Dr Pagliazzi interview

Thanks for talking to us today about the treatment of flat feet in Children and your experience with LSM MED's RSB calcaneo stop.

How long have you been treating children with flat feet?

I operated the first children in 1988.

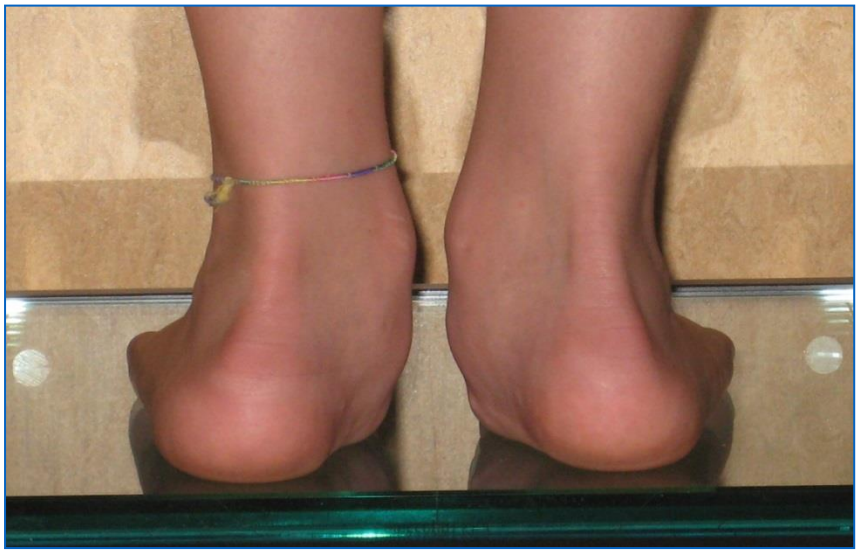
Flat feet occur in a lot of children do you surgically treat them all?

No, most babies are born with flat feet and, as they grow, the arch of the foot develops properly. At the age of 15 only the 15% of the children have flat feet, and not all of them require surgical treatment.

How do you identify these Patients requiring surgical intervention?

Surgical treatment is recommended in the case of functional flat foot and not in case of morphological flat foot. Functional flat foot is diagnosed by clinical evaluation which consists of observing normal gait, including toe and heel walking, lateral foot margin walking and single-legged standing.

Observing the gait of children with functional flat foot, the gait cycle is prolonged, with a longer stance phase and a weak swing.
While in normal gait the foot constantly passes from pronation to supination, in the case of **true functional** flat foot, under load, the foot remains in prevalent or persistent pronation, with consequent constant distension and lack of adequate relaxation of the medial capsule-ligament structures. The clinical evaluation of functional flat foot continues with observation of the static foot from behind to verify the presence of calcaneus valgus, which is the hallmark of pronation of the sub-astragalic joint, the real case of flat foot.



The next step in the evaluation is therefore to check whether the calcaneus valgus is significantly less evident when the patient stands on tiptoe (Tiptoe Test). The Jack's test (the hallux's test) is finally done to verify the reducibility of the calcaneus valgus.

An important parameter for surgical treatment is also patient's age: surgical treatment is in fact usually carried out from the age of 9, below this age, it is always advisable to first try to correct flat foot with personalized physiotherapy treatment that we usually suggest also as preparation to the surgery.

Has your surgical treatment of this condition changed over the years you have been treating them?

Yes, from 1987 to 2000 I used the sinotarsal endorthesis from Prof. Giannini; this screw is placed at the beginning of the tarsal canal and is not resorbable. In 2011 I started using the same screw but resorbable obtaining good outcomes. In 2012 I switched to the resorbable RSB calcaneo stop screw, produced by the company LSM-Med.

What made you make this change?

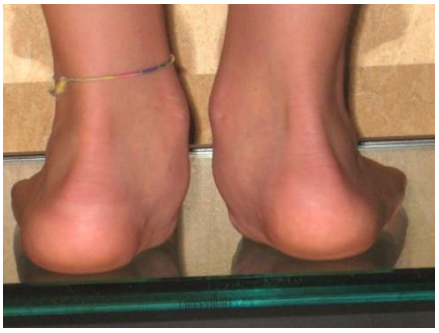
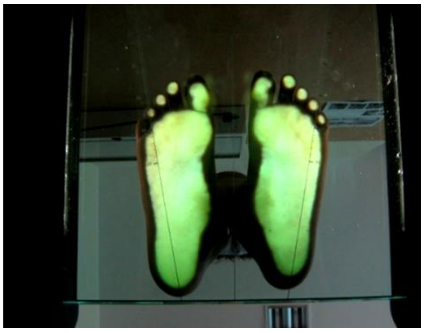
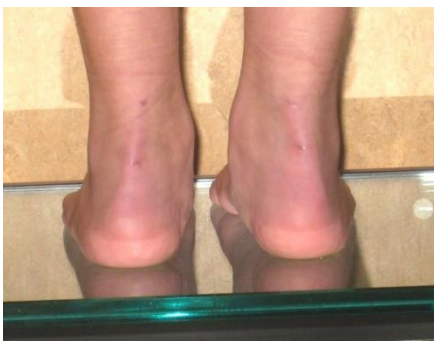
The positioning of the sinotarsal endorthesis may affect the proprioceptors receptors and the articular ligaments, because of its endosinotarsal location, and has risks of dislocation especially in overweight patients. Since the RSB calcaneo stop screw is screwed into the heel, it does not interfere with the sinotarsal structures (proprioceptors and interosseous ligament) and does not move if correctly implanted. It is resorbable too so further removal is not required.

How long have you been using the LSM MED RSB calcaneo stop?

I performed 1421 implanted from Oct 2012 to Oct 2022

What sort of results/ Issues have you had with this product?

We obtained excellent clinical results with restoration of the correct gait, restoration of the plantar arch and correction of calcaneus valgus, as can be seen in this example (Fig. 2).


In this series 99.1% of the surgeries were bilateral and we never encountered implant breakages; only in 0.1% of cases we had to remove the screw due to intolerance to the device. Sometimes, 2-3 years after the operation, modest pain and swelling at the sinotarsal level occurred: these symptoms

were mostly transient as they were linked to irritation phenomena during the phase of fragmentation and resorption of the screw. Only in 0.6% of cases we performed surgical curettage of the implant site.

I recently read a paper showing the number of operations for flat feet is increasing in Italy why do you think this is? (paper is Trends in Hospitalization for pediatric flat foot)

In Italy and some other countries such as Spain and Germany, we have always surgically treated more flat feet than in other countries. I think that the lack of treatment in childhood could lead to walking problems in the adulthood. Moreover, while in childhood the correction of flat foot can be performed with a minimally invasive surgery, in adulthood, the surgical options are more invasive and complex. In the last years I have also begun to extend surgical indication to young adult flatfoot as well, mostly in association with percutaneous Achilles tendon lengthening.

I believe that accurate identification of the patients requiring surgery is absolutely necessary. The calcaneo stop surgery with RSB resorbable screw is minimally invasive, simple procedure with quick recovery of normal activities.

Dr Pagliazzi is an orthopedic surgeon graduated in 1977 at the University of Florence, specialized in Orthopedics and Traumatology in 1980 and in Physical Therapy and Rehabilitation in 1983. Since the first years of activity he has been involved in Pediatric Orthopaedics and in particular in the treatment of flat foot.