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QoL och ortosanvändning hos patienter med scolios

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GOSS orthotic system

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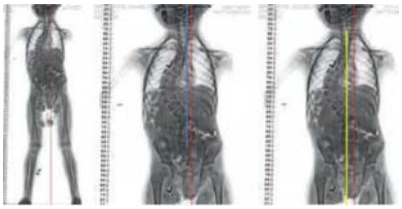
Understanding alignment - GOSS



Coronal central Sacral central C7 plumb

Gomez Torres, J (2013) Evaluation of Ideopathic Scoliosis based on alignment, equilibrium and stability: Gomez orthotic spine system. Spine, 2:5

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GOSS Assessment

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Flexibility and balance

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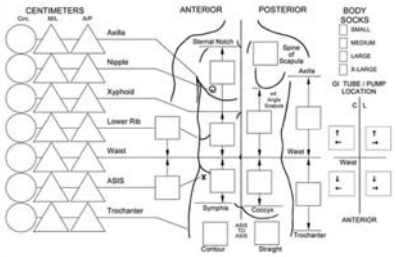
GOSS Assessment



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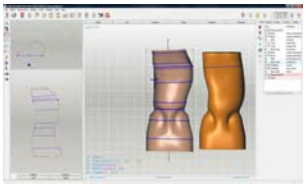
CAD CAM



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Spinal orthoses for AIS Compliance / Adherence

- Failure to wear the brace for the at least 90% of the prescribed time - significantly poorer outcomes (Rahman, Bowen, Takemitsu, & Scott, 2005)
- Positive relationship between wear time and outcome (Weinstein, Dolan, Wright, & Dobbs, 2013)
- True wear time is in the range of 65% (Lou et al., 2011; Nicholson, Ferguson-Pell, Smith, Edgar, & Morley, 2002).
  - self-report overestimate true wear time (Nicholson, et al., 2002)
  - temperature sensors - reliable and valid measure of wear time (Benish, Smith, & Schwartz, 2012; Nicholson, et al., 2002).

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Factors that influence adherence

Intelligence, reading comprehension, activity level Wickers, Bunch, and Barnett (1977)

Dedication of the patient's family Shaughnessy (2007)

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Quality of life - AIS

QoL is affected by the type of brace used (Climent & Sánchez, 1999; Deceuninck & Bernard, 2012)

QoL was significantly worse in a group that was recommended full time use than both a group with night-time users and a non-treated group Pham et al. (2008)

No difference in QoL of brace treated and non-treated patients using parent administered questionnaires Ugwonali et al. (2004)

20 years after treatment QoL was approximately the same as the general population Danielsson, Wiklund, Pehrsson and Nachemson (2001)

Non-compliant patients had a significantly lower QoL than compliant patients Berkowitz (2009)

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AIM

To objectively measure wear time of spinal orthosis used by patients treated for AIS at Laboratorio Gilete in Bogotá, Colombia.

To study the health related quality of life in the same population.

To investigate if there is a relationship between adherence and quality of life and thereby identify factors influencing wear time.

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Subjects

- Ten subjects (nine females and one male) with AIS
- GOSS orthoses
- Wearing the orthosis for a minimum of one month
- 10 to 18 years old

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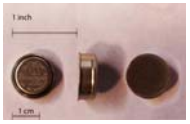
Adherence

iButton temperature loggers



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Quality of life

SF-10 – completed by parents

- Two sub-sections (1) mental health (2) physical health

SRS-22r – completed by patient

- Developed by the Scoliosis Research Society
- 22 questions answered by Likert scale
- Includes questions related to perception of back shape, self-confidence and the attitude to the brace

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Example from SRS-22

21. Are you satisfied with the results of your back management?

    Very satisfied
    Satisfied
    Neither satisfied nor dissatisfied
    Unsatisfied
    Very unsatisfied

22. Would you have the same management again if you had the same condition?

    Definitely yes
    Probably yes
    Not sure
    Probably not
    Definitely not

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Results - Adherence

Patient	Total %	Day	Night	Weekday	Weekend
1	14	12	16	19	9
2	29	3	72	28	33
3	77	70	89	75	82
4	80	71	96	79	82
5	47	27	81	54	30
6	88	86	92	88	87
7	87	81	96	89	82
8	85	84	86	91	72
Mean	**63.4**	**54.3**	**78.5**	**65.4**	**59.6**

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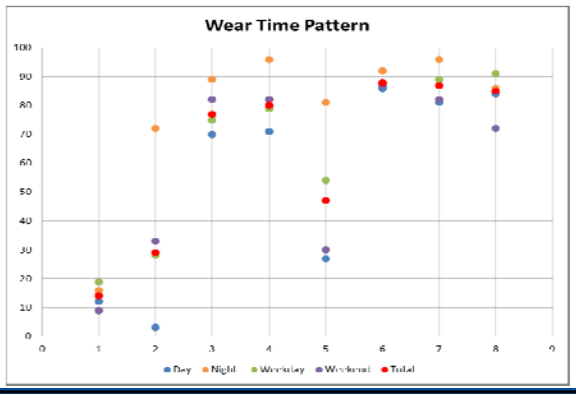

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SF-10

Mean physical score - 41/57

Mean psychological score - 50/62.

Mean score: Children in USA – 50 (Quality metrics)

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SRS 22r

total score 4.3

Function	Pain	Self-image	Mental health	Satisfaction with treatment
4.44	4.47	3.64	4.49	4.56

- Custom rigid brace total score 4.24 (Cheung et al. 2007)
- Cheneau brace - total score was 4,2 (Adamczyk 2013)
- Lowest score for body image

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Correlation between adherence and QoL

	SRS-22r						SF-10	
	TOTAL	Function	Pain	Self-image	Mental health	Satisfaction with treatment	Physical	Psych
	,731*	.160	.679	**,766***	.663	.574	-.190	.516

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Using outcome measures to improve clinical practice

- Temperature sensors
  - Can be used to provide pateints with instant feedback
  - Compare orthosis designs
  - Evaluate a variety of interventions/actions
  - Requires excel program to analyse data

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Using outcome measures to improve clinical practice

- SF-10
  - Quick to complete and easy to obtain results
  - Generic - Can compare data between groups
  - Requires a licence

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Using outcome measures to improve clinical practice

- SRS-22
  - Specifically developed for spinal patients
  - Validated in Swedish (Danielsson et al, 2013)

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