Superficial Peroneal Nerve Entrapment in Female Collegiate Tennis Athlete: A Disablement Model Case Study

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ABSTRACT

A 19-year-old female, NCAA Division I collegiate tennis player presented with a burning and aching sensation halfway up the lateral portion of her right calf following an extensive period spent in a squatting position. This discomfort began distal to the fibular head, then ran along her lateral calf, reached into her ankle, and wrapped behind the lateral malleolus. Initially, the patient only noticed this discomfort during long durations of physical activity. However, she began to report symptoms with activities of daily living (ADLs) and following workouts. The patient first received a working diagnosis of a stress reaction along the mid shaft of the tibia and was restricted from activity to allow for rest and proper healing. Following the three-week rest period, the patient returned to activity but reported no improvement in symptoms. She returned for a follow-up appointment where an MRI was conducted and showed a posterior tibial stress reaction, which was treated with limited activity for an additional three weeks. Following the second rest period, the patient decided to visit another physician for an additional opinion. There, the physician performed a series of tests and imaging. The findings, along with the clinical presentation were consistent with superficial peroneal nerve (SPN) entrapment. Following this diagnosis, the patient was prescribed with a topical NSAID for pain relief, along with an individualized plan for management and return-to-activity. After a few weeks of consistent treatment, the athlete reported an improvement of symptoms and was able to return to full, pain-free activity. SPN entrapment is an interesting pathology due to its high rate of misdiagnosis and relatively uncommon nature. While SPN entrapment is not a frequently recognized condition, having the ability to observe signs, symptoms, risk factors, and etiologies is critical for accurate patient diagnosis and proper treatment to return to full, pain-free activity.

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INTRODUCTION

Superficial Peroneal Nerve (SPN) entrapment is considered a relatively uncommon, lower limb neuropathy that is typically caused by mechanical compression of the nerve.[1] This nerve is originally part of the common peroneal nerve (CPN) before it is divided into the deep peroneal nerve (DPN) and the SPN just distal to the fibular head.[1,2] The SPN runs throughout the lateral compartment of the leg and is responsible for the motor innervation of the peroneus longus and peroneus brevis muscles, as well as the sensory innervation of the dorsal aspect of the foot and the lower leg.[1,2] Entrapment commonly occurs when the SPN is overstretched, typically caused by repetitive or forced inversion and plantarflexion (inversion ankle sprains), or actions of prolonged kneeling, squatting, leg crossing, and sitting. Soft masses, peripheral injury, direct trauma, or variations in patient anatomy are also common forms of compression that can cause nerve entrapment and elicit symptoms. [1,3-5]

Initially, patients may only report symptoms of burning, numbness, or tingling over the lateral leg and dorsal aspect of the foot with exercise.[1] However, if left untreated, these symptoms can progress to cause pain ranging from a pinprick to severe, as well as affecting sleep with night pain and muscle cramps.[1] Peroneal neuropathy, although relatively unusual, is the most commonly identified neuropathy in the lower extremity.[6] A study found that in 480 patients with chronic leg pain, 3.5% were found to have SPN entrapment.[2] This pathology can affect patients of all ages and genders by causing significant lower leg pain and weakness, but patients who experience a traumatic injury, such as a knee dislocation or fibular fracture, are at a higher

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risk due to potential damage or injury the nerve, creating inflammation and leading to entrapment.[3,4] Rapid weight loss has also been linked to nerve compression, specifically at the fibular head, due to the loss of subcutaneous fat around this area.[4] Some surgeries often report post-operative peroneal nerve compression symptoms. This is most commonly reported with total knee arthroplasty's, specifically in those requiring the setting of preoperative valgus knee.[3] As commonly seen in dancers and athletes, forced inversion and plantarflexion (inversion ankle sprains) can also lead to the stretching, injury, and compression of the SPN.[3] Soft masses in the lower extremity, like ganglion cysts, may also need to be treated or removed to relieve the pressure being placed on the SPN.[1,3,4] Finally, patients with diabetes can be at a higher risk of SPN entrapment due to sorbitol, a sugar alcohol slowly metabolized by the body, depositing into the nerves, causing neural edema, and leading to nerve compression.[3,4]

Entrapment of the SPN is commonly identified and diagnosed following the presentation of symptoms and a physical examination.[1,3,4] In most cases, diagnostic imaging, including CT, MRI, EMG, or Ultrasonography, may be ordered to identify areas of impingement or masses that may be causing irritation. A Nerve Velocity Conduction (NVC) study may also be performed to identify any functional nerve damage.[4] Following the diagnosis, a conservative, non-surgical treatment approach is initially attempted. Treatment typically begins with placing the patient in a knee brace or padding the fibular head, activity modification, and lifestyle changes. Rehabilitation interventions, including muscle strengthening, pain management, neurodynamic exercises, and orthotics are also utilized in the beginning stages of treatment. Hydrodissection may also be utilized as an alternative treatment before surgical intervention. This treatment typically involves the injection of a solution (saline, dextrose, plasma, steroids, or anesthetics) around the nerve in an attempt to relieve pressure from surrounding structures.[3] This treatment can also attempt to restore the nerve's function by releasing any adhesions that may be causing entrapment.[3] If symptoms do not resolve or improve within 3-6 months, surgical intervention may be necessary.[1,3,4]

Because SPN entrapment is rather unconventional, a proper diagnosis can often times be difficult to identify and the injury can go unnoticed.[3] Symptoms among patients can vary greatly in frequency and severity, injury recognition is critical to begin treatment and avoid the progression of sensory abnormalities or increasing symptoms. Entrapment of the SPN can limit a patient's quality of life by hindering their ability to comfortably perform daily activities, participate in physical activity pain free, and receive an adequate amount of rest each night.

PATIENT INFORMATION

Patient

A 19-year-old female, NCAA Division I collegiate tennis player presented with a burning and aching sensation about halfway up the lateral portion of her right calf. She reported this pain as a 6/10 on the Numerical Pain Rating Scale (NPRS) and stated that this sensation had begun a few days prior after she had spent "a few hours" in a deep squat position building a dresser. The patient first reported feeling this sensation about an hour into the building process, however, she reports no noted snapping or popping during this event. This discomfort began just distal to the fibular head, then ran along her lateral calf, reached into her ankle, and wrapped behind the lateral malleolus. Initially, the patient only noticed this discomfort during long durations of physical activity, but as the injury progressed, she began to report symptoms with activities of daily living (ADL's) and at rest following workouts. The patient also reported pain and discomfort throughout the night when trying to sleep. Upon initial evaluation, athlete was slightly tender to the touch, but reported no numbness or tingling with normal neurologic function, range of motion (ROM), and strength.

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The patient presented with normal strength and ROM at the hip, ankle, and knee with no apparent signs of swelling, redness, or discoloration.

Differential Diagnosis and Evaluation:

The differential diagnosis list for this case also included: tibial stress reaction, sural nerve entrapment, peroneal muscle strain, or peroneal neuralgia. After four weeks of continued symptoms, the patient was first diagnosed with a stress reaction along the mid shaft of the tibia and was restricted from activity to allow for rest and proper healing. Initially, the team athletic trainer noted suspicions of sural nerve entrapment and expressed these impressions to the physician during the appointment. However, at the time, the physician identified signs of a stress reaction and chose to conservatively treat the patient accordingly. Following the three-week rest period, the patient returned to activity but reported no change or improvement in symptoms. She returned for a follow-up appointment where a magnetic resonance image (MRI) was conducted and showed a posterior tibial stress reaction, which was treated with a walking boot, along with restricted tennis-related and conditioning activity for an additional three weeks. The patient was also prescribed 50mg of daily Naproxen to assist with pain and inflammation.

During the second rest period, the patient began to become frustrated with the diagnosis and lack of symptom relief she was experiencing. She chose to visit a family friend orthopedic physician for an additional evaluation. There, the physician interviewed and evaluated the athletes' signs, symptoms, and previous treatment methods and was able to rule out a peroneal muscle strain based on his findings. Following their evaluation, a proximal tibiofibular joint injection of an anesthetic was administered into the area of pain and discomfort.[1] This injection is commonly used as a diagnostic tool to locate the nerve entrapment zone. A relief of symptoms can help to confirm a suspected diagnosis.[1,3] This patient experienced a diagnostic relief of symptoms from the injection, indicating an irritation of the joint, also associated with irritation of the superficial peroneal nerve. The patient was not prescribed any additional medication to assist with pain relief, inflammation reduction, or nerve function.

Following this, an ultrasound and a second MRI were also taken to identify any obstructive structures and rule out additional injury. MRI's and ultrasounds are commonly utilized to identify any anatomical abnormalities that could be compressing the nerve, including an increase in the size of the nerve, the intensity of the nerve signal, or identify any soft-tissue areas that may have a mass, swelling, or could be causing impingement.[1,4,5] As a result of this imaging, the physician noticed some proximal tibiofibular joint irritation/injury, as well as signs of superficial peroneal neuralgia, or superficial peroneal nerve entrapment.

Body Structure and Function:

The SPN is a structure of the somatic nervous system, which is a branch of the peripheral nervous system responsible for voluntary movement functions and sensation related to the skin.[7,8] The peripheral nervous system is made up of sensory and motor nerves that extend from the brain and spinal cord and are responsible for sending messages between the body and the brain.[7,8] When a nerve becomes compressed or entrapped, the ability of the nerve to accurately send and receive messages is compromised.[9] Because of this, patients with nerve entrapment may experience symptoms of a sharp, burning, or achy pain, paresthesia, muscle weakness, or numbness.[7,9] In this specific case, the patient noted her pain as a burning and achy sensation just below the fibular head and throughout the lateral portion of her calf. She reported discomfort when running or walking, ultimately hindering her ability to function normally in her sport and daily life.

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Activity and Participation

The patient has been participating in tennis since she was three years old and began competing at an elite level around the age of 12. The symptoms of SPN entrapment impacted her ability to participate in practice and competitions, as well as caused her pain and discomfort while completing her daily routine. The painful burning and deep aching sensations the patient felt throughout her calf during activity were the most debilitating and restricting symptoms. In the sport of tennis, individual competition requires constant movement, including cutting from side to side, hopping, jumping, and running to retrieve balls. Matches can last for several hours with few short breaks between games and sets. Because of the essence of the sport, a large amount of stress and fatigue can take a toll on the lower body. Inflammation in the body, both during and after activity, can compress the nerve and elicit symptoms throughout the lower leg. Following activity, the patient described feeling sore and achy throughout the calf for the remainder of the day and symptoms would often linger into the night and next day. Because of these challenges, the patient was limited to non-weight bearing cardiovascular conditioning, including swimming and biking. She was also allowed to participate in stationary tennis activities that did not include running, jumping, or cutting motions.

Outside of sport, the patient also described discomfort and pain performing daily activities, including walking to and from class, climbing up and down stairs of apartment complex, and going out with friends and teammates. The patient explained that the limitations of sport were difficult, but the everyday pain and restrictions were specifically more challenging, due to its effect on her physical, mental, and social health.

After receiving an accurate diagnosis, the patient was able to return to tennis by monitoring and controlling her symptoms and activity to avoid reaching a high level of pain or discomfort. The patient has been able to control the symptoms by adequately warming up before activity, including daily stretching and foam rolling, as well as recognizing muscle tightness and receiving treatment as needed. She has also incorporated a recovery routine (**Table 1**) including static stretching of the lower extremity, post-practice foam rolling, and recovery (compression boots, ice bath, massage therapy, etc.) following practice and competition to allow her body the proper cool down and rest. The patient is aware and able to determine when it is important to modify conditioning and activity levels to avoid further injury and inflammation causing compressive symptoms. Patient education and recognition, as well as the integration of healthy daily habits, have allowed the patient to successfully return to a high level of physical practice and competition.

Table 1. Return-To-Activity Plan

	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**
Pre-Practice	Therapeutic Interventions as needed	Therapeutic Interventions as needed	Therapeutic Interventions as needed	Therapeutic Interventions as needed	Therapeutic Interventions as needed
Practice	Practice warm- up ~25 min (Can gradually increase by 5 min each day as tolerated)	50% of practice ~1.5 - 2 hours	75% of practice ~1.5 – 2 hours	Full practice ~ 2 – 2.5 hours	Full practice ~ 2 – 2.5 hours
Cardio	Bike, Elliptical, Anti-Gravity treadmill ~20-30 min	Sports-specific conditioning ~30 min	Sports-specific conditioning ~15 - 20 min	N/A	N/A
Post-Practice	Recovery/Treatment	Recovery/Treatment	Recovery/Treatment	Recovery/Treatment	Recovery/Treatment

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Environmental and Personal Factors

In this case, the nerve entrapment presented as an acute injury following an event that required prolonged squatting and repetitive stretching of the superficial peroneal nerve. As studies show, this is one of the most common causes and risk factors of injury.[1,3,4] The patient reported consistent symptoms with minimal variance regardless of environment or weather conditions. However, symptoms were slightly less severe with proper stretching and warm-up of the muscles prior to activity. She also stated that walking on softer surfaces (grass, sand, etc.) minimized the intensity of the pain and discomfort when compared to competing on cement or sidewalks. This patient did not have a car during the fall semester, so she relied heavily on teammates or public transportation to bring her to and from class or team related activities. Typically, this was not a problem as she was able to find transportation most of the time, but on some occasions, she would be required to walk long distances, causing a flare-up of symptoms.

Although this particular athlete did not experience any of these conditions, some of the most common personal risk factors for superficial peroneal nerve entrapment may also include direct or traumatic injury, rapid weight loss, surgery, frequent inversion ankle sprains, soft masses, and diabetes.[1,3,4] A direct or traumatic injury to the lower leg, such as a fibular fracture or complete knee dislocation, can damage or injure the nerve, creating inflammation and leading to nerve entrapment.[4] Rapid weight loss has also been linked to nerve compression, specifically at the fibular head, due to the loss of subcutaneous fat around this area.[4] Some surgeries often report post-operative peroneal nerve compression symptoms. This is most commonly reported with total knee arthroplasty's, specifically in those requiring the setting of preoperative valgus knee.[3] As commonly seen in dancers and athletes, forced inversion and plantarflexion (inversion ankle sprains) can also lead to the stretching, injury, and compression of the SPN.[3] Soft masses in the lower extremity, like ganglion cysts, may also need to be treated or removed to relieve the pressure being placed on the SPN.[1,3,4] Finally, patients with diabetes can be at a higher risk of SPN entrapment due to sorbitol, a sugar alcohol slowly metabolized by the body, depositing into the nerves, causing neural edema, and leading to nerve compression.[3,4]

The patient came into the athletic and academic year as a freshman eager to begin her career as a collegiate tennis player. However, this injury led to several setbacks, both physically, mentally, and emotionally. The biggest physical challenge was managing symptoms and determining treatment and rehab plans to keep the patient most comfortable. Mentally, the patient struggled with frustrations of lost time and a delayed diagnosis that resulted in losing most of the fall season, as well as placing her at an athletic disadvantage to earn a spot in the line-ups. An emotional toll was placed on the patient as she attempted to navigate through feelings of uncertainty, stress, and fear with a lack of symptom improvement for the initial portion of the injury process. However, the athlete was persistent on participating in team activities to the best of her physical capability and determined to discover a diagnosis and treatment plan that would return her to full activity as soon as possible. Communication and collaboration between the patient, physician, coaches, support staff, and the athletic trainer was critical in determining the best care plan, appropriate modifications, and ultimately determining an accurate diagnosis for the patient.

INTERVENTIONS

Following the accurate diagnosis of SPN entrapment, the patient was prescribed with a treatment protocol for symptom relief, as well as an outlined return-to-activity plan. The patient was provided with a neoprene sleeve to use during practice and competition. The goal of this intervention was to limit muscle inflammation to prevent nerve compression. She was also instructed to use Voltaren™ gel (diclofenac) 3-4x daily to treat

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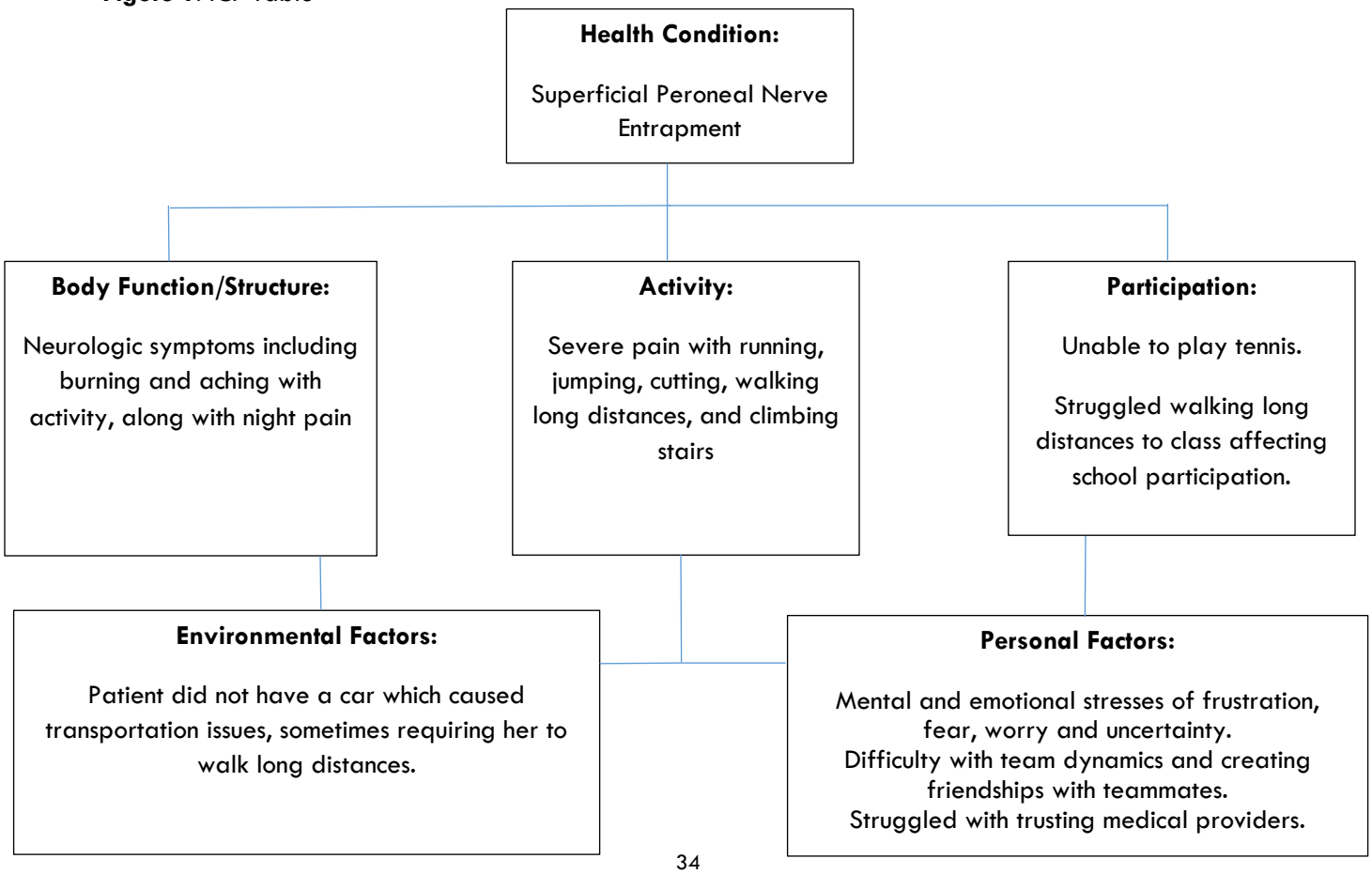
symptoms. Voltaren™ gel is a topical solution used to treat joint pain and tenderness, typically associated with arthritis. Diclofenac sodium, the active ingredient of this topical, is an NSAID medication that works by limiting substances in the body that can cause pain and inflammation.[10] The patient was also provided with a Vibracool® device, a wearable modality that utilizes vibration therapy, thermotherapy, and cryotherapy to assist with pain management and inflammation. She was instructed to utilize this following activity and as needed for recovery. Dry needling was also recommended as needed to limit muscle tightness and neurological symptoms. Finally, the patient was cleared to begin a lower extremity, return-to-activity plan as tolerated and determined by the athletic trainer. A five-day return-to-activity protocol was utilized, beginning on day one with a return to the full tennis warm-up (~30 minutes), followed by 25% of the practice on day two, 50% of practice on day three, 75% of practice on day four, and full practice on day five. The physician explained that the patient may experience some associated pain but should continue to treat with symptomatic relief as directed. However, if the symptoms began to worsen or show no improvements, she was instructed to return for a re-evaluation and alternative treatment options.

OUTCOMES

As presented in the ICF **Figure 1**, the level of functioning holds a fluid relationship between the patient's health conditions, environmental factors, and personal factors. These factors play a significant role in the activity, participation, and body function/structure of a patient when dealing with an injury or condition. Because of this, it is important to acknowledge all aspects of the patient's life and provide holistic care to promote adequate healing and recovery.

Figure 1. ICF Table



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Body Structure and Function

The first semester of the patient's freshman year was challenging as she dealt with navigating injury and participation restrictions. However, once she received the necessary diagnosis and treatment, her symptoms dramatically decreased, and she was able to return to full athletic activity and pain free ADL's. Prior to diagnosis and treatment, the patient rated her pain as 6/10 on the NPRS, with pain as high as an 8/10 when at its worst. Following diagnosis and treatment, the patient rated pain as a 0/10, with an occasional 1/10 during intense physical activity. Although a part of the symptom decrease may be a result of the chosen treatment intervention, some further psychological effects may have played a role in the noted pain and discomfort relief. The physical component of experiencing treatment via the injection, as well as a determined plan to return to activity may have played a positive role on the mental health and outlook of the treatment, resulting in a noted relief of symptoms.

The 36-Item Short Form Survey, or SF-36, is a patient self-reporting survey that analyzes a variety of scales including general health, physical functioning, bodily pain, vitality, social functioning, emotional role functioning, and mental health to measure overall patient quality of life regarding illness or injury.[11] The Short Musculoskeletal Function Assessment (SMFA) is also a patient self-reporting survey that is utilized to assess and evaluate the impacts of a musculoskeletal condition or injury on the patient's ability to functionally perform daily activities.[12] The SF-36 Questionnaire and the SMFA (**Table 2**) were both administered to the patient. In the initial SF-36 Questionnaire, the patient reported difficulty or limitations with all questions related to the category "Role limitations due to physical health." However, in the post-survey, the patient reported no limitations or difficulties in this same category. She also saw major improvements in "Physical Functioning," "Pain," and "Health Change" when comparing baseline and follow-up measures, with all subject areas returning to full function with no limitations or symptoms. In the initial SMFA survey, the patient rated her difficulty in completing her daily routine with normal functioning. In the baseline survey, she scored a 123/230, but in the follow-up survey the patient reported 0 limitations or difficulties managing her daily activities. Within weeks of proper treatment and diagnosis, the patient was able to return to full daily and athletic activity pain free and work her way into both the singles and doubles line-up in time for the spring season.

Table 2. Survey Outcomes

	Initial SF-36	Post-Intervention SF-36
Physical Functioning	25%	100%
Role Limitations due to physical health	0%	100%
Role Limitations due to emotional problems	0%	100%
Energy/fatigue	45%	65%
Emotional well-being	44%	84%
Social functioning	25%	100%
Pain	22.5%	100%
General health	75%	80%
Health change	25%	100%

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Activity and Participation

Following the patient's return-to-play protocol, she reported no further symptoms or pain during practice or competition. She continued to receive treatment and rehabilitation 2-3 times a week, including exercises for pain management and muscle strengthening. On the court, the patient had no restrictions and was able to fully participate in tennis-related activity and conditioning as tolerated. As the spring season approached, the patient was able to earn a spot in both the singles and doubles line-up for several matches and saw success in her rookie season.

Environmental and Personal Factors

In the spring semester, the patient returned to campus with a car for easier transportation to and from class and team activities. However, the patient also reported no remaining pain or discomfort with walking long distances or going up and down stairs. She also showed large improvements in the "Role limitations due to emotional problems" and "Social functioning" categories of the SF-36 Questionnaire. When comparing baseline survey, she jumped from 0% and 25% respectively, to 100% in the follow-up survey. In an interview, the patient also reported an overall better mood and happiness after returning to her sport and life pain-free. She noted feeling a stronger sense of belonging among the team and with her teammates. Sharing the experiences of participating at a high level of athletics, while also attending college-level classes allowed the patient to relate to her peers and create a bond with teammates that may have been lacking in the first semester as a result of her injury. The patient also noted more enjoyment and excitement for tennis and academic-related activities. Overall, the patient expressed increased feelings of happiness and inclusion amongst her team and peers.

DISCUSSION

This case is particularly interesting due the high rate of missed diagnoses and the relatively uncommon occurrence of entrapment neuropathies.[3] Due to the infrequency of these injuries, proper diagnosis may often times be difficult or overlooked.[3] The variance of individual anatomy can also play a role in the perplexity of accurate injury recognition. As seen in numerous patients, there is an observed discrepancy in the topographic anatomy of the SPN, which can lead to misdiagnosis of a nerve lesion, or further injury during surgery.[1] For example, nerve entrapment typically occurs near the fibular head, but may also occur in peripheral areas of the lower leg including calf, foot, or ankle.[3] Because of these anatomical fluctuations, clinical presentation or nerve innervation may differ between cases, ultimately complicating the diagnosis of injury.[3]

Many other injuries or complications may also occur from the etiologies or risk factors of SPN entrapment, including fracture, sprain, strain, or, in serious cases, cancer or diabetes.[1,3,4] Therefore, SPN entrapment commonly gets brushed off or merely listed as a differential diagnosis while more common or serious injuries are initially ruled out. Because of this, SPN entrapment may take longer to be properly treated and diagnosed. Therefore, taking a detailed patient history, and identifying common signs, symptoms, and complaints of this condition becomes even more important in the evaluation process. Early recognition and treatment can be critical to quickly returning the patient to pain-free athletic and daily living activities.

In comparison to other cases, this patient had a mild case of nerve entrapment that was able to be managed through conservative treatment including topical medication, compression during activity to limit inflammation, and pain management modalities. Some cases of SPN entrapment are more severe and are unable to be managed with conservative treatment. In those cases, surgical intervention may be required to decompress

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the nerve and relieve lingering neurological symptoms. As reported in a small study of five participants, all five patients experienced immediate relief following surgical decompression of the SPN with only one reporting reoccurring complications.[3] In another larger and more extensive study, 69% of 54 participants reported some improvement of symptoms on quality of life following surgical decompression. Finally, an 85% success rate was reported in another study of surgical SPN decompression. Overall, the success outlook for full recovery and relief for symptoms is favorable for SPN entrapment once a proper diagnosis and adequate treatment is provided.

As with most injuries, several strengths and limitations were presented throughout the duration of this case. The patient was extremely detailed and willing to provide history, background, and a comprehensive description of symptoms or changes throughout the entire evaluation process. She was also very cooperative and patient when dealing with the evolving diagnoses and frustrations of seeing little to no improvements throughout her opening semester. She handled her emotions in a positive manner and continued to put great trust in the medical staff to discover a way to relieve her symptoms and return her back to the sport she loved. The patient also had a desire to improve and participate in team activities any way she was physically able. Overall, she handled very difficult, and sometimes discouraging, circumstances with overwhelming grace and determination. Her ability to communicate and make light of a challenging situation made a large difference in the outcome of her case. On the other hand, some limitations included the initial injury recognition of a stress reaction, ultimately leading to extended diagnosis process. However, the way this case developed and progressed provided the opportunity to tell a story and portray this patient's case in a way that helps to raise awareness of a relatively uncommon condition, as well as show others that patience, perseverance, and a positive outlook can dramatically change an outcome.

CLINICAL BOTTOM LINE

While SPN entrapment is not a frequently recognized condition, having the ability to observe signs, symptoms, risk factors, and etiologies is critical for accurate patient diagnosis. SPN entrapment can present and affect individuals differently, leading to variations of pain severity and activity limitations. Commons signs and symptoms can include burning, numbness, or tingling over the lateral leg and dorsal aspect of the foot with exercise, along with associated night pain and muscle cramps. When accurately diagnosed, the patient may feel long-term symptom relief through a variety of conservative treatment options including padding, rehabilitation therapy, or injections. However, some patients may require surgical intervention for nerve decompression. Because of this, early injury identification and proper treatment can greatly impact a patient's life by returning them to pain free activities. To do this, strong communication is needed within the patient's care team to create an individualized treatment and rehabilitation plan. In this specific case, the patient, along with her athletic trainer, physicians, coaches, and parent, were involved with her condition and collaborated to reach a correct diagnosis. Ultimately, precise injury recognition and sufficient treatment intervention were key factors in allowing this patient to return to life and the sport she loved, pain-free.

PATIENT PERSPECTIVE

"Looking back on my injury, I didn't recognize the toll it had taken on both my mind and body at the time. I obviously felt the pain and discomfort of the injury itself, but I also experienced the pain and feelings of disappointing my coaches and teammates by being physically unable to participate in practices and competitions. I also felt feelings of frustration as time was passing, but my symptoms didn't seem to be improving. Sometimes I started to think my injury may be more psychological than it was physical, and I could make myself better by being tougher or pushing through the pain. My mental health was also affected as I

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started to feel upset and worried about my ability to return from this injury and earn a spot in the line-up. I also started to draw back from friends and remove myself from social situations. Although I experienced a physical injury, the mental toll was just as painful.

However, I continued to stay positive and seek different opinions and options that were able to help me return to tennis pain-free. I am very grateful I continued to search for a diagnosis and treatment to ease my symptoms, rather than just playing through the pain. I am also very thankful for my family, athletic trainer, and physician for helping me to get back to feeling happy and healthy."

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