

Flat Feet

Do we need to treat ?

At the end of 20th Century

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Defention

1- Reduced med longitudinal arch → the sole of the foot rests flat on the ground

2- Valgus Heel



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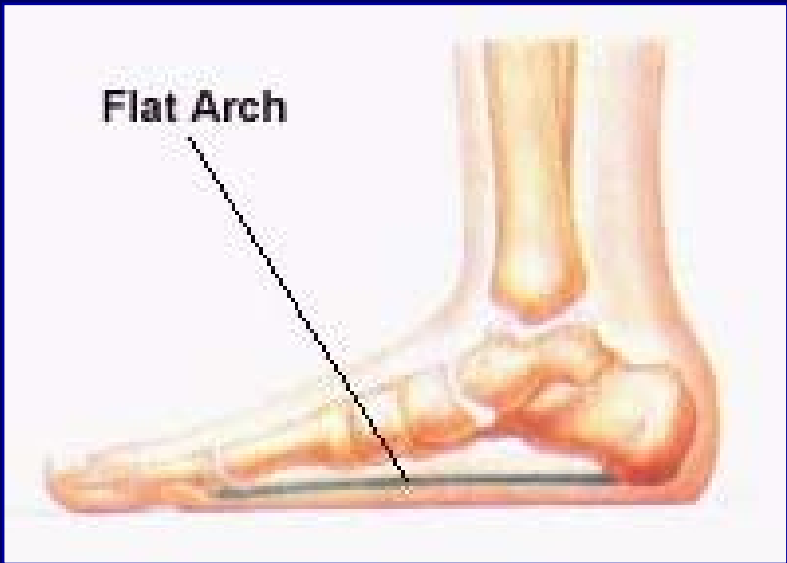
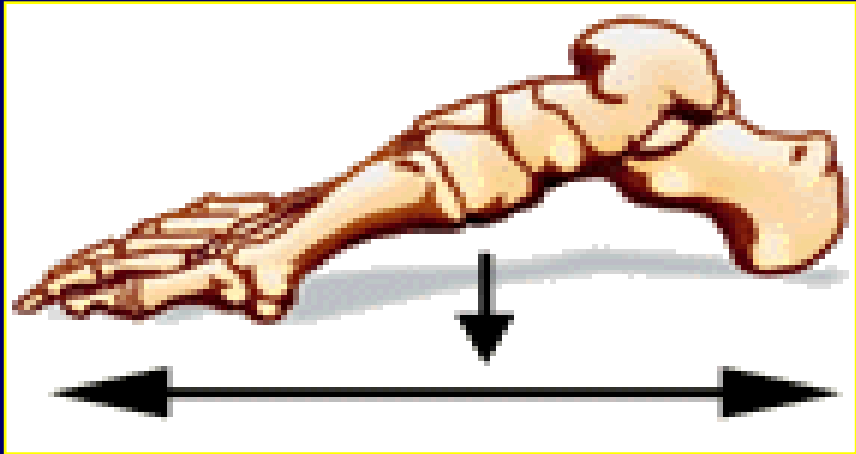
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Theories of arch maintenance

1- Plantar fascia

prevents collapse of arch on loading

2- Interposition of the bony building blocks → Strength of arch



History of flat feet

The arch viewed as a vital feature of the normal foot

Camper, 1781

Old writings

Fallen arch , a concept with a sinister or evil connotation

Roem ,Arch Ped,1933

Old false believes

Early standing & walking → F.Feet

Walking bare feet → F.Feet

**The arch needs to be supported
with stiff shoes & wedges or foot
plates.**

Cole.Med World,1908

In late 1930s in USA

The advertisements & literatures went to extremes that Feet problems could cause

1-Headache

2-Poor vision

3-Sciatica

4-Abdominal & pelvic disorders

5-Mental troubles 6-Sterility ...etc

The end results

→ Millions of children

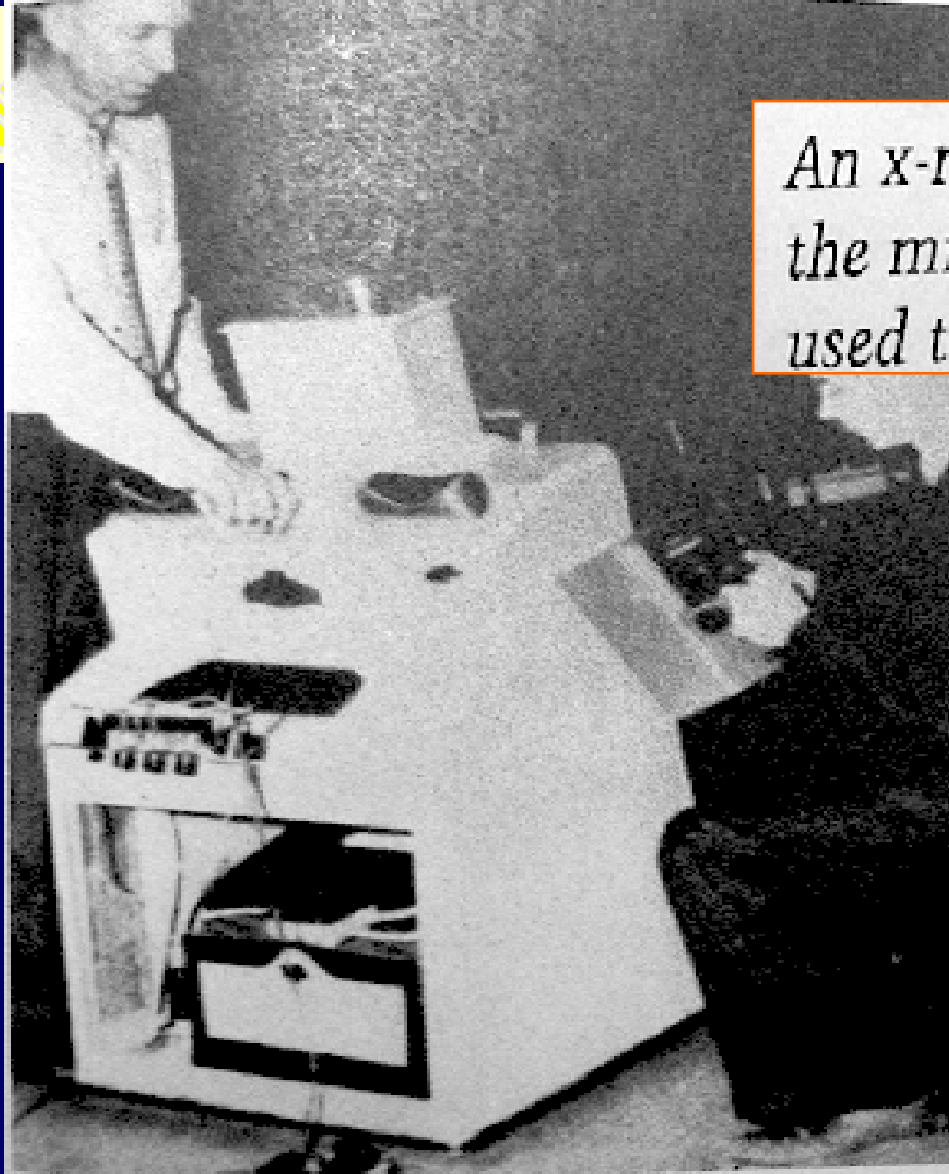
1-Thomas heel

2-Scaphoid pads

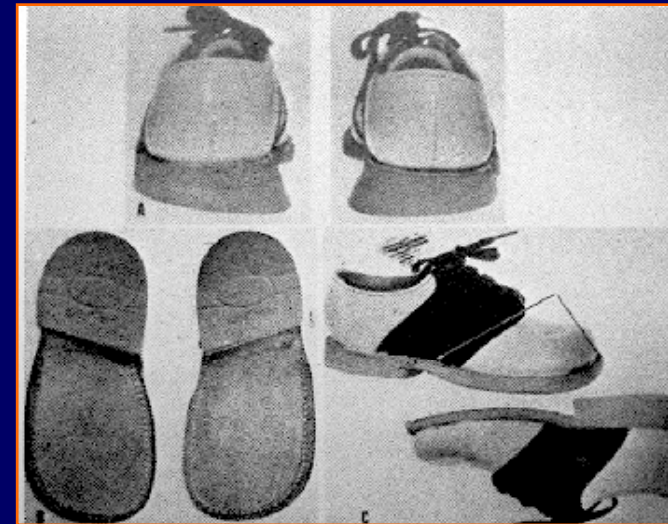
3-Heel cups

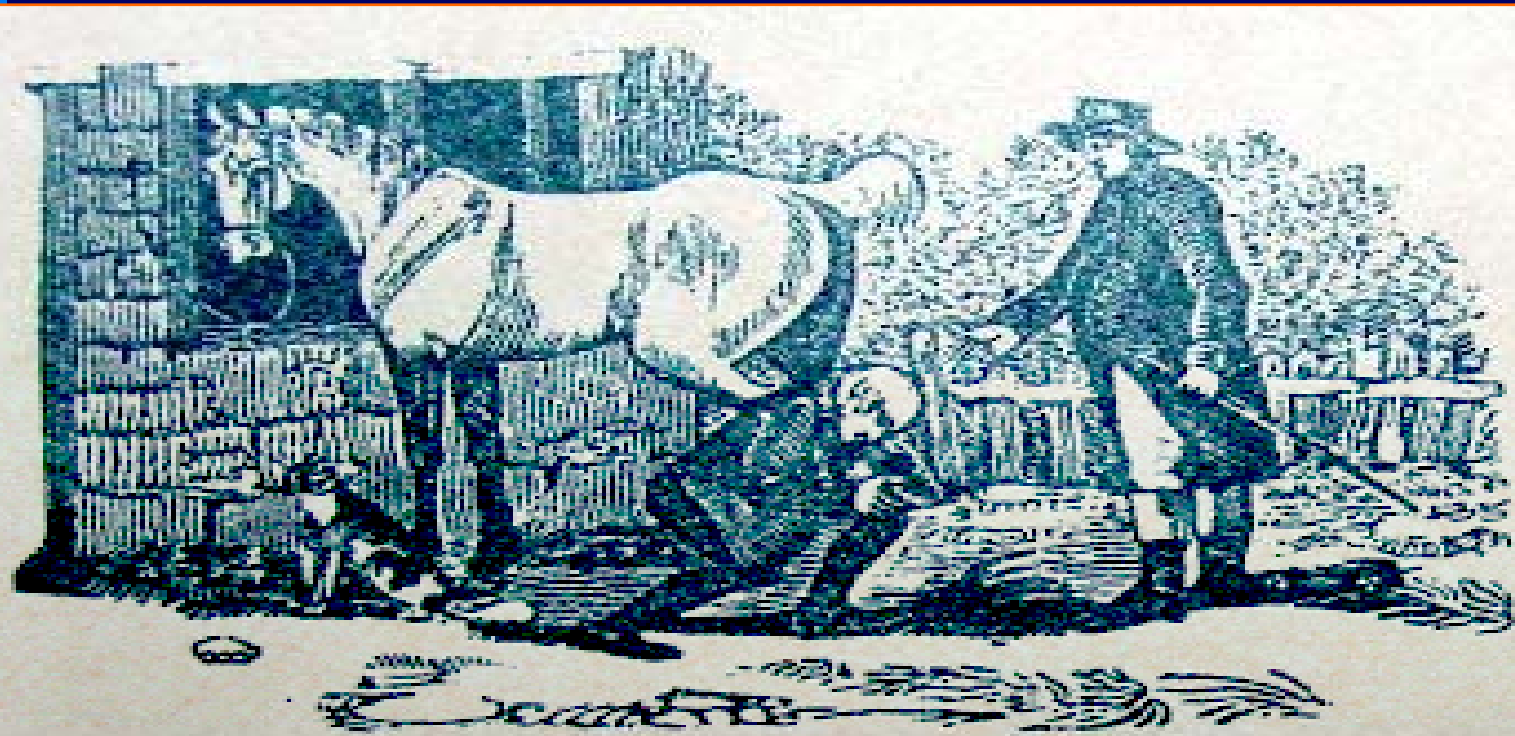
4-Special shoes

5-Special inserts



An x-ray machine in a shoe store in the mid 1940s. Such machines were used to assure correct shoe fit.





“Corrective shoes used to be used for children and horses. It was easier to be sure that the horse would not take them off.”

Reverse effects on recruitment during War W I I



Canadian Government study during War World II

Simple hyper mobile flat foot was normal variation and not a cause for any disability. (14%)

Harris & Beath JBJS-A, 1948

295 Military recruits

- * Less stress injuries with low arch.**
- * High arch causes more stress inj.**
- * Low arch better than high arch for military recruits.**

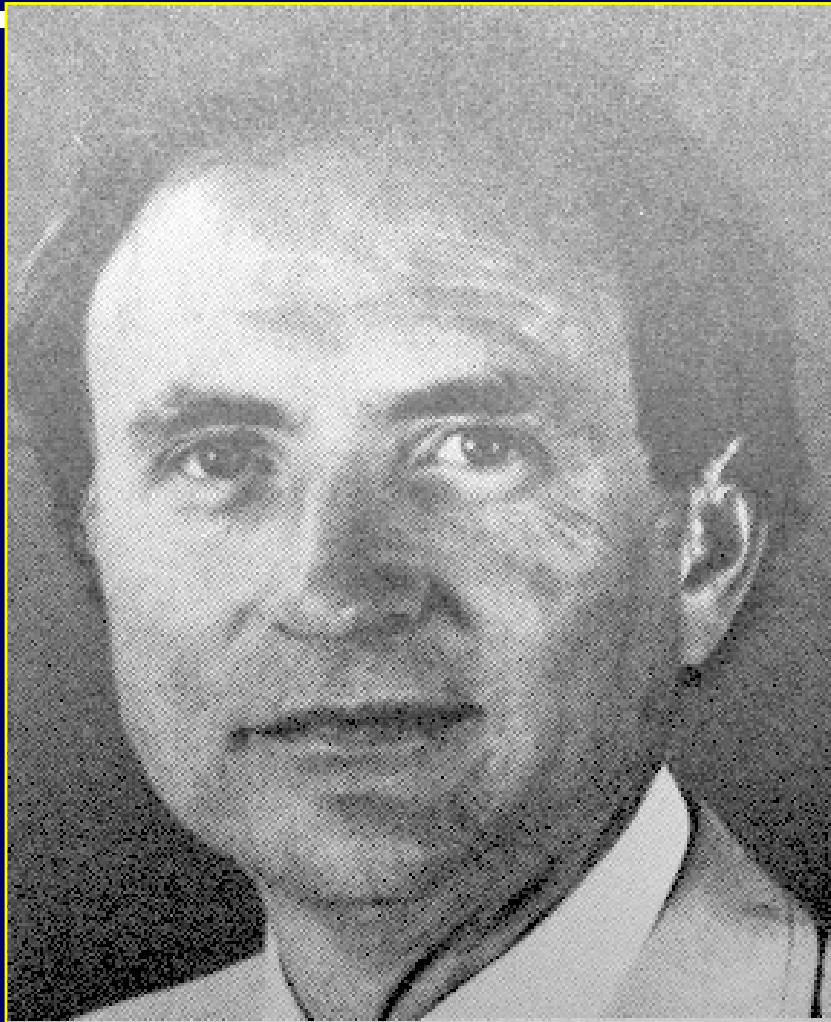
Giladi etal, Orthop Rev 1985.

Non-shoe wearing & shoe wearing Chinese

Barefoot children

- = had fewer deformities
- = stronger feet
- = few disabilities
- = less flat feet

Sim-Fook et al, JBJS-A, 1958



Lynn T. Staheli

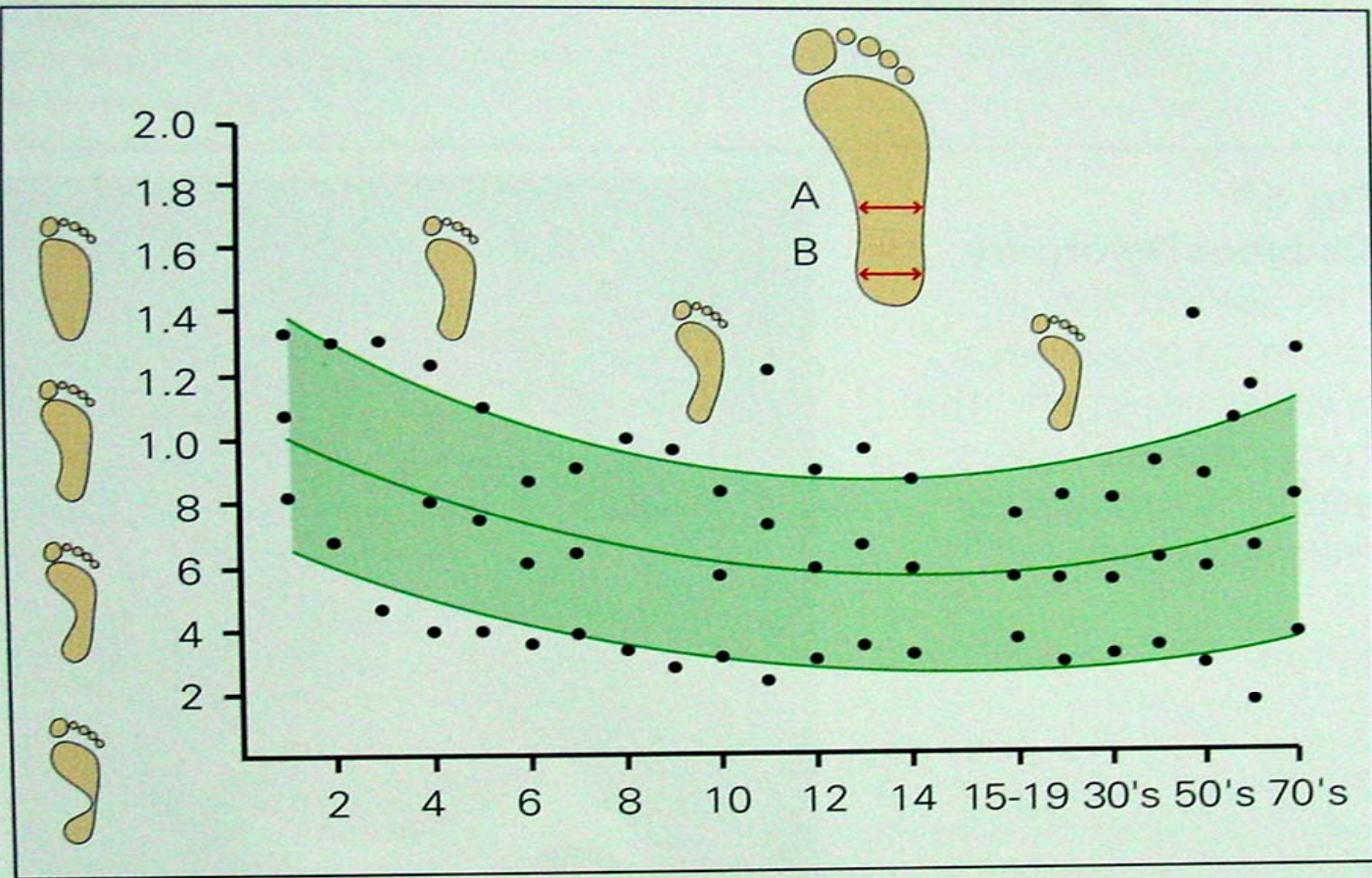


Fig. 5.3 Arch Development. The longitudinal arch develops with growth childhood. Note the wide range of normal. Flatfeet fall within the normal range. From Staheli, 1987

**All infants , most children &
some adults have flat feet.
= By age 10, most children have
developed normally arched foot.**

Morley, BMJ, 1957

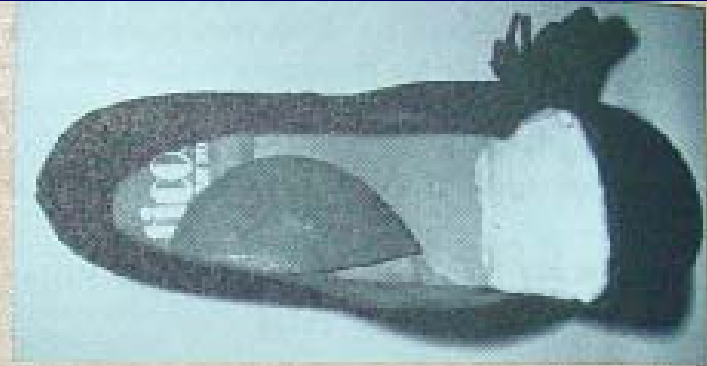
Schilling, Z Orthop, 1985

Staheli etal, JBJS-A, 1987

“If children who are *flatfooted* would walk on their hands, they would be called flat handed” Dr. Robert

This is due to the fact that the mls that supports the arch has not fully developed yet.

There is also a considerable amount of baby fat .



Prospective controlled study

Four Treatment Groups in Prospective Randomized Trial

1. Regular shoe (control)
2. Corrective shoe
3. Helfet heel cup
4. UCBL insert

Prospective controlled study

130 child divided into 4 groups

Age: 1-6 years

Clinical exam. each 3M

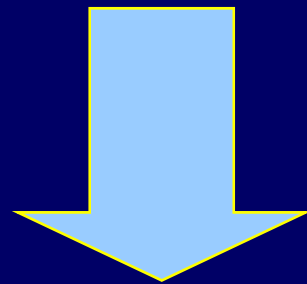
Standing X-ray each 6M

Follow up → 4-5 years

Wegner etal, JBJS-A, 1989

End Results

The arch improved in each group depending on clinical & X-ray parameters



Simple flexible flat foot is a benign condition

الأهدية الطبية واحدة من اختصاصنا

نقدم الفحص مجاناً

سيداتي... تأكدي من اقدم طفلك منذ

بداية المشي وانه لا يعاني

من تبسط القدم «الفحص مجاني»



CLASSIFICATION

Flexible

1-Pseudo flat Foot in infants

→fat in the sole

2-Developmental in children

- Weak muscles
- Excessive body weight

3-Ligamentous In Adolescent & adult

- Weak ligaments
- Congenital ligamentous laxity

P.F to Flexible flat feet

Hereditary (Familial)



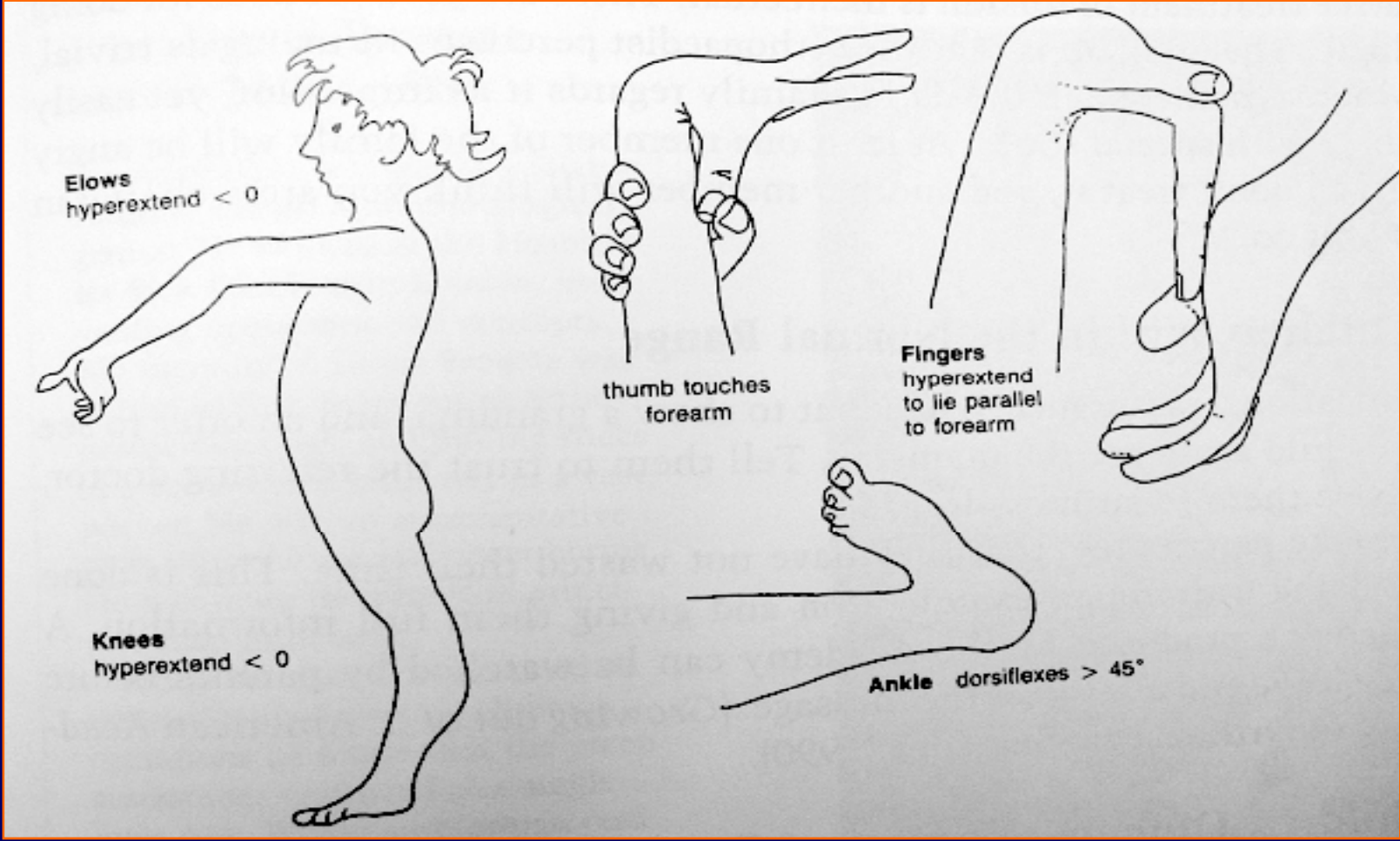
Genu valgum.



Limb torsion.



Generalized laxity.



Over weight.



Pathological flat feet

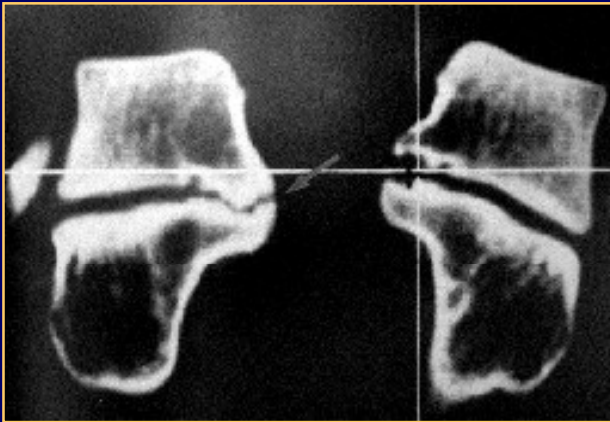
1-Congenital

= Painless → CVT.



= Painful

A-Tarsal coalition.
(peroneal spasmodic flat feet.)



B-Accessory navicular bone



2-Neuromuscular

= Tight T.A.

= Paralytic

(Polio, C.P, Spina B. Muscle dis)



Proper evaluation

Establish the correct diagnosis.



HISTORY

- 1- Cosmetic appearance,
- 2- Uneven wear of shoes,
- 3- Pain,
- 4- Grandmother or father.

EXAMINATION



Excess subcut. fat

Is it rigid or flexible?

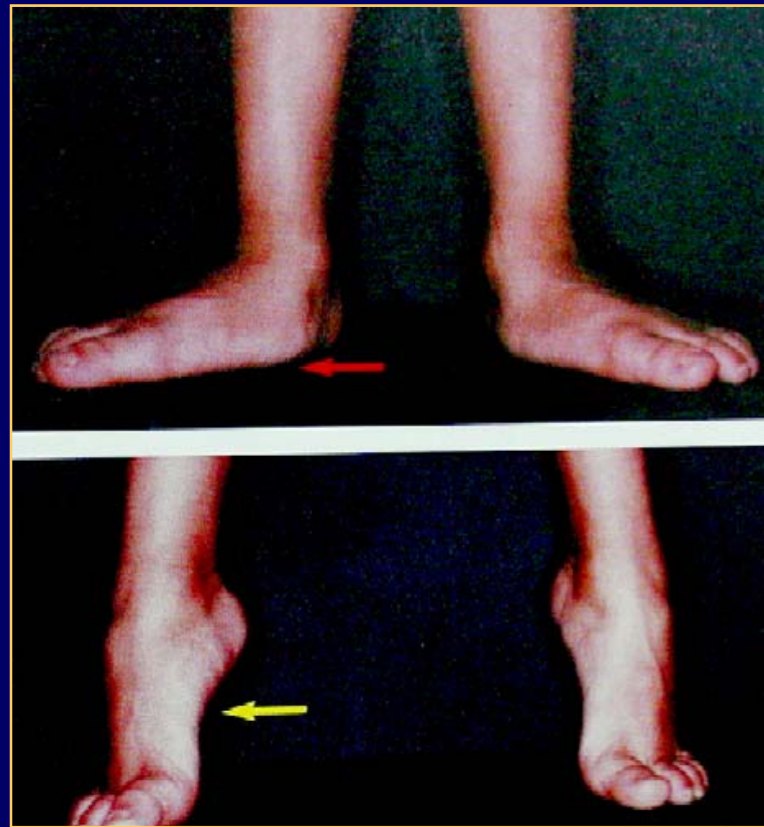
If flexible

Ankle, subtalar and midtarsal joints flexible

1- Jack test:



2- Standing on tip toes Heel valgus → Varus





- = Test Achilles tendon
- = Neurological examination
- = Signs of hyper laxity

INVESTIGATIONS

(not necessary for young children)

Only for Adolescents & adults

- Standing AP and lateral
- MR scan !!!
- Oblique films/CT scan looking for Tarsal coalition

**Our initial observations
(Oct.1999---March 2003)**

164 Child → 324 feet

Age: 10M - 14 Years

M:F 1:1.3

**151 (302feet) flexible →
Physiological (93.2%)
13 (22feet) → pathological (6.8%)**

Pathological feet

Cong. Vertical Talus	03
Tarsal coalition	05
Neuromuscular	08
Accessory navicular	04
Tight tendoachilis	02

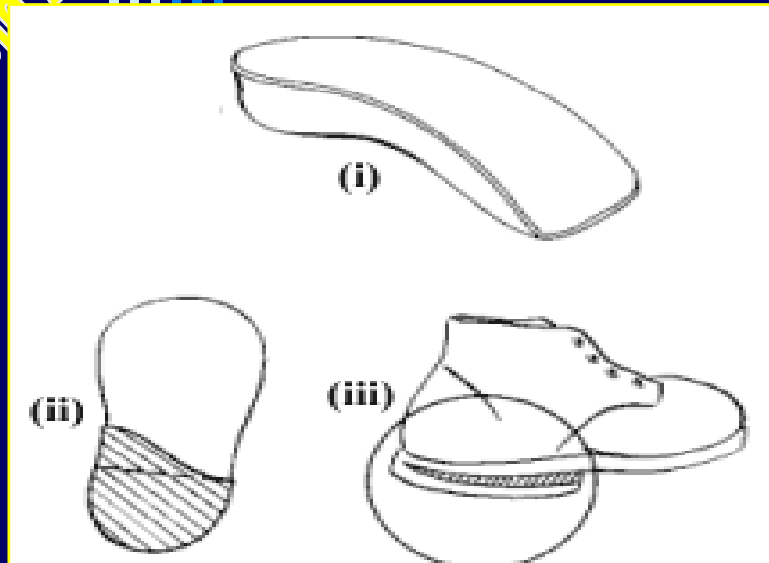
Historical treatment

164 Child

32 came with corrective shoes (19.5%)

76 asked for corrective shoes (46.3%)

Historical treatment



TREATMENT

Physiological flat foot



Reassurance

Only if genuine medial foot pain or severe wear of shoes → medial arch support / heel cups.

This will not improve the arch.

Arch height and lower limb pain: an adult civilian study

- + 99 adults ,male and female
- + All had flexible flat feet
- + physically active grocery-store employees
- + No relationship was found between arch configuration and pain scores.

Staheli. Etal, F Ankle Int. 2002



Don't prescribe

- * Orthosis
- * Exercises.
- * Inserts
- * Special Shoes

Disadvantages of Corrective Shoes

- * **Not effective → Unnecessary**
- * **Expensive**
- * **Uncomfortable for the child**
- * **Frustrate the Parents & cause tension in the family**



Don't forget

- **14% of children never develops an arch.**
- **Flat feet do not hinder athletic activity.**
- **Many outstanding athletes have flatfeet.**

Conclusion

- * Shoes will never correct any type of flat feet
- * Effective R/ of Parents.
- * Correct diagnosis (flexible ----- rigid)

Special shoes or inserts only
for abnormal children
e.g Neuromuscular diseases

Would you allow your children
to wear shoes for their flat feet?

Normal child needs this shoes



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