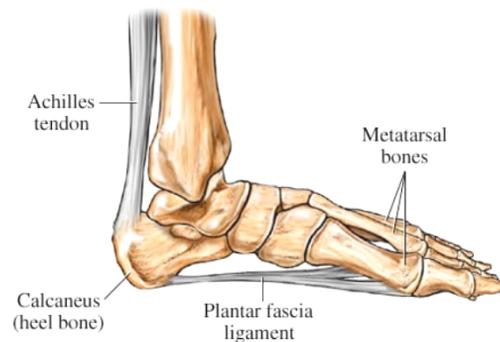


Injury Management

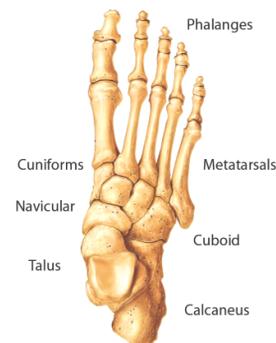
PAIN AT THE BACK OF THE ANKLE

The constant and repetitive demands placed on dancers' feet, along with training and performing in non-supportive shoes, requires them to have optimal biomechanics and exceptionally specific control of all the tissues that support the foot and ankle to avoid injury. Very subtle changes in performance of a seemingly simple step can have huge implications to the long term health of the dancers feet, the stability of the muscle chains further up the leg, and may lead to overuse injuries of the tendons of the muscles in the lower leg, foot and ankle.

"My Achilles is Sore": Pain at the back of the ankle is a big issue for many dancers, and often gets misdiagnosed as an issue with the *Achilles Tendon*. In most cases this is not actually the issue, so getting a correct diagnosis is essential. There are at least 6 other more common issues that cause pain at the back of the ankle, all of which have different causes and treatment plans. It is, therefore, obviously very important to identify which one a dancer is suffering from as early as possible.



Understanding The Anatomy: In order to understand the multitude of issues that can cause pain at the back of the ankle, it is important to have a good grasp of the anatomy of the area, including the bones, ligaments, capsules, tendons, muscles and even the blood vessels and nerves. Take some time to research the anatomy of this area of the body online to get an understanding of the placement of each of these structures. Take special note of the subtalar joint and the tendons that cross the ankle, as these are most commonly involved.



"If It Is Not My Achilles, Why Do I Have Pain?"

There are many different reasons for pain at the back of the ankle, and not all of them are listed here. Make sure to consult a qualified health professional to help establish the true cause of your pain. Some of the most common injuries in dancers are outlined below, and the table on the following page helps identify some of the differences between each one that you may notice in class. There are many different reasons for pain at the back of the ankle, and not all of them are listed here. Make sure to consult a qualified health professional to help establish the true cause of your pain. Some of the most common injuries in dancers are outlined below, and the table on the following page helps identify some of the differences between each one that you may notice in class.



Posterior Impingement, With or Without an Os Trigonum:

Many dancers suffer from Posterior Impingement, which loosely translates to mean that “something is getting squashed in the back of the ankle”. This may be compression of the synovial capsule due to an unstable ankle joint; it may be compression of inflamed tendons due to overuse; or it may be due to reduced space thanks to the presence of an Os Trigonum or an enlarged Posterior Talar Process. Whatever the tissue is that is getting compressed, pushing into pain will never make it better and will often make it worse.

FHL, FDL or Tibialis Posterior Tendinopathy:

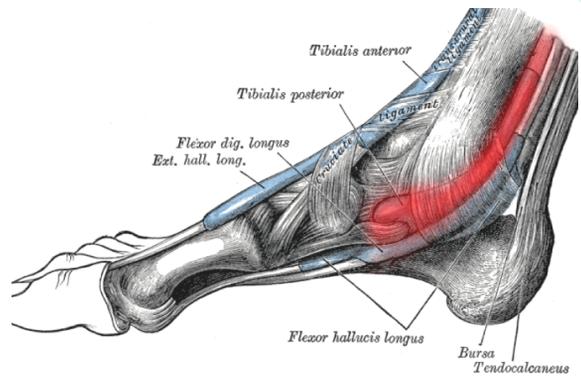
While the Achilles Tendon gets all the blame, many dancers suffer from a tendinopathy of one (or more) of the smaller tendons that pass around the inside of the ankle. This usually occurs due to excessive load from clawing the toes, poor strength or endurance of the bigger calf muscles or reduced turnout control in the hip, resulting in excessive pronation. Most commonly it is not an inflammation of the tendon, but a degeneration, and treatment must be targeted specifically at the correct stage of recovery.

Achilles Tendinopathy:

True Achilles Tendon issues are far more infrequent than many dancers realise. They are also often mistreated, even when correctly diagnosed. There has been a huge amount of research into the correct rehabilitation of tendon injuries in recent years. Prof. Jill Cook has some very accessible papers, videos and information on correct tendon loading for optimal recovery during each phase of recovery. The main issue is often instability further up the chain (commonly the hip and pelvis) or a mid foot restriction.

Severs Disease:

While often referred to as a “Growth-Related Injury,” Severs Disease is often much more prominent in one foot compared to the other. It is an irritation at the point where the Achilles Tendon attaches into the heel bone, along the growth plate, and is common in young pre-teens. However, it is most often associated with an instability in the hip or pelvis, rather than just a period of growth. Poor control in the hip leads to increased loading in the back of the ankle when the youngster is increasing their running and jumping activities.



DIAGNOSTIC CONSIDERATIONS

	Posterior Impingement	Os Trigonum	FHL or Tibialis Posterior Tendinopathy	Achilles Tendinopathy	Severs Disease
Area of Pain	Deep in the back of the ankle	Deep in the back of the ankle. Often no pain for some time, then may flare up after a small ankle injury	More focused around the medial ankle, behind the Medial Malleolus	Mid to low Achilles Tendon	Directly on the back of the heel
Normal Walking	Often fine, unless very aggravated	Usually fine	Can have specific points of pain, especially moving from mid-stance to toe off	Often difficult walking first thing in the morning, can load tendon during mid stance to toe off	Can get pain at heel strike or heel off
Double Leg Rise	Little pain through range, but pinching pain at full height of rise	Little pain through range, but pinching or blocking sensation, with or without pain at full height of rise	Often pain through range, especially mid range to toe off	Often pain through range, but less at end range	Pain in early stages and pulling at end of range. Often poor alignment and control. Watch. mid foot mobility through movement as often restricted
Tendu	Pain in back of ankle at end of range	Pain at back of ankle at end of range	Often much less pain as reduced load, unless scrunching toes, which will load the tendon	Often little pain unless very inflamed	Little pain unless foot is fully stretched. Activation of the calf may pull on the insertion point, especially if there is reduced range in the mid foot
Passive Plantarflexion (Pointing)	Sharp pain in back of ankle at end of range	Compressive pain in back of ankle at end of range - blocking feeling	Very little pain	Little pain	No pain
Loaded Dorsiflexion (Plié)	Usually no pain, but may have restricted mid foot range	Usually no pain	Often some discomfort around the medial ankle	May be uncomfortable in the mid to low Achilles Tendon	Usually tender where Achilles Tendon attaches onto the heel bone
Jumps	Usually fine unless ankle is fully pointed in the air. May have some pain on landing if very inflamed	Usually struggles with fully pointing ankle in the air	Pain focused around the medial ankle, behind the Medial Malleolus, on take off and landing, especially if poor hip control	Pain focused in the mid to low Achilles Tendon, often on take off and/or landing	Often avoids jumping. Will have pain in the heel especially on landing. Often self-protects by not lowering heels
First Thing In Morning	Often feels better as inflammation settles overnight	Little change during the day as it is a bony restriction	More stiffness and discomfort in AM	Worse in AM. Often hard to get the heels to the floor	May be difficult to lower heels in the morning
After Warm Up	May feel better, especially if a focus on mid foot mobs, but still pain at end of range	Little change during the day as it is a bony restriction	Often improves after warm up	Often improves after warm up	Pain with activity that loads insertion of the Achilles Tendon
At Night	Often flared up if has been compressed during the day	May be aggravated if compressed and has a concurrent posterior impingement	May be aggravated if loaded or stretched to aggressively during the day	May be aggravated if loaded or stretched too aggressively during the day	Usually OK when not loaded, but may ache if aggravated
Response to NSAID's	Can reduce inflammation when combined with relative rest	Little change as it is a bony restriction	Some effect in sensitisation phase, but little in degeneration phase	Some effect in sensitisation phase, but little in degeneration phase	May have some effect

"So What Do I Do About It?"

Once you have a good differential diagnosis and know what the cause behind the pain really is, the treatment for each one varies quite a bit. Finding a health professional who is used to working with dancers is ideal.

It is important to deal with the symptoms, but we must also look deeper into any bio-mechanical restrictions (such as a locked sub-talar joint) that are contributing to the issue, as well as assessing your basic classical technique, walking pattern and standing posture. Most often there is an issue in something you are doing thousands of times over that is leading to the development of the issue. Correctly identifying and correcting this is essential before slowly building back into class.

Relative Rest: Relative Rest may be needed, such as reducing jumps and pointe work. Initial treatment may also involve a period of taping or being in a boot to help avoid further compression at the back of the ankle, especially if you have a Posterior Impingement. Modification of class, such as the implementation of a Floor Barre can also be used to ensure you do not lose strength and control in other areas.

Hands On Treatment: Finding a therapist who can help you with restoring optimal foot mechanics can help enormously. This may be a Physiotherapist, Osteopath, Chiropractor or Physical Therapist. Focus should be made on restoring controlled mobility to the mid foot and addressing any issues further up the line.

Exercise Rehab: Initial exercise rehab may involve some very small movements, however it is important to master these. Taking the time to rebuild your movement patterns is essential in avoiding getting the same injury in the future.

Building Back Into Class: The transition back to full class work should be guided by your therapist and will ideally go through several stages. Examples of what can be included in each stage are outlined in the "[Will I ever dance again?](#)" program. These stages progress from completely non-weight bearing with the foot flexed, through to the reintegration of jumps, and every stage in between.

Surgery: If conservative management fails, surgical options may be explored, but in most cases it is not necessary at all. If surgery is contemplated, please make sure you have a well-designed pre and post surgical rehab plan guided by a therapist used to working with dancers.

