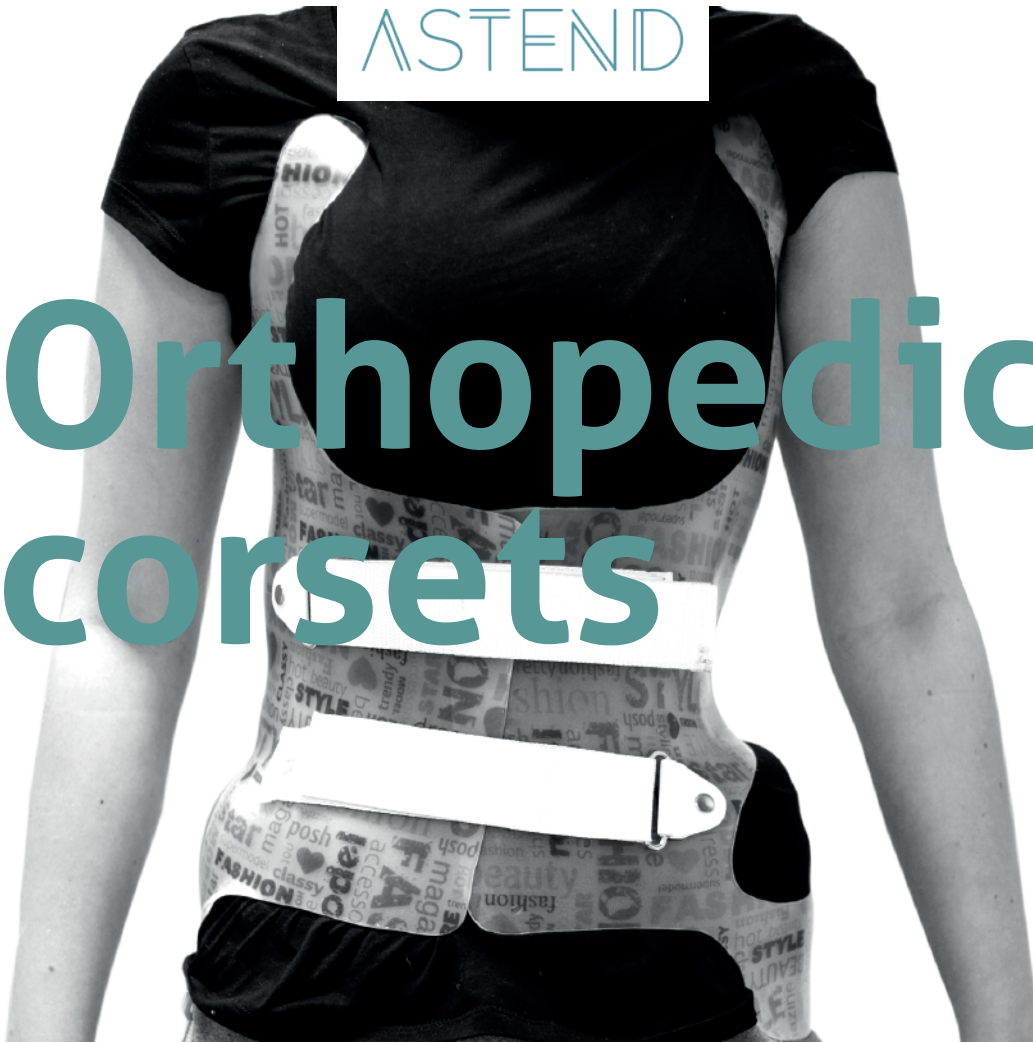


ASTEND

# Orthopedic corsets



## Tailored to you

Astend sp.z o.o. is a partner for distributors and manufacturers of orthopedic devices.

We make our medical supplies using the highest quality materials and the most advanced technologies.

Specialized machines allow us to create an individual product quickly and precisely. Our knowledge and many years of experience allow us to meet the expectations of our partners (medical stores, orthopedic laboratories). The production process of orthopedic equipment is organized in such a way to be as effective and efficient as possible.

You are welcome for cooperation.

**Astend Team**



## Orthopedic corsets

Orthopedic corsets are torso orthoses supporting the non-surgical treatment of multiplanar curvatures of the spine. They are used by people with incomplete bone growth in order to stop the progression of the curvature of the spine. They allow you to achieve the symmetry of the torso by strengthening stabilization and more effective distribution of forces.

Materials of different elasticity and hardness are used for the production of corsets: thermoplastic plates, metal, carbon fiber, aluminum, fabrics, leather, tapes, Velcro. A wide range of finishing materials ensures high aesthetics of the product. It is possible to personalize the corset visually.

**Corsets for the treatment of scoliosis:** the mechanism of the corset's operation is based on a three-point distribution of corrective forces, causing the displacement of specific areas of the torso under the influence of pelottes and relieving areas.

**The main concept is the correction of the deformity of the spine in three planes:**

frontal - lateral shift,

sagittal - deformities of lordosis and kyphosis,

**We distinguish two mechanisms of influence and correction with the use of corset treatment - passive and active.**

**Passive correction:**

**lateral displacement** - tissue shifting with pelottes,  
**spine derotation** - reducing the pathological position of the vertebrae (rotation),  
**elongation** - lengthening the spine as a result of supporting with the corset planes.

**Active correction:**

- anti-gravity action to counteract deepening of the curvature,
- corrective effect during the growth period,
- restoring and maintaining proper muscle structure.

The corset is made to order and based on the recommendations of the referring physician (most often - an orthopedist). Each case is considered individually, hence a flexible scheme of conduct, allowing for the use of various types of materials and techniques of taking the measurement. In order to ensure the professional performance of the corset, close cooperation between the attending physician, the physiotherapist and the technician providing the supplies is recommended. The corset should be individually adjusted to each patient and changed as the child grows in order to correct the curvature best. The effectiveness of the comprehensive treatment process will be ensured by follow-up visits to make adjustments, taking into account the current physiological condition of the patient.



Optimal solutions

## Frequently asked questions during corset treatment

### **Is the corset heavy?**

The corset is not heavy. It is made of a thin rigid material. Large unburdening holes are cut. Top-class materials allow for a strong cutting of the corset, maintaining its proper stiffness, which assure low weight and high comfort of use.

### **Can a corset be colorful?**

Yes, it is possible to personalize the corset by choosing its colors from the template.

### **How to take care of hygiene?**

The corset can be washed with water only, water and liquid or disinfectants. You can also order a corset made of an antibacterial plate, which makes it easier to maintain hygiene.

### **Can the corset deform during use?**

The corset does not change its shape, it can be freely bent during use, it does not affect its shape.

How long should you wear a corset?

According to medical indications.

## Instructions for the use of corsets

Ultimately, the corset should be used 22 hours a day, with a break for the toilet and exercises. In the initial phase, it is not possible to stay in the supply for such a long time. It is therefore necessary to gradually accustom the body to the corset.

**1st stage** - 6 hours a day (day 1 and 2).

Wearing the corset for 2 hours. After removing the corset, check the condition of the skin. Remember about the skin care.

If there are red marks, it's best to wait for them to disappear before resupplying. The corset should not be removed for more than an hour. It is recommended to wear the corset for at least 6 hours in total during the day.

**2nd stage** -10 hours a day (day 3 and 4)

Use of the corset starting from 3 hours, gradually extending the time to 10 hours a day. It is recommended to regularly check the skin under the corset.

**3rd stage** -16 hours a day (day 5 and 6)

Once your body has adjusted to wearing the corset for about 10 hours, you can wear it according to the following schedule:

- put on after the morning toilet,
- take off around noon (4 hours later),
- put on again around 2:00 p.m.,



- take off before the evening meal,
- put on around 22:00,
- go to sleep in a corset.

#### **4th stage** - 22 hours a day

From the third stage, when wearing the corset does not cause any problems, including sleeping, you can move on to the next stage, which is wearing the corset almost continuously (22 hours a day). Red marks may appear on the body due to the frequent use of the corset, and thus the pressure it exerts on certain areas of the spine and ribs for therapeutic purposes. Red marks on the skin after removing the corset should disappear within an hour. An important recommendation is the use of body-fitting t-shirts to prevent skin irritation, often caused by pressure from the folded fabric underneath the corset. The corset should be precisely and tightly fastened.

## Stages of corset production

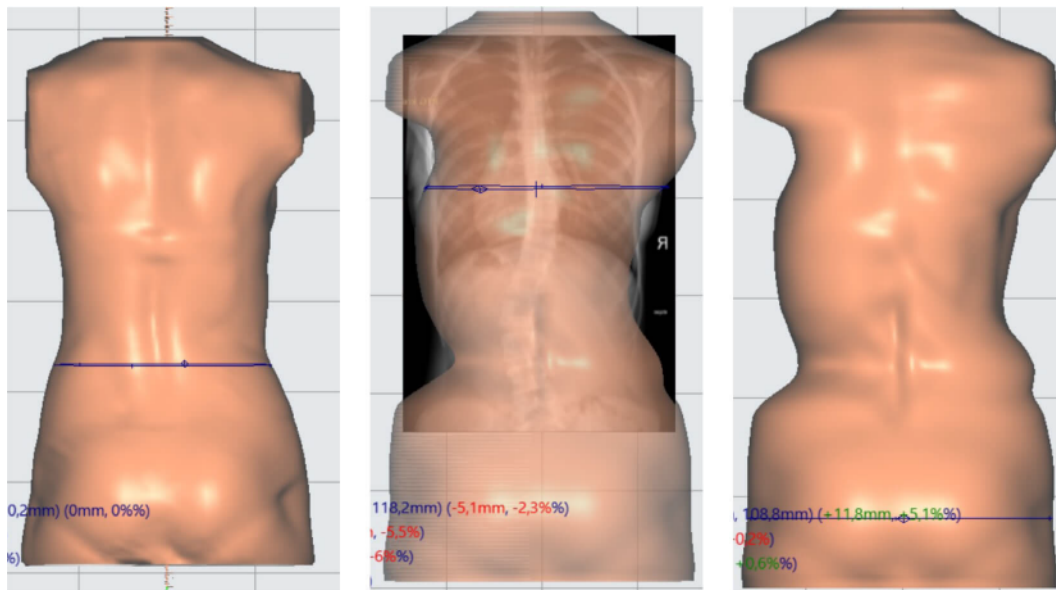
### Scanning

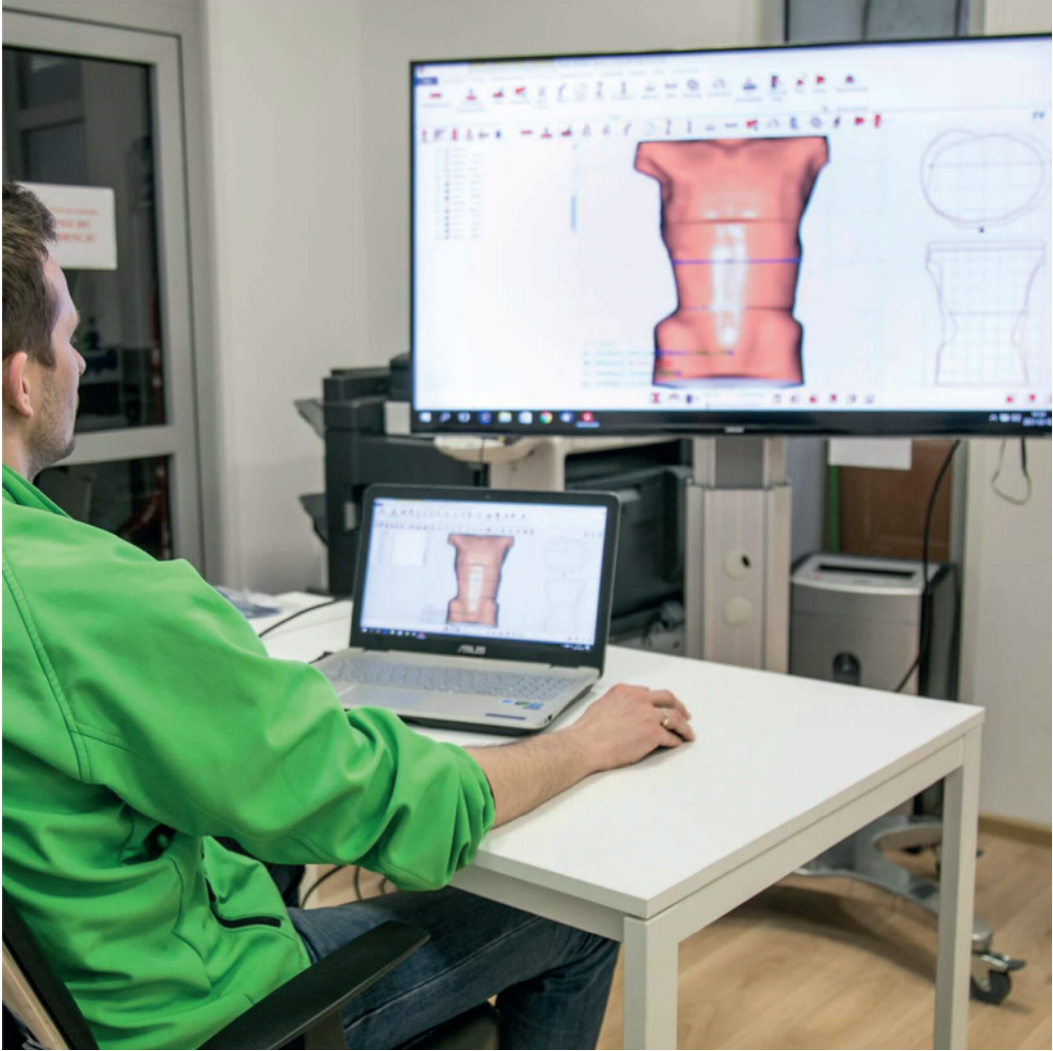
We use a 3D scanner to take the measure. It is a completely non-contact method, safe and patient-friendly. The stress level in comparison with the plastering method is practically reduced to zero. The entire process takes no more than 5 minutes. The obtained model is a perfect representation of the patient's body, taking into account the smallest details.



## Designing

The next stage is the execution of a computer project. It is characterized by very high accuracy. This method allows to superimpose an X-ray image on the created model and to simulate the designed supply. This allows to avoid errors during production and to make perfectly matched supplies.

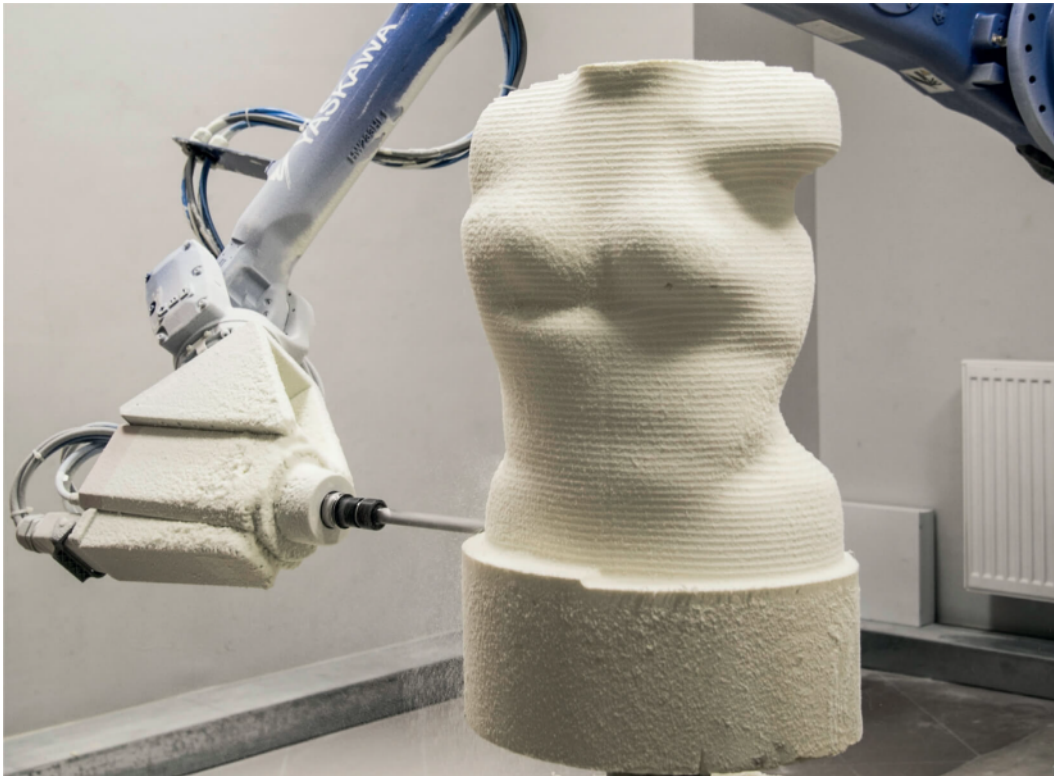




Optimal solutions

## Milling

We are one of the few companies that owns a milling robot. All models are cut with its use, every detail is made with great precision, keeping the smallest details.



## Molding



## Cutting and processing

The greatest advantage is the high precision and the highest quality of supplies. The order fulfillment time is only up to 10 business days. In practice, this means that you can have a corset ready within a few days of taking the measurement.



## Types of corsets

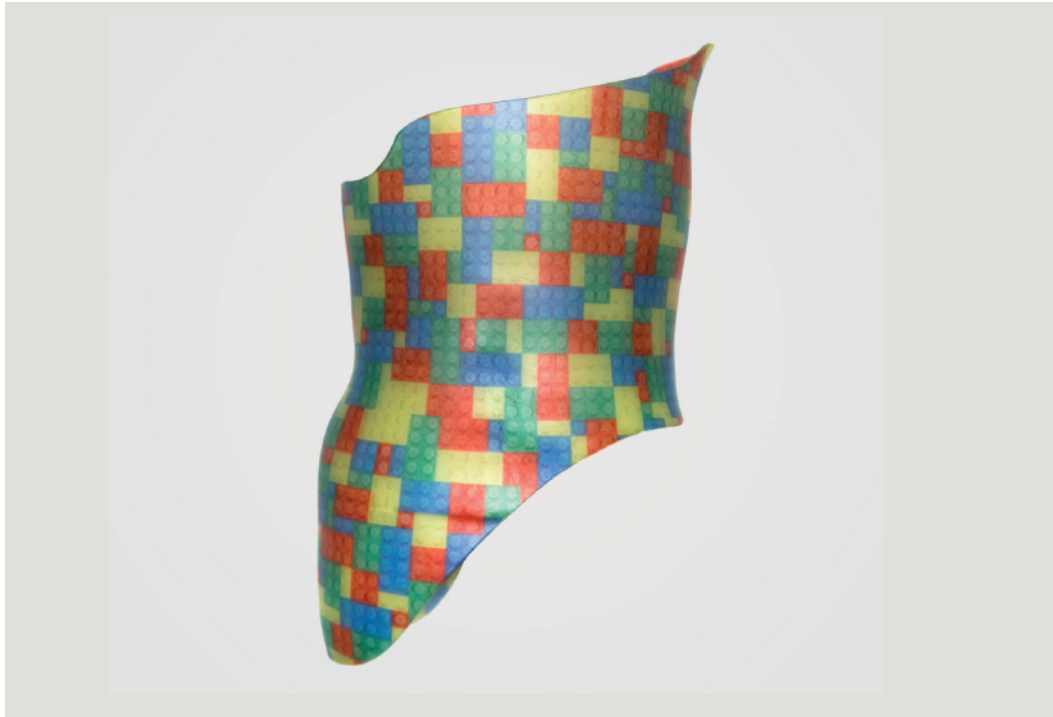
Corsets for the night

Charleston type Corset - hyper-corrective night corset, often used as a complementary treatment





**Providence type corset** - corset for the night, often used by patients in the case of disapproval of wearing the corset during the day



## Corsets for day and night

**BOSTON type corset** - used for single-arch scoliosis



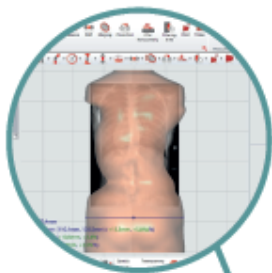
**Cheneau type corset (Rigo-Cheneau)** - used in double-curve scoliosis;  
the most commonly used type of corset



**Extensive corset** - used in the treatment of thoracic hyperkyphosis, Scheuermann's disease



# Cooperation scheme - production of orthopedic corsets



## Designing

To complete the project, you need a 3D scan in STL format and an X-ray image



## Molding

Possibility to choose the type and thickness of the PE plate 3, 4, 5 mm and PP3,4, 5 mm



## Ready corset



## Milling

Block hardness scan  
Możliwość wyboru twardości bloku



## Final processing

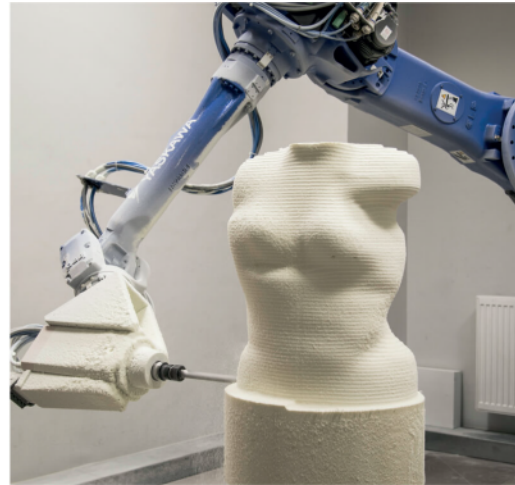
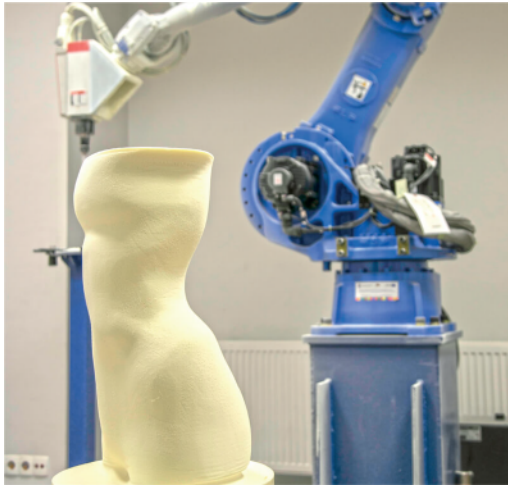
and assembly of fasteners

## What makes us stand out ?

### Innovation

#### Milling robot

As one of the few companies in Europe, we have a milling robot. Milling robots enable the processing of objects with large dimensions and very complex shapes. All models are cut using a milling robot, every detail is made with great precision, keeping the smallest details. Compared to plaster method it also dramatically reduces the time of the production process.



## Machinery park

Specialized machines of our construction allow us to quickly and precisely create an individual patient model on which an orthopedic corset is made.





Optimal solutions



## Why is it worth cooperating with us?

- Advanced production process - own machinery park
- The highest quality materials
- Fast order fulfillment
- Experience and precision
- Competitive price

ASTEND

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