

PEDIATRICS

Children can benefit from seeing a Canadian Certified Pedorthist whether it is for a custom orthosis, over-the-counter device (OTC) or a footwear evaluation. The following common disorders in children can be affected by poor biomechanics and can result in lower limb and foot problems:

SEVER'S DISEASE (Calcaneal Apophysitis)

Symptoms

- Pain is usually localized to the point where the Achilles tendon inserts into the calcaneus
- Squeezing the sides of the heel bone is often painful
- Running and jumping make the symptoms worse
- In more severe cases, the child may be limping
- Walking on the toes may relieve pain
- Swelling and redness at the site of pain is uncommon

What is it?

Most commonly seen between the ages of 10 to 14 years old, Sever's Disease is a disturbance to the growth plate at the back of the calcaneus where the strong Achilles tendon attaches. It is one of several different osteochondroses, and is also known as calcaneal apophysitis. Sever's Disease is more commonly seen in boys than girls but is possible in both sexes. During adolescence, when the growth of bone is taking place faster than the growth of tendons, there is a relative shortening of the heel cord compared to the leg bones. This results in increased tension of the heel cord at its insertion into the calcaneus. Coupled with an incompletely developed calcaneus, this tension can result in injury to the region. It is often a result of increased activity, repeated minor trauma from sporting activities, an overpronated foot, tight calf muscles and/or increased body mass index.

(Sever's Disease) Pedorthic Treatment

A correct diagnosis from a prescribing physician is extremely important in addition to ongoing management by a healthcare professional such as a Canadian Certified Pedorthist. Sever's Disease symptoms can be treated by reducing activity levels, using ice and consistently wearing appropriate shoes. During inflammation, using a heel lift inside the shoe will help to reduce strain. As a pronated foot is common in children with this problem, a Canadian Certified Pedorthist may recommend the use of over-the-counter devices or custom-made orthoses to reposition the foot and ankle complex (sub-talar joint) to a more neutral position, reducing the tension of the Achilles tendon on the calcaneal apophysis. After the calcaneal apophysitis resolves, it is important to employ preventative measures such as stretching exercises and wearing supportive, shock-absorbing shoes.

OSGOOD'SCHLATTER'S DISEASE

Symptoms

- Pain with contraction of the quadriceps and with direct pressure on tibial tuberosity
- Swelling and tenderness at the tibial tuberosity both during and after exercise
- A lump on the tibial tuberosity may develop due to the inflammation process creating fibrous tissue rather than bone between a partial avulsion and the remaining bone
- Many children first signal the start of the problem by rubbing the top of their "shinbones" with their hands

What is it?

Osgood-Schlatter's disease is probably the most frequent cause of knee pain in children. The condition occurs most commonly in children between the ages of 10 and 15 years old but it can occur in younger children. It is more common in boys but girls are also susceptible to its debilitating effects. This condition refers to a partial avulsion of the tibial tuberosity with no involvement of the tibial physis. This is a condition where the tibial tuberosity becomes inflamed due to pulling of the patellar tendon at its attachment. It is often related to sports requiring extensive running, jumping, kneeling, and squatting.

(Osgood Schlatter's Disease) Pedorthic Treatment

Rest is crucial. Weight-bearing exercise will make it worse. The goal of treatment is to decrease stress at the anterior tibial tubercle, where the patellar tendon attaches. A period of 4 to 8 weeks of restriction from physical activity may be sufficient. With a prescribing physician's recommendation, a Canadian Certified Pedorthist may use an over-the counter device or create a custom-made orthosis to be used to position the foot in a neutral position thereby maintaining balance and leg alignment when walking or running. A Canadian Certified Pedorthist may also recommend appropriate footwear to help maintain the knee in a better position and reduce the stress on the tendon.

JUVENILE RHEUMATOID ARTHRITIS (JRA)

Symptoms

- Persistent joint swelling, pain, and joint contracture/stiffness that typically is worse in the morning or after a nap
- Some children with Juvenile Rheumatoid Arthritis may have growth problems
- Depending on the severity of the disease and the joints involved, growth in affected joints may be too fast or too slow, causing one leg or arm to be longer than the other

What is it?

Juvenile Rheumatoid Arthritis (JRA) is the most prevalent form of juvenile arthritis. It is usually seen in children under the age of 16 years old. JRA is an autoimmune disorder, which means that the body mistakenly identifies some of its own cells and tissues as foreign. The result is inflammation, marked by redness, heat, pain, and swelling in joints. Any joint can be affected but knees and ankles are commonly involved. Inflammation may limit the mobility of affected joints.

Pedorthic Treatment

The main goal of treatment is to preserve a high level of physical and social functioning and to maintain a good quality of life. Major structural changes may occur in time in the midfoot and forefoot due

(JRA) Pedorthic Treatment (continued)

to the combination of chronic synovitis and weight-bearing. With a prescribing physician's recommendation, Canadian Certified Pedorthists may use over-the-counter devices or may create custom made orthoses to maintain the proper foot alignment, decrease pain and lessen long term damage to joints due to abnormal mechanics. For a child with JRA, the goals of orthoses are to redistribute weight evenly under the foot surface and reduce the stress in the joints. The aim of a Canadian Certified Pedorthist will be to maintain comfort by allowing the foot to work as normally as possible. Appropriate footwear may also be recommended to aid in shock absorption and reduce stress to painful joints.

PEDORTHIC POINTERS FOR PATIENTS

For some diseases or injuries affecting children's lower limbs, time and rest are important factors in the recovery process. Some conditions will self-resolve with time as the child grows. During that time, measures that can be taken to help decrease pain until healing occurs include:

- Adding heel lifts to shoes to help lessen the strain on the back of the heel (as in Sever's Disease)
- Ensuring that the foot is in an optimal alignment - and not causing undue rotation of the lower leg nor stress to the tibial tuberosity - can help with Osgood Schlatter's disease
- Accommodating painful joints, by using softer materials in orthoses and selecting appropriate footwear, can be helpful for the child managing Juvenile Rheumatoid Arthritis
- Buying shoes that fit perfectly. It is not a good idea to buy shoes that a child will "grow into." A shoe that is too big allows for a sloppy fit and poor support which may aggravate problems
- Not using hand-me down shoes for children as the wear patterns already created by previous owners will not allow for the best support possible for the child. Canadian Certified Pedorthists may recommend over-the-counter or custom-made products to help relieve pain caused by injury or unusual alignment of the bones of the foot. Footwear is always a key component for anyone dealing with lower limb pain and injury. Your Canadian Certified Pedorthist can help determine an appropriate footwear style and fit for your child's condition. When buying children's shoes it is important to remember to look for the same features as we recommend for adults.