

POPLITEAL FOSSA SYNDROME

The *Popliteal Fossa Syndrome* is a pain syndrome of unknown cause or etiology. A strain of one or more of the distal hamstring tendons is the most likely culprit. A strain of the tendinous origins of one of the gastrocnemius heads may also be at fault.

The popliteal fossa itself is a roughly diamond shape bounded medially and superiorly by the distal segment of the semimembranosus muscle and laterally and superiorly by the short head of the biceps femoris. Inferiorly and medially the popliteal fossa is bounded by the medial head of the gastrocnemius and inferiorly and laterally by its lateral head.

A patient afflicted with the *Popliteal Fossa Syndrome* will complain of a great deal of pain behind that knee, usually describing it as a feeling of great pressure and swelling. This is understandable since the pain is generally accompanied by marked swelling behind and slightly proximal of the knee joint. Generally, the patient's ability to walk is hampered by the pain and the assistance of a cane or crutches may be necessary for ambulation. In all cases observed, copious amounts of adhesions were found within the fossa itself, as well as in the tissues lying over and around the bordering muscular structures. The inflamed zone usually encapsulates the entire popliteal fossa.



**The pattern of high skin resistance associated
with the Popliteal Fossa Syndrome**

Treatment

Since the *Popliteal Fossa Syndrome* has an unknown etiology, no advice can be given the patient as to what behaviors to avoid or any other advice that might be helpful for preventing the syndrome. Therefore, simply ameliorate the condition through adequate treatment and hope that it doesn't come back. That being the case, clinical efforts must be directed at reducing the inflammation process and the consequent swelling, and any adhesions in the area reduced through manipulation.

Application:

- Preset an electrical stimulation unit set to deliver a medium frequency current with a duty cycle of 10-seconds on and 10-seconds off. Place a negative electrode over the popliteal fossa and a positive electrode over the rectus femoris, on the same side. Adjust the amplitude to produce a near tetanic contraction of the thigh muscles. Electrically stimulate for 15 minutes.
- Manipulate the soft tissues in and around the involved popliteal fossa to eliminate any adhesions that may be present.
- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.5 W/cm². Ultrasound the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. .
- Preset the electrical stimulation unit to deliver a 7 Hz, wide-pulsed galvanic current. A positive electrode should be placed over the involved popliteal fossa and a negative electrode over rectus femoris muscle on the same side. Adjust the amplitude to produce visible rhythmic contractions. This serves to decrease swelling in the popliteal space while helping to increase capillary circulation in the leg. Stimulate for 20 minutes.

The following treatment forms have also been effective.

Variation:

- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.8 W/cm². Ultrasound the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This procedure is designed to soften the adhesions that may be present.
- Manipulate the tissues in and around the inflamed zone to eliminate any adhesions that may be present.
- Twenty minutes after the first ultrasound, preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.5 W/cm². Ultrasound the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This is performed to "cool off" the manipulated zone by effectively halting the production of prostaglandins by the stressed tissues.
- Mechanically vibrate the plantar surface of the foot, for two minutes (preferably with a foot vibrator), to further increase capillary circulation and to desensitize the involved tissues.

Variation:

- Preset the ultrasound unit to deliver a 1 MHz pulsed waveform, at 1.8 W/cm². Ultrasound the inflamed zone, utilizing an effective non-steroidal anti-inflammatory as a coupling agent, for six minutes. This procedure is designed to soften the adhesions that may be present.
- Manipulate the tissues in and around the inflamed zone to eliminate any adhesions that may be present.
- Apply cold laser (with or without simultaneous electrical stimulation provided by the laser applicator) to the inflamed zone for approximately six minutes. This is performed to “cool off” the manipulated zone by effectively halting the production of prostaglandins (or facilitating enzyme destruction of **all** inflammatory being produced) by the stressed tissues.
- Mechanically vibrate the plantar surface of the foot, for two minutes (preferably with a foot vibrator), to further increase capillary circulation and to desensitize the involved tissues.

Generally, these treatment forms provide almost immediate relief of the *Popliteal Fossa Syndrome*, usually requiring only one or two sessions for full resolution.

Post Treatment Suggestions:

Instruct the patient to avoid “snapping” the knee back, when going down stairs or coming down hill. The knee snap may over-stretch the popliteal tendon and foster reinflammation. Consequently, the knee should be slightly bend when coming down on it.

Trigger Points

The following trigger point formations may, singly or in combination, imitate or contribute to the pain associated with the *Popliteal Fossa Syndrome*: Gluteus minimus, Biceps Femoris, and Gastrocnemius.