



## Product Catalog

Discover the possibilities  
of mass customization for  
orthotic devices



# Reinventing Orthopedics

Spentys is a trusted clinical partner and full solution provider for all non-invasive immobilization and functional orthopedic treatments.

Spentys offers a complete, effective, and clinically-validated software solution to create high-quality orthoses faster and at lower costs. The Spentys solution and flexible services integrate easily with your existing workflow resulting in a frictionless experience loved by orthotists as well as their patients.

# Table of Content

4	<a href="#">About Spentys</a>
4	Streamline your workflow
6	<a href="#">3D printing</a>
6	In-house 3D printing
7	Outsourced 3D printing
8	<a href="#">Spentys services</a>
8	Training
9	R&D service
10	<a href="#">Orthoses</a>



12	Orthoses for the upper limbs	
14	Forearm	A1, A2, A3, A4
18	Wrist	W1, W2
20	Hand	H1, H2, H3, H4, H5
26	Elbow	E2, E3, E6
29	Thomine	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9
38	Orthoses for the lower limbs	
40	Foot	B1, B2, B8
44	Orthoses for the head	
46	Head	C1, C2, C5
50	Molding devices	
51	Mold	M2, M3
54	Materials	
56	Materials table	
60	How to get started	



# Optimize your production with our scan-model-print platform

The Spentys solution eliminates time-consuming procedures and labour-intensive processes from the traditional workflow, enabling a digital workflow that offers a frictionless and efficient experience for orthotists as well as their patients. Manage the entire process from scan to fitting in our easy-to-use, online platform.



## 3D Scanning

Scanning the patient's limb ensures you obtain accurate dimensions, taking into account all specific morphologies. You'll no longer need plaster casts or other tedious measuring methods.



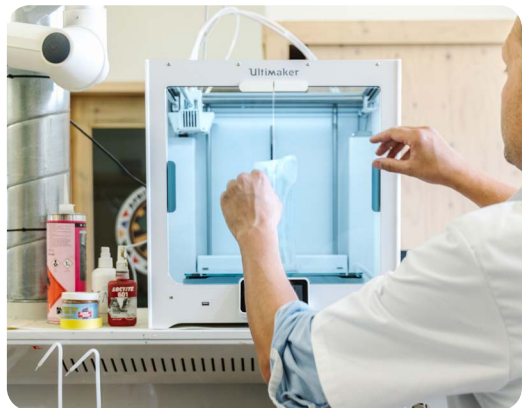
## 3D Modelling

The Spentys solution allows you to model tailor-made immobilization devices without prior CAD knowledge. Spentys' algorithms handle the modelling process to ensure you can focus on providing the best care for your patients. Collaborate on the most complex clinical cases with our R&D team.



## 3D Printing

By 3D printing the devices through the Spentys platform, you remain in full control of the production of orthoses, at your practice or in our state-of-the-art production facility.





# In-House 3D Printing

Our 3D printing experts will help you set up a 3D printing station at your practice. By printing locally, you remain in full control over the manufacturing of your orthoses and you eliminate variables that come with transportation. To assist you in setting up a local 3D printing workshop, we provide educational content, printers, hands-on training and tool kits.





# Outsourced 3D Printing

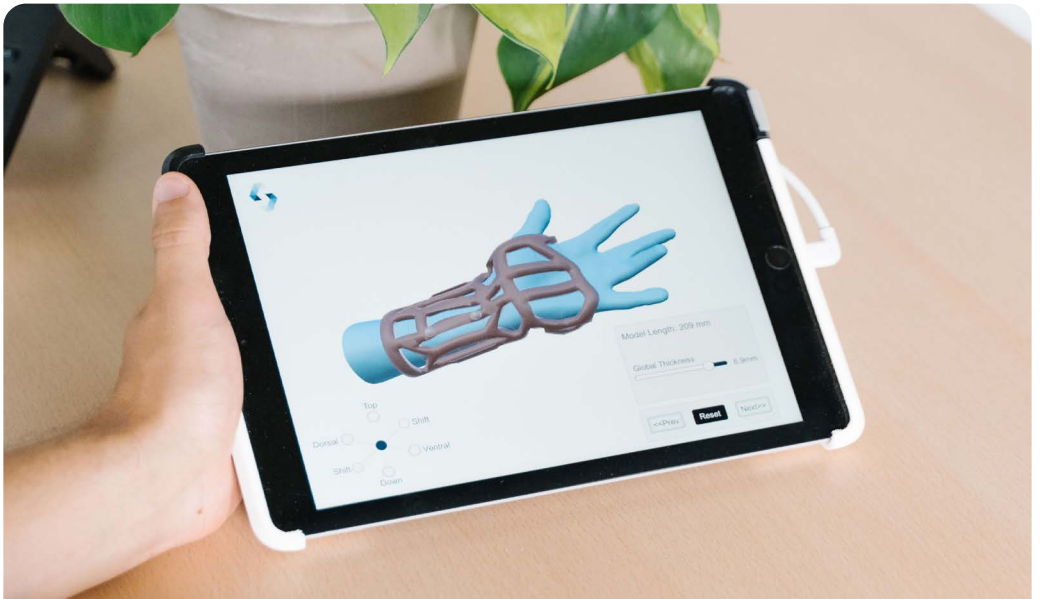
Not sure if your printer will be able to handle a complex print? In need of other materials? Or do you have a flux in demand and looking to temporary outsource part of your production? Choose to have (some of) your orthoses printed at our state-of-the-art production facility or a third party company that specializes in 3D printing.



# Spentys Services

Explore the endless possibilities of 3D innovation.

Contact us for more information regarding the Spentys services by mailing to [info@spentys.com](mailto:info@spentys.com).



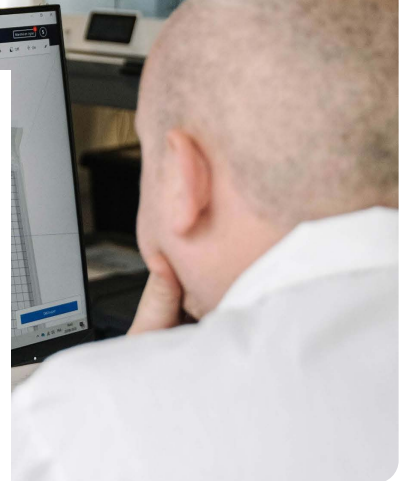
## Training

Spentys experts will help you get up and running with your new digital workflow. Everything from installing the printers, connecting to the platform, and demonstrating scanning techniques. We provide educational content, hands-on training, and webinars regularly. We also assist you in choosing a printing solution that matches your workshop.



## R&D service

Our services don't stop when your digital workflow is up and running. We become a trusted partner for your innovative projects. You can consult our R&D service to implement 3D technology for special applications. With this unique service, you can leverage the experience of our 3D technology experts in the creation of patient-specific orthoses and discover the full potential of 3D technology at your own pace.



# Orthoses

We have carried out thousands of hours of research and development, so we can offer you a wide range of pre-designed orthoses to choose from.

Using our platform, you can personalise them to the patient's needs.



Light and water-resistant



Variable thickness and stiffness



Durable construction and shock-resistant



Recyclable



Comfortable and breathable



In this catalog, we showcase the pre-designed orthoses available on the Spentys platform. You can adjust all devices to meet specific clinical needs. The possibilities of the Spentys solution are not limited to the pre-designed orthoses displayed in this catalog. New orthoses are added to the platform regularly. Furthermore, we provide an R&D service where we help you create unique immobilization devices.

***“All orthoses can be modelled on the Spentys platform to achieve an optimal fit and thereby increasing patient satisfaction and compliance.”***

The materials and structure can vary depending on the pathology and the patient’s needs. For example, you can make sure the device is X-ray transparent and is suitable for usage during the day (i.e., withstand daily routine activities) or during the night.

# Orthoses for the Upper Limbs

Upper limb orthoses are applied to the arm or segments thereof to immobilize joints, restore function, or correct structural characteristics of the arm segments. 3D printed upper limb orthoses are beneficial for treating both traumatic (e.g., the treatment of patients that suffered a neurological impairment such as stroke or spinal cord injury) and chronic diseases (e.g., arthritis).

## Stabilization, Compression & Correction

Forearm	<a href="#">A1, A2, A3, A4</a>
Wrist	<a href="#">W1, W2</a>
Hand	<a href="#">H1, H2, H3, H4, H5</a>
Elbow	<a href="#">E2, E3, E6</a>
Thomine	<a href="#">Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9</a>









## A1 - Forearm

The A1 attaches to the forearm and immobilizes the wrist with a dorsal opening.

The A1 applies appropriate support to the forearm and wrist while preserving finger movement. This immobilization device is used for non-/post-/pre-surgery treatment and is also suitable for treating a variety of pathologies, including scaphoid fractures, radius fractures, acute arthritis flare-ups, acute TFCC ligament injuries, arthroplasty, contractures, complex regional pain syndrome, and osseous contusions. It's also suitable in the case of radial nerve paralysis, rheumatoid arthritis, synovitis, (sub)luxation, as well as wrist strain, tendinitis, tendinosis, and wrist sprain.



## A2 - Forearm & Thumb

The A2 attaches to the forearm and immobilizes the wrist and thumb with a dorsal opening.

The A2 securely supports the forearm, wrist, and thumb while preserving finger movement for the other fingers. This immobilization device is used to treat basal thumb arthritis, De Quervain's syndrome, and Gamekeeper's thumb. It's also suitable for treating acute arthritis flare-up, arthroplasty, contractures, osseous contusions, complex regional pain syndrome as well as radial nerve paralysis. Furthermore, the A2 can also be used for rheumatoid arthritis, (sub)luxation, and synovitis.



## A3 - Forearm Medial Opening

The A3 attaches to the forearm and immobilizes the wrist with a medial opening.

The A3 applies appropriate support to the forearm and wrist while preserving finger movement. This immobilization device is used for non-/post-/pre-surgery treatment and is also suitable for treating a variety of pathologies, including radius fractures, acute arthritis flare-ups, acute TFCC ligament injuries, arthroplasty, contractures, complex regional pain syndrome, and osseous contusions. It's also suitable in the case of radial nerve paralysis, rheumatoid arthritis, synovitis, (sub)luxation, as well as for wrist strain, tendinitis, tendinosis, and wrist sprain.

The medial opening makes it easy to slip in and out of the immobilization device.



## A4 - Forearm & Thumb Medial Opening

The A4 attaches to the forearm and immobilizes the wrist and thumb with a medial opening.

The A4 securely supports the forearm, wrist, and thumb while preserving finger movement for the other fingers. This immobilization device is used for treating basal thumb arthritis, De Quervain's syndrome, and Gamekeeper's thumb. It's also suitable for the treatment of acute arthritis flare-up, acute TFCC ligament injuries, arthroplasty, contractures, osseous contusions, complex regional pain syndrome as well as radial nerve paralysis. Furthermore, the A4 can also be used for rheumatoid arthritis, (sub)luxation, and synovitis.

The medial opening makes it easy to slip in and out of the immobilization device.



## W1 - Wrist

The W1 attaches to the lower segment of the forearm and hand to support the wrist.

The W1 is suitable for treating fractures (including scaphoid fractures), acute arthritis flare-up, acute TFCC ligament injuries, arthroplasty, carpal tunnel syndrome, contractures, and osseous contusions. It's also suitable in the case of radial nerve paralysis, rheumatoid arthritis, synovitis, (sub) luxation, as well as for wrist strain, tendinitis, tendinosis, and wrist sprain.



## W2 - Wrist & Thumb

The W2 attaches to the lower segment of the forearm and the hand to support the wrist and immobilize the thumb.

The W2 is suitable for treating fractures (including scaphoid fractures), acute arthritis flare-up, acute TFCC ligament injuries, arthroplasty, carpal tunnel syndrome, contractures, and osseous contusions. It's also suitable in the case of radial nerve paralysis, rheumatoid arthritis, synovitis, (sub)luxation, as well as wrist strain, tendinitis, tendinosis, and wrist sprain.

Furthermore, the immobilization of the thumb makes the W2 suitable for the treatment of basal thumb arthritis, De Quervain's syndrome, and Gamekeeper's thumb.

The medial opening makes it easy to slip in and out of the immobilization device.



## H1 - CMC

The H1 attaches to the hand and will leave the thumb free to move in the MCP joint.

The H1 is suitable for treating acute arthritis flare-up, arthroplasty, osseous contusions, rheumatoid arthritis, (sub)luxation, synovitis, complex regional pain syndrome, tendinitis, and tendinosis. It's often used to treat CMC thumb arthritis, and De Quervain's syndrome.





## H2 - Thumb & CMC

The H2 attaches to the hand and immobilizes the thumb MCP joint.

The H2 is suitable for treating acute arthritis flare-up, arthroplasty, osseous contusions, rheumatoid arthritis, (sub)luxation, synovitis, complex regional pain syndrome, tendinitis, and tendinosis. It's often used to treat CMC thumb arthritis, De Quervain's syndrome, and Gamekeeper's thumb.



## H3 - Hand Pulpal Support for All Fingers

The H3 is attached to the hand to support the fingers into the desired position.

The H3 is suitable for the treatment of contractures, hand, and finger deformities. It's designed initially for the Dupuytren condition but has also proven to be useful for treating Swan neck, boutonnière deformities, and deformities due to finger flexion spasm. Furthermore, it can be used for conditions that can lead to a loss of mobility of the PIP joint, such as fractures, joint dislocation, subluxation, and synovitis.



## H4 - Hand Pulpal Support for 1, 2 or 3 Fingers

The H4 attaches to the hand and can be used to support 1, 2 or 3 fingers into the desired position.

The H4 is ideal for preventing finger flexion spasm and deformities due to spasticity. It can also be used for arthroplasties, contractures (including Dupuytren's contractures), hand/finger deformities, stiff finger joints, and skin graft.



## H5 - Hand Palm

The H5 provides palmar support of the hand and fingers.

The H5 can be used to prevent finger deformities and finger flexion spasm. It can also be used to treat arthroplasties, stiff finger joints, contractures, osseous contusions, and following skin graft.

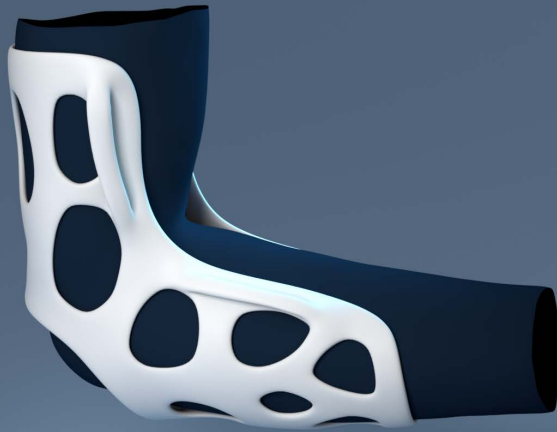


## E2 - Elbow

The E2 attaches to the arm and forearm to restrict the movement of the elbow joint, keeping the elbow in the desired position while leaving the hand and wrist free to use.

The E2 can be used for non-/post-/pre-surgery treatment and is suitable for a variety of pathologies, including acute arthritis flare-up, acute TFCC ligament injuries, arthroplasties, brachial biceps rupture, fractured ulna, contractures, complex regional pain syndrome, and cubital tunnel syndrome. It's also intended for instability of the elbow joint, osseous contusions, rheumatoid arthritis, (sub)luxation, synovitis, tendinitis, and tendinosis.

The angle of immobilization at the elbow joint can vary depending on the pathology and the patient's needs.

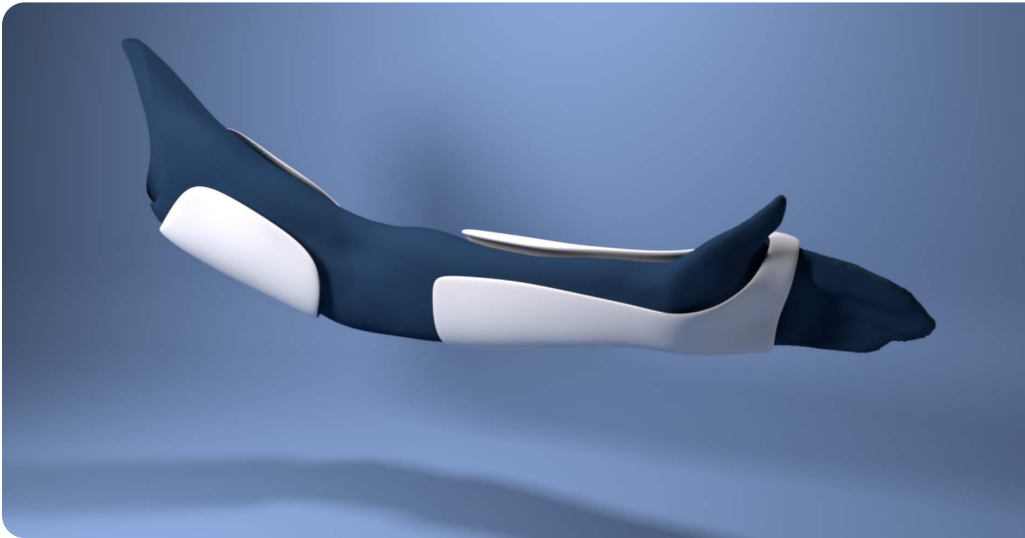


## E3 - Elbow short

The E3 is a shorter version of the E2.

The E3 attaches to the arm and forearm to restrict the movement of the elbow joint, keeping the elbow in the desired position while leaving the hand and wrist free of immobilization.

The E3 conceives and stabilizes the elbow joint to maintain the desired position.



## E6 - Elbow Articulated

The E6 is an articulated orthosis composed of a shell for the humerus, a shell for the forearm and the possibility to add an elbow articulation with flexion-extension adjustment.

The E6, as the E2, can be used for non-/post-/pre-surgery treatment and is suitable for a variety of pathologies, including acuter arthritis flare-up, acute TFCC ligament injuries, arthroplasties, brachial biceps rupture, fractured ulna, contractures, complex regional pain syndrome, and cubital tunnel syndrome; It's also intended for instability of the elbow joint, osseous contusions, rheumatoid arthritis, (sub)luxation, synovitis, tendinitis, and tendinosis. The angle of immobilisation can be adjusted with the elbow articulation, depending on the pathology and the patient's needs.

Note: the articulation is not provided by Spentys.





## Q1 - Thomine

The Q1 provides ventral and palmar support to the forearm and hand with the wrist in extension at an angle of approximately 15° with the MCP in a neutral position.

The Q1 is ideal for preventing finger flexion spasm and deformities on patients with spasticity. It can also be used in the case of arthroplasties, contractures, hand/finger deformities, osseous contusions, stiff finger joints, and following skin graft.



## Q2 - Thomine Intrinsic (POSI Position)

The Q2 provides ventral and palmar support for the forearm, hand, and fingers in a POSI position.

The Q2 is ideal for preventing finger flexion spasm and deformities on patients with spasticity. It can also be used in the case of arthroplasties, contractures, hand/finger deformities, stiff finger joints, and following skin graft.



### Q3 - Thomine Intrinsic for 1, 2 or 3 Fingers

The Q3 provides ventral and palmar support to the forearm, hand and either 1, 2, or 3 fingers while the others remain free.

The Q3 is ideal for preventing finger flexion spasm and deformities on patients with spasticity. It can also be used in the case of arthroplasties, contractures (including Dupuytren's contractures), hand/finger deformities, stiff finger joints, and following skin graft.



## Q4 - Thomine Intrinsic Dorsal Coverage

The Q4 provides dorsal support to the forearm, hand, and fingers in a POSI position.

The Q4 is ideal for preventing finger extension spasm and deformities on patients with spasticity. It can also be used in the case of contractures, hand/finger deformities, stiff finger joints, and following skin graft.



## Q5 - Thomine Intrinsic Forearm Dorsal Coverage & Fingers Pulpal Coverage

The Q5 provides dorsal support for the forearm and palmar support for the hand and fingers, maintaining a POSI position.

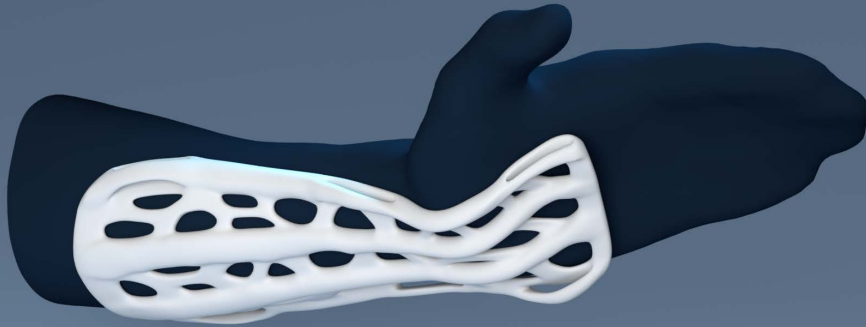
The Q5 is ideal for preventing finger flexion spasm and deformities on patients with spasticity. It can also be used in the case of contractures, hand/finger deformities, stiff finger joints and following skin graft.



## Q6 - Thomine with Individually Separated Fingers

The Q6 provides ventral and palmar support to the forearm, hand, and fingers. The MCP joints are positioned in a neutral position.

The Q6 is ideal for preventing finger flexion spasm and deformities on patients with spasticity. It can also be used in the case of contractures (including Dupuytren's contractures), hand/finger deformities, stiff finger joints and following skin graft.



## Q7 - Thomine Temporary and Pre-Made

The Q7 stabilizes the wrist.

The Q7 can be useful in case of wrist sprain or wrist fracture (as long as it's non-displaced and does not required a bigger coverage for the safety of the patient).

It's a temporary solution while a 3D orthosis specific to the patient needs is made.





## Q8 - Thomine Free Thumb

The Q8 provides ventral and palmar support to the forearm, hand and fingers with the wrist in extension at an angle of approximately 15° and the MCP in a neutral position.

The Q8 leaves the thumb free and can be used for finger/hand deformities, stiff finger joints and following skin graft.



## Q9 - Thomine with Thumb

The Q9 stabilizes the hand.

The Q9 provides ventral and palmar support for the forearm, hand, and thumb in a POSI position with or without dorsal opening on the thumb.



# Orthoses for the Lower Limbs

Lower limb orthoses are applied to lower-body segments to restore or improve function by controlling motion, providing support, correcting flexible deformities, and preventing the progression of fixed deformities. Furthermore, they can be used to reduce pain by transferring load to another area of the body. 3D printing (dynamic) lower limb orthotic devices, or certain parts, allows to deliver perfect fitting devices.

## **Stabilization, Compression & Correction**

Foot                      [B1, B2, B8](#)





## B1 - Foot Immobilization Boot

The B1 supports the foot and ankle to maintain the ankle at a neutral position.

The B1 is intended to be used for the prevention of a relapse into the clubfoot position. The sole of the B1 can be adjusted for daily and/or nightly usage. The design and material choice of the B1 reduce the risk of skin irritation (e.g., blisters and skin breakdown) on the feet resulting in maximal comfort for the child.



## B2 - Foot AFO

The B2 stabilizes the foot and ankle to control the position and motion.

The B2 immobilizes, compensates for weakness and corrects deformities, allowing it to be used to support weakened lower limbs or to reposition limbs with contracted muscles into a more natural position. AFOs are used in the management of peroneal paralysis, peroneal tendon injury, tibial tendon injury, Achilles tendonitis, Achilles tendon rupture, and in postoperative Achilles tendon surgery.

B2 can also be used to contain foot drop caused by various neurological, musculoskeletal, and spastic conditions.



## B8 - Articulated AFO

The B8 is designed with an articulated ankle and plantarflexion stop.

The B8, like the B2, compensates for weaknesses and corrects deformities. Therefore, it can be used to support weaker limbs or to reposition limbs with contracted muscles into a more natural position. AFO Foot Lifters are used in the management of peroneal paralysis, peroneal tendon injury, tibial tendon injury, Achilles tendonitis, Achilles tendon rupture, and in post-operative Achilles tendon surgery.

In addition, the B8 can be used to control foot drop caused by a variety of neurological and musculoskeletal disorders, and spasticity.





Please hold still so we can capture a keyframe...

# Orthoses for the Head

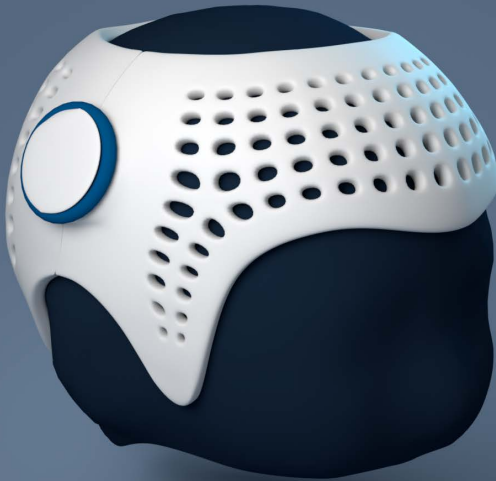
These orthoses are applied to the head to immobilize, protect, and correct deformities. 3D printing head orthoses allows to deliver perfect fitting devices increasing the overall comfort of the rehabilitation.

## **Stabilization, Compression & Correction**

Head

C1, C2, C5





## C1 - Helmet (for Infant)

The C1 attaches to the head of the infant and functions as correction and protection of the head.

The C1 is used for non-surgical treatment of infants suffering from plagiocephaly. The helmet can be modelled to achieve an optimal fit and thereby optimizing comfort.



## C2 - Nose Protection Mask

The C2 attaches to the head  
to protect the nose.

The C2 can be used to cover and protect affected or unstable parts of the face, such as fractured nasal, maxilla, or zygomatic bones.

Head



## C5 - Helmet Superficial Protection

The C5 attaches to the head  
(of the infant) and functions  
as (local) protection.

The C5 protects the head from injuries.





Molding

# Molding Devices

Besides orthotic devices, we provide custom made 3D printed parts that can be used as molds to deliver handmade orthotic devices faster and with a higher accuracy rate.

Molding

[M2, M3](#)





## M2 - Foot Mold for Orthopedic Shoe

The M2 is used by practitioners as a mold to facilitate the creation of custom-made orthopedic shoes.



## M3 - Arm Mold

The M3 is a copy of the forearm limb with the desired modification (e.g. articulation angle modification, the circumference of the thumb, ...) to be used for the creation of a leather splint.



# Materials

These devices are made with various types of materials including thermoplastics, carbon fibre, elastic or a combination of similar materials.

The materials that we offer for 3D printing orthoses are biocompatible and easily printable. Your choice of material will have a considerable impact on the outcome and quality of the orthotic device.

All materials have been tested according to the ISO-10993 requirements, ensuring extensive quality control. You can order the following materials on the platform.



# Materials Table

**PP**  
(Tough 1500  
& ST45)



**PET Carbon**  
(Nylon 11, PA11  
& PA12)



Durability		
Flexibility		
Weight		
Properties	<p>Semi-flexible</p> <p>Fatigue-resistant (retain shape after deformation)</p> <p>Chemical-resistant and thermoformable</p>	<p>Rigid</p> <p>Retains structural integrity over time</p> <p>Chemical-resistant</p>
Main uses for orthopedic practitioners	Ideal for all kinds of semi-rigid orthoses	Ideal for strong and light orthoses for chronic pathologies (e.g., KAFO) and post traumatic recovery (e.g., protection mask)

PLA  
(PETG)



TPU



Rigid

Flexible

Thermoformable

Retains structural integrity  
over time

Wear and tear resistant

Ideal for rigid orthoses and  
orthopedic support

Ideal for flexible yet  
durable orthotic devices  
(e.g., insoles, foot orthoses,  
and thumb support)

The Spentys platform allows you to integrate different printing techniques and to use a wide range of materials. Don't hesitate to contact us if you want more information on using other materials or printing techniques.

# How to Get Started with Spentys

You are only three steps away from creating orthotic devices that patients desire.

## Sign up

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Go to [www.spentys.com/start-today](http://www.spentys.com/start-today) and book a meeting with one of the Spentys application specialists.

## Set-up

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We will provide an initial set-up and a practical workshop to get you started with our platform during the first meeting. We also assist you in choosing a printing solution that matches your organisation.

## Kick-off

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Start treating your first patients with the Spentys solution.







SPENTYS

REINVENTING ORTHOPEDICS

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For pricing and other questions :

Visit our website [www.spentys.com](http://www.spentys.com)

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