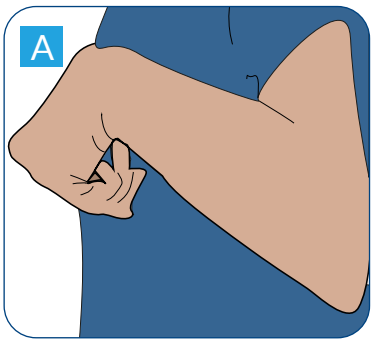
allard
Support for better life!

S.O.T
Resting Splint and Thumb Orthosis

S.O.T Resting Splint
Maintain or increase the mobility of the hand

Background

Many patients who have experienced a stroke, over time may get a variety of complications, such as spasticity, paralysis, pain, loss of sensation, decreased proprioception and oedema of the hand and arm. These complications can cause a reduction of mobility in the hand and eventually contractures may develop (A). Therefore, it is important to start with orthotic treatment, along with hand therapy at an early stage, before spasticity is established, and contractures occur.



Intended use

S.O.T is a resting splint designed for patients with spasticity or paresis of the hand and arm when the objective is to maintain or increase the mobility of the upper limb. The S.O.T is smooth, lightweight and has an aluminium core that allows adjustment to the desired position. The aluminium core is embedded into polyethylene foam and covered with fabric.

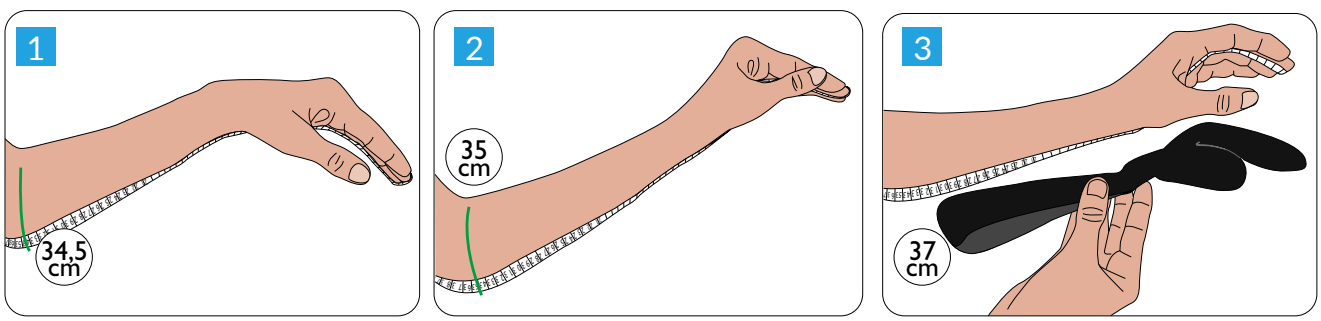
The brace is delivered in a resting position, this position offers relaxation to the hand and may also give pain relief to the patient, it also provides a good biomechanical position that may reduce the risk of flexor shortening at the wrist and fingers.

Patients suffering with rheumatoid pain may benefit from S.O.T, as it prevents the hand from falling into unfavourable painful positions. The orthosis can be adjusted into an alternative resting position.

Maintained or increased elongination of long flexors - at contractures and deformities

When the objective is to maintain or extend the long flexors it is important to consider how the position of the wrist and fingers affects the stretch of the flexors.

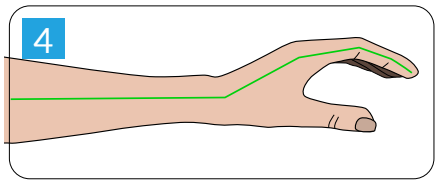
This is illustrated when the wrist, MCP joints and IP joints are extended gradually. The measuring tape symbolises how the flexors extend (Figure 1-3).

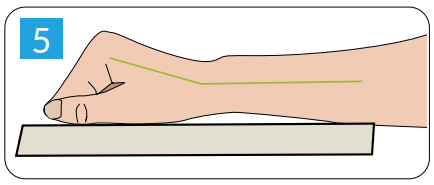


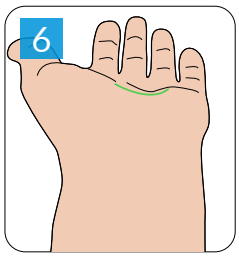
Resting position - support for the MCP- and CMC joints in the thumb

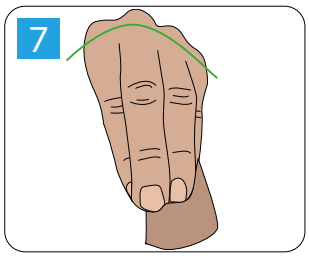
S.O.T Resting splint is supplied in a resting position. Figure 4 and 5 are a guide of how the wrist (4) and the fingers (5) generally should be positioned. An individual assessment of the patient should always be done before fitting. S.O.T Resting splint supports the arches of the hand (picture 6 -8) and the position of the thumb.

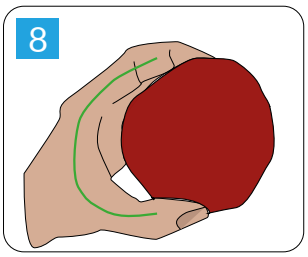
The orthosis anatomic configuration supports the important thenar muscles, and the CMC and MCP joint. This is particularly important for the intended patient groups as the thumb tends to adduct at the CMC joint and hyperextend at the MCP joint. S.O.T Resting splint encourages promotion of an effective grip (Figure 8).











Prevents or reduces the risk of oedema

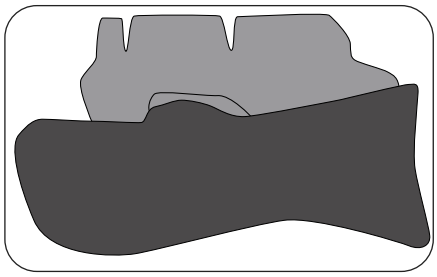
Instead of conventional straps over the fingers, hand and arm (that can cause oedema) the S.O.T Resting Splint has a soft elasticated cover, which keeps the hand and arm in place. The pressure-distribution cover, in combination with an optimal position of the wrist and hand reduces the risk of oedema as it facilitates venous return. The material's smooth outer surface, and its low profile allow the orthosis to fit under clothing (figure 9). To provide firmer pressure over the wrist (for spasticity), the cover can be supplemented with the non-elastic wrist strap (figure 10). S.O.T finger divider prevents skin irritations between the fingers. It also prevents ulnar/radial deviation at the fingers and contributes to a better position (Figure 11).

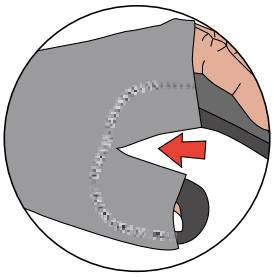
Using the S.O.T wedges, the degree of stretch is changed during treatment to achieve gradual change.

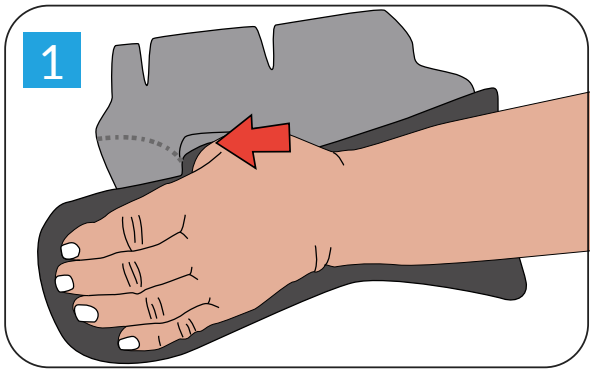
Professional Guide

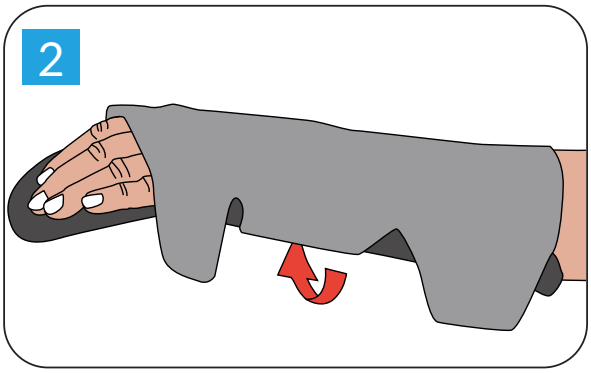
How to put on the orthosis

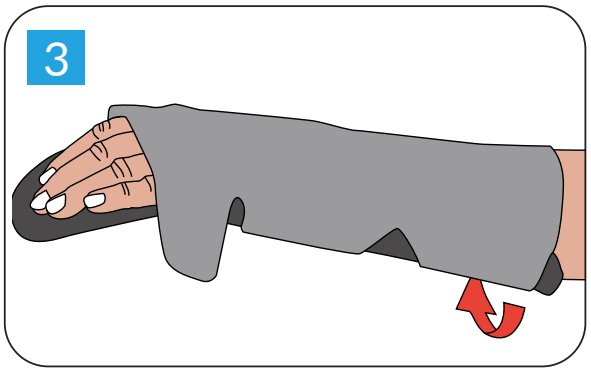
To ensure optimal function it is important that the cover is well applied and adjusted correctly in the thumb section (see illustration in circle below). Attach the cover by starting with the strap over the wrist. Make sure it is equally attached and comfortable. If the hand is swollen a larger size cover may be needed.

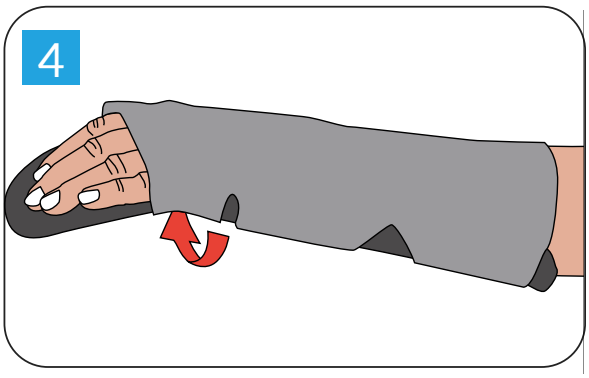


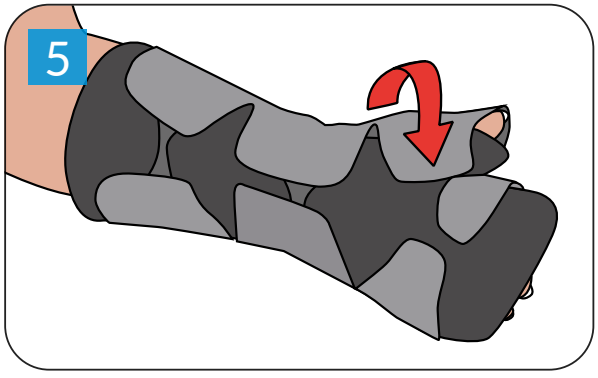






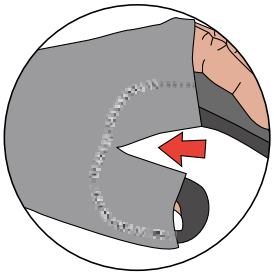


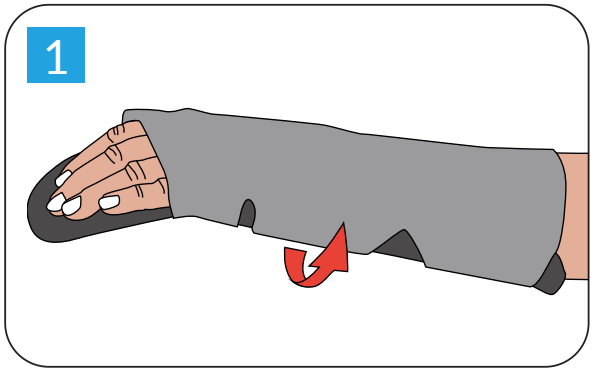


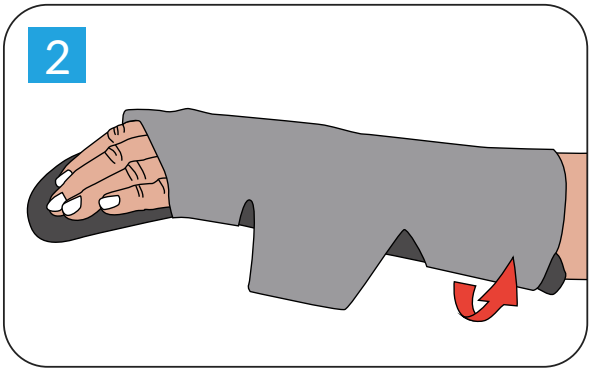


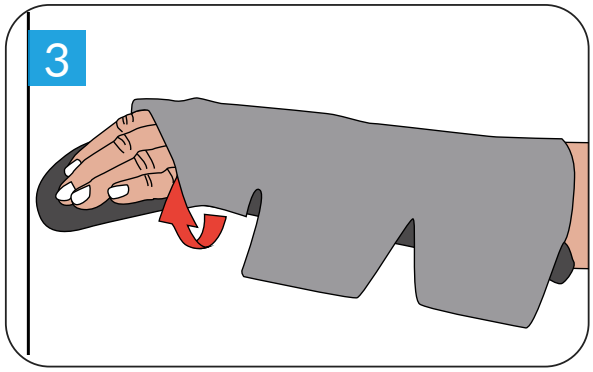
How to remove the orthosis

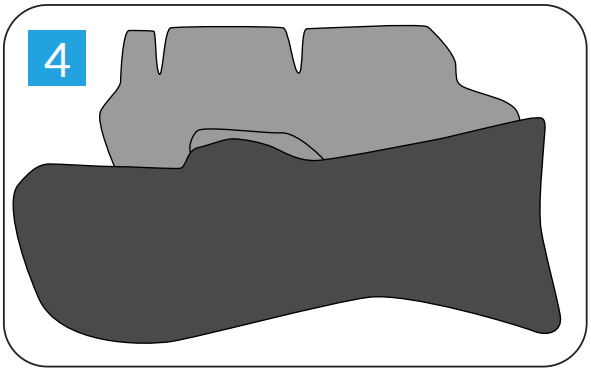
Loosen the cover only on the ulna side in order as shown in illustrations above. Leave the cover attached on the radial side, between the thumb and the first finger (see illustration in circle above). In this way it is easier to put the orthosis back on again.









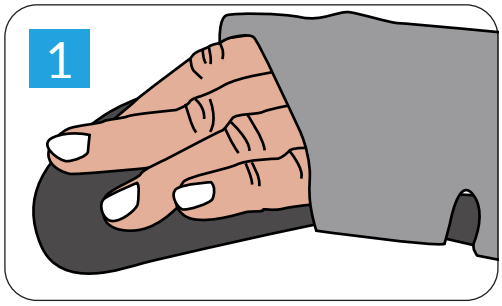


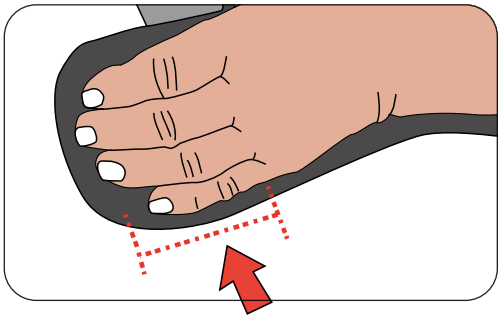
Different ways to use the finger divider

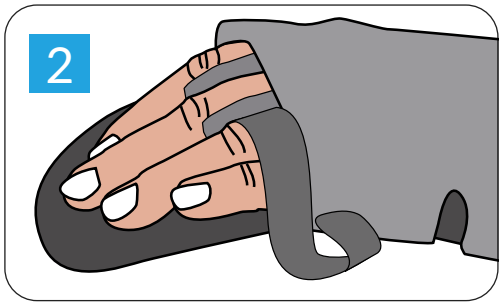
1) If one or more of the PIP-joints have a Swan neck deformity, the finger divider can act as a finger lift and counteract excessive PIP-joints. Then use the strap and the ”walls” as support.

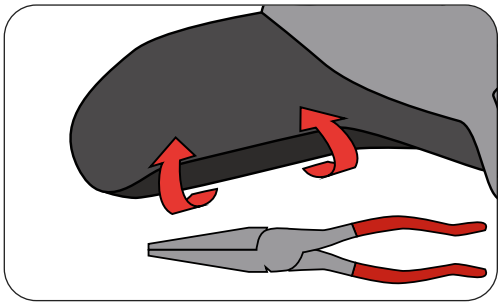
2) If extra support is needed on the ulna side, gently bend the edge of the orthosis with pliers.

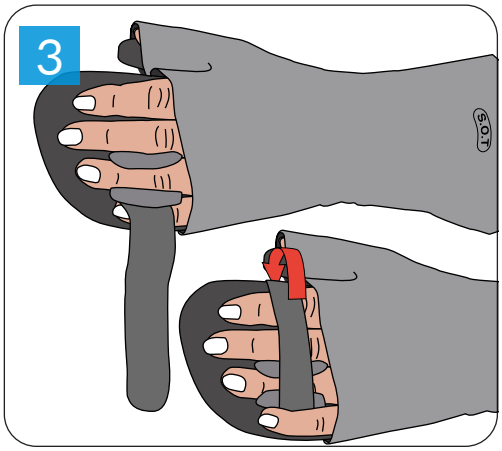
3) The finger divider can be used for one or more fingers. The walls of the finger divider that are not needed can be cut away. The strap must be crossed over the fingers and attached to the bottom of the orthosis.

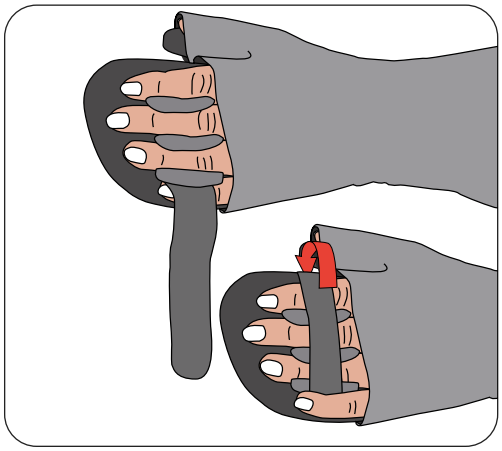




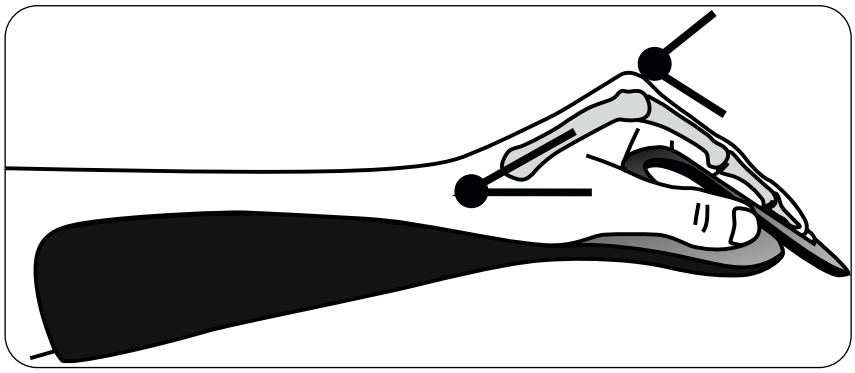




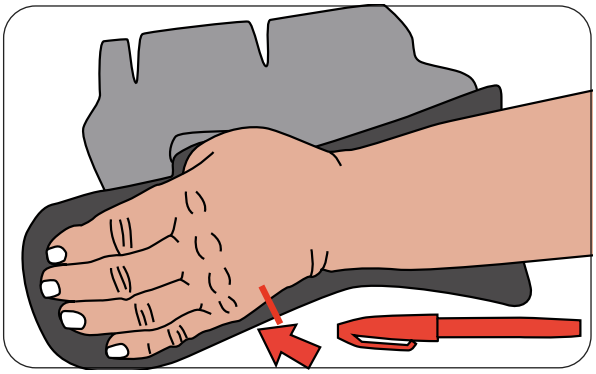


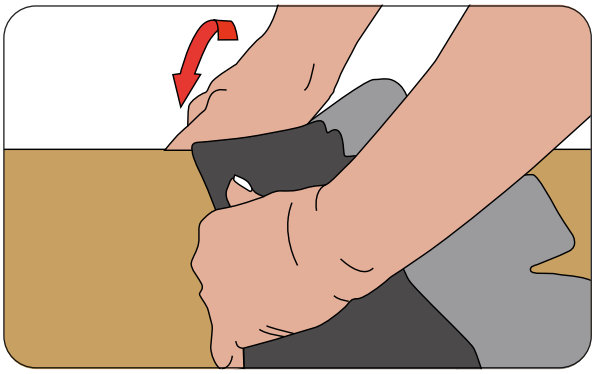


How to re-shape from resting-position to rehab-position

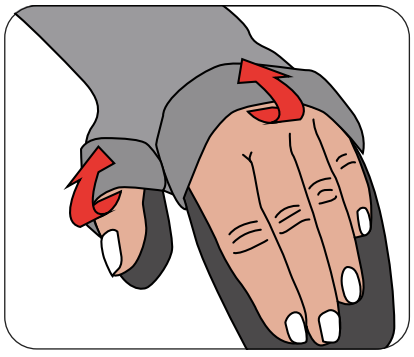


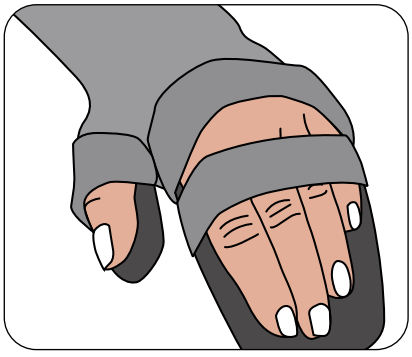
To remould the orthosis in to POSI-position (Position of Safe Immobilization), the distal section of the splint must be adjusted. The area at the MCP joints must be bent into between 60° - 80° of flexion and the area for the IP and DIP joints should be straighten to full extension.





The orthosis has a core of aluminium that allows it to be transformed from its original position, Resting-Position, to Rehab-Position. To do this, use a size smaller and make a mark at the distal curve where the orthosis should be bent. Bend the orthosis over a table edge. It is important not to bend back and forth too many times because the aluminum is soft and may become weak and ineffective. Then straighten the area for PIP and DIP joints to full extension.

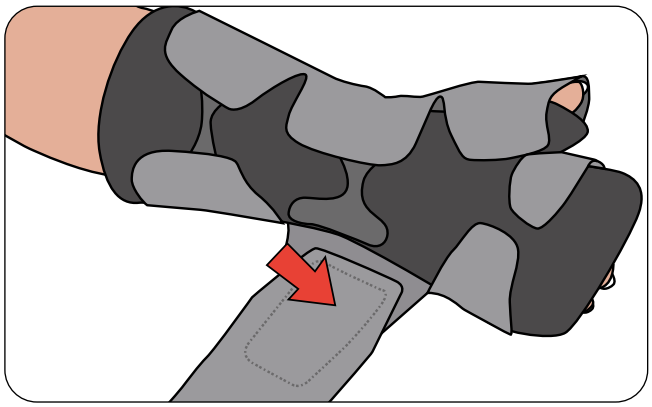


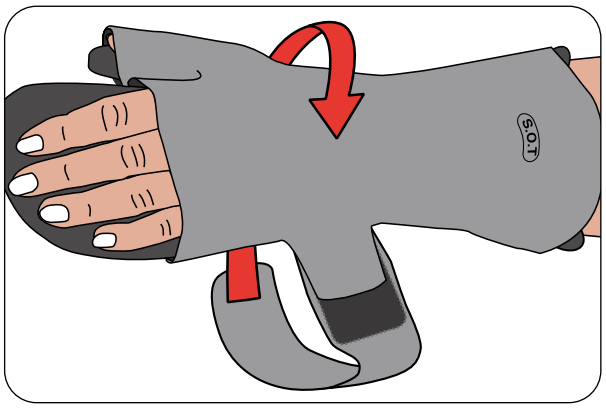


When the orthosis is to be used in Rehab-position, the cover can be folded back so that the MCP-joints are free and an extra strap is placed over the fingers as shown.

Extra strap and its functions

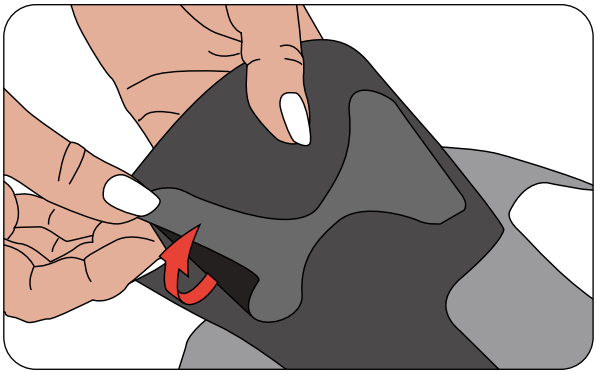
The extra strap is applied to the lining on the ulna side and wraps around the dorsal wrist, and passes over the radial side to hold the wrist in position on the orthosis. Position the extra strap onto the cover so that a piece of hard Velcro protrudes for the strap to attach to.





How to re-position the Velcro on the brace

The Velcro straps located on the underside of the orthosis can easily be moved to new positions if necessary. Firmly tighten the Velcro against the product, otherwise they may loosen or change position during use.

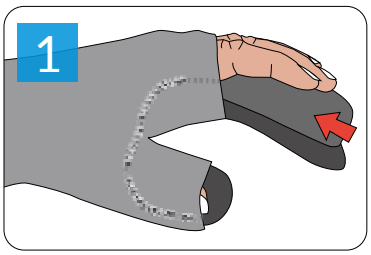


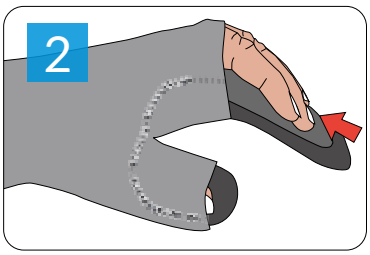
How to use the wedges for different purposes

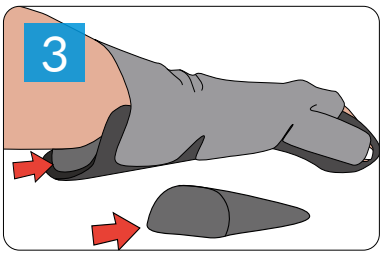
1) With the high part of the wedge distally, the stretch of the long finger flexors (Flexor Digitorum Profundus and Superficialis) increases.

2) With the lower part of the wedge positioned distally the stretch of Intrinsic muscles (Interossei and Lumbricals) increases.

3) To increase the extension of the wrist without reshaping the orthosis, put the wedge in the back of the orthosis with the high part at the back.







Product and size chart S.O.T Resting Splint

Item no.Left	Item no.Right	Description	Side	Size	MCP Width	Wrist to finger top
28710 1008	28710 2008	S.O.T Resting splint	L/R	XXX-Small	5,5cm	≤ 12cm
28710 1009	28710 2009	S.O.T Resting splint	L/R	XX-Small	≤ 6,5cm	≤ 14cm
28710 1010	28710 2010	S.O.T Resting splint	L/R	X-Small	≤ 7,5cm	≤ 16cm
28710 1011	28710 2011	S.O.T Resting splint	L/R	Small	≤ 7,5cm	≤ 18.5cm
28710 1012	28710 2012	S.O.T Resting splint	L/R	Medium	≤ 8,5cm	≤ 20cm
28710 1013	28710 2013	S.O.T Resting splint	L/R	Large	≤ 9 cm	≤ 21cm
28714 1008	28714 2008	Additional cover	L/R	XXX-Small		
28714 1009	28714 2009	Additional cover	L/R	XX-Small		
28714 1010	28714 2010	Additional cover	L/R	X-Small		
28714 1011	28714 2011	Additional cover	L/R	Small		
28714 1012	28714 2012	Additional cover	L/R	Medium		
28714 1013	28714 2013	Additional cover	L/R	Large		
28711 0009		MCP wedge	Bilat.	XX-Small	Width 65mm	Height 10mm
28711 0011		MCP wedge	Bilat.	Small	Width 75mm	Height 15mm
28711 0013		MCP wedge	Bilat.	Large	Width 90mm	Height 20mm
28712 0003		Finger divider	Bilat.	Paediatric		
28712 0005		Finger divider	Bilat.	Medium		
28712 0007		Finger divider	Bilat.	Large		
28713 0009		Extra strap	Bilat.	XXXS-XS		
28713 0012		Extra strap	Bilat.	Small-Large		

Item no.	Description	XXXS	XXS	XS	S	M	L
28710	S.O.T Resting splint	X	X	X	X	X	X
28714	Additional cover	X	X	X	X	X	X
28712	Finger divider	Paediatric/ Small Adult	Paediatric/ Small Adult	Medium	Medium	Medium/ Large	Medium/ Large
28711	MCP wedge	XX-Small	XX-Small	Small	Small	Small/Large	Small/Large
28713	Extra strap	XXXS-XS	XXXS-XS	XXXS-XS	Small-Large	Small-Large	Small-Large

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S.O.T Thumb Orthosis
Positions the thumb in an optimal resting position

A Unique Orthotic Solution for Thumb and Palm

This orthosis is designed to restrict movement at the CMC and MCP joints of the thumb, support the arches of the hand, whilst positioning the thumb in an optimal position for management of pain, joint stability and soft tissue length, that could lead to mal-alignment or subluxation of the joint.

Intended use

Osteoarthritis*, rheumatoid arthritis, adduction contracture of the thumb, overload injury of the CMC joint.

Features

- The orthosis has an adjustable aluminium core that can easily be shaped to fit individual anatomy.
- The orthosis can be adjusted as the thumb CMC position changes.
- The orthosis can be machine washed with cover attached at 40°C.
- The smooth design makes it an excellent alternative to custom made thumb orthosis.

Limited movement

Adducted thumb

**OA in CMC region, stages 1-4 (1). At OA in stage 4, the scaphoid is also involved. The thumb support should then be combined with a wrist orthosis. (1) Eaton and Littler Classification of Basilar Thumb Arthritis.*


S.O.T

Additional Support

When extra support is needed for the wrist, the SOT Thumb orthosis can be used together with a wrist brace, such as 35204 Selection Soft or 35207 Selection Open Wrist. For patients with adduction contracture that has developed due to forearm fracture immobilization, SOT thumb orthosis combined with a wrist orthosis may be advantageous for night-time treatment.

For patients with carpal tunnel syndrome, in addition to a wrist support, it is advantageous to off-load the finger flexors by giving support under the MCP joints and that way open up the hand to provide more space for the median nerve in the carpal tunnel during the night. This is also beneficial in arthritis/osteoarthritis where there is a risk of intrinsic shortening.

The SOT thumb orthosis cover is then removed and the product is positioned inside the wrist orthosis as shown.

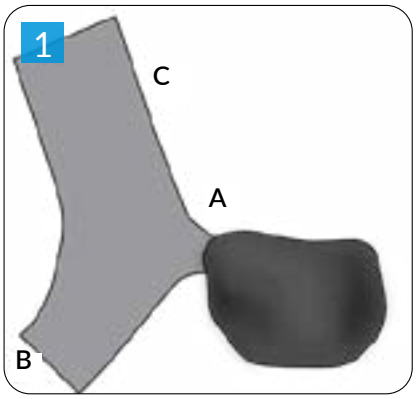
S.O.T thumb orthosis in combination with a wrist support. A smooth and functional solution when support is also needed for the wrist.

Thumb and palm support from inside.

Professional Guide

How to put on the orthosis

To ensure optimal function it is important that the cover is well adjusted. Attach the cover in sequences, keep the thumb section (1) attached from the start. Then attach 2 and 3, and if needed adjust 1. Finally adjust and make sure it fits comfortably.



Open the wide straps B & C
and leave strap A at it's position.

Put the hand on the support.

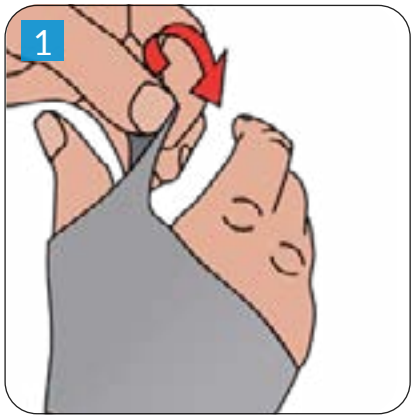
Pull the strap over the hand and attach strap 3 and then strap 2 on the Velcro on the inside of the support.
Adjust strap A and B for comfort.

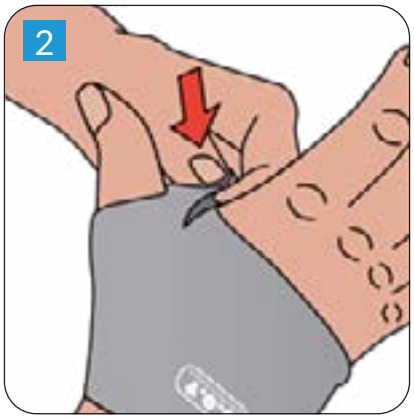
Donning

Doffing

For donning and doffing, after initial fitting, only open strap 3 on the ulnar side. Strap 3.

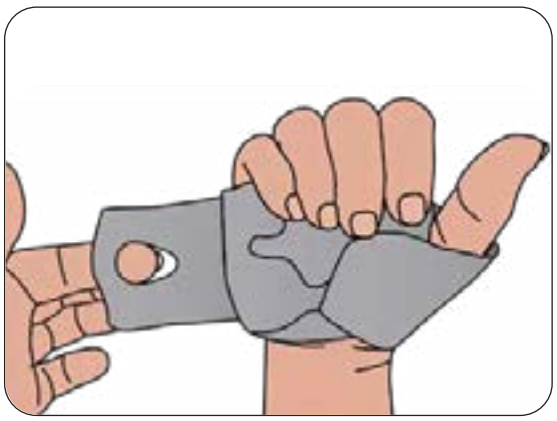
Adducted thumb





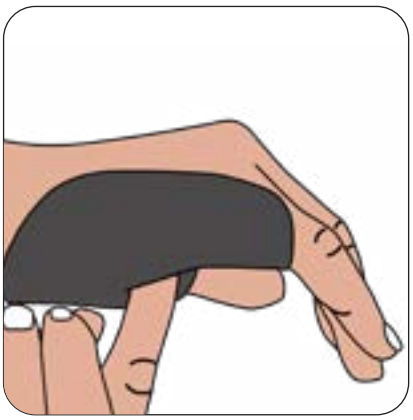
If the patient has severely adducted thumb and the space between thumb and index finger is limited, the thumb strap can be rotated to improve the fit.

Limited muscle function



Limited hand muscle function
If the user has limited function in the hand and fingers, donning and doffing can be made easier by making a hole in the materal on the little finger side.

Extra support for MCP-joints



Chose a larger size to give the user increased support for MCP dig. 2-5.
The orthosis can then give an ulnar support for the MCP-joint that also can prevent ulnardeviation.

Product and size chart SOT Thumb Orthosis

Item no	Description	Side	Size	MCP Width	Length * * (from wrist to fingertip)
28720 1011	S.O.T. Thumb Orthosis*	Left	Small	≤7,5 cm	≤ 18,5 cm
28720 1012	S.O.T. Thumb Orthosis*	Left	Medium	≤ 8,5 cm	≤ 20 cm
28720 1013	S.O.T. Thumb Orthosis*	Left	Large	≤ 9 cm	≤ 21 cm
28720 2011	S.O.T. Thumb Orthosis*	Right	Small	≤7,5 cm	≤ 18,5 cm
28720 2012	S.O.T. Thumb Orthosis*	Right	Medium	≤ 8,5 cm	≤ 20 cm
28720 2013	S.O.T. Thumb Orthosis*	Right	Large	≤ 9 cm	≤ 21 cm
28721 1011	Extra cover	Left	Small		
28721 1012	Extra cover	Left	Medium		
28721 1013	Extra cover	Left	Large		
28721 2011	Extra cover	Right	Small		
28721 2012	Extra cover	Right	Medium		
28721 2013	Extra cover	Right	Large		
28713 0009	Extra strap	Bilat.	XXXS-XS		
28713 0012	Extra strap	Bilat.	Small-Large		
28714 1008	Additional cover	L/R	XXX-Small		
28714 1009	Additional cover	L/R	XX-Small		
28714 1010	Additional cover	L/R	X-Small		
28714 1011	Additional cover	L/R	Small		
28714 1012	Additional cover	L/R	Medium		
28714 1013	Additional cover	L/R	Large		

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