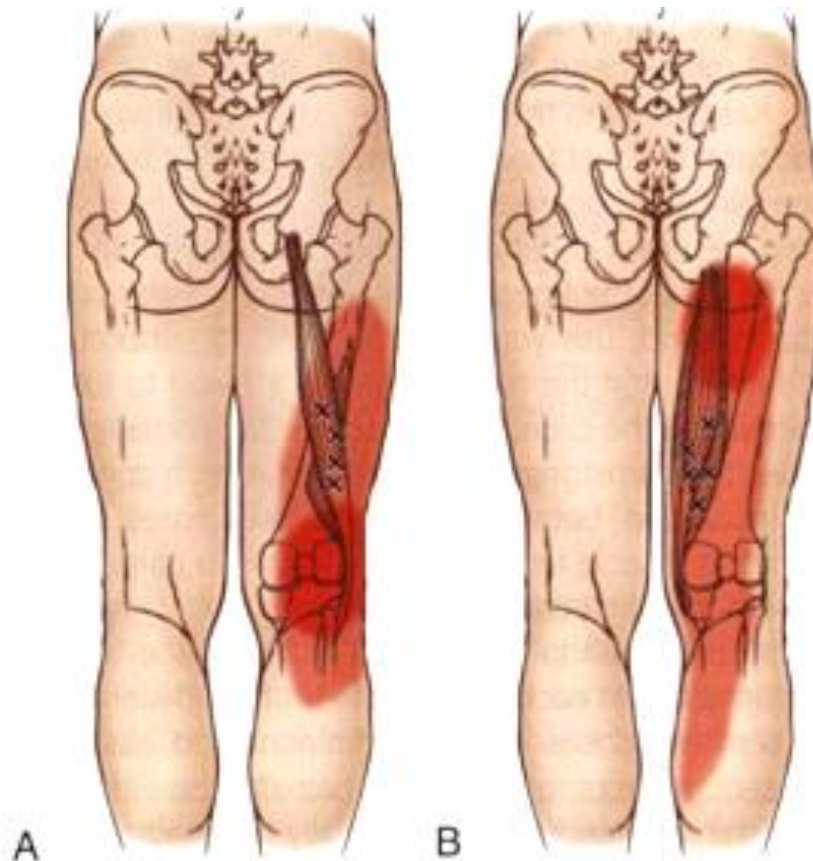
1. Distally, the tendons of the medial and lateral hamstrings are quite far apart and easy to distinguish. Proximally they are closer to each other and more difficult to distinguish. Using rotation of the leg at the knee joint is an excellent way to discern between them. The medial hamstrings are medial rotators and the lateral hamstrings are lateral rotators. Keep in mind that the knee joint only allows rotations to occur if it is first flexed; the recommended flexion of the knee joint is 90 degrees.
2. When the client is not contracting the hamstrings to try to flex the leg at the knee joint against the resistance of your support hand, use your support hand to support the client's leg so that the hamstrings are allowed to fully relax. Otherwise, if the client has to hold the leg partially flexed in the air, the hamstrings will not relax between contractions. Full relaxation between contractions creates a greater change in muscle tone, making it easier to palpate and locate the target hamstring muscle.
3. It can be difficult to discern the bellies of the two medial hamstrings from each other. Note that the distal tendon of the semitendinosus is very prominent and easy to find. The semimembranosus can be palpated on either side of the distal semitendinosus, especially the medial side (Figure 18-8).

4. Directly anterior to the belly of the biceps femoris is the vastus lateralis muscle; use flexion versus extension of the leg to discern their border. Directly anterior to the medial hamstrings in the proximal thigh is the adductor magnus; use flexion of the leg to discern this border. The adductor magnus does not cross the knee joint and will stay relaxed with leg flexion, whereas the hamstrings will contract with flexion.



**Figure 18-8** The distal semimembranosus can be palpated on either side of the distal tendon of the semitendinosus. Palpation on its lateral side is shown here.

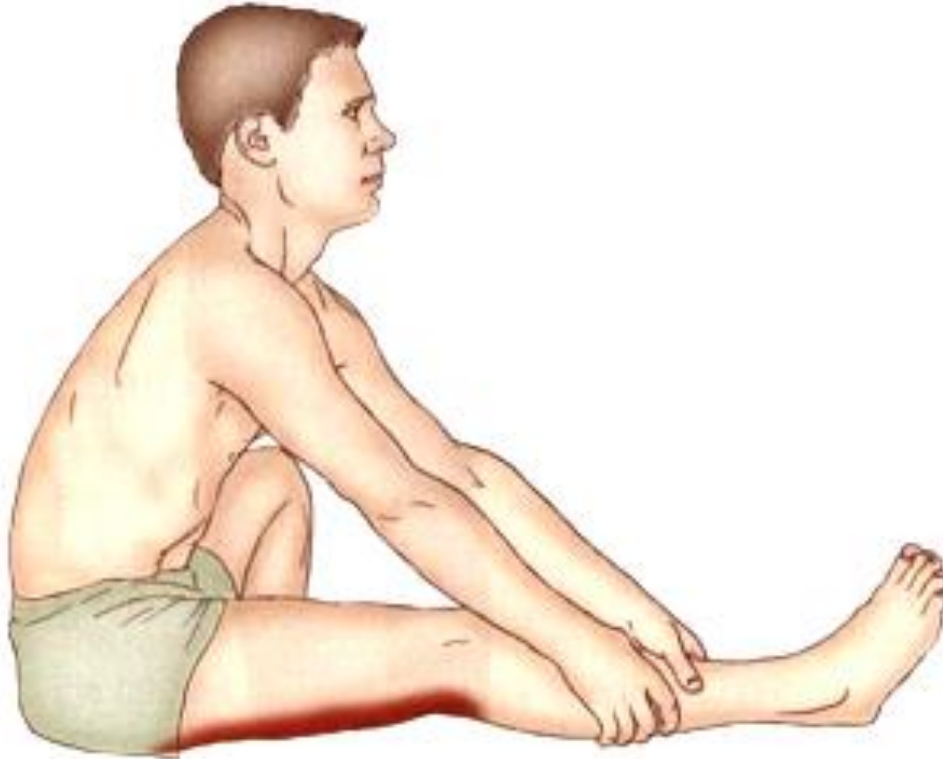
# Mięśnie kulszowo-goleniowe – punkty spustowe i promieniowanie bólu



**Figure 18-10** Posterior views of common lateral and medial hamstring TrPs, with their corresponding referral zones. **A**, Lateral hamstring (biceps femoris). **B**, Medial hamstrings (semitendinosus and semimembranosus).



# Mięśnie kulszowo-goleniowe - stretching



**Figure 18-11** A stretch of the right hamstring group. The client sits with the right knee joint fully extended and rocks the pelvis forward into anterior tilt at the hip joint. Note: The spine does not need to bend in this stretch.



# MIĘSIEŃ NAPRĘŻACZ POWIĘZI SZEROKIEJ

# Mięsień naprężacz powięzi szerokiej – anatomia i funkcja

## • ATTACHMENTS:

- o Anterior superior iliac spine (ASIS) and the anterior iliac crest to the iliotibial band, 1/3 of the way down the thigh

## • ACTIONS:

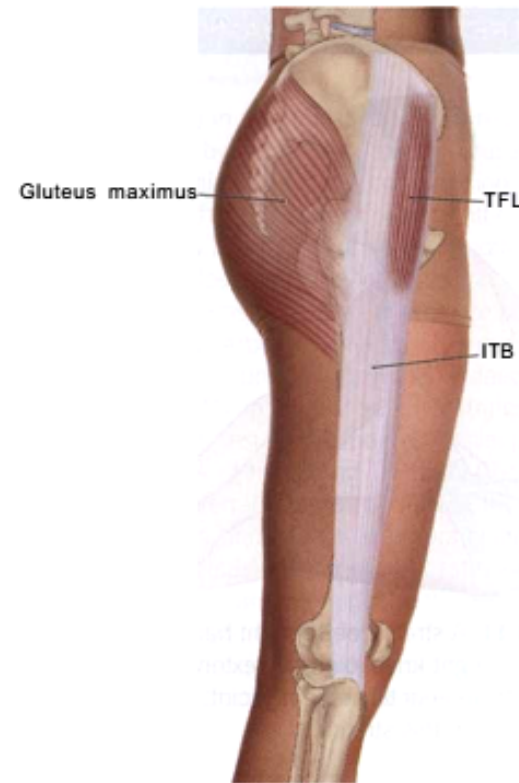
- o Medially rotates, flexes, and abducts the thigh at the hip joint
- o Anteriorly tilts and ipsilaterally depresses the pelvis at the hip joint

## Starting position (Figure 18-14):

- o Client supine with thighs on the table and legs hanging off the table
- o Therapist standing to the side of the client
- o Palpating fingers placed just distal and lateral to the ASIS
- o If resistance is necessary, support hand placed on the distal anterolateral thigh

## Palpation steps:

1. Ask the client to medially rotate and flex the thigh at the hip joint and feel for the contraction of the tensor fasciae latae (TFL) immediately distal and slightly lateral to the ASIS (Figure 18-15).
2. Continue palpating the TFL distally to its iliotibial band attachment by strumming perpendicular to the fibers.
3. Having the client contract to lift the medially rotated thigh up into flexion against gravity is usually sufficient resistance to bring out the TFL. However, if needed, additional resistance can be given with the support hand placed on the distal anterior thigh.
4. Once the TFL has been located, have the client relax it and palpate to assess its baseline tone.



**Figure 18-13** Lateral view of the right tensor fasciae latae (TFL). The gluteus maximus has been ghosted in. ITB, Iliotibial band.

# Mięsień naprężacz powięzi szerokiej - palpacja



**Figure 18-14** Starting position for supine palpation of the right TFL.



**Figure 18-15** The right TFL is palpated by asking the client to medially rotate and flex the thigh at the hip joint.



# Mięsień naprężacz powięzi szerokiej - palpacja

Alternate Palpation Position—Side Lying



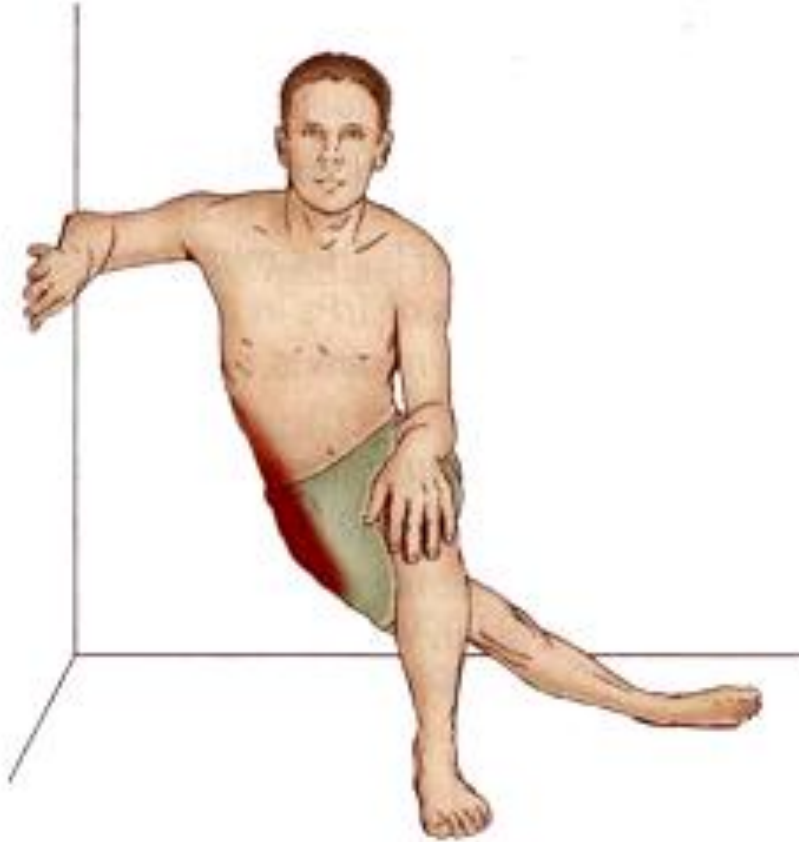
**Figure 18-16** Because the TFL is located in the anterolateral thigh, it can also be easily palpated with the client in side lying position. Ask the client to medially rotate and flex (slight abduction may also be added) the thigh at the hip joint and feel for the contraction of the TFL.

# Mięsień naprężacz powięzi szerokiej – punkty spustowe i promieniowanie bólu



**Figure 18-17** Lateral view of(a common tensor fasciae latae (TFL) TrP with its corresponding referral zone.

# Mięsień naprężacz powięzi szerokiej -stretching



**Figure 18-18** A stretch of the right TFL. The client adducts the right thigh behind the body while using the wall for support. Note: It is important to not place too much weight on the ankle joint of the foot in back. See Figure 16-31, page 368, for another stretch of the TFL.



**MIĘSIEŃ KRAWIECKI**



# Mięsień krawiecki – anatomia i funkcja

## • ATTACHMENTS:

- o Anterior superior iliac spine (ASIS) to the pes anserine tendon at the proximal anteromedial tibia

## • ACTIONS:

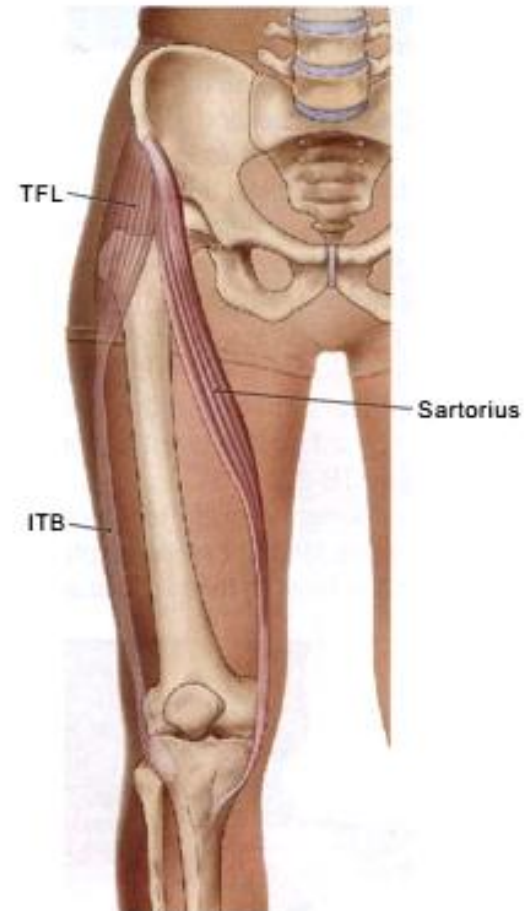
- o Laterally rotates, flexes, and abducts the thigh at the hip joint
- o Anteriorly tilts and ipsilaterally depresses the pelvis at the hip joint
- o Flexes and medially rotates the leg at the knee joint

## Starting position (Figure 18-20):

- o Client supine with thighs on the table and legs hanging off the table
- o Therapist standing to the side of the client
- o Palpating fingers placed just distal and medial to the ASIS
- o If resistance is necessary, support hand placed on the distal anteromedial thigh

## Palpation steps:

1. Ask the client to laterally rotate and flex the thigh at the hip joint and feel for the contraction of the sartorius immediately distal and slightly medial to the ASIS (Figure 18-21).
2. If necessary, use the support hand to add resistance when the client flexes the laterally rotated thigh.
3. Continue palpating the sartorius toward its distal attachment by strumming perpendicular to the fibers.
4. Once the sartorius has been located, have the client relax it and palpate to assess its baseline tone.



**Figure 18-19** Anterior view of the right sartorius. The tensor fasciae latae (TFL) and iliotibial tract (ITB) have been ghosted in.

# Mięsień krawiecki - palpacja



**Figure 18-20** Starting position for supine palpation of the right sartorius.



**Figure 18-21** The proximal belly of the right sartorius engages and is easily palpable when the client laterally rotates and flexes the thigh at the hip joint. Note: The therapist usually palpates from the same side of the table, but is shown here standing on the opposite side of the table for the purpose of this photo.

# Mięsień krawiecki - palpacja



**Figure 18-22** Palpation of the distal belly of the right sartorius by first locating the vastus medialis. **A**, Palpation of the engaged vastus medialis as the client extends the leg at the knee joint. **B**, Once the vastus medialis is located, the therapist palpates the distal belly of the sartorius immediately medial (posterior) to the vastus medialis as the client engages the sartorius by flexing the leg at the knee joint against the resistance of the table.

# Mięsień krawiecki - palpacja



**Figure 18-23** The sartorius can be palpated with the client supine with the thighs and legs on the table. The right sartorius is engaged and palpated here by asking the client to laterally rotate and flex the thigh at the hip joint.

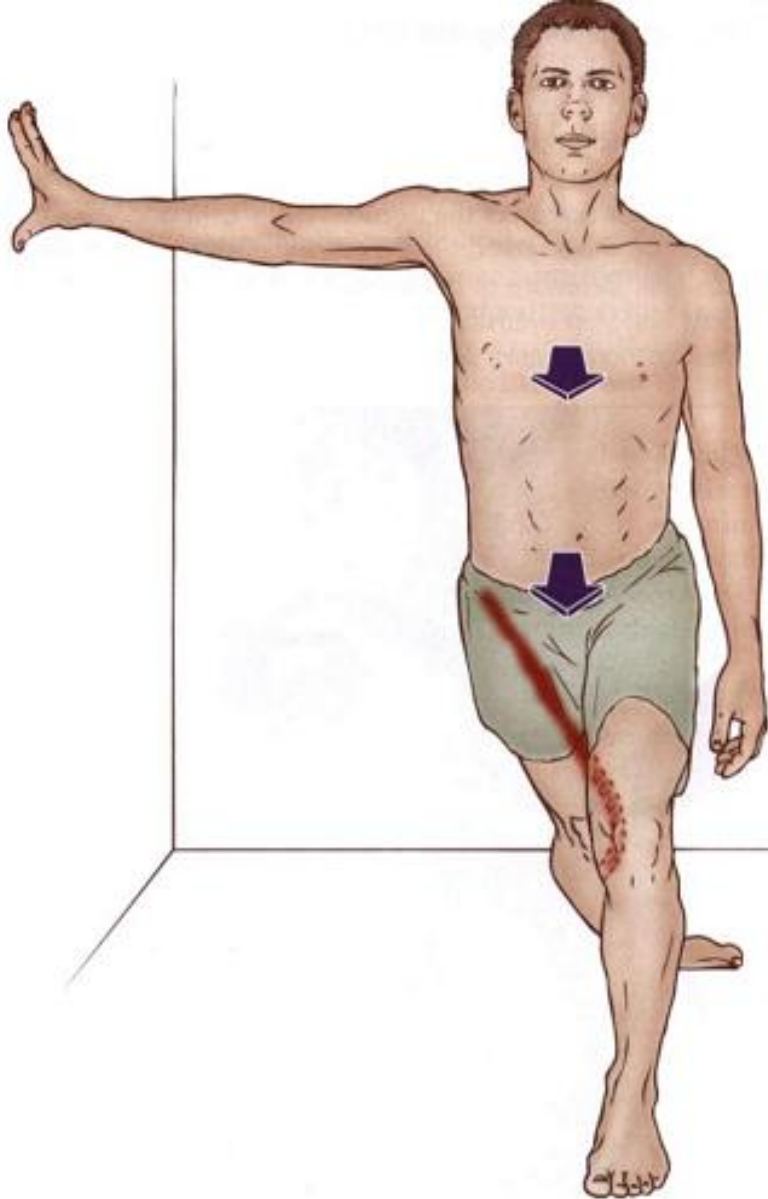


# Mięsień krawiecki – punkty spustowe i promieniowanie bólu



**Figure 18-24** Anteromedial view of common sartorius TrPs with their corresponding referral zone.

# Mięsień krawiecki – stretching



**Figure 18-25** A stretch of the right sartorius. The client medially rotates, extends, and adducts the right thigh while leaning forward with the pelvis (posterior tilting it) and trunk to increase the stretch across the hip joint. Note: It is important to not let the pelvis fall into anterior tilt and to make sure that excessive weight is not placed on the ankle joint of the foot in back.



**MIĘSIEŃ CZWOROGLÓWY UDA**

# Mięsień czworogłowy uda – anatomia i funkcja

The quadriceps femoris group is composed of the rectus femoris, vastus medialis, vastus lateralis, and vastus intermedius.

## • **ATTACHMENTS:**

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- o Rectus femoris: anterior inferior iliac spine (AOS) to the tibial tuberosity
- o Vastus medialis, lateralis, and intermedius: linea aspera of the femur to the tibial tuberosity

## • **ACTIONS:**

---

- o All four quadriceps femoris muscles extend the leg at the knee joint.
- o The rectus femoris also flexes the thigh and anteriorly tilts the pelvis at the hip joint.

## **Starting position (Figure 18-28):**

- o Client supine with thighs on the table and legs hanging off the table
- o Therapist standing to the side of the client
- o Palpating fingers placed on the proximal anterior thigh
- o If resistance is necessary, support hand placed on the distal leg, just proximal to the ankle joint

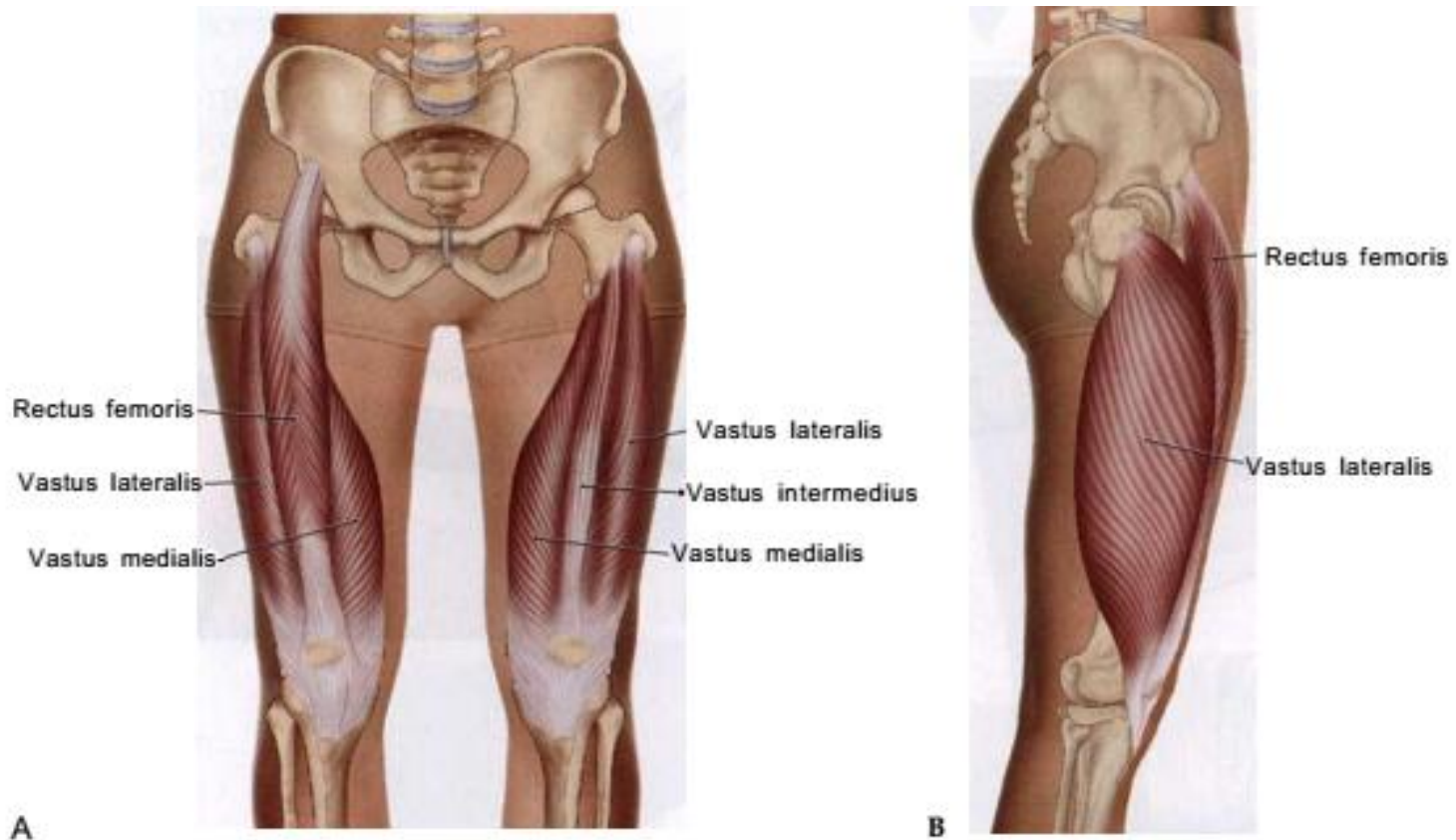
## **Palpation steps:**

1. Proximally, the rectus femoris is located between the tensor fasciae latae (TFL) and sartorius. Either locate the

proximal tendon of the TFL (see page 424) and drop off it medially, or locate the proximal tendon of the sartorius (see page 427) and drop off it laterally, and you will be on the rectus femoris.

2. Ask the client to extend the leg at the knee joint and feel for the contraction of the rectus femoris (Figure 18-29, A). If necessary, use the support hand to add resistance when the client extends the leg.
3. Continue palpating the rectus femoris distally to the tibial tuberosity by strumming perpendicular to its fibers.
4. For the vastus medialis, palpate in the anteromedial thigh, just proximal to the patella while the client extends the leg at the knee joint, and feel for its contraction. Then strum perpendicular to the fibers and palpate as much of the vastus medialis as possible (Figure 18-29, B).
5. For the vastus lateralis, palpate in the anterolateral thigh, just proximal to the patella while the client extends the leg at the knee joint, and feel for its contraction. Then strum perpendicular to the fibers and palpate the vastus lateralis in the anterolateral thigh, in the lateral thigh deep to the iliotibial band (ITB) and in the posterolateral thigh immediately posterior to the ITB (Figure 18-29, C).
6. Once the quadriceps femoris muscles have been located, have the client relax them and palpate to assess their baseline tone.

# Mięsień czworogłowy uda - anatomia



**Figure 18-27** Views of the quadriceps femoris group. **A**, Superficial and deep anterior views. The right side is a superficial view. The rectus femoris has been removed on the left side to expose the vastus intermedius. **B**, Right lateral view.



# Mięsień czworogłowy uda - palpacja



**Figure 18-28** Starting position for supine palpation of the right quadriceps femoris group.

# Mięsień czworogłowy uda - palpacja



**Figure 18-29** Palpation of the quadriceps femoris muscles as the client extends the leg at the knee joint. **A**, Anterolateral view showing palpation of the rectus femoris. **B**, Anteromedial view showing palpation of the vastus medialis. **C**, Anterolateral view showing palpation of the vastus lateralis.

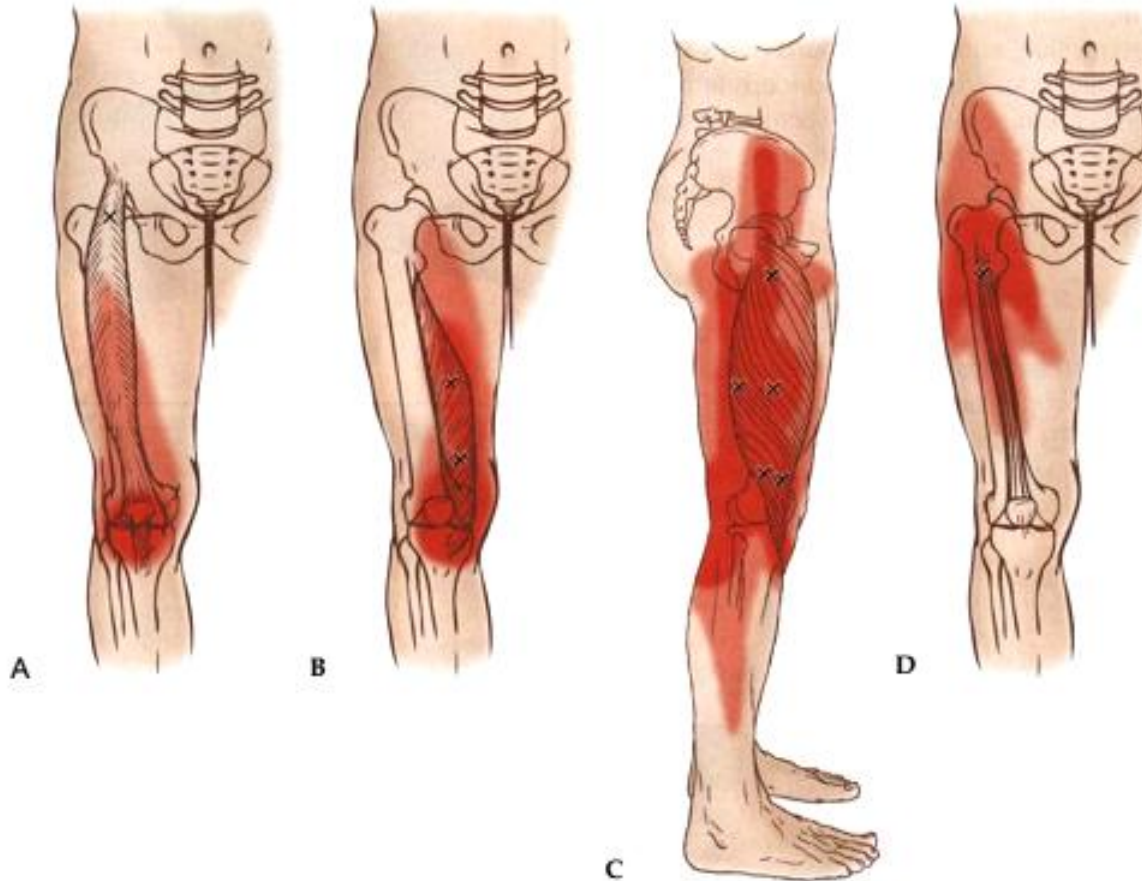
# Mięsień czworogłowy uda - palpacja

Alternate Palpation Position—Side Lying



**Figure 18-31** Because the vastus lateralis is located so far laterally, it is easily palpable with the client in side lying position. Palpate anterior, deep to, and posterior to the iliotibial band and feel for the contraction of the vastus lateralis as the client extends the leg at the knee joint. Note: In this position, because extension of the leg is not against gravity, it is usually necessary to add resistance to leg extension with the support hand to increase the strength of the vastus lateralis contraction, thereby making it more easily palpable.

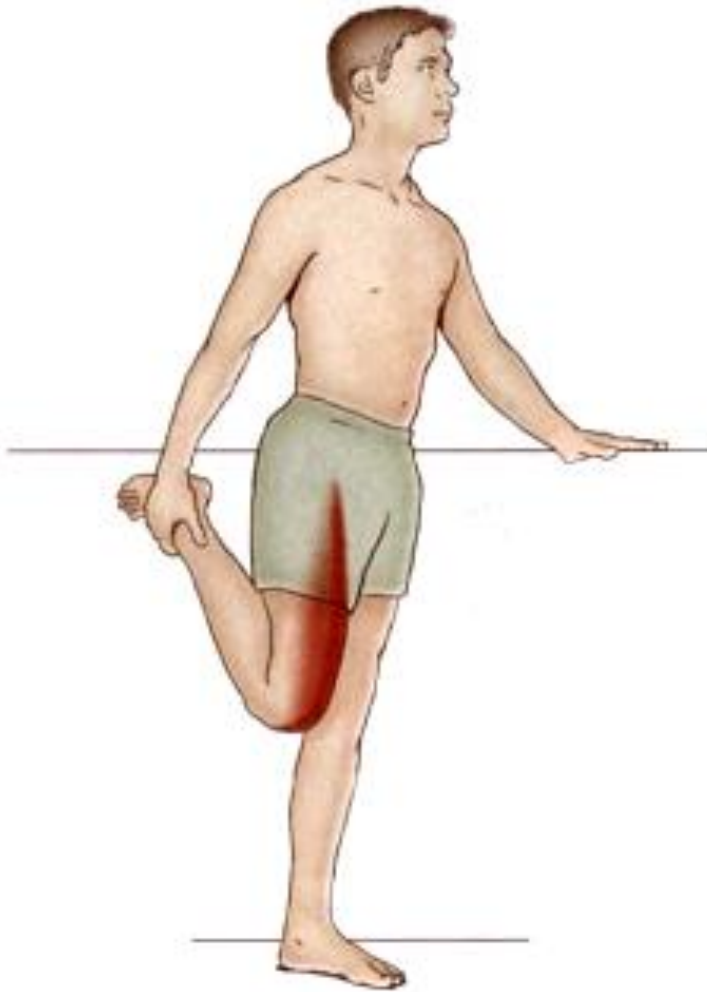
# Mięsień czworogłowy uda – punkty spustowe i promieniowanie bólu



**Figure 18-32** Views of the quadriceps femoris muscles' common TrPs with their referral zones. **A**, Anterior view of the rectus femoris. **B**, Anterior view of the vastus medialis. **C**, Lateral view of the vastus lateralis. **D**, Anterior view of the vastus intermedius.



# Mięsień czworogłowy uda - stretching



**Figure 18-33** A stretch of the right quadriceps femoris group. The client stands and uses his hand to pull the knee joint into full flexion. If the hip joint is extended while doing this stretch, it targets the stretch more to the rectus femoris, but if the hip joint is flexed, it targets the stretch more to the vastus muscles. Note: It is important when doing this stretch to make sure that the knee joint is not rotated.





**MIĘSIEŃ PRZYWODZICIEL DŁUGI**

# Mięsień przywodziciel długi uda

## • ATTACHMENTS:

- o Body of the pubic bone to the linea aspera of the femur

## • ACTIONS:

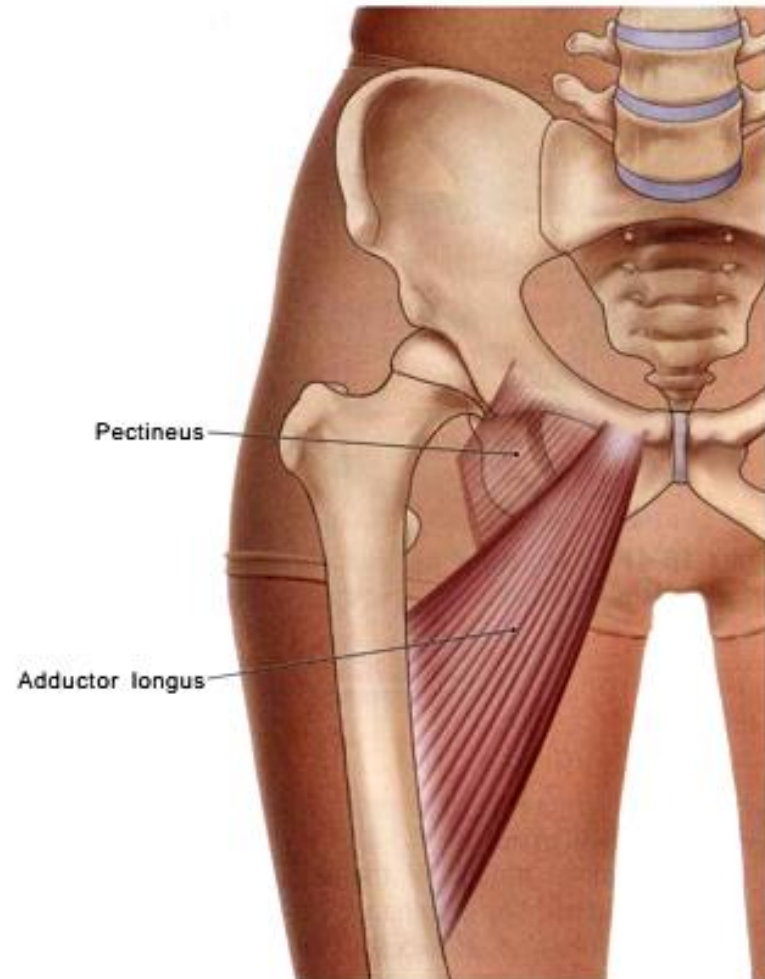
- o Adducts and flexes the thigh at the hip joint
- o Anteriorly tilts the pelvis at the hip joint

## Starting position (Figure 18-40):

- o Client supine with thighs on the table and legs hanging off the table
- o Therapist standing to the side of the client
- o Palpating fingers placed on the prominent tendon of the adductor longus in the proximal anterior thigh
- o Support hand placed on the distal anteromedial thigh, just proximal to the knee joint

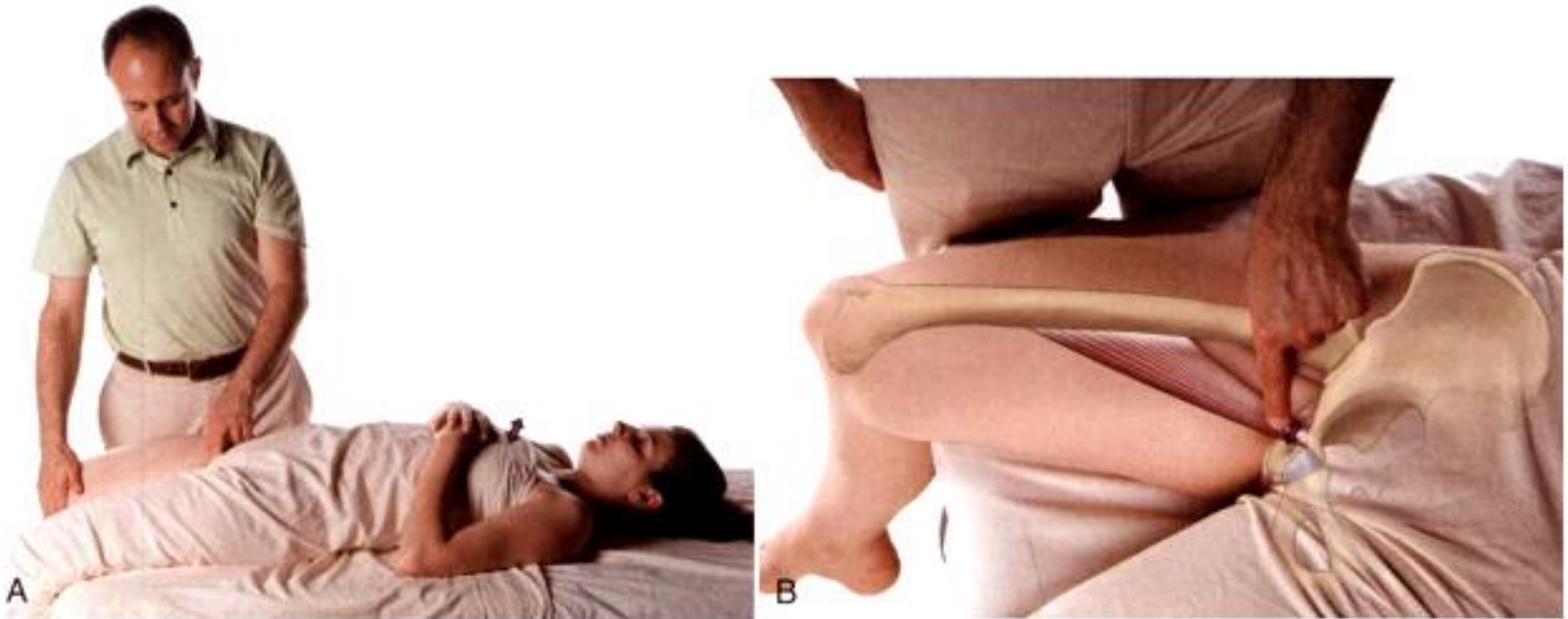
## Palpation steps:

1. The proximal tendon of the adductor longus is the most prominent tendon in the medial thigh and usually easily palpable. To locate it, simply palpate along the pubic bone from lateral to medial until you encounter a prominent tendon.
2. Once located, to confirm that you are on it, ask the client to adduct the thigh at the hip joint against resistance and feel for it to tense (Figure 18-41).
3. Strum perpendicular to the tendon to palpate its width.
4. Continue to palpate it distally as far as possible toward its linea aspera attachment.
5. Once the adductor longus has been located, have the client relax it and palpate to assess its baseline tone.



**Figure 18-39** Anterior view of the right adductor longus. The pectineus has been cut and ghosted in.

# Mięsień przywodziciel długi uda



**Figure 18-40** Palpation of the right adductor longus. **A**, Starting position for supine palpation of the adductor longus. **B**, Location of the proximal tendon of the adductor longus, which is the most prominent tendon of the region.

# Mięsień przywodziciel długi uda - palpacja



**Figure 18-41** Engagement and palpation of the right adductor longus as the client adducts the thigh at the hip joint against resistance.

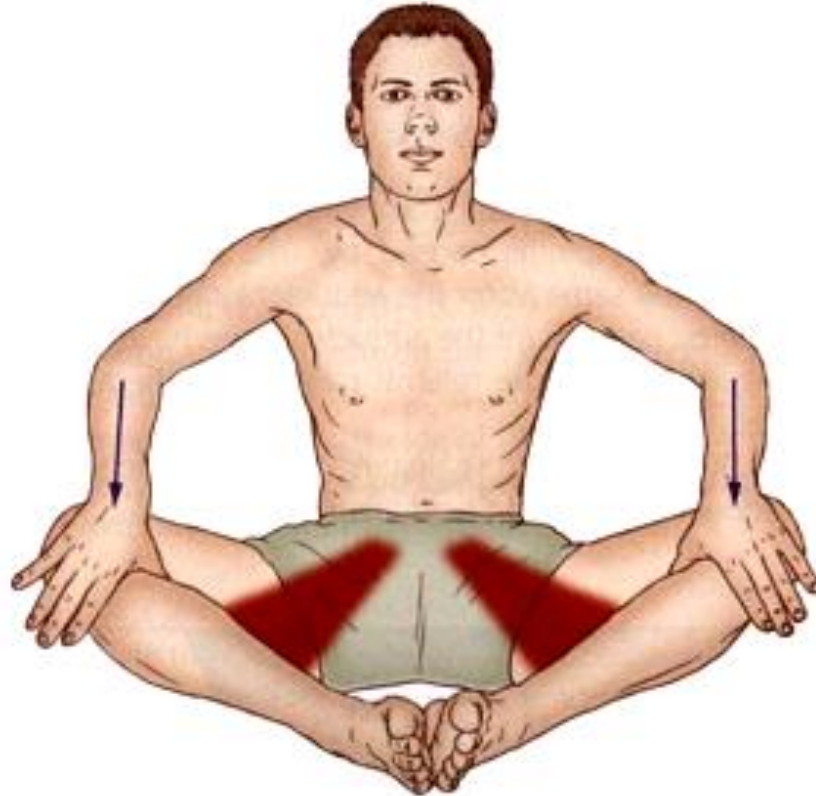


Mięsień przywodziciel  
długi – punkty spustowe  
i promieniowanie bólu

**Figure 18-42** Anterior view showing a common adductor longus TrP with its corresponding referral zone.



# Mięsień przywodziciel długi - stretching



**Figure 18-43** A stretch of the bilateral adductors longus and brevis. The client sits and lets gravity pull the thighs into abduction and extension; the client can then use his hands to increase the stretch. See Figure 18-38, page 438, and Figure 18-57, page 449, for two other stretches of the adductors longus and brevis.



**MIĘSIEŃ PRZYWODZICIEL KRÓTKI**

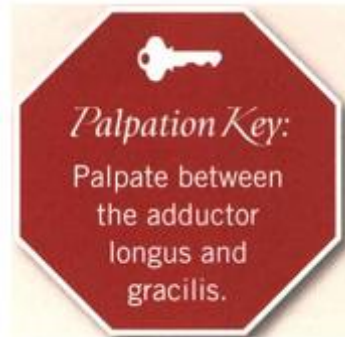
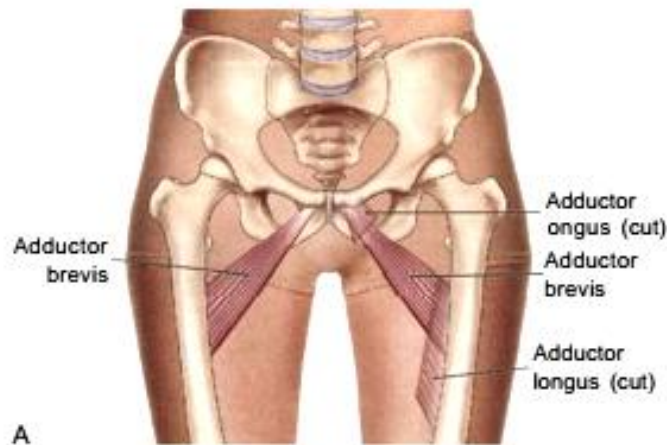
# Mięsień przywodziciel krótki

**Adductor Brevis:** The adductor brevis attaches from the pubic bone to the linea aspera of the femur and is usually located entirely deep to other adductors of the hip joint, principally the adductor longus. It also has the same actions (adduction and flexion of the thigh at the hip joint) as the nearby adductors. For this reason, it is extremely difficult to palpate and discern the adductor brevis. However, a small part of it is sometimes accessible between the adductor longus and the gracilis. To palpate the adductor brevis, find the border between the adductor longus and gracilis and try to press between these two muscles, palpating deeper for the adductor brevis (Figure 18-44, B). Alternatively, you can try palpating the adductor brevis through the adductor longus. Keep in

mind that if you ask the client to adduct the thigh, all adductors in the region will likely engage, obscuring discernment of the palpation of the adductor brevis.

#### *Trigger Points:*

1. Factors that **create and/or perpetuate** TrPs in the adductor brevis and symptoms caused by TrPs in the adductor brevis are the same as for the adductor longus.
2. TrP referral **patterns for the adductor brevis** have not been distinguished from the referral patterns for the adductor longus.
3. Note: Due to its **depth**, palpating and discerning TrPs in the adductor brevis can be difficult.



**Figure 18-44** The adductor brevis. **A**, Anterior view. The adductor longus has been cut and ghosted in on the left. **B**, Palpation of the right adductor brevis proximal to the hip joint between the adductor longus (ghosted in) and gracilis as the client adducts the thigh against resistance.



**MIĘSIEŃ SMUKŁY**

# Mięsień smukły – anatomia i funkcja

## • ATTACHMENTS:

- o Body and inferior ramus of the pubic bone *to the* pes anserine tendon at the proximal anteromedial tibia

## • ACTIONS:

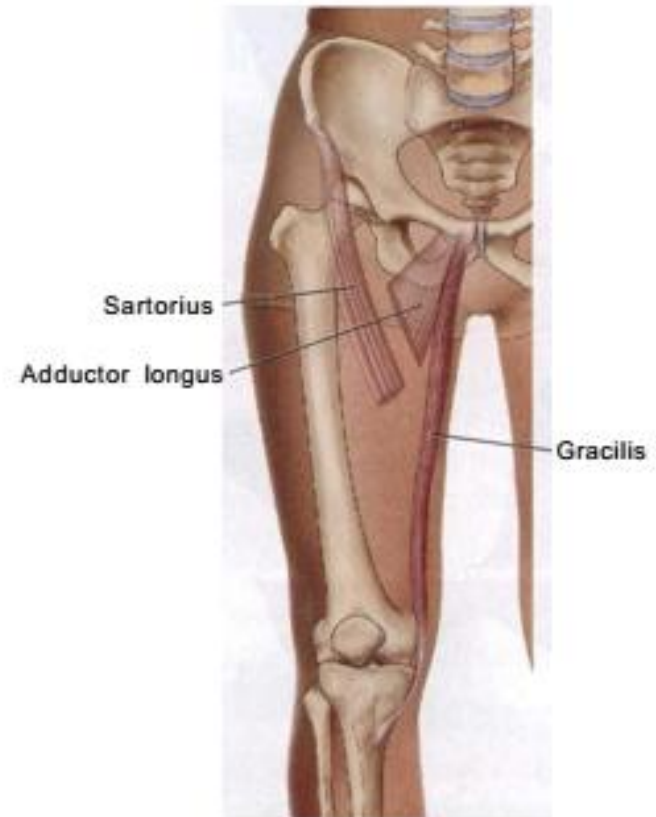
- o Flexes and medially rotates the leg at the knee joint
- o Adducts and flexes the thigh at the hip joint
- o Anteriorly tilts the pelvis at the hip joint

## Starting position (Figure 18-46, A):

- o Client supine with thighs on the table and legs hanging off the table
- o Therapist standing to the side of the client
- o Palpating fingers placed on the proximal medial thigh, on the proximal tendon of the adductor longus

## Palpation steps:

1. First locate the proximal tendon of the adductor longus; it is the most prominent tendon in the region. To locate it, simply palpate along the pubic bone from lateral to medial until you encounter a prominent tendon (Figure 18-46, B and C). Then drop just off it posteriorly (medially) and you will be on the gracilis (Figure 18-47, A).
2. Ask the client to engage the gracilis by flexing the leg at the knee joint; this can be easily accomplished by asking the client to press the leg against the table. This will engage the gracilis, but not the adductor longus and adductor magnus on either side of it, making it easy to discern the gracilis in the proximal thigh (Figure 18-47, B).



**Figure 18-45** Anterior view of the right gracilis. The adductor longus and sartorius have been cut and ghosted in.

3. Once located, strum perpendicular to the fibers and continue palpating the gracilis distally as far as possible.
4. Once the gracilis has been located, have the client relax it and palpate to assess its baseline tone.



# Mięsień smukły - palpacja



**Figure 18-46** Locating the right proximal gracilis by first locating the adductor longus tendon. **A**, Starting position for supine palpation of the right gracilis. **B** and **C**, The therapist first locates and palpates the proximal tendon of the adductor longus, which is the most prominent tendon in the region.

# Mięsień smukły - palpacja



A



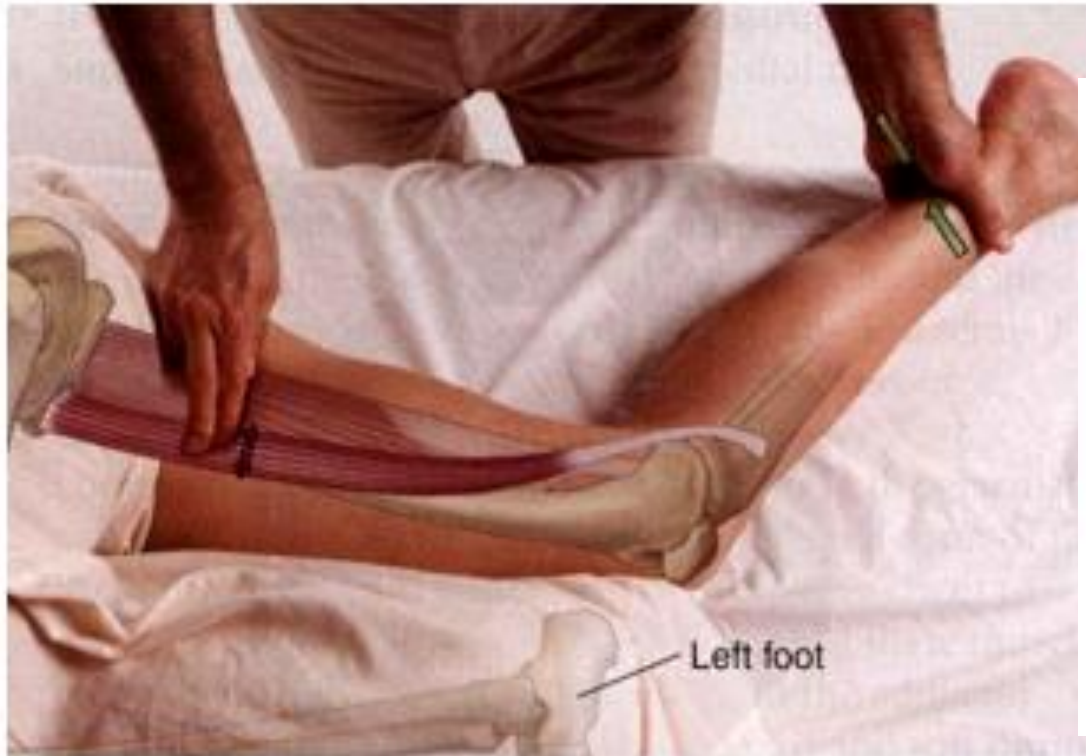
B

**Figure 18-47** Palpation of the right proximal gracilis. **A**, The therapist locates the proximal tendon of the gracilis by dropping medially off the adductor longus tendon. **B**, Engagement and palpation of the gracilis as the client flexes the leg against the resistance of the table.



**Figure 18-48** Seated palpation of the distal tendon of the right gracilis as the client medially rotates the leg at the knee joint. The semitendinosus has been ghosted in. Note: For the purpose of this photo, the client is standing with the foot on a stool.

# Mięsień smukły - palpacja

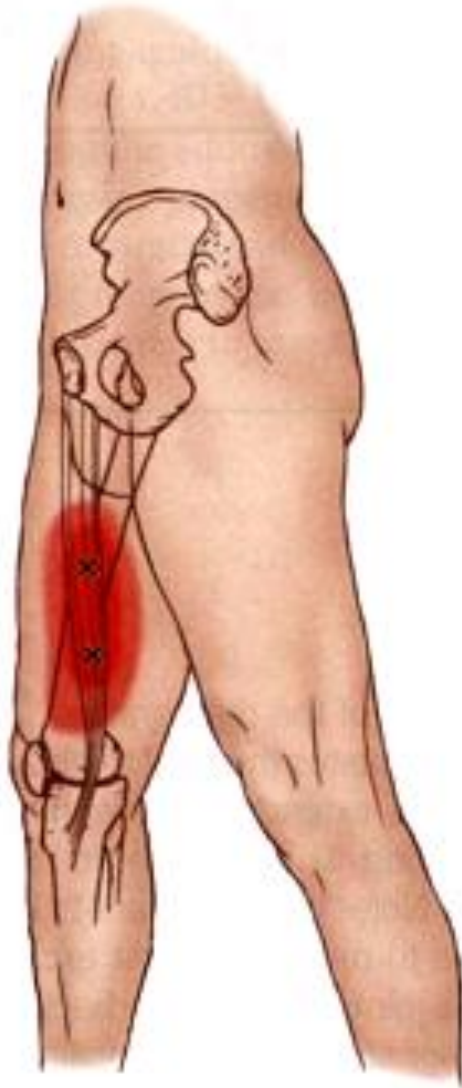


**Figure 18-49** Side lying palpation of the right gracilis as the client flexes the leg at the knee joint against resistance. The adductor magnus has been ghosted in. Note: To access the right gracilis, the client's left lower extremity is flexed at the hip and knee joints.





# Mięsień smukły – punkty spustowe i promieniowanie bólu



**Figure 18-50** Medial view showing common gracilis TrPs with their corresponding referral zone.

# Mięsień smukły - stretching



**Figure 18-51** A stretch of the right gracilis. The client extends, abducts, and laterally rotates the right thigh at the hip joint while keeping the knee joint extended and leaning forward with the pelvis (posteriorly tilting it) and trunk to increase the stretch across the hip joint. Note: It is important to not let the pelvis fall into anterior tilt and to make sure that excessive weight is not placed on the ankle joint of the foot in back. See Figure 18-57, page 449, for another stretch of the gracilis.





**MIĘSIEŃ PRZYWODZICIEL WIELKI**

# Mięsień przywodziciel wielki – anatomia i funkcja

## • ATTACHMENTS:

- o Ischial tuberosity and the ischiopubic ramus to the linea aspera and adductor tubercle of the femur

## • ACTIONS:

- o Adducts and extends the thigh at the hip joint
- o Posteriorly tilts the pelvis at the hip joint

### **Starting position (Figure 18-53):**

- o Client supine with the thighs on the table and the legs hanging off the table
- o Therapist standing to the side of the client
- o Palpating fingers placed on the proximal medial thigh (between the gracilis and medial hamstrings)
- o Support hand placed on the distal medial thigh

### **Palpation steps:**

1. The adductor magnus is actually quite easily palpable in the proximal medial thigh between the gracilis and the medial hamstring muscles (semitendinosus and semimembranosus), where it is located in a depression between these muscles.
2. Locate the adductor magnus by first locating the gracilis and medial hamstrings, which contract with flexion of the leg at the knee joint, performed by asking the client to press the leg against the table. Once you feel these muscles palpably harden with leg flexion, feel for the adductor magnus between them (it will stay relaxed and soft during this joint action) (Figure 18-54, A).
3. To engage the adductor magnus and confirm that you are on it, ask the client to either adduct the thigh against resistance supplied by your support hand, or to extend the



**Figure 18-52** Posterior view of the right adductor magnus.

thigh at the hip joint against the resistance of the table (as shown in Figure 18-54, B).

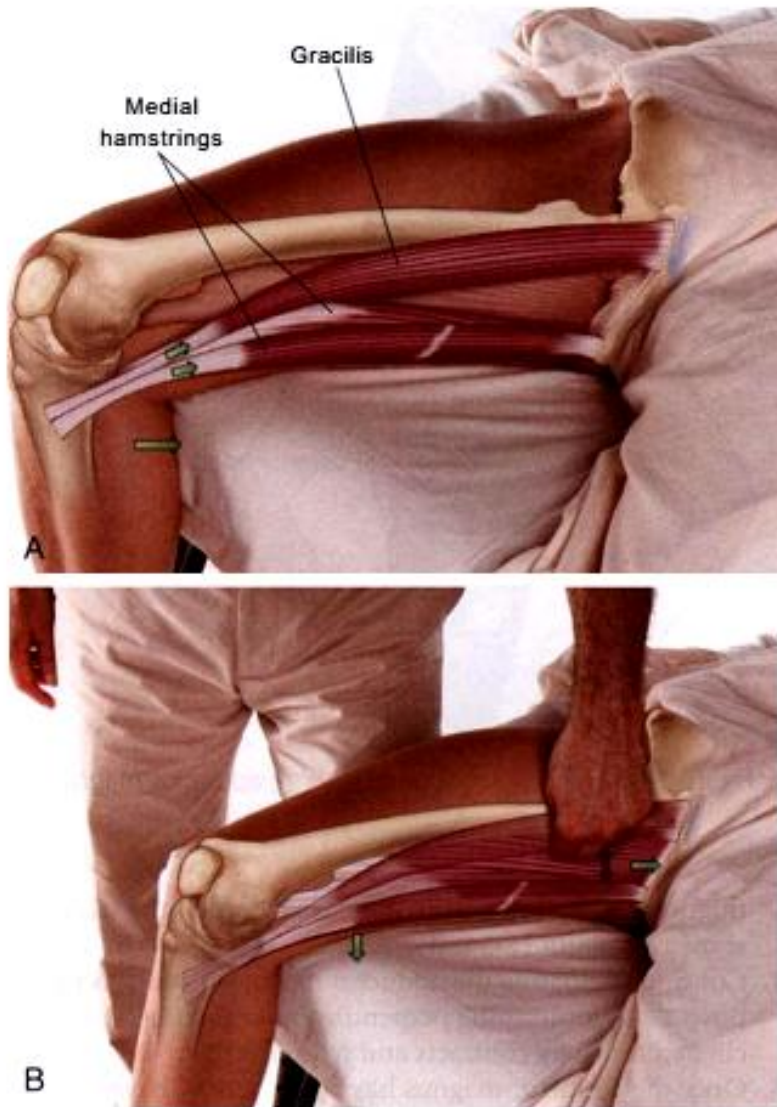
4. Continue palpating the adductor magnus distally as far as possible by strumming perpendicular to the fibers as the client alternately contracts and relaxes it.
5. Once the adductor magnus has been located, have the client relax it and palpate to assess its baseline tone.

# Mięsień przywodziciel wielki - palpacja



**Figure 18-53** Starting position for supine palpation of the right adductor magnus.

# Mięsień przywodziciel wielki - palpacja



**Figure 18-54** Palpation of the right adductor magnus in the medial thigh between the gracilis and medial hamstrings. **A**, The gracilis and medial hamstrings engage when the client flexes the leg at the knee joint by pressing the leg against the table. **B**, Engagement and palpation of the adductor magnus between these muscles as the client extends the thigh at the hip joint by pressing the thigh down against the table.

# Mięsień przywodziciel wielki - palpacja

## Alternate Palpation Position—Prone or Side Lying

The adductor magnus can also be accessed with the client prone or side lying. In prone position, the adductor magnus is located directly anterior to the medial hamstring muscles (see Figure 18-1, A). In side lying position, the client's lower extremity that is away from the table must be flexed at the hip and knee joints so that the adductor magnus of the thigh that is against the table can be accessed.

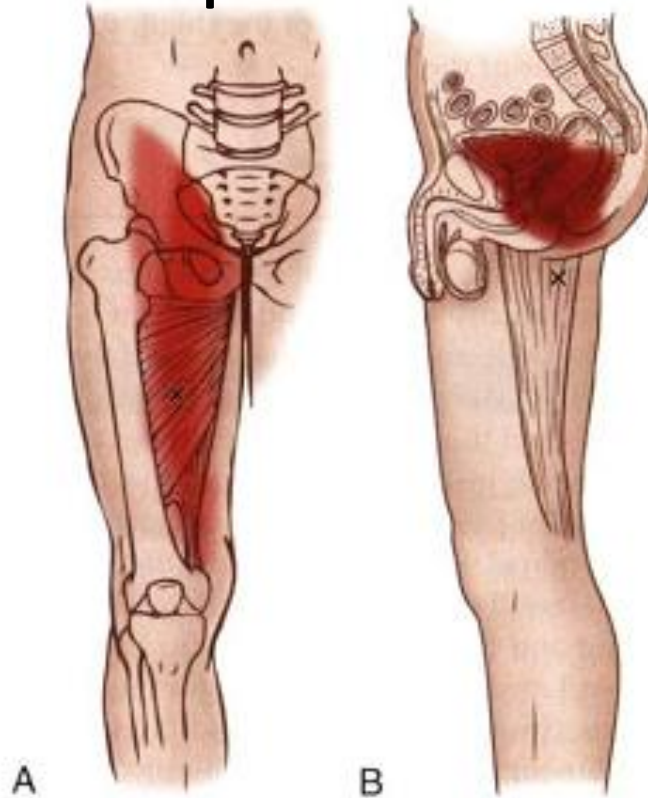


**Figure 18-55** Side lying palpation of the right adductor magnus.



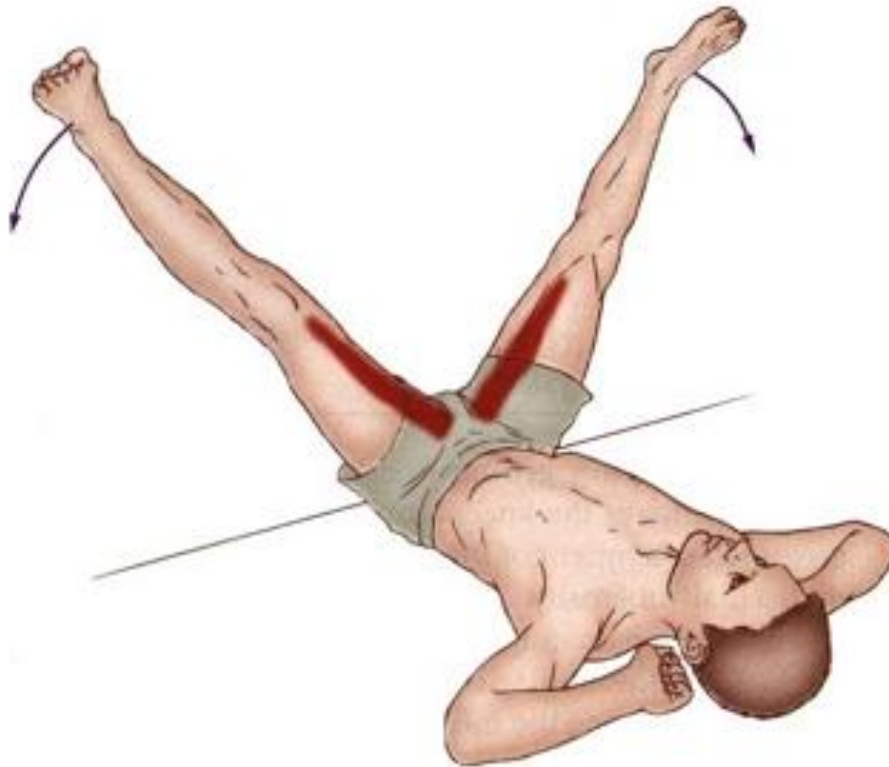


# Mięsień przywodziciel wielki – punkty spustowe i promieniowanie bólu



**Figure 18-56** Views of the right adductor magnus with common TrPs and their corresponding referral zones. **A**, Anterior view. **B**, Medial view of a sagittal section through the pelvis showing another common adductor magnus TrP with its internal visceral referral zone.

# Mięsień przywodziciel wielki - stretching



**Figure 18-57** A stretch of the bilateral adductor magnus muscles. The client lies against a wall and lets gravity pull his thighs into abduction. See Figure 18-43, page 441, for another stretch of the adductor magnus. Figure 18-51, page 446, shows a good stretch of the most proximal fibers of the anterior head (the adductor minimus portion) of the adductor magnus.



**MIĘSIEŃ PISZCZELOWY PRZEDNI**

• **ATTACHMENTS:**

- o Lateral tibial condyle and the proximal 2/3 of the anterior border of the tibia to the first cuneiform and the base of the first metatarsal (Figure 19-5)

• **ACTIONS:**

- o Dorsiflexes the foot at the ankle joint; inverts the foot at the tarsal joints

**Starting position (Figure 19-6):**

- o Client supine
- o Therapist standing to the side of the client
- o Palpating hand not yet placed on the client
- o Support hand placed on the medial side of the distal foot

**Palpation steps:**

1. Resist the client from dorsiflexing and inverting the foot and look for the distal tendon of the tibialis anterior on the medial side of the ankle joint and foot; it is usually visible (Figure 19-7).
2. Palpate the distal tendon by strumming perpendicular across it. Continue palpating the tibialis anterior proximally to the lateral tibial condyle by strumming perpendicular to the fibers. Its belly is located directly lateral to the border of the tibia in the anterior leg (Figure 19-8).
3. Once the tibialis anterior has been located, have the client relax it and palpate to assess its baseline tone.

# Mięsień piszczelowy przedni – anatomia i funkcja



**Figure 19-5** Anterior view of the right tibialis anterior.

# Mięsień piszczelowy przedni - palpacja



**Figure 19-6** Starting position for supine palpation of the right tibialis anterior.



**Figure 19-7** With resisted dorsiflexion and inversion of the foot, the distal tendon of the tibialis anterior is usually easily visible.



# Mięsień piszczelowy przedni - palpacja



**Figure 19-8** Palpation of the belly of the right tibialis anterior.





Mięsień piszczelowy przedni  
– punkty spustowe i  
promieniowanie bólu

**Figure 19-9** Anteromedial view showing a common tibialis anterior TrP and its corresponding referral zone.



## Mięsień piszczelowy przedni - stretching

**Figure 19-10** A stretch of the bilateral tibialis anterior muscles. The client plantarflexes and everts the feet. The stool is used for support and to prevent the client from placing excessive weight upon the toes and feet.



# MIĘSIEŃ PROSTOWNIK DŁUGI PALCÓW

# Mięsień prostownik długi palców – anatomia i funkcja

## • ATTACHMENTS:

- o Proximal 2/3 of the anterior fibula and the lateral tibial condyle to the dorsal surface of the middle and distal phalanges of toes two to five (Figure 19-11)

## • ACTIONS:

- o Extends toes two to five at the metatarsophalangeal (MTP) and interphalangeal (IP) joints
- o Dorsiflexes the foot at the ankle joint; everts the foot at the tarsal joints

## Starting position (Figure 19-12):

- o Client supine
- o Therapist standing to the side of the client
- o Palpating hand not yet placed on the client
- o Fingers of the support hand placed on the dorsal surfaces of toes two to five

## Palpation steps:

1. Resist the client from extending toes two to five at the metatarsophalangeal and interphalangeal joints and look for the tendons of the extensor digitorum longus (EDL) to become visible on the dorsum of the foot.
2. Palpate the distal tendons by strumming perpendicularly across them (Figure 19-13, A).
3. Continue palpating the EDL proximally by strumming perpendicular to the fibers (Figure 19-13, B). Most of its belly is located between the tibialis anterior and the fibularis longus (see Figure 19-1, A).
4. Once the EDL has been located, have the client relax it and palpate to assess its baseline tone.



**Figure 19-11** Anterior view of the right extensor digitorum longus. The fibularis tertius has been ghosted in.

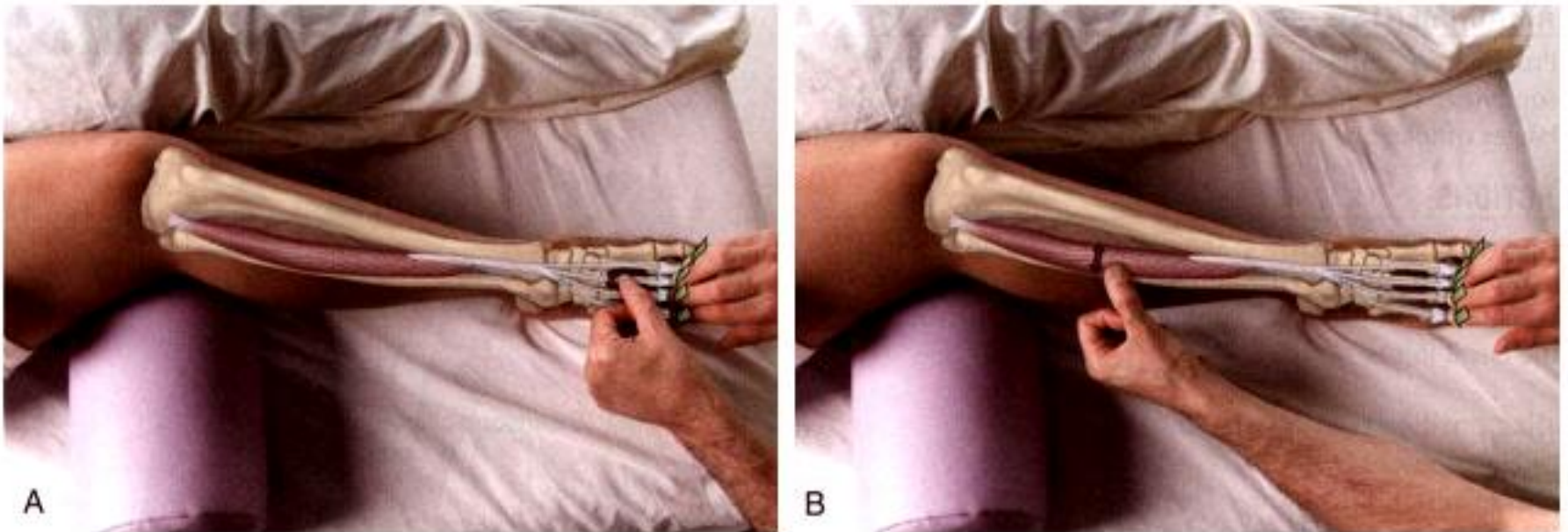


# Mięsień prostownik długi palców - palpacja



**Figure 19-12** Starting position for supine palpation of the right extensor digitorum longus.

# Mięsień prostownik długi palców - palpacja



**Figure 19-13** Palpation of the right extensor digitorum longus as the client extends toes two to five against resistance. **A**, Palpation of the distal tendons on the dorsum of the foot. **B**, Palpation of the belly in the anterolateral leg.

# Mięsień prostownik długi palców – punkty spustowe i promieniowanie bólu

**Figure 19-14** Anterolateral view showing a common extensor digitorum longus TrP and its corresponding referral zone.



# Mięsień prostownik długi placów - stretching



**Figure 19-15** A stretch of the right extensor digitorum longus. The client plantarflexes and inverts the foot while holding on for support and to prevent placing excessive weight upon the foot in back.



# MIĘSIENI PROSTOWNIK DŁUGI PALUCHA



# Mięsień prostownik długi palucha – anatomia i funkcja

## • **ATTACHMENTS:**

- o Middle 1/3 of the anterior fibula to the dorsal surface of the distal phalanx of the big toe (Figure 19-17)

## • **ACTIONS:**

- o Extends the big toe at the metatarsophalangeal (MTP) and interphalangeal (IP) joints
- o Dorsiflexes the foot at the ankle joint; inverts the foot at the tarsal joints

## **Starting position (Figure 19-18):**

- o Client supine
- o Therapist standing to the side of the client
- o Palpating hand not yet placed on the client
- o Fingers of the support hand placed on the dorsal surface of the distal phalanx of the big toe

## **Palpation steps:**

1. Resist the client from extending the big toe at the metatarsophalangeal and interphalangeal joints and look for the tendon of the extensor hallucis longus (EHL) to become visible.
2. Palpate the distal tendon by strumming perpendicular across it (Figure 19-19, A).
3. Continue palpating the EHL proximally by strumming perpendicular to the fibers. Once the EHL goes deep to the tibialis anterior and extensor digitorum longus; do not strum perpendicular to it. Instead feel for its contraction deep to these other muscles when the big toe extends (Figure 19-19, B).
4. Once the EHL has been located, have the client relax it and palpate to assess its baseline tone.



**Figure 19-17** Anterior view of the right extensor hallucis longus.

# Mięsień prostownik długi palucha - palpacja



**Figure 19-18** Starting position for supine palpation of the right extensor hallucis longus.

# Mięsień prostownik długi palucha - palpacja



**Figure 19-19** Palpation of the right extensor hallucis longus as the client extends the big toe against resistance. **A**, Palpation of the distal tendon on the dorsum of the foot. **B**, Palpation of the belly in the anterolateral leg.

# Mięsień prostownik długi palucha – punkty spustowe i promieniowanie bólu

**Figure 19-20** Anterolateral view showing a common extensor hallucis longus TrP and its corresponding referral zone.



# Miesień prostownik długi palucha - stretching



**Figure 19-21** A stretch of the right extensor hallucis longus.





**MIĘSIEŃ STRZAŁKOWY DŁUGI I  
KRÓTKI**

# Mięsień strzałkowy długi i krótki – anatomia i funkcja

## • **ATTACHMENTS:**

- o Fibularis longus: proximal 1/2 of the lateral fibula to the first cuneiform and the base of the first metatarsal
- o Fibularis brevis: distal 1/2 of the lateral fibula to the lateral side of the base of the fifth metatarsal (Figure 19-22)

## • **ACTIONS:**

- o Fibularis longus and brevis: evert the foot at the tarsal joints; plantarflex the foot at the ankle joint

## **Starting position (Figure 19-23):**

- o Client side lying
- o Therapist standing to the side of the client
- o Palpating hand placed on the lateral side of the fibula, just distal to the head of the fibula
- o Support hand placed on the lateral side of the foot

## **Palpation steps:**

1. Resist the client from everting the foot at the tarsal joints and feel for the contraction of the fibularis longus (Figure 19-24).
2. Continue palpating the fibularis longus distally by strumming perpendicular to the fibers. Note that the fibularis longus becomes tendon approximately halfway down the leg.
3. The distal tendon of the fibularis longus can usually be fairly easily palpated immediately posterior to the lateral malleolus of the fibula (Figure 19-25).
4. To palpate the fibularis brevis, palpate on either side of the fibularis longus in the distal half of the leg (Figure 19-26, A).
5. The distal tendon of the fibularis brevis is often visible and palpable in the proximal foot distal to the lateral malleolus of the fibula (Figure 19-26, B).
6. Once the fibularis longus and brevis have been located, have the client relax them and palpate to assess their baseline tone.



**Figure 19-22** Lateral views of the right fibularis longus and brevis. **A**, Fibularis longus. **B**, Fibularis brevis.

# Mięsień strzałkowy długi i krótki - palpacja



## *Palpation Key:*

Palpate the lateral fibula and evert the foot.

**Figure 19-23** Starting position for side lying palpation of the right fibularis longus and brevis.



**Figure 19-24** Palpation of the belly of the fibularis longus as the client everts the foot against resistance.



# Mięsień strzałkowy długi i krótki - palpacja



**Figure 19-25** When resistance is applied to eversion of the foot, the distal tendon of the fibularis longus is often visible just proximal to the lateral malleolus of the fibula.



**Figure 19-26** Palpation of the right fibularis brevis as the client everts the foot against resistance. **A** shows palpation of its belly immediately posterior to the fibularis longus tendon. **B** shows palpation of its distal tendon distal to the lateral malleolus.

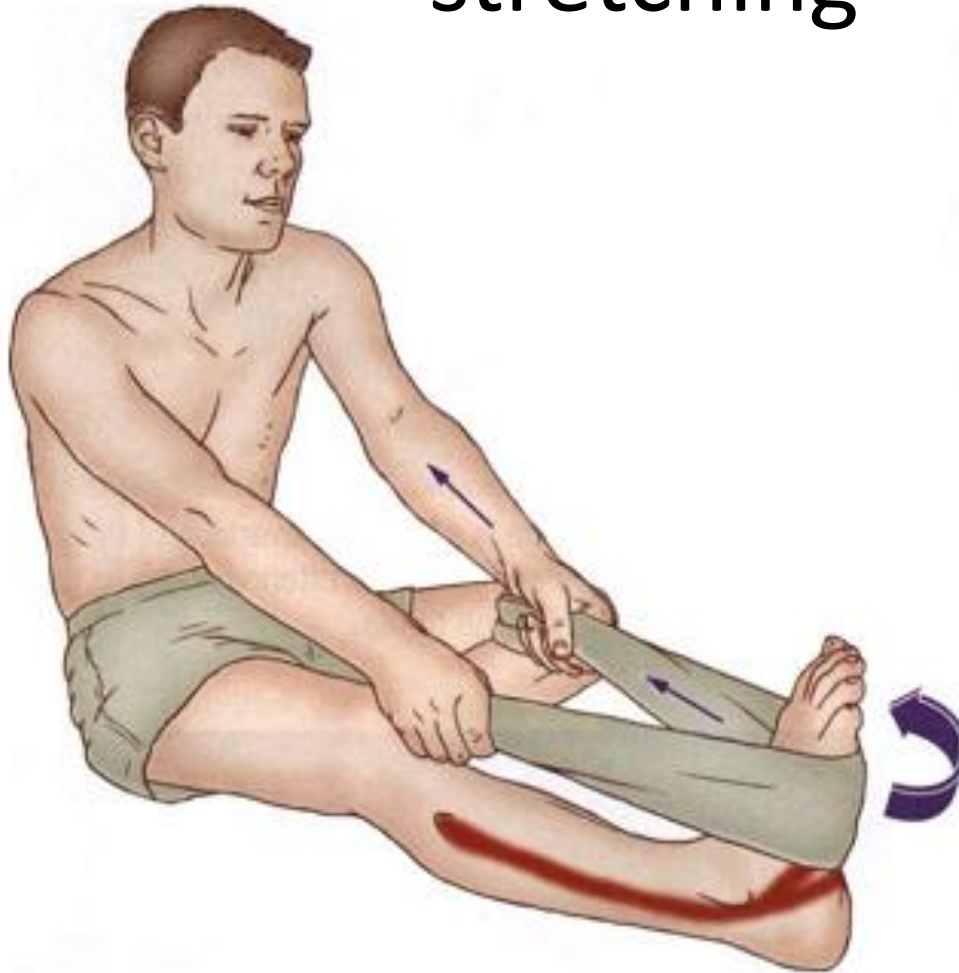
# Mięsień strzałkowy długi i krótki – punkty spustowe i promieniowanie bólu



**Figure 19-27** Lateral view showing common fibularis longus and brevis TrPs and their corresponding referral zones.



# Mięsień strzałkowy długi i krótki - stretching



**Figure 19-28** A stretch of the right fibularis longus and brevis muscles. The client uses a towel to pull the foot into inversion and dorsiflexion.



**MIĘSIEŃ BRZUCHATY ŁYDKI**

# Mięsień brzuchaty łydki – anatomia i funkcja

## • **ATTACHMENTS:**

- o Posterior surfaces of the medial and lateral condyles of the femur to the posterior surface of the calcaneus (via the calcaneal tendon) (Figure 19-29)

## • **ACTIONS:**

- o Plantarflexes the foot at the ankle joint; inverts the foot at the tarsal joints
- o Flexes the leg at the knee joint

## **Starting position (Figure 19-30):**

- o Client prone with the knee joint fully or nearly fully extended
- o Therapist standing to the side of the client
- o Palpating hand placed on the proximal posterior leg
- o Support hand placed on the plantar surface of the foot

## **Palpation steps:**

1. Ask the client to plantarflex the foot against your resistance and feel for the contraction of the gastrocnemius (Figure 19-31, A).
2. Palpate the medial and lateral bellies of the gastrocnemius in the proximal posterior leg.
3. Approximately halfway down the leg, the gastrocnemius becomes tendon. Palpate the tendon all the way to its attachment on the posterior surface of the calcaneus via the calcaneal (Achilles) tendon (Figure 19-31, B).
4. Once the gastrocnemius has been located, have the client relax it and palpate to assess its baseline tone.



**Figure 19-29** Posterior view of the right gastrocnemius.

# Mięsień brzuchaty łydki - palpacja



**Figure 19-30** Starting position for prone palpation of the right gastrocnemius.

# Mięsień brzuchaty łydki - palpacja



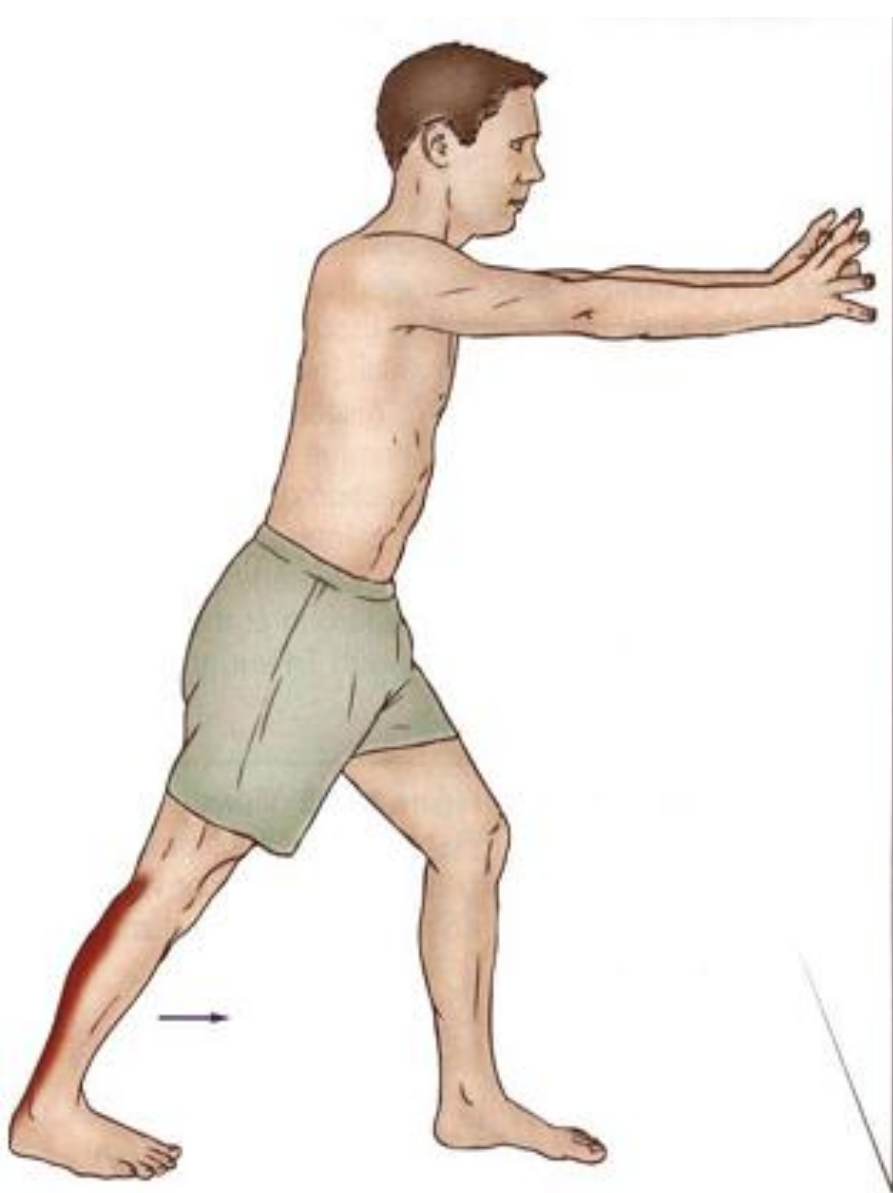
**Figure 19-31** Palpation of the right gastrocnemius as the client plantarflexes the foot against resistance. **A**, Palpation of the medial belly. **B**, Palpation of the calcaneal (Achilles) tendon with two fingers on either side of the tendon just proximal to the calcaneus.



# Mięsień brzuchaty łydki - palpacja

**Figure 19-32** Palpation of the proximal attachments of the gastrocnemius. **A**, Medial head. The semitendinosus and semimembranosus have been ghosted in. **B**, Lateral head. The plantaris is drawn in. The biceps femoris long and short heads are cut and ghosted in.





## Mięsień brzuchaty łydki - stretching

**Figure 19-34** A stretch of the right gastrocnemius. With the knee joint extended, the client leans forward with the leg causing ankle joint dorsiflexion. It is important that the heel stays on the ground. Note: If the knee joint is flexed, this becomes a soleus stretch.

# Mięsień brzuchaty łydki – punkty spustowe i promieniowanie bólu



**Figure 19-33** Posterior views showing common gastrocnemius TrPs and their corresponding referral zones. **A**, Medial head. **B**, Lateral head.



**MIĘSIEŃ PŁASZCZKOWY**

# Mięsień płaszczkowaty – anatomia i funkcja

## • **ATTACHMENTS:**

- o Head and proximal half of the posterior fibula and the soleal line of the posterior tibia to the posterior surface of the calcaneus (via the calcaneal tendon) (Figure 19-36)

## • **ACTIONS:**

- o Plantarflexes the foot at the ankle joint; inverts the foot at the tarsal joints

## **Starting position (Figure 19-37):**

- o Client prone with the knee joint flexed to approximately 90 degrees
- o Therapist standing to the side of the client
- o Palpating hand placed on the proximal posterior leg
- o Support hand placed on the plantar surface of the foot

## **Palpation steps:**

1. Ask the client to plantarflex the foot against gentle resistance and feel for the contraction of the soleus deep to the gastrocnemius (Figure 19-38, A).
2. Palpate the soleus to its proximal attachment and palpate it distally to its distal attachment on the posterior calcaneus, via the calcaneal (Achilles) tendon.
3. Although from the posterior perspective, the soleus is deep to the gastrocnemius, from the lateral perspective, the soleus is superficial and can be palpated (Figure 19-38, B). Note: A portion of the soleus is also superficial on the medial side of the proximal leg (see Figure 19-4, A).
4. Once the soleus has been located, have the client relax it and palpate to assess its baseline tone.



**Figure 19-36** Posterior view of the right soleus.



# Mięsień płaszczkowaty - palpacja



**Figure 19-37** Starting position for prone palpation of the right soleus.

# Mięsień płaszczkowaty - palpacja



**Figure 19-38** Palpation of the right soleus as the client plantarflexes the foot against gentle resistance with the knee joint flexed. **A**, Palpation of the posterior aspect through the gastrocnemius. **B**, Palpation of the lateral aspect where the soleus is superficial.

# Mięsień płaszczkowaty –punkty spustowe i promieniowanie bólu

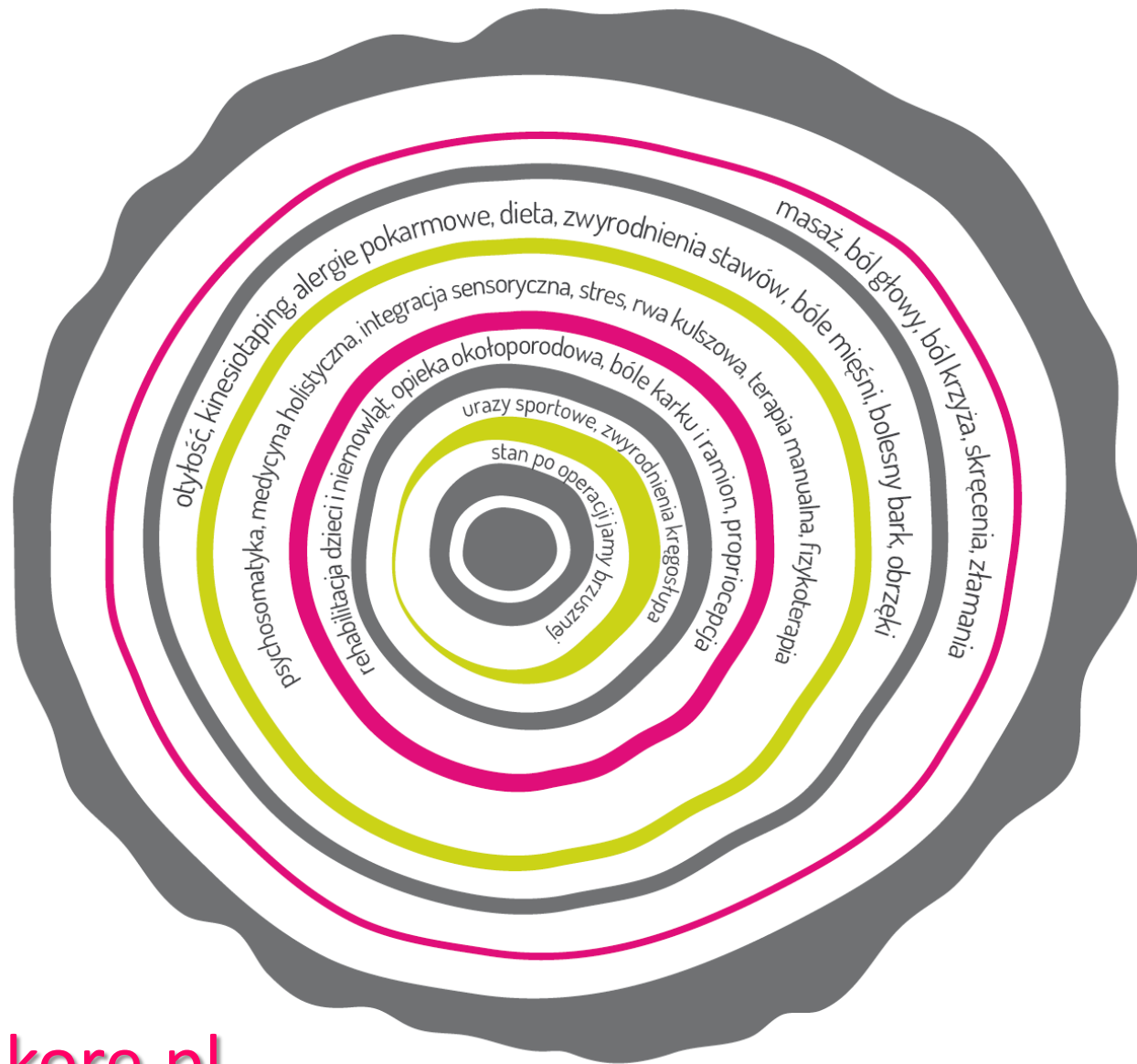
**Figure 19-39** Posterior views of common soleus TrPs and their corresponding referral zones.



# Mięsień płaszczkowaty - stretching



**Figure 19-40** A stretch of the right soleus. With the knee joint flexed, the client leans forward with the leg, causing ankle joint dorsiflexion. It is important that the heel stays on the ground. Note: If the knee joint is extended, this becomes more of a gastrocnemius stretch.



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