

# **ESWT in Sever's Disease, an Exceptionally Good Indication**

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## **Device and producing company:**

Richard Wolf - Piezoson 100; Storz - Duolith

## **Introduction:**

Calcaneal apophysitis otherwise known as Sever's disease is a painful condition that occurs in the heel bone (calcaneus) in patients generally between the ages of 10 to 15 years of age. Calcaneal apophysitis is a disease of the growth plate of the bone. The basis of treatment is to reduce repetitive trauma from such activities as football, running and jumping. The condition is normally self limiting, and a return to normal activities is usually possible after a period of 2-3 months. In children it is a self-limiting condition that may interfere with walking and physical performance in sports, thus causing concern to the patient and parents. The only variable is how long it will take a given individual to return to normal activity. In very few cases, the child will have to be removed from all sporting activities due to the level of pain and loss of function. For talented young football players or athletes with hopes for a professional career in sport, ceasing activity can be disastrous. The purpose of this study was to determine the safety and efficacy of ESWT for Sever's disease.

## **Methods:**

We studied 9 young patients (high level athletes) with Sever's disease who had no resolution after common treatments and reducing activity for 2 months. In 7 boys and 1 girl ranging in age from 11 to 14 years, lateral radiographs of the heel were taken before and 1 month after the treatment. The radiographic aspect of the secondary nucleus of the calcaneus in children with heel pain remains controversial. The recent studies stated that the fragmentation of the calcaneal secondary nucleus was the most typical finding and also showed the disappearance of the areas of disintegration after treatment of the apophysitis. The patients were treated with 3 sessions of low energy SWT (1,000 shocks, 0.15 mJ/mm<sup>2</sup>) on the areas of x-ray disintegration (only if corresponding to the pain point).

## **Results:**

One month after the first session of ESWT all patients' lateral radiographs of the heel showed the complete disappearance of the areas of disintegration of the secondary nucleus of the calcaneus. Correlated with the complete decrease of pain and a return to normal activities.

## **Discussion:**

What treatment options are available? Sometimes, the passage of time may be all that is needed. It takes one to two years for the bone growth plates that make up the back of the heel to grow together and form one solid bone. At this point, pain and symptoms usually go away completely. In some cases of Sever's syndrome, the patient may need to stop sports activities for a short period. This brings the pain and inflammation under control.

Typically patients do not need to avoid sports for a long period of time. The study shows ESWT positively affects the growth plate, but must be reserved for severe cases.

## **Conclusion:**

ESWT is an effective treatment for Sever's disease, but the usually good prognosis of this disease indicates that ESWT must be reserved for exceptional and expert indications only.