

Innovative scoliosis treatment: A back brace that can measure how long it is worn for

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Scoliosis (curvature of the spine) affects three or four per thousand children and as many as seven out of ten older adults. While there is still controversy about the efficacy of back braces for children this is often considered a problem of compliance – if the children do not wear their braces the treatment does not work. New research published in BioMed Central's open access journal *Scoliosis* demonstrates that a brace that contains a tiny heat sensor and is able to monitor how long it is worn, and that kids are also happy to wear, means that overall compliance with doctors recommended prescription was over 90%.

In many cases of childhood [scoliosis](#), treatment is not required because the condition corrects itself as the child grows. However for the remainder their scoliosis can be successfully treated using a back brace, or in severe cases surgery, which prevents the spine from curving further. While a brace is worn under their clothes and should not stop the child from joining in sports or any other activities nevertheless it can still be difficult to persuade a child that the brace must be worn for all the hours prescribed by their doctor.

Researchers from ISICO in Milan investigated the use of a Thermobrace which from measuring temperature changes in the brace is able to identify when it is being worn. The Thermobrace was used in conjunction with the unit's normal care. The families involved in the study were all aware that the brace was monitoring its use and results showed that the more a brace was prescribed the more it was worn. The doctors involved also discovered that use of Thermobrace led to an

increased patient-physician relationship because it allowed open discussions about real data.

Dr Sabrina Donzelli, who led this research, explained, "It is difficult to compare this study to others because all the families involved knew that the child was using a Thermobrace. Consequently, although there was some overestimation their self reported times for wearing the brace were very similar to the actual time measured by the brace. However we were able to demonstrate that children can be persuaded to wear their back braces as long as they have enough help and support."

More information: Maternal In defense of adolescents: They really do use braces for the hours prescribed, if good help is provided. Results from a prospective everyday clinic cohort using Thermobrace. 2011 SOSORT Award winner. Sabrina Donzelli, Fabio Zaina and Stefano Negrini, *Scoliosis* (in press)

Provided by BioMed Central

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