

Scoliosis in Rett syndrome



Meir Lotan, Edinburgh, October 2010

Some basic information

⌚ **Annual rate of development 14°.**

⌚ **66% of non mobile girls have surgical intervention.**

⌚ **25% of mobile girls have surgical intervention.**

Better Prognosis

✧ Kiphosis

✧ Normal muscle tone,
normal tendon reflexes.

(Hagberg, 1993)

✧ Ability to walk up/down
stairs.

(Rossin, 1997)

Worse Prognosis

- **An inability to walk or a loss of the ability to walk at an early age.**
- **Severe hypotonia from childhood.**
- **Development of scoliosis before age 5.**

(Hagberg, 1993)

Known management, (An update)

- ✓ Beginning treatment as soon as asymmetry of the spine is noticed.

(McClure, et, al., 1998)

- ✓ Intensive physical therapy and hydrotherapy.

- ✓ Walking as much as possible.

(Weeks, 1997)

Known management

(An update -cont.)

✓ Standing at least 1/2 an hour a day. (Weeks, 1997)

✓ Over correction treatment. (Hanks, 1994)

✓ Corsets or temporary casting ?

✓ Surgical intervention. (Rossin, 1997)

Case study – R.B.Z

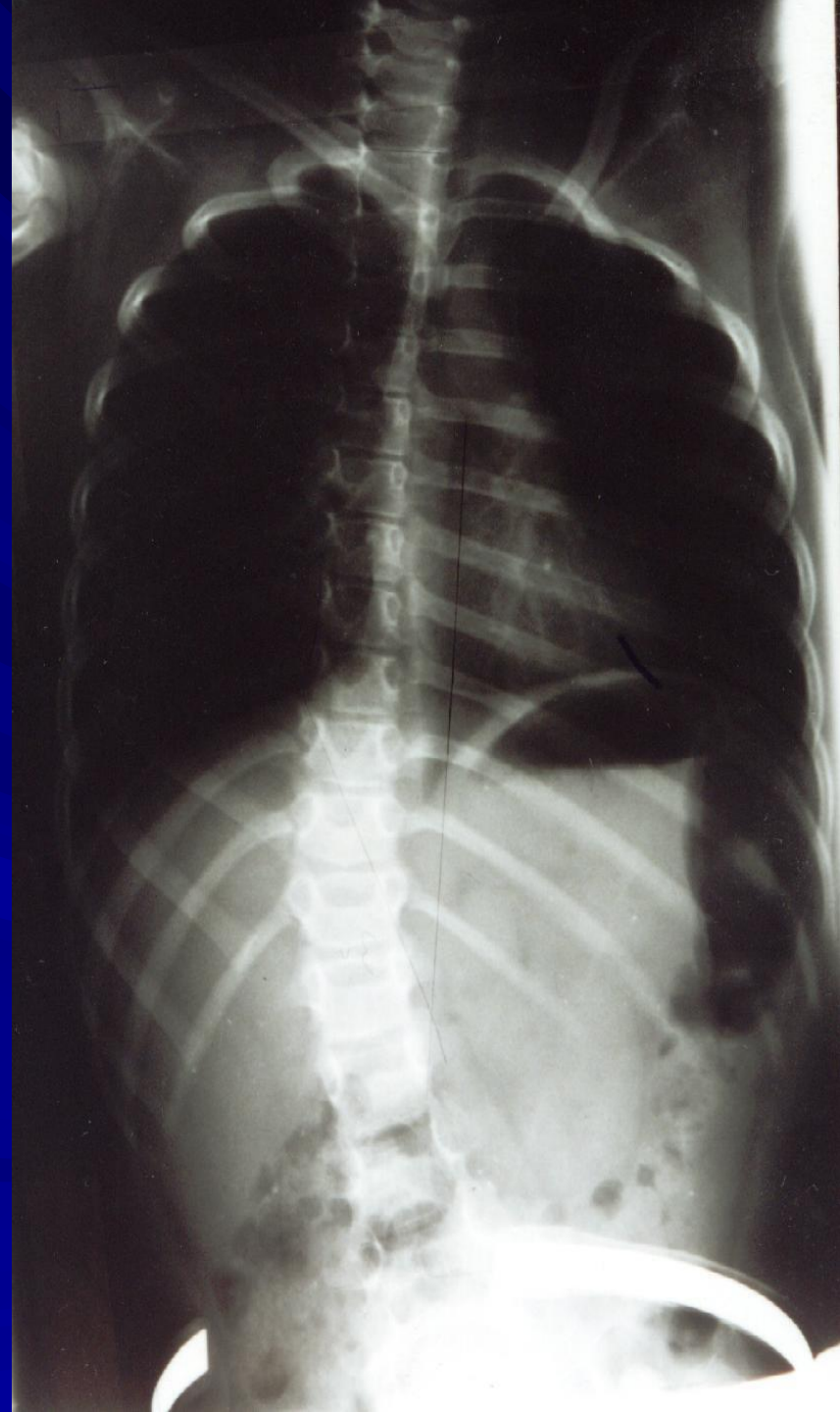
- A 5 years old child
- Returned from summer vacation with a right C curve of 29° Cobb.
- An intensive intervention was initiated.



7/8/1999

Suspension position

29 Deg. Cobb



An **active!** intervention according to the following principles

- Intensive activation, throughout the day within the educational center,
- Consistent A-symmetrical postures,
- Use of equilibrium reactions
- Walking and standing for at least two hours a day,
- Gentle manipulation of the spine.

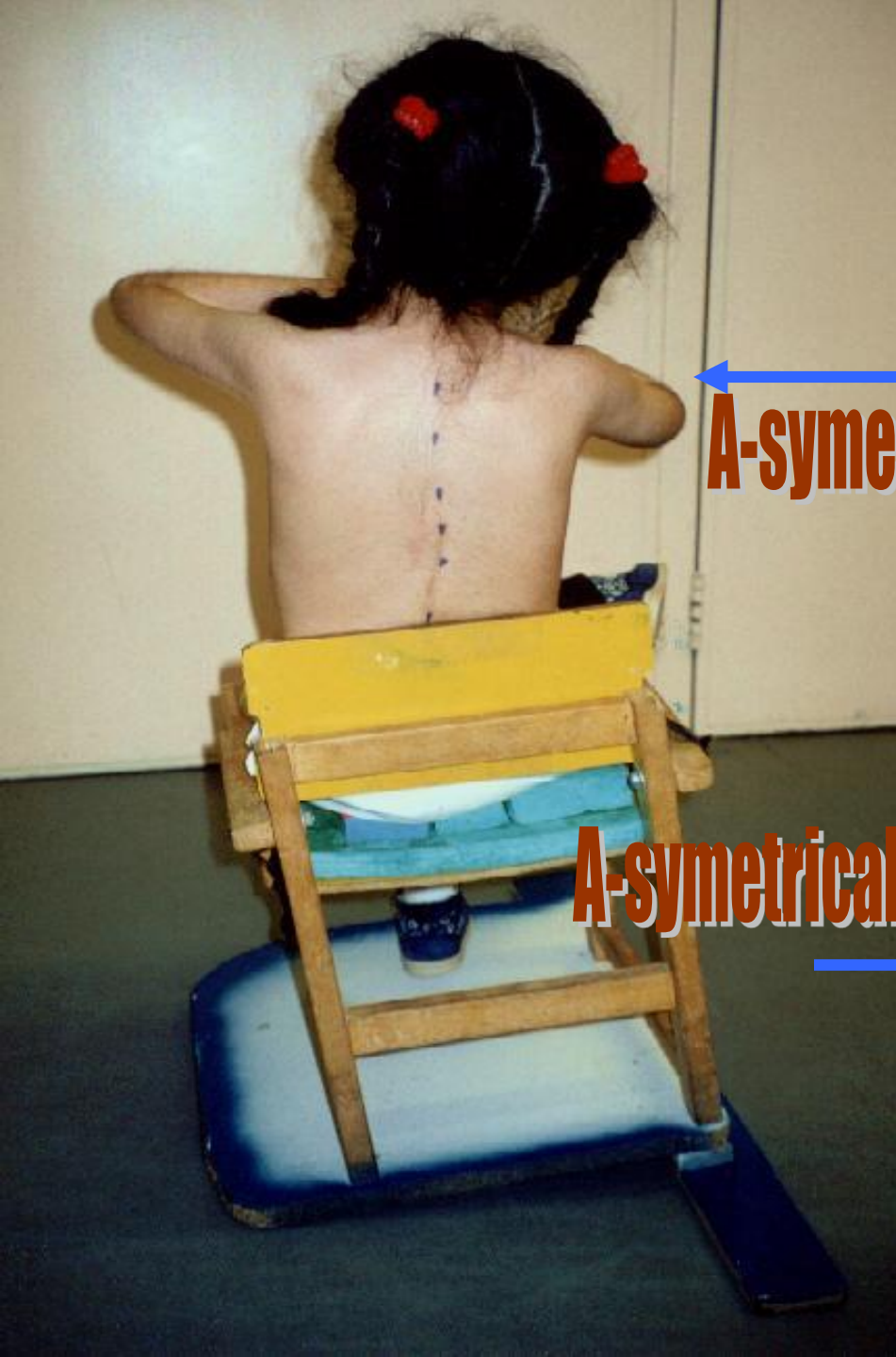
Daily curriculum

| | Sun | Mon | Teu | Wed | The | Fri |
|-------|-----------------------------|--------|-----|-------|--------|-----|
| 08:00 | Hydro | Physio | | Hydro | Physio | |
| 09:00 | SPECIAL CHAIR | | | | | |
| 10:00 | STANDING FRAME | | | | | |
| 11:00 | WALKING SPECIAL SEAT | | | | | |
| 12:00 | | | | | | |
| 13:00 | SIDE LYING SPECIAL CHAIR | | | | | |
| 14:00 | STANDING FRAME | | | | | |



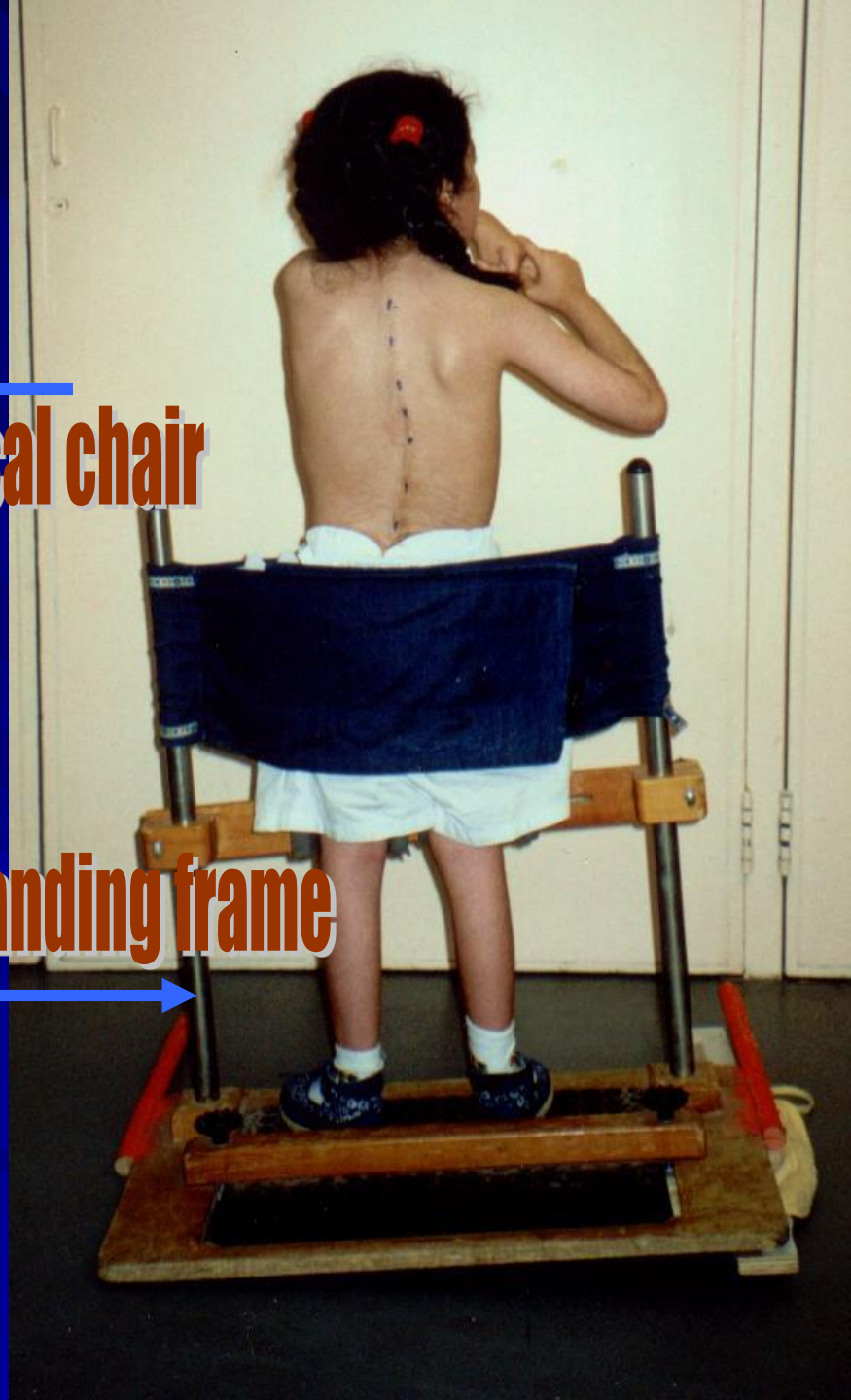
A special U shaped pillow

A-symmetrical seater



← **A-symetrical chair**

A-symetrical standing frame →



27/6/2000

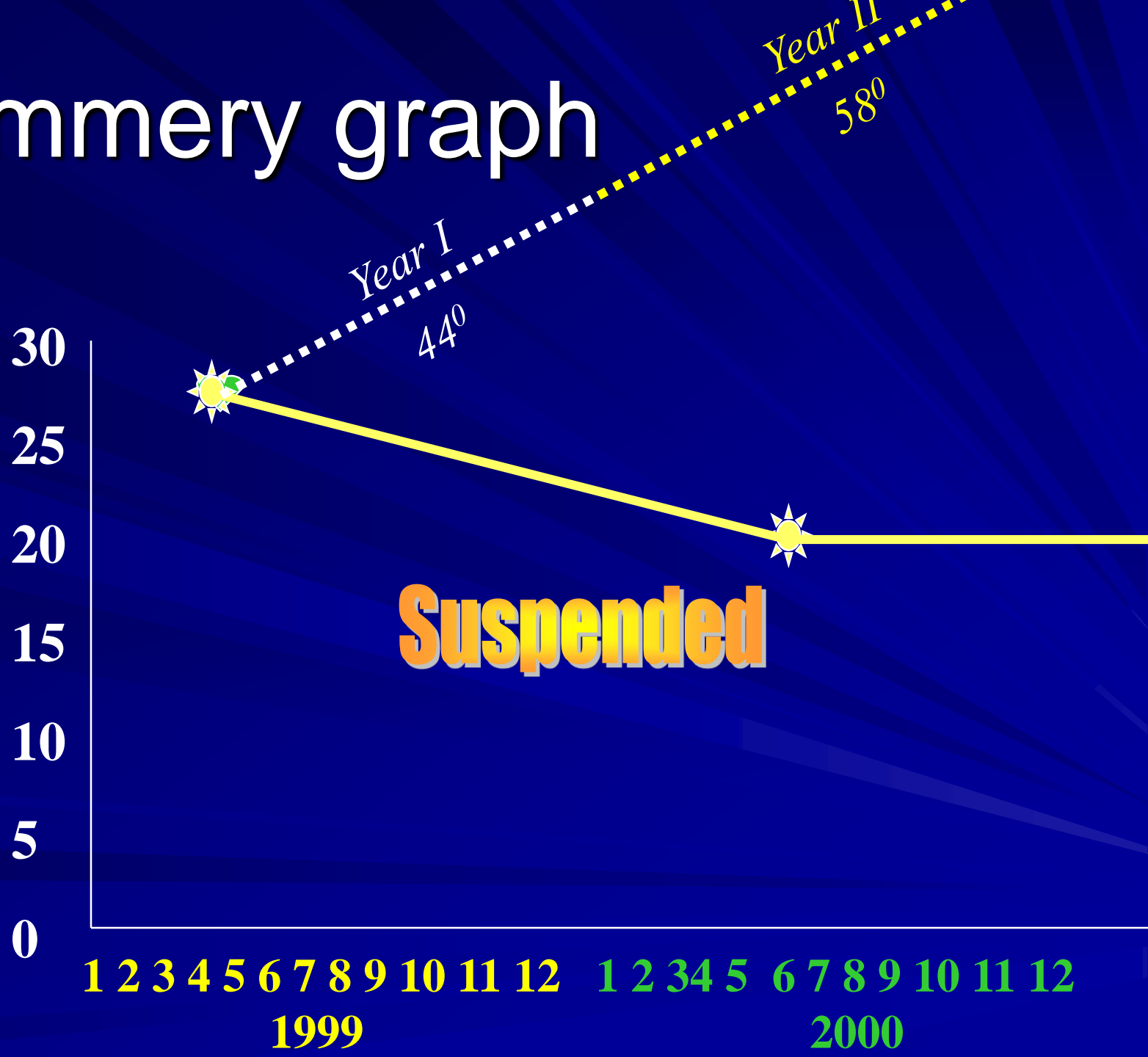
Suspension position

20 Deg. Cobb



A summery graph

Cobb
Degrees



A home plan – passive elements



A home plan – active elements



summation

Evidence suggests that progression of scoliosis can be reversed or at least stopped through an intensive Intervention program in RS.

What can we do with adults with RS
with severe un-operated scoliosis?

The same!!



✓ Intensive physical therapy and hydrotherapy.



✓ Consistent anti a-symmetry postures



✓ Consistent anti a-symmetry postures



✓ Active while : sitting, standing, exercising



✓ Walking/standing (at least two hours a day- Weeks, 1997).



✓ Maintaining spine mobility



✓ Parents and staff training



Before



After



**Thank you for
listening**