

# allard

## Hybrid Night Brace

Precision Engineering for  
Nighttime Scoliosis Care



## Introducing the Hybrid Night Brace

The Hybrid Night Brace is the latest advancement in our scoliosis brace range – developed to provide effective, comfortable nighttime treatment with minimal disruption to a young patient’s lifestyle.

This custom-made brace is designed to manage and correct the scoliotic curve during sleep. With a soft inner lining and a lightweight outer shell, it delivers targeted corrective forces while helping to maintain muscular strength. Its unique three-dimensional design applies elongation, lateral shift and rotation to the spine for optimal curve management – all while the patient sleeps.



## The Next Generation Night Brace for Optimal Spinal Correction

The Hybrid Night Brace redefines nighttime bracing with superior precision, comfort and effectiveness.

Its advanced measurement board helps ensure accurate pad placement, prevents slippage and incorporates a trapezoidal screw mechanism for smoother, more controlled force application.

Engineered for enhanced rotational correction, the Hybrid Night Brace helps prevent the patient from turning away from the applied force and allows targeted overcorrection where clinically indicated.

Available in four design variations, it adapts to individual curve patterns and patient needs. Higher-density foam at the waist provides consistent force application, while a 3D digital algorithm tailors rotational correction according to the Cobb angle to optimise results.

Refined trim lines in key areas—including the buttocks, upper leg and axilla support—improve both stability and comfort. Combining cutting-edge technology with personalised correction, the Hybrid Night Brace represents the future of nighttime scoliosis bracing.

*Lightweight, soft-lined and worn only at night – designed for comfort and improved patient acceptance.*



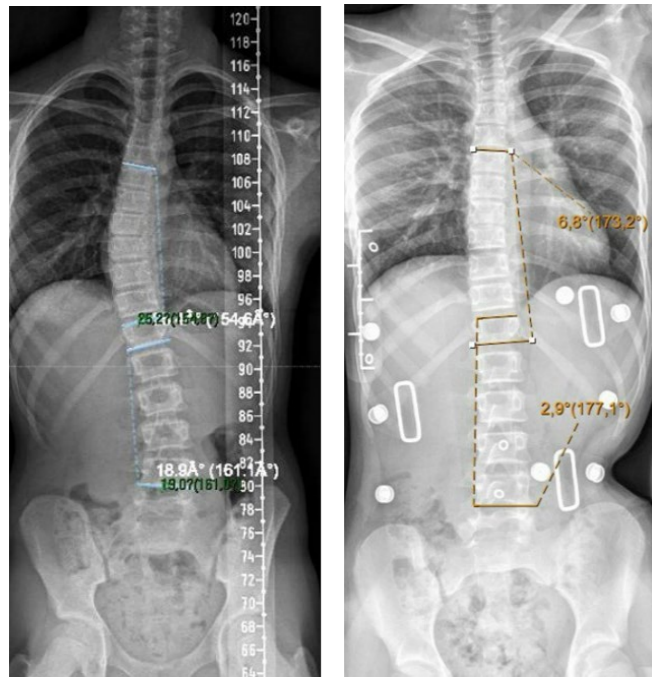
### What sets the Hybrid Night Brace apart from other braces?

- Traditional night braces correct only a single spinal curve, but the Hybrid Night Brace is designed to treat both single and double curves with greater precision.
- Using a unique Patient Assessment System (PAS), the orthotist can physically adjust the spine during assessment, providing crucial insights into curve flexibility and the patient’s tolerance for corrective force. Unlike conventional braces, the Hybrid Night Brace applies a rotational force at the curve’s apex, delivering a more dynamic and effective correction.
- With a single Trochanter Trim Line for improved mobility and a digitally designed mould for superior accuracy and consistency, the Hybrid Night Brace sets a new benchmark in nighttime bracing.

# How the Hybrid Night brace Works

## The different curve types (1-4)

Type 1: Thoracic curve (upper/mid-back)



Before After

Design principle: Applies rotational force at the apex to de-rotate the spine, realign the shoulders and shift the spine towards the midline while maintaining natural thoracic shape.

Intended for: Single Thoracic Curve pattern with the apex above T12.



Thoracic video

Type 2: Thoracolumbar curve (across mid- and lower spine junction)



Before After

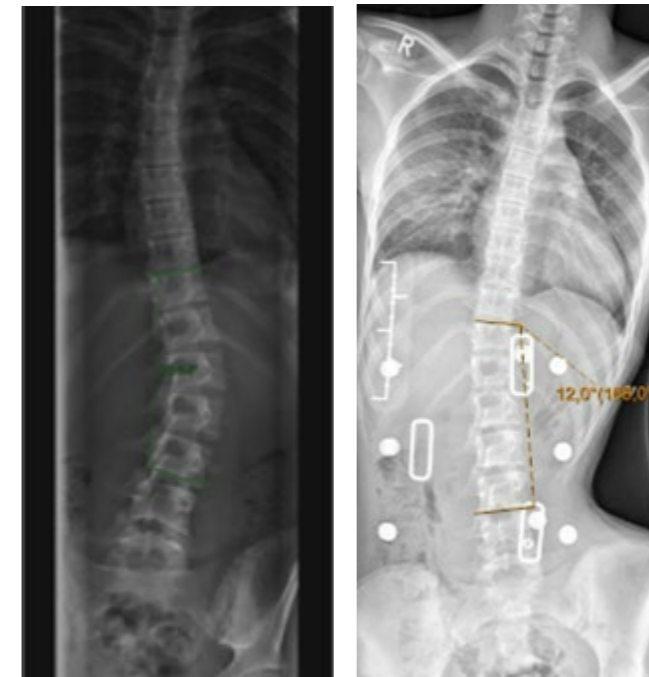
Design principle: Combines lateral shift and rotation at each apex, restoring waist symmetry and improving overall trunk balance.

Intended for: Thoracolumbar Curve pattern with the apex at T12 or L1.



Thoracolumbar video

Type 3: Lumbar curve (lower back)



Before After

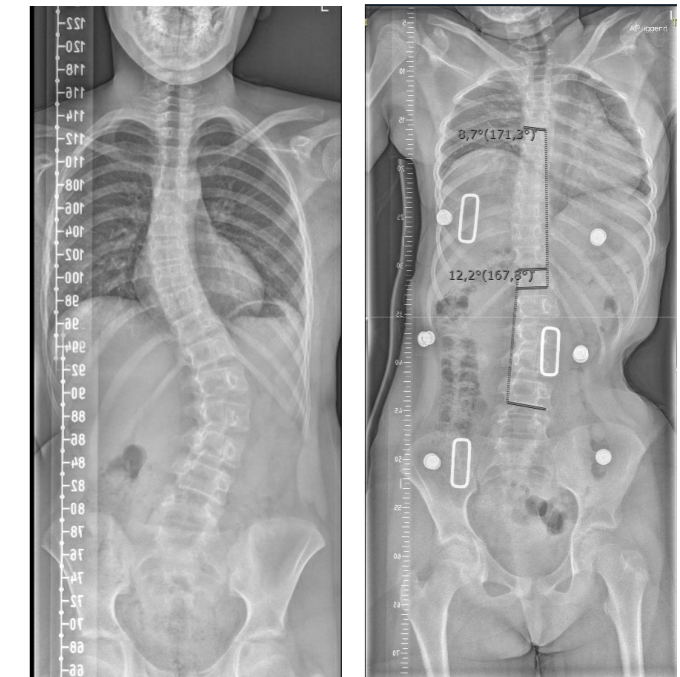
Design principle: Uses built-in lumbar lordosis to elongate and de-rotate the curve, levelling the hips and aligning the waistline.

Intended for: Lumbar Curve pattern with the apex at L2-L5.



Lumbar curve video

Type 4: Double curve (double major) (two curves, usually thoracic + lumbar)



Before After

Design principle: Targets curves with independent force zones, balancing correction so that one curve is not over-treated at the expense of the other.

Intended for: Thoracic + Lumbar double-curve patterns.

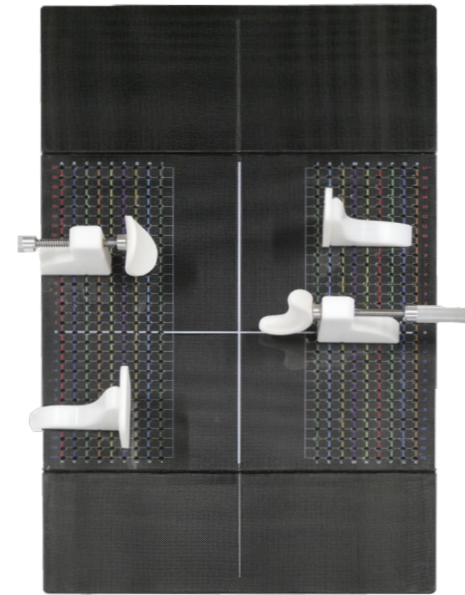


Double curve video

## Patient Assessment System (PAS): Engineered for Accuracy

Developed to enhance both brace design and patient evaluation, PAS ensures that every Hybrid Night Brace is precisely tailored to the patient's unique spinal profile.

- Alignment holes and anti-slip pressure pads for exact placement during assessment
- Trapezoidal screw system for smooth, controlled force adjustment
- Colour-coded measurement scale to minimise user error and reduce setup time
- Carbon composite board combining maximum strength with minimal weight
- Sized to fit growing children, including larger patients
- Flexible assessment capability to guide optimal force and correction strategy



Measurement video



## Training & Education

We provide extensive training programmes, both in-person and online, to ensure that you are fully equipped with all the knowledge required to effectively use the Hybrid Night Brace to achieve the best patient outcomes.

## Backed by Clinical Research

The Hybrid Night Brace is supported by robust clinical studies, including:

### A retrospective cohort study on the effectiveness of the hybrid nightbrace in the conservative treatment of patients with adolescent idiopathic scoliosis:

- Head research team Dr A. Stadhouders – Orthopaedic Surgeon - AUMC/Dijklander Hospital
- Prof B.J. van Royen – Orthopaedic Surgeon - AUMC Hospital
- Dr E.C. Kraaneveld – Orthopaedic Surgeon - Dijklander Hospital
- Ms Sahar Fazli – Researcher - AUMC Hospital
- Mr Arthur Arets – CPO - Leuk Orthopedie

The study is nearing completion, and a preliminary summary of the results is available upon request.

### Prospective multicenter study on the effect of the hybrid brace in adolescent idiopathic scoliosis patients:

- Head research team Dr A. Stadhouders – Orthopaedic Surgeon - AUMC/Dijklander Hospital
- Prof B.J. van Royen – Orthopaedic Surgeon - AUMC Hospital
- Dr E.C. Kraaneveld – Orthopaedic Surgeon - Dijklander Hospital
- Dr D.E. Schranders – Orthopaedic Surgeon - Sint Maartenskliniek
- Ms Sahar Fazli – Researcher - AUMC Hospital
- Mr Arthur Arets – CPO - Leuk Orthopedie
- Ms Joanne Evers – CPO - Sint Maartenskliniek

This study has been underway since November 2025

## References:

1. Ng, S.Y., Nan, X.F., Lee, S.G. & Tournavitis, N. (2017). The role of correction in the conservative treatment of adolescent idiopathic scoliosis. *The Open Orthopaedics Journal*, 11, 1548-1557. <https://doi.org/10.2174/1874325001711011548>
2. Capek, V., Westin, O., Brisby, H. & Wessberg, P. (2022). Providence nighttime brace is as effective as full-time Boston brace for female patients with adolescent idiopathic scoliosis: A retrospective analysis of a randomised cohort. *North American Spine Society Journal*, 12, 100178. <https://doi.org/10.1016/j.xnsj.2022.100178>
3. Simony, A., Beuschau, I., Quisth, L., Jespersen, S.M., Carreon, L.Y. & Andersen, M.O. (2019). Providence nighttime bracing is effective in the treatment of adolescent idiopathic scoliosis even in curves larger than 35°. *European Spine Journal*, 28(9), 2020-2024. <https://doi.org/10.1007/s00586-019-06077-z>



## **Support for Better Life**

Everyone should be able to live their life to the fullest, regardless of their mobility challenges. With innovative solutions developed in close collaboration with healthcare professionals and patients, we strive to provide Support for Better Life.

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