ADULT SCOLIOSIS TREATMENT COMBINING BRACE AND EXERSICES

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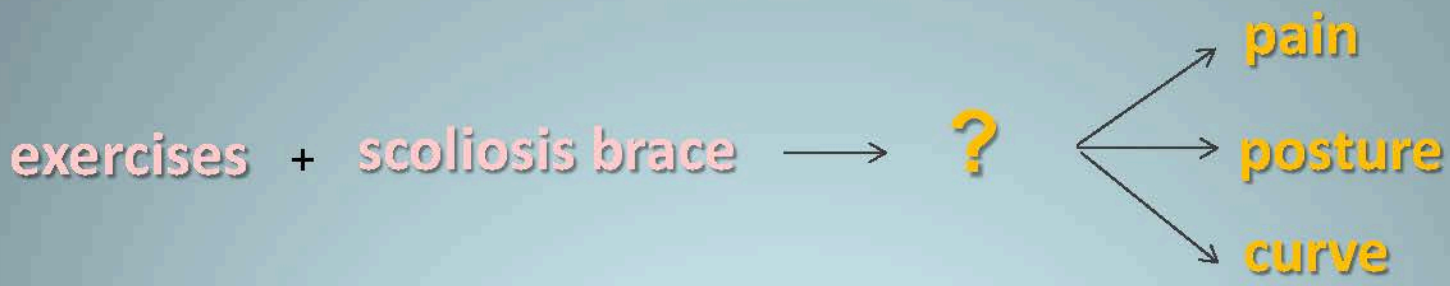
Wearing a brace or performing exercises in adult scoliosis are well known methods of conservative treatment in adult scoliosis.

But the association of these two methods was not investigated.

The aim



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MATERIALS AND METHODS

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Protocol from April 2009 through December 2012

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144 Adults

123 ♀

21 ♂

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Age

19 - 84 y average 40.8 y

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Cobb angle

18 ° - 87 ° average 40.6°

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All patients had a degree of pain

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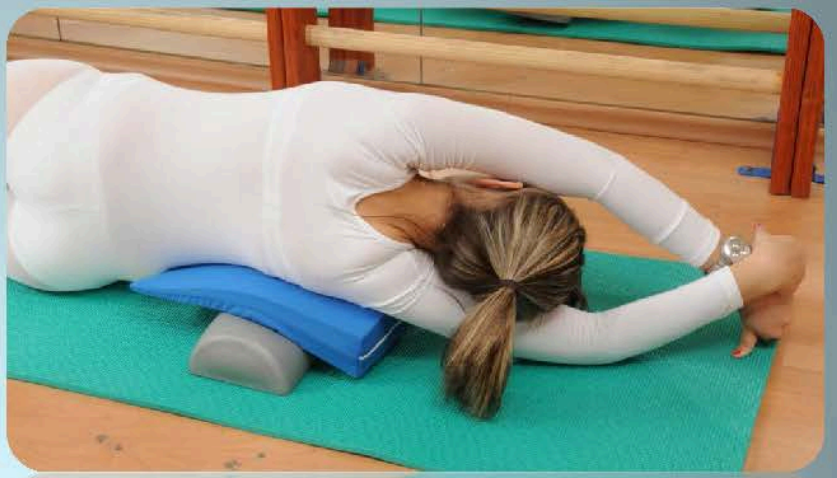
Brace Wearing time: > 8h / day

Schroth & SEAS exercises:

> 50 min / day



Follow up: every 3 months

Duration: 2 years.

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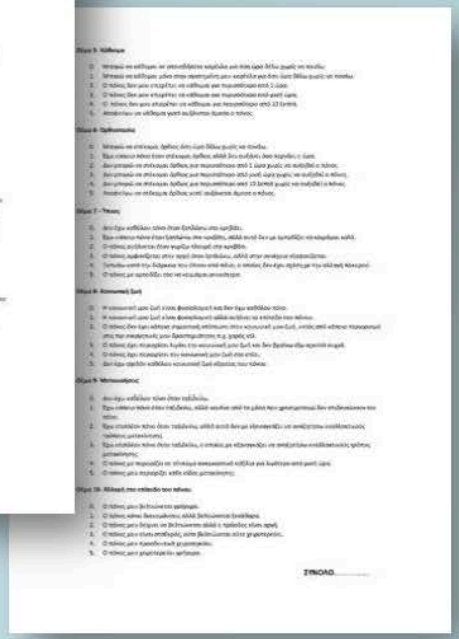
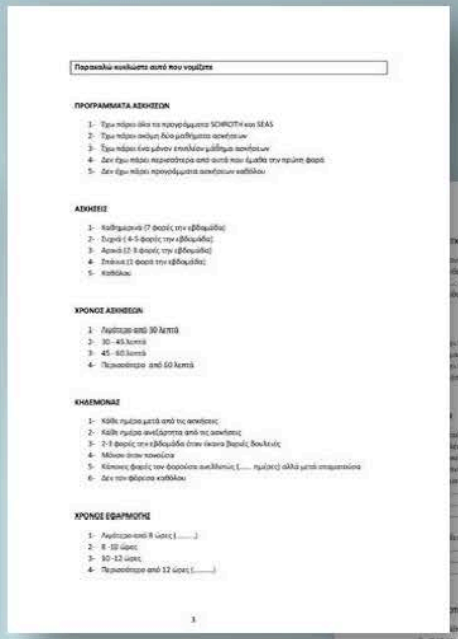
1- Modified Oswestry LBPQ

2- Patient's satisfying questionnaire

3- Support program

Modified Oswestry Low Back Pain Scale





Παρακαλώ κυκλώστε αυτό που νομίζετε

ΠΡΟΓΡΑΜΜΑΤΑ ΑΣΚΗΣΕΩΝ

1- Έχω πάρει όλα τα προγράμματα SCHROTH και SEAS
2- Έχω πάρει ακόμη δύο μαθήματα ασκήσεων
3- Έχω πάρει ένα μόνον επτάλεπτο μάθημα ασκήσεων
4- Δεν έχω πάρει περισσότερα από αυτά που έμαθα την πρώτη φορά
5- Δεν έχω πάρει προγράμματα ασκήσεων καθόλου

ΑΣΚΗΣΕΙΣ

1- Καθημερινά (7 φορές την εβδομάδα)
2- Συχνά (4-5 φορές την εβδομάδα)
3- Αρκετά (2-3 φορές την εβδομάδα)
4- Σπάνια (1 φορά την εβδομάδα)
5- Καθόλου

ΧΡΟΝΟΣ ΑΣΚΗΣΕΩΝ

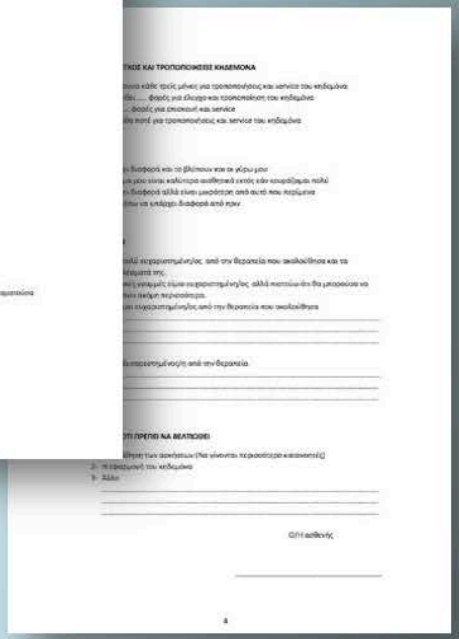
1- Λιγότερα από 30 λεπτά
2- 30 - 45 λεπτά
3- 45 - 60 λεπτά
4- Περισσότερα από 60 λεπτά

ΚΛΗΣΕΜΟΝΑΣ

1- Κάθε ημέρα μετά από τις ασκήσεις
2- Κάθε ημέρα ανεξάρτητα από τις ασκήσεις
3- 2-3 φορές την εβδομάδα όταν έκανα βαριές δουλειές
4- Μόνον όταν πονούσα
5- Κάποιες φορές τον φορούσα ανελλήπως (..... ημέρες) αλλά μετά σταματούσα
6- Δεν τον φόρεσα καθόλου

ΧΡΟΝΟΣ ΕΦΑΡΜΟΓΗΣ

1- Λιγότερα από 8 ώρες (.....)
2- 8 -10 ώρες
3- 10-12 ώρες
4- Περισσότερα από 12 ώρες (.....)



ΤΙΚΟΣ ΚΑΙ ΤΡΟΠΟΠΟΙΗΣΕΙΣ ΚΛΗΣΕΜΟΝΑ

ΤΙ ΠΡΕΠΕΙ ΝΑ ΒΕΛΤΙΩΘΕΙ

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RESULTS

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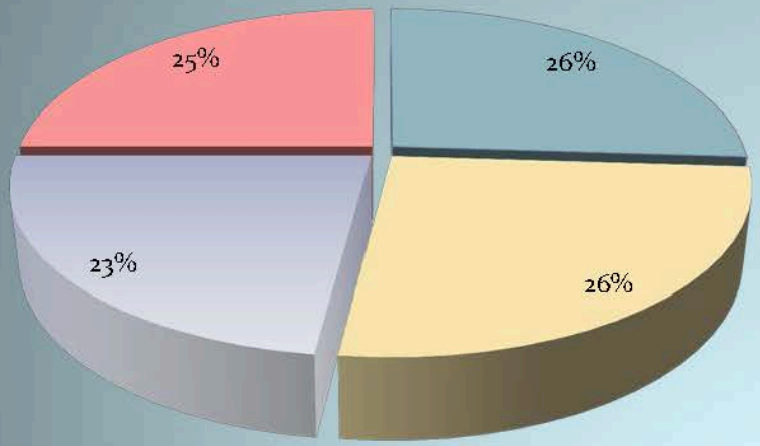
144 patients



37 **26%** didn't follow the program

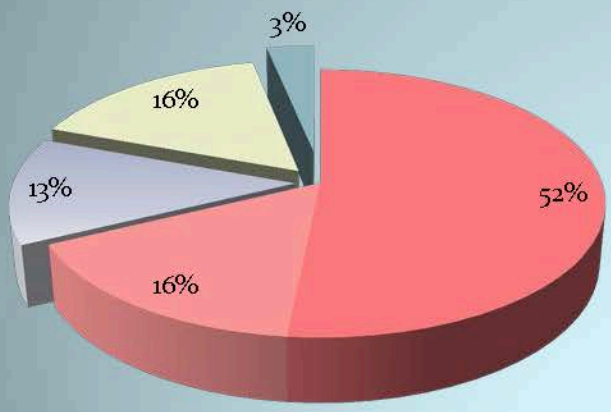
37 **26%** they followed for a few months

34 **23%** they are continuing but inadequately

36 **25%** followed it accurately

68% had no pain or mild pain after treatment,

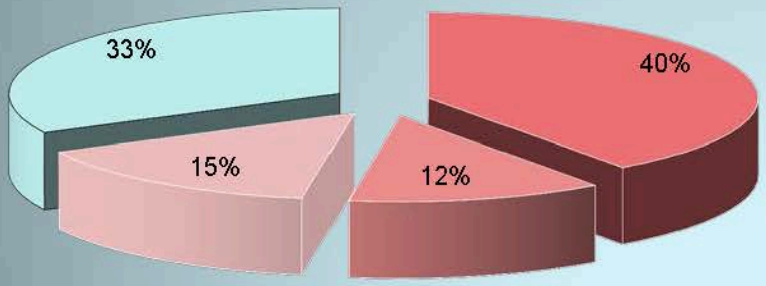
Pain scale



- 0. I have no pain at the moment
- 2. The pain is mild at the moment
- 3. The pain is fairly severe at the moment
- 4. The pain is very severe at the moment
- 5. The pain is the worst imaginable at the moment

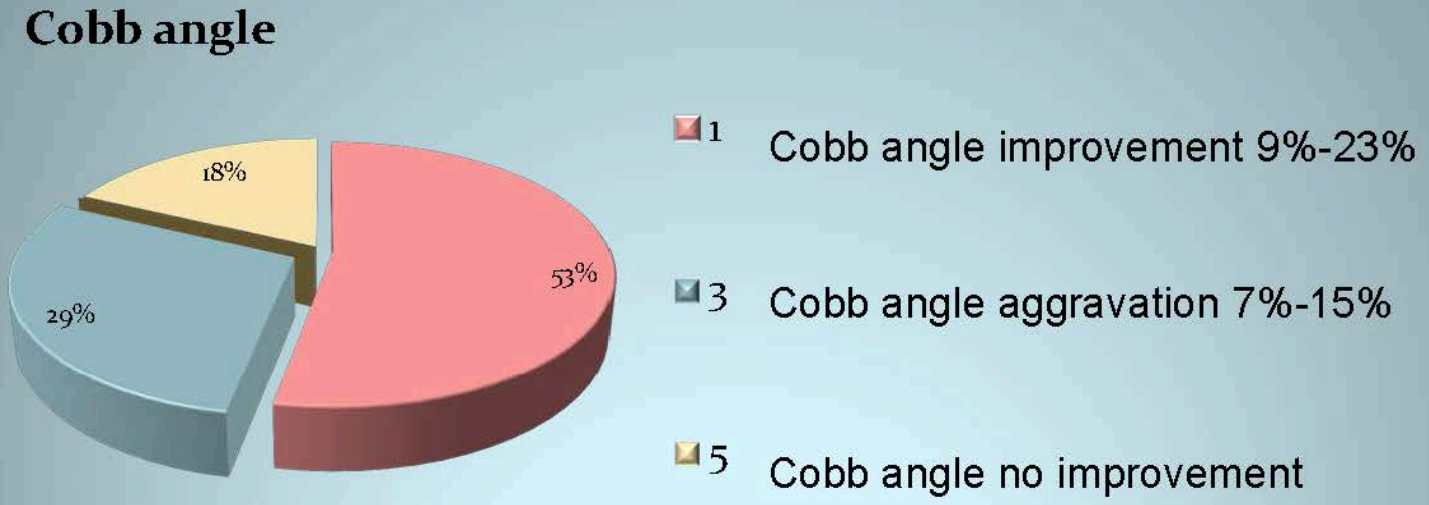
67% had improvement of the posture and appearance.

Posture and appearance



- There is a noticeable difference of my body
- My body looks better except if I am exhausted
- There is a difference but is less than what I was expected
- I can't see a difference of my body

53% of the patients had an improvement of the Cobb angle



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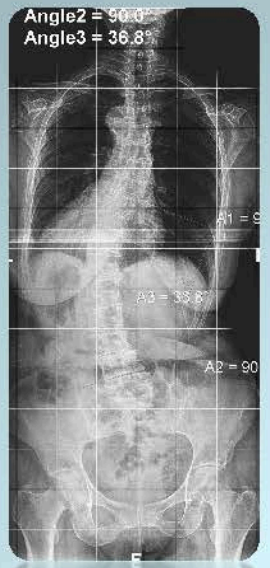
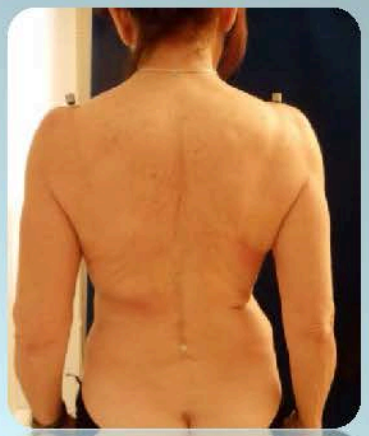
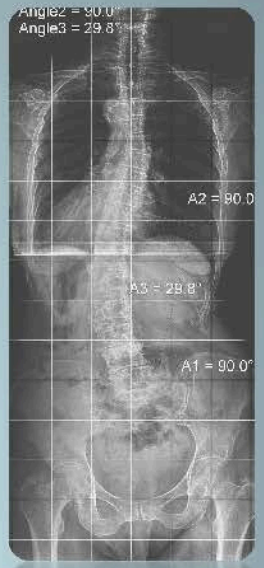
72 years old woman 36.8° initial cobb angle full program

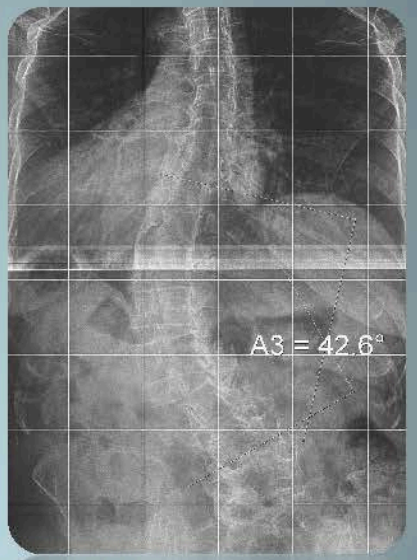






After 2 years of therapy 28.8°

66 years old woman 55° initial Cobb angle full program



After 1 year of therapy 42.6°

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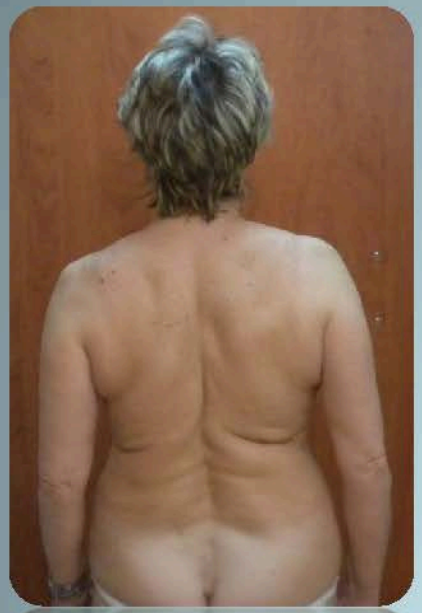
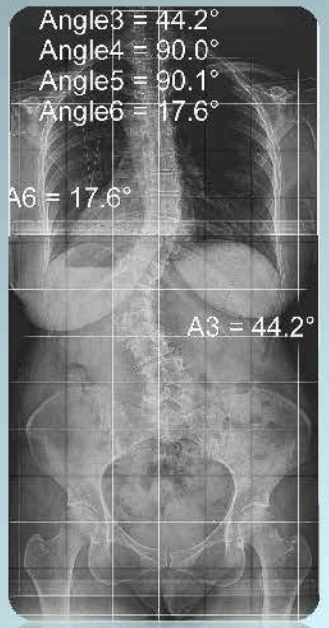
52 years old woman 44.2° initial Cobb angle full program





After 1 ½ year of therapy 34°

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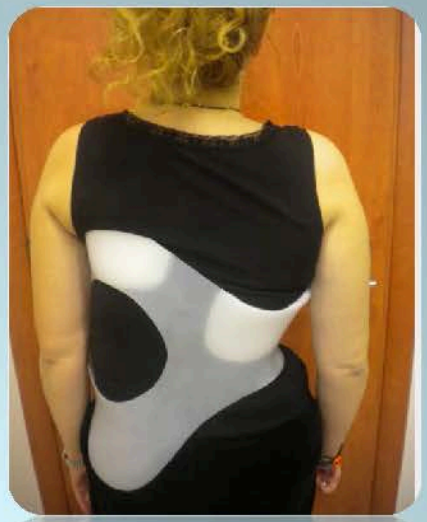
34 years old woman 36.6° initial Cobb angle only brace



After 1 year No pain & better posture

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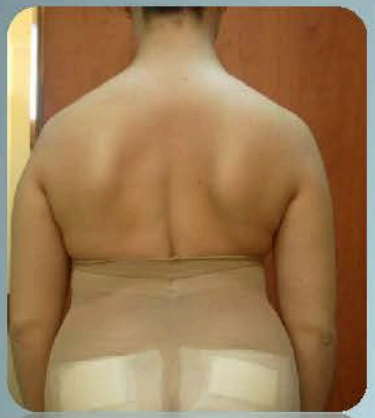
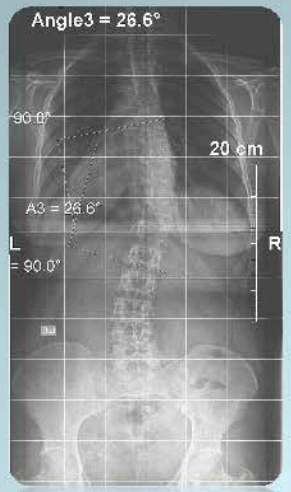
35 years old woman 26.6° initial Cobb angle only brace





After 3 years 21.7°No pain & better posture

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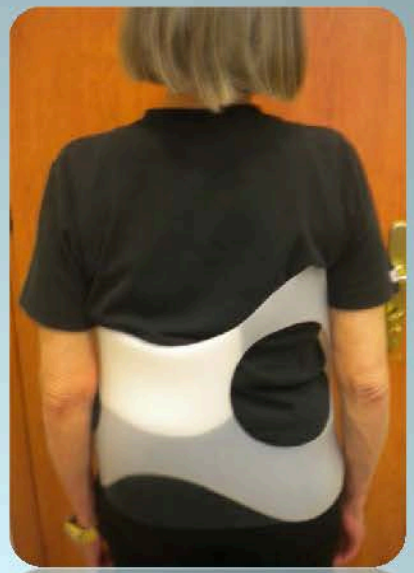
73 years old woman 44.2° initial Cobb angle only brace



After 8 months No pain & better posture

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57 years old woman 52° initial Cobb angle only exercises

After 1.9 years No pain & better posture

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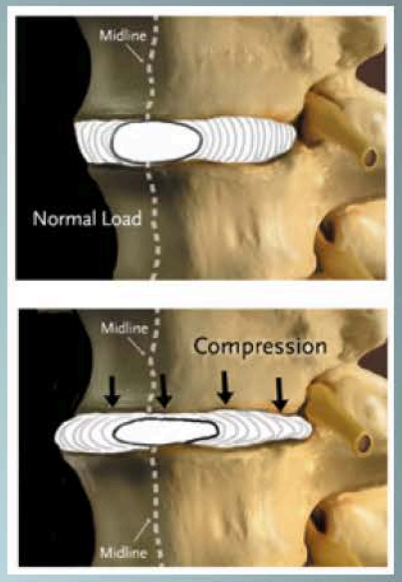
DISCUSSION

A loss of the Intervertebral disk's height is considered early sign of IVD degeneration.

Karin Wuertz et al J Orthop Res. 2009 September;27(9):1235-1242



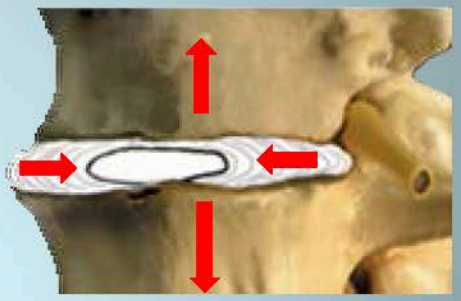
Recovery of the disc height =

magnitude and duration of the applied load

unloaded recovery

surrounding environment (muscles and ligaments)

O'Connell G.D. et al. J Mech Behav Biomed Mater. 2011 October; 4(7):933-942



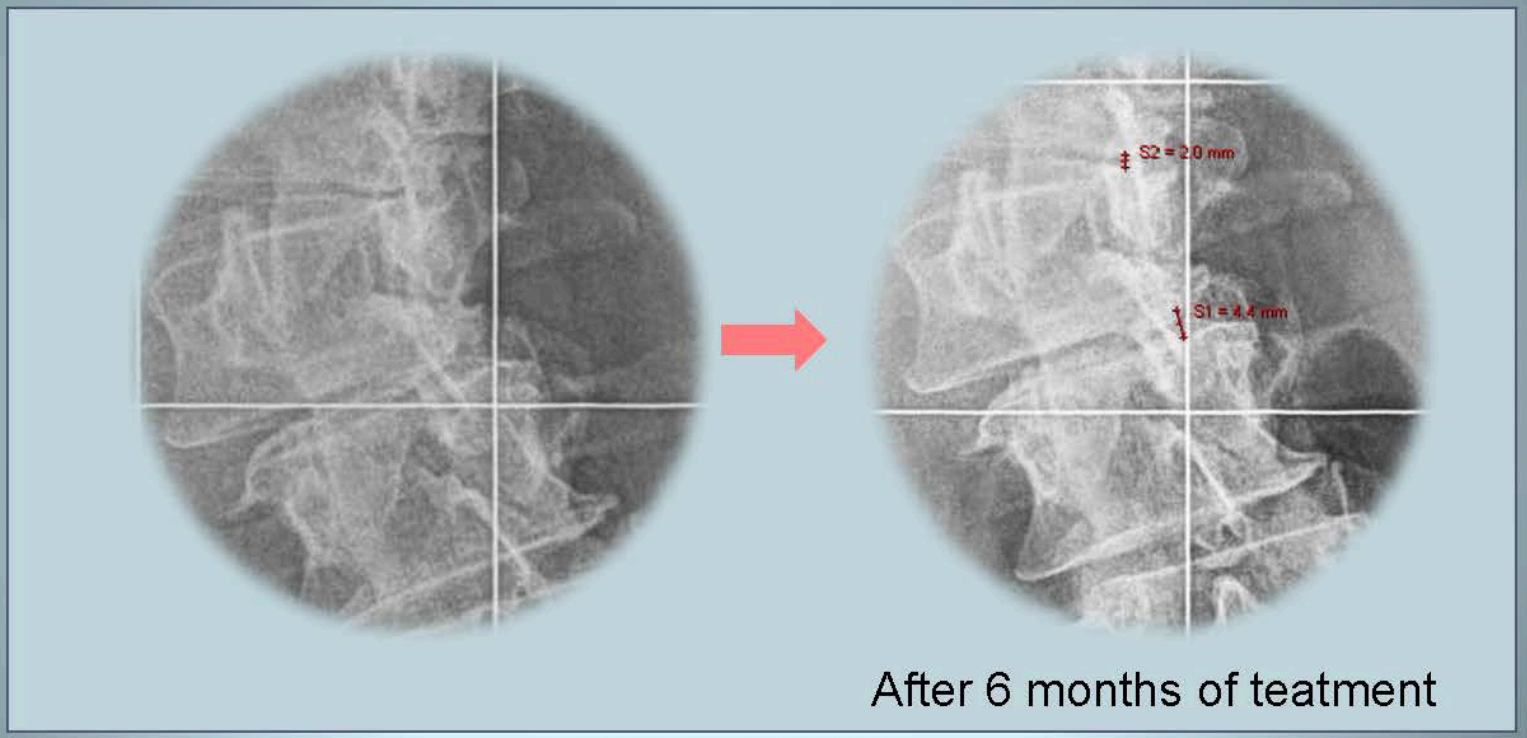
Physical activities might be able to promote repair or postpone disc degeneration

Karin Wuertz et al J Orthop Res. 2009 September;27(9):1235-1242

Cyclic compression (= physical activities) may cause less harm to the disc than static compression

Schnake K.J et al. Eur Spine J (2006) 15 (suppl.):S354-360

The use of Schroth Method (asymmetrical exercises) leads to the temporary decompression of the intervertebral disks.



After 6 months of teatment

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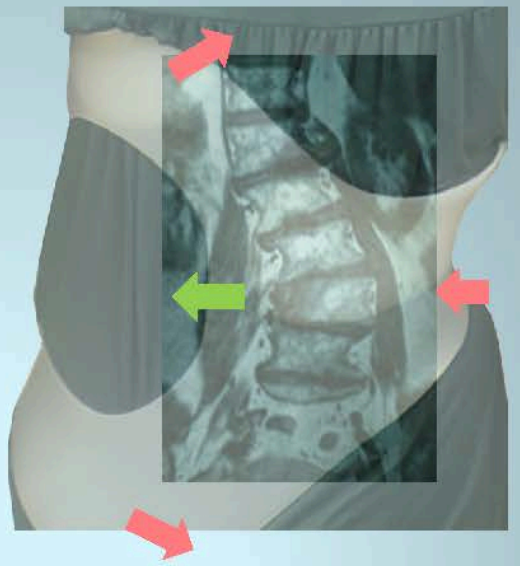
For stabilizing the stretch effect
at the ligaments and the intervertebral disks
we have fit a special designed brace
for at least 8 hours



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Exercises only or brace

in some cases
decreases the pain and/or improves the posture

but the major improvement is achieving using both,
brace more than 8 h/ a day after the exercises.

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The combination of Schroth and SEAS maximizes the results.

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CONCLUSION

Schroth and SEAS methods
combination
and fitting of a special brace
(after the exercises)
gives excellent results.

The program it is hard for adult with a lot of obligations and that's the reason of the abandonment of the treatment, despite the improvement

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Thank you