Clubfoot and the Ponseti's method :

Preliminary results of 80 feet after starting of walking

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Materials et methods

- Prospective study started in april 99
  - Current cohort 151 feet / 103 children
- Criteria :
  - idiopathic clubfoot
  - no previous treatment
  - treated during the neonatal period
  - with Ponseti's technique
- Database Access
- To date of abstract : 57 patients (80 Clubfeet) walk (follow-up 12 to 34 months)

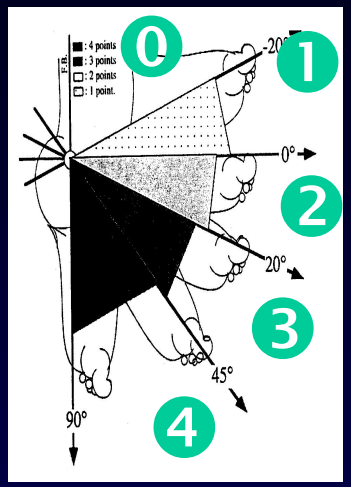
Evaluation with Diméglio and Bensahel Classification

Initial Score / 20

- Reducibility score

	-20°	0°	20°	45°
VARUS	0	1	2	3	4
EQUINUS	0	1	2	3	4
ENDORATION CFB	0	1	2	3	4
ADDUCTION	0	1	2	3	4

Sum of 16 Pts



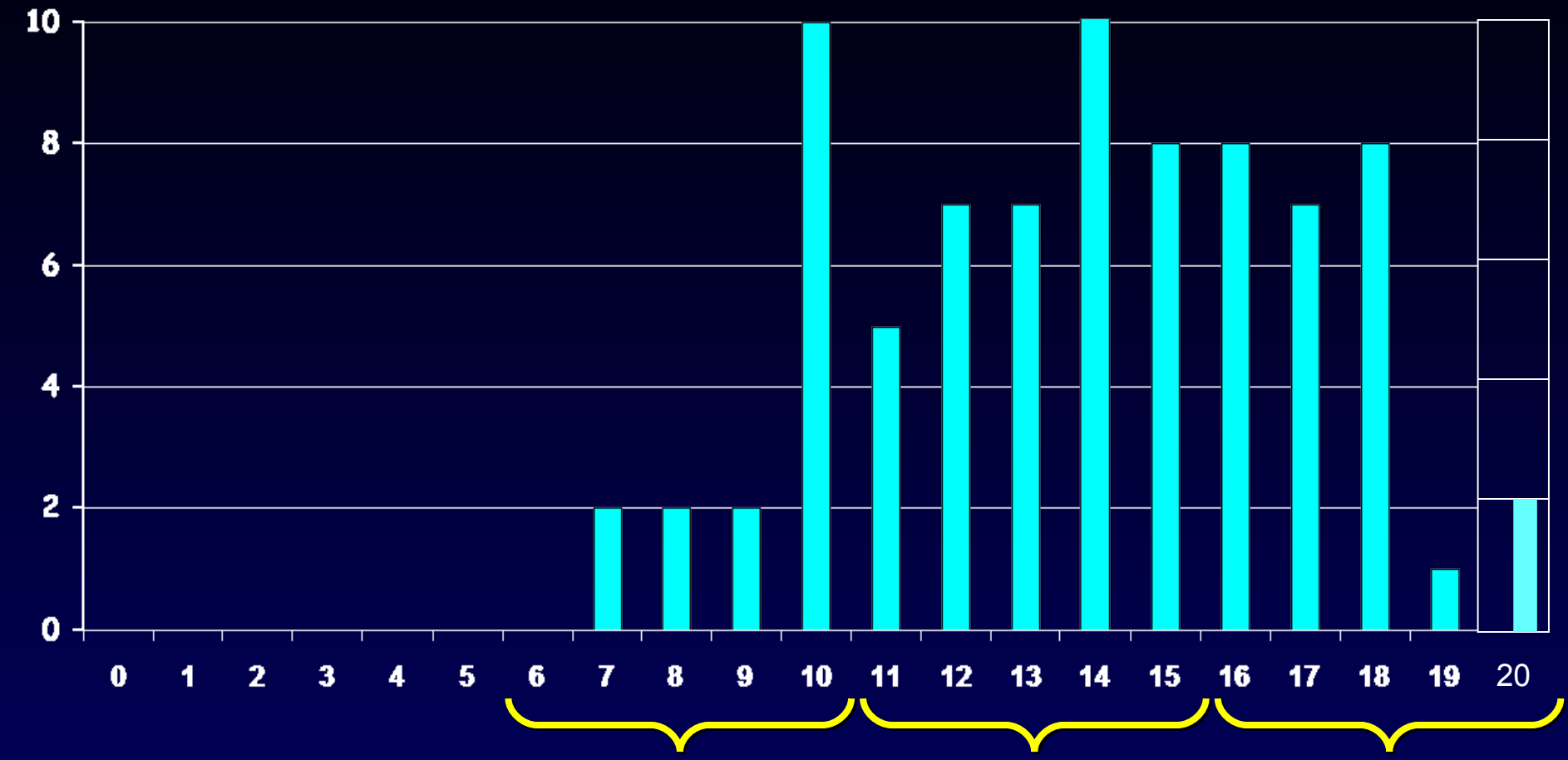
- Criteria of severity :
  - Posterior creese
  - Medial creese
  - cavus
  - Poor muscle condition

Sum of 4 Pts

Final Score / 50

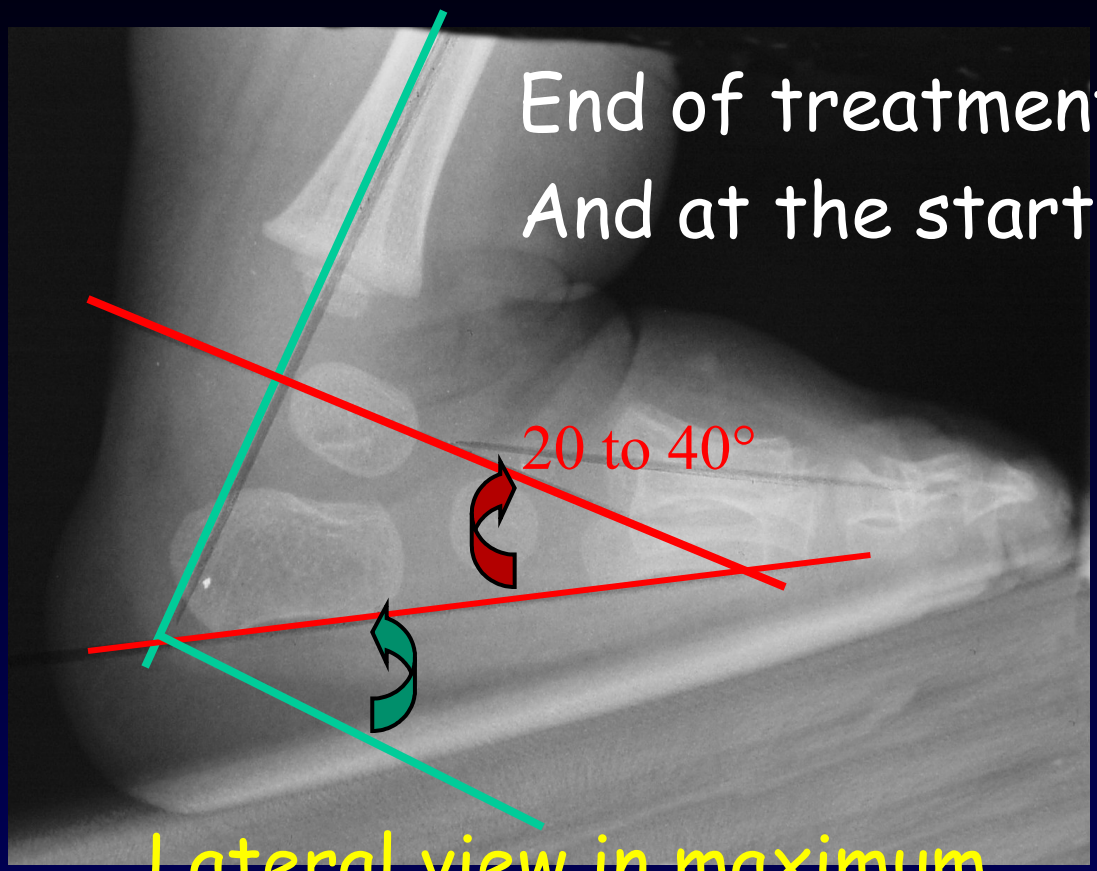
- Functional score / 28 Pts
- Morphological score / 12 Pts
- Radiological score / 10 Pts

Initial distribution (n= 80)



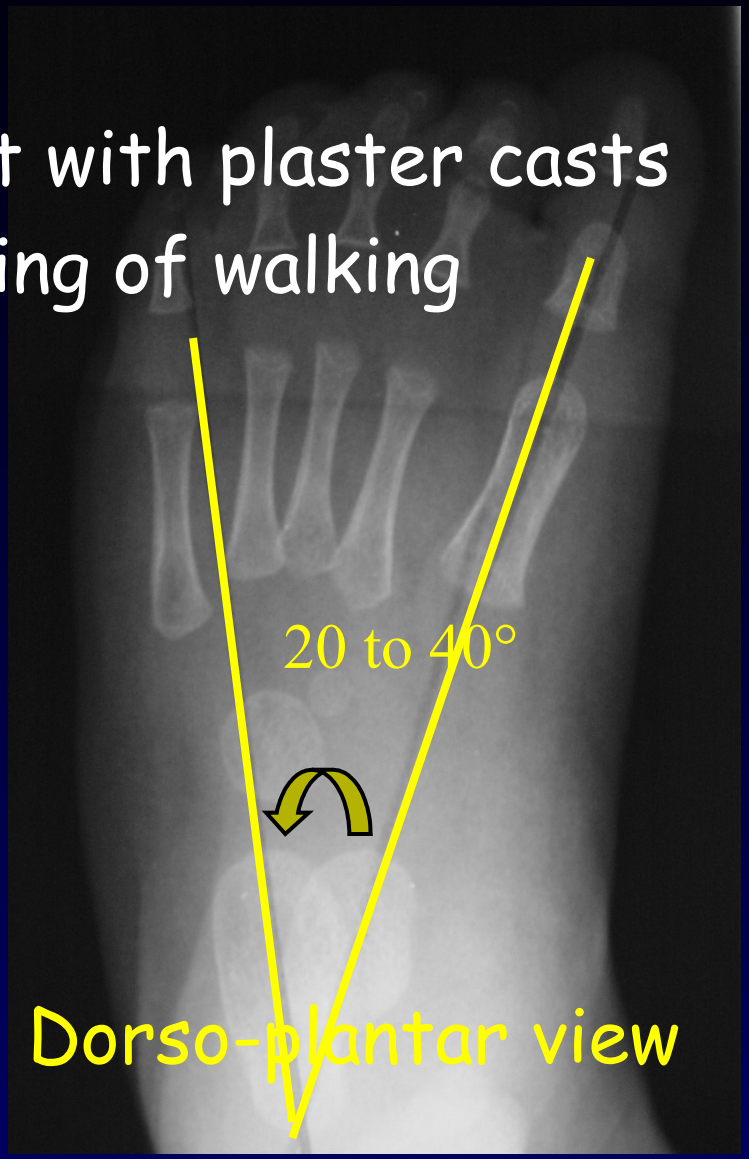
16 Soft >Stiff **37** Stiff >Soft **27** Stiff=Stiff

Radiological evaluation



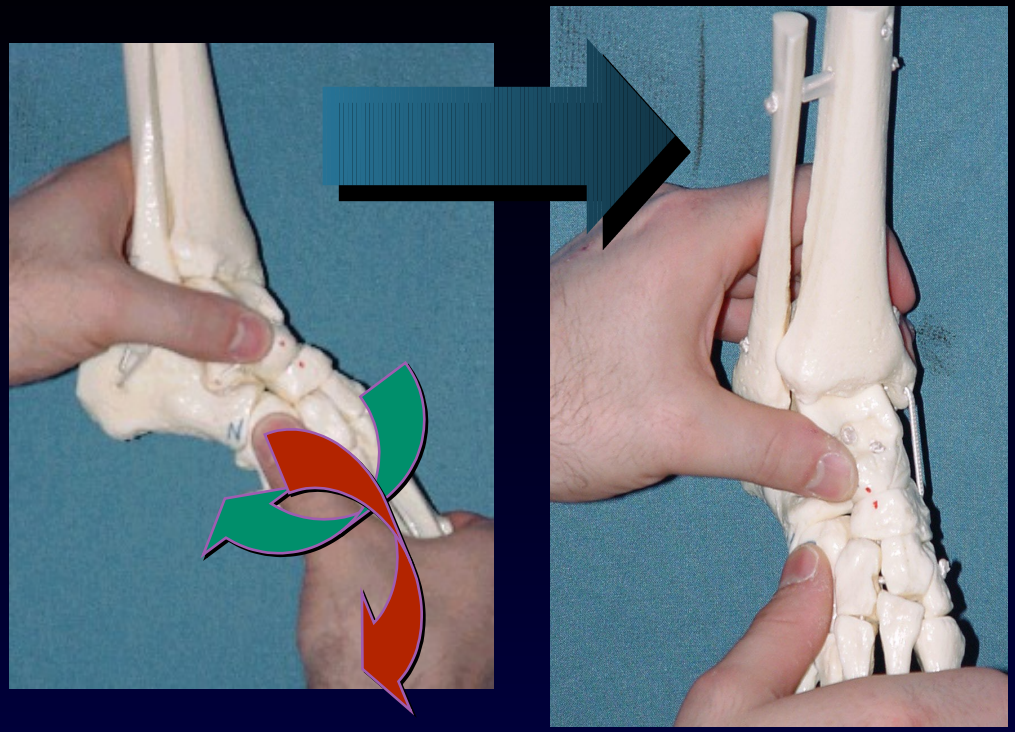
Lateral view in maximum dorsal flexion

End of treatment with plaster casts
And at the starting of walking

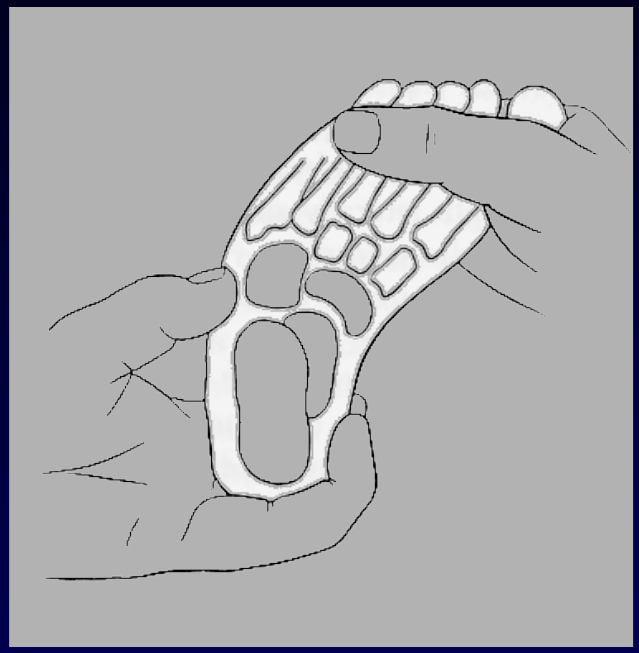


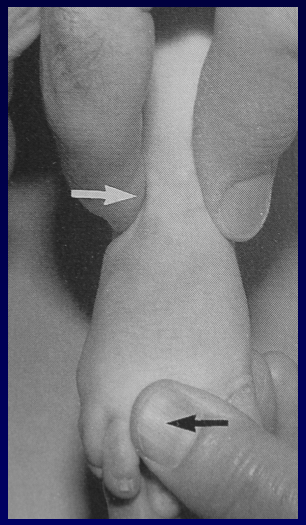
Dorso-plantar view

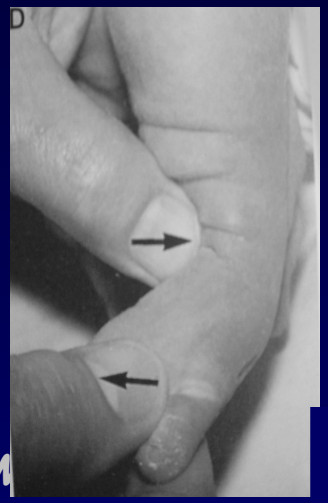


"Kite's error "







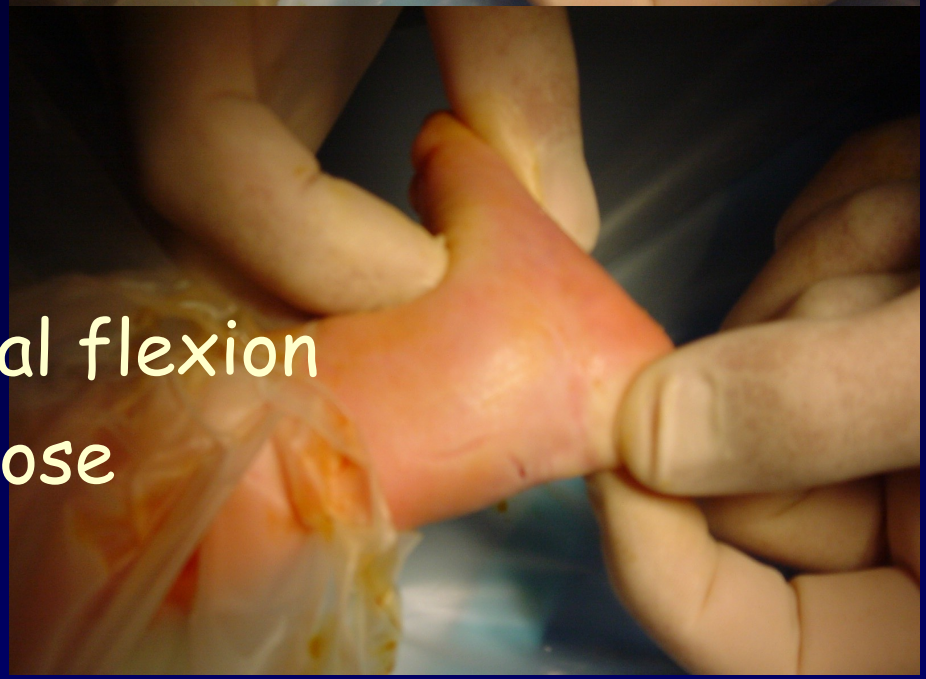
Subcutaneous Achilles tenotomy

Horizontal and total

Under G.A. or L.A.

- Increase of dorsal flexion
- Calcaneus very loose

After 5 plaster cast



Splint type Denis Browne

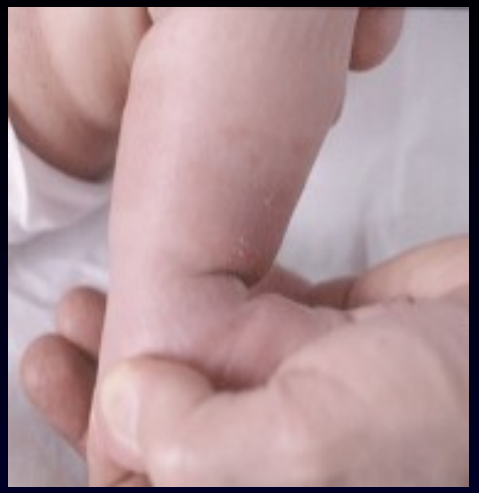
Full time 4 months

Night => 3 years

Position

- Abduction 60-70 °
- Dorsal flexion 10 °
- Without pronation

Physiotherapy



Randomized :

- 2 sessions or more weekly
- Or no physiotherapy

=> No significative difference

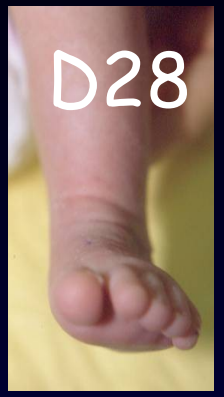
Results

Birth
14/20
Stiff-Soft

After first cast

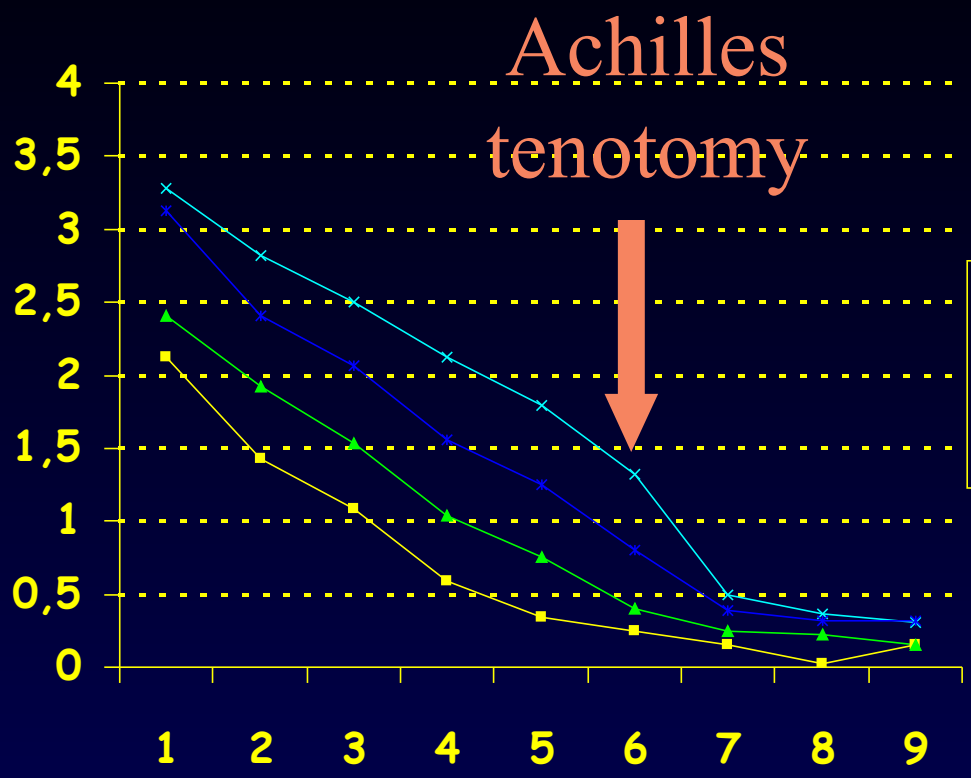
After 2nd cast

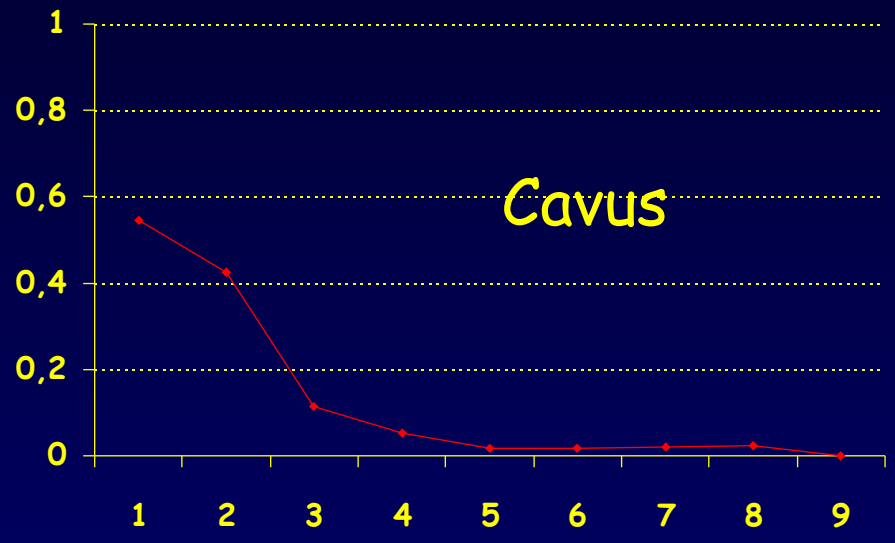
After 3rd cast



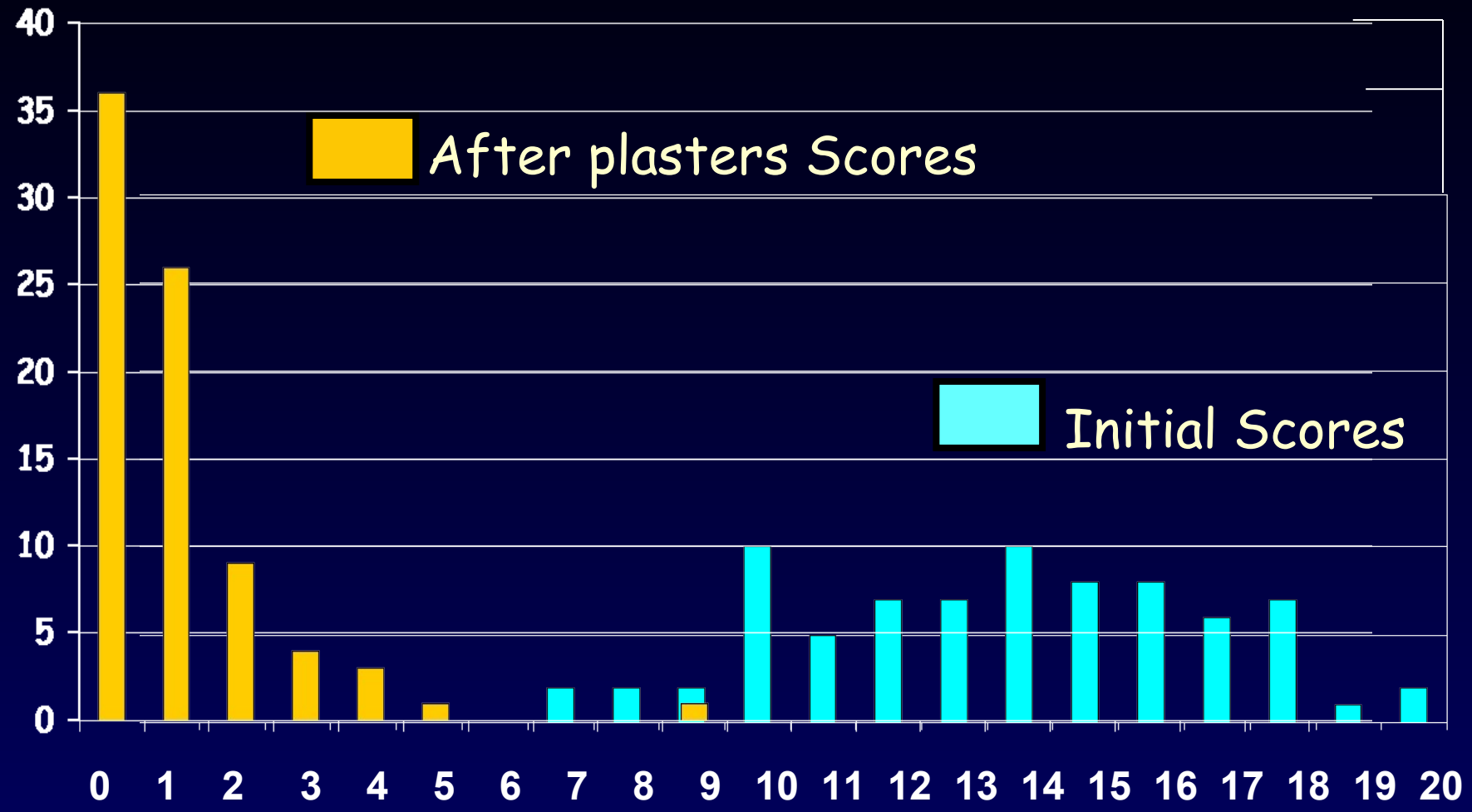
After 4th cast

Score evaluation after each cast





Results at the end of plaster cast (2 months)



Clinical Results at 2 months

- 9 in 80 feet : incomplete correction (score more than 2 out of 20) :

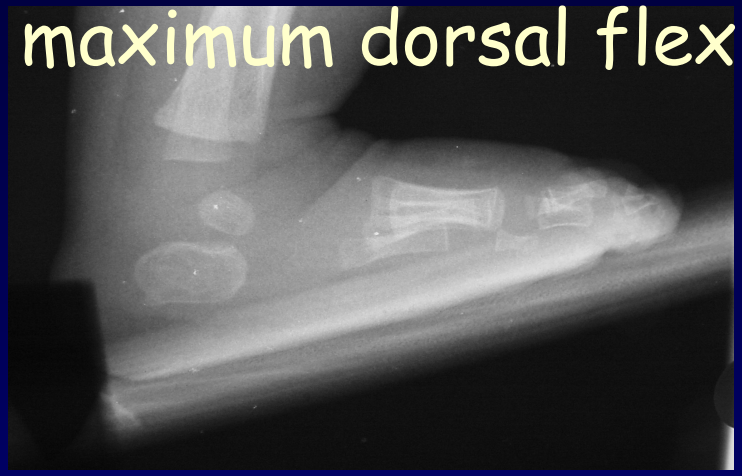
  - 9 in the first 30 treated feet
  - 0 in the last others feet
  - Learning curve ?

- 71 of 80 complete correction

Radiological results at 2 months

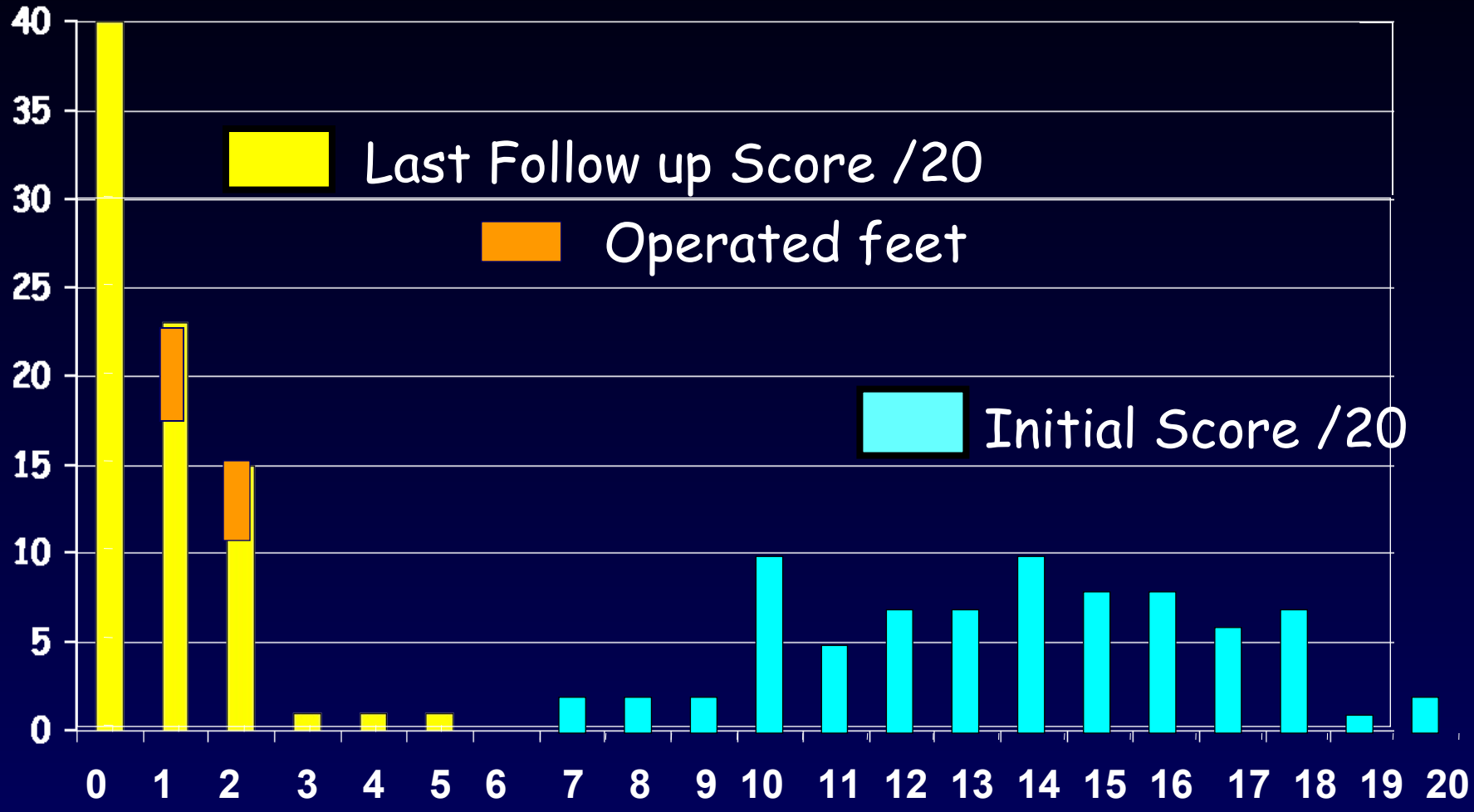
- Talocalcaneal divergence on AP view : 20°
- Talocalcaneal divergence on LL view : 30,7°
- Tibial-calcaneal angle : 21,9°

(x-ray in maximum dorsal flexion)



Results at the last follow up :

(average 20 months)



Clinical results at the last follow up

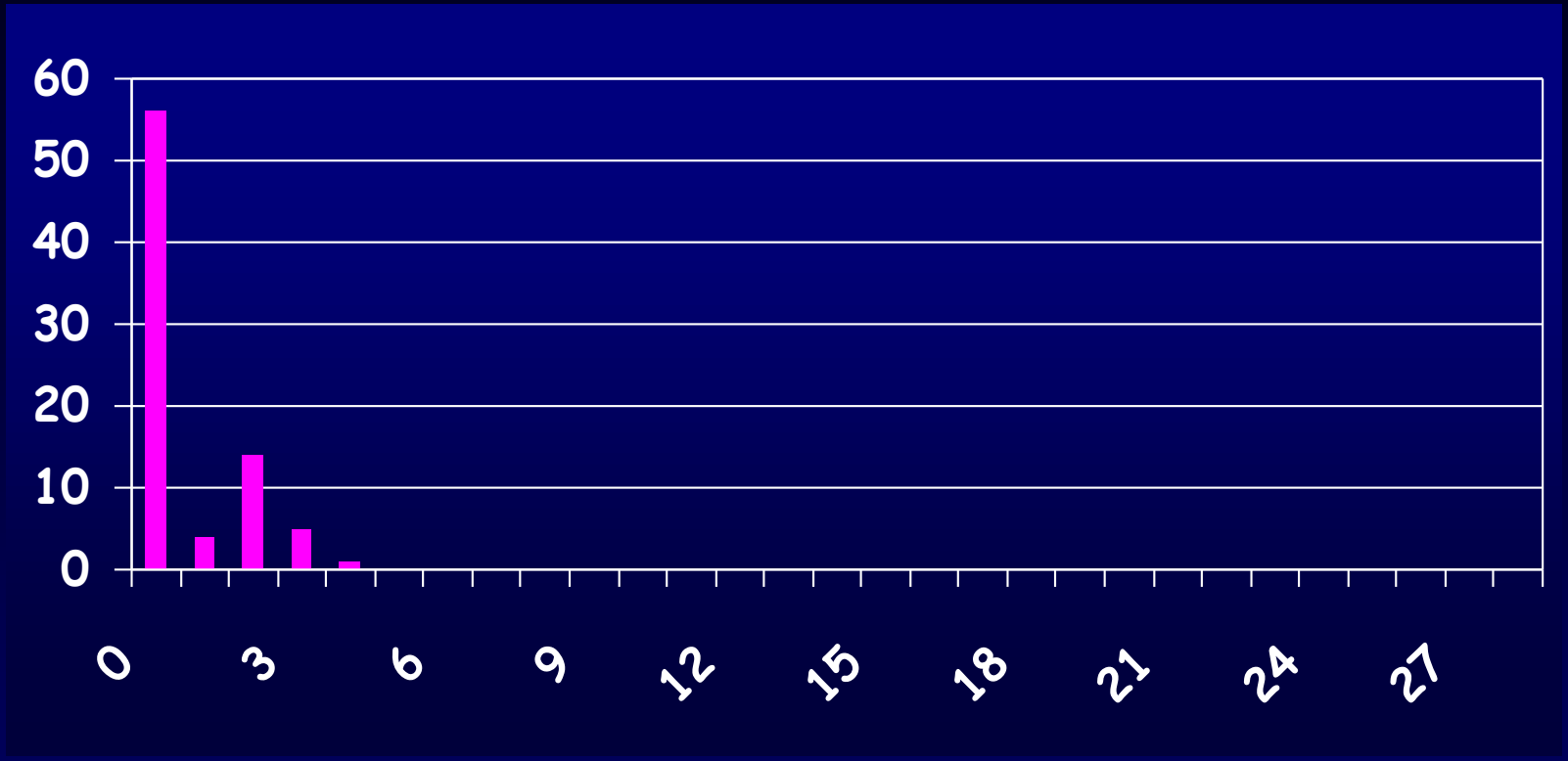
Of 80 feet, 54 feet scored 0 or 1 out of 20

14 scored 2/20

85% of good and very good results without surgery

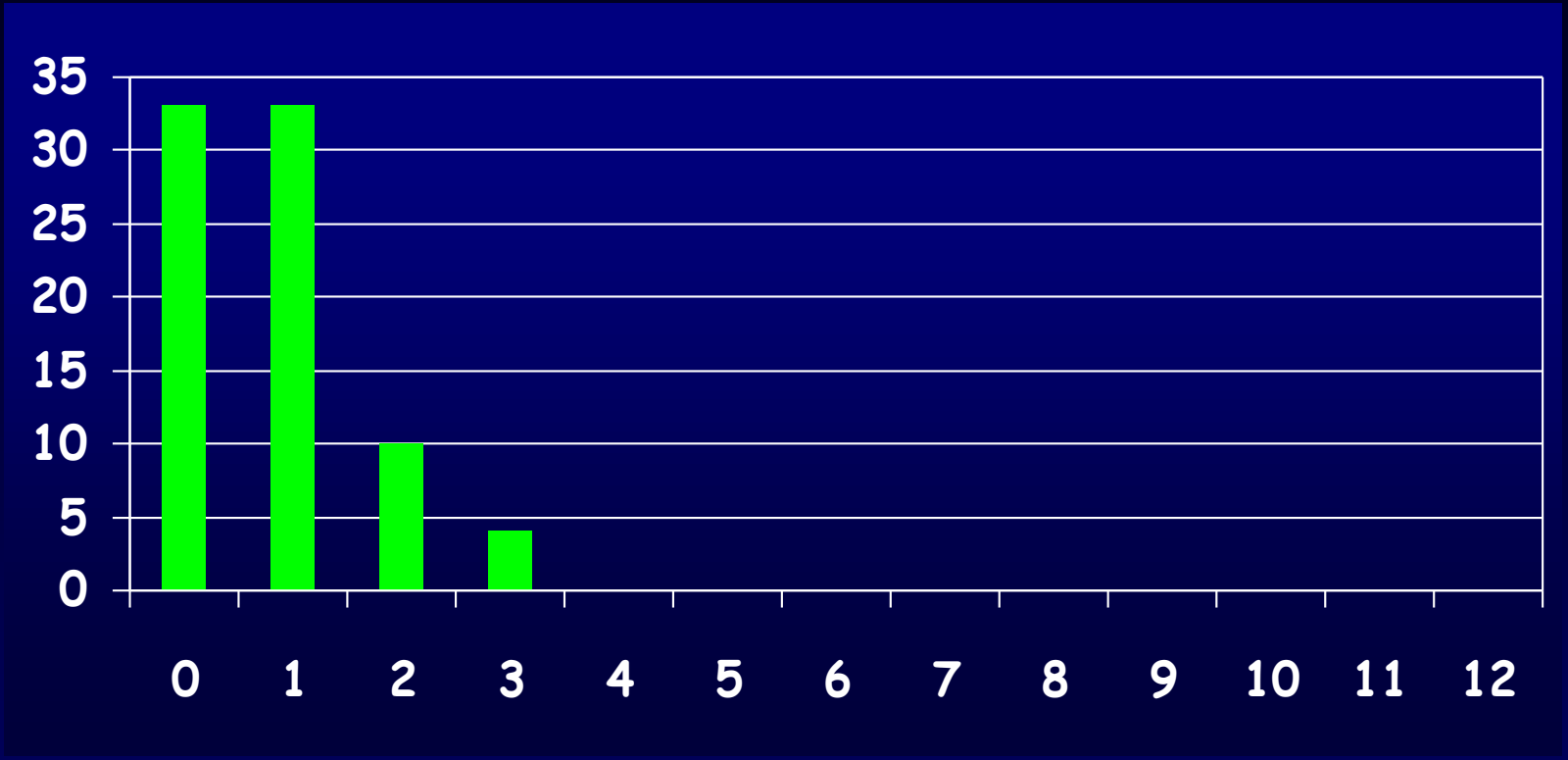
Functional Results at the last follow up

Mean score : 0,65 / 28 Pts (+/-1,06)



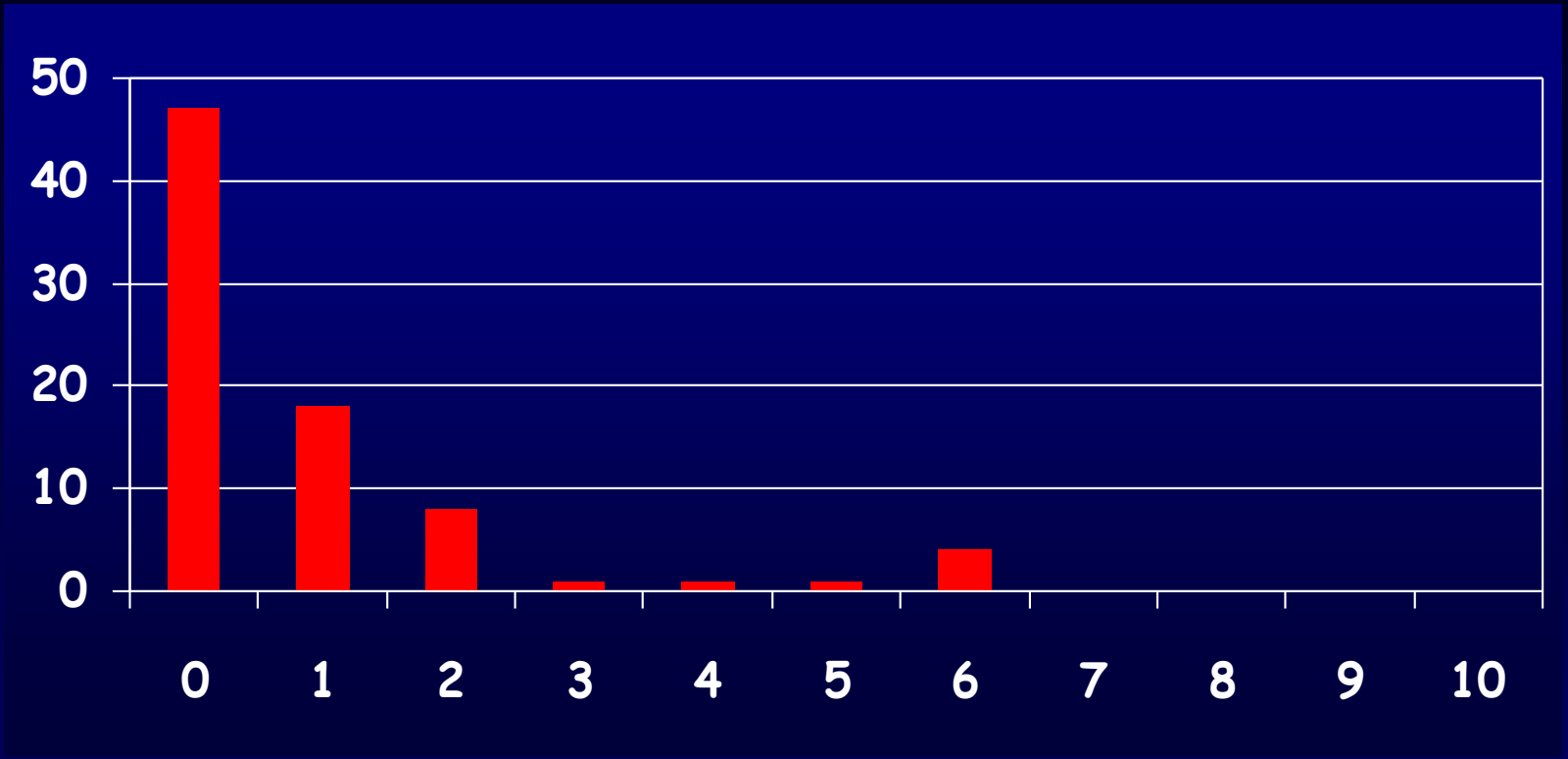
Morphological Results at the last follow up

Mean score : 0,82 / 12 Pts (+/- 0,83)



Radiological Results at the last follow up

Mean : 0,87 / 10 Pts (+/- 1,15)



Radiological results at the last follow up

- Talocalcaneal divergence on AP view : 29°
- Talocalcaneal divergence on LL view : 24,5°
- Tibial-calcaneal angle : 14° (X-ray in maximum dorsal flexion)

Final Results
according to Dimégio et Bensahel

Mean Total score : 2,36 Pts (+/- 2,14) /50

Mean final Gain : 63,5 % (+/- 14,5)

Gain = (initial score /20 – final score /50) *100

- For Soft > Stiff : 44,1 % (Max is 50%)
- For Stiff > Soft : 61,3 % (Max is 80%)
- For Stiff = Stiff : 79,7 % (Max is 100%)

Relapses : 17 cases (21 %)

New treatment with plaster casts :

Correction in 7 cases (40%)

Relapses : 17 cases (21 %)

Surgical treatment : 10 cases (12,5%)

- 4 postero-medial releases
- 6 transfer of tibialis anterior tendon to the third cuneiform with or without posterior release

Role of splint / Relapse

Compliance	Surgery
• No compliance Problem	0
• Tempory breack in treatement	1
• Splint definitively stop (before end of program)	9

Conclusion :

No follow-up

The Ponseti's method present advantages :

- high quality reduction
- Restoration of a subnormal anatomy
- Low cost
- Less worry for the parents
- Physiotherapy doesn't make any difference
- Relapse prevention depends on good compliance to the splint

Thank You
for your attention

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