. Ambroise

MANUAL WILMER2 CARRYING ORTHOSIS

Part of the WILMER® product line

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USER

PRODUCT INFORMATION

PROFESSIONAL

WILMER2 CARRYING ORTHOSIS USER INFORMATION

The WILMER2 Carrying Orthosis is intended for people suffering from a (partially) dislocated shoulder (shoulder (sub)luxation). This often painful situation prevents proper functional uses of the affected arm.The arm hangs from its capsule and ligaments and in time dislocates further and further.

WHEN TO USE A WILMER2 CARRYING ORTHOSIS?

The carrying orthosis is developed for people suffering from a (partially) paralysed arm where the nerves innervating the muscles around the shoulder are damaged. As a result the full weight of the arm need to be carried by the ligaments and capsule of the shoulder joint. A constant loading like this results in a (sub)luxation of the shoulder joint, leading to pain and discomfort. Because the muscles in the arm are nog longer active usually oedema formation in hand, fingers and forearm can be seen.

CAUSES OF SHOULDER MUSCLE DISFUNCTION

The cause of shoulder (sub)luxation, in most cases, is a paralysis of the muscles around the shoulder as a result of brain injury, like stroke, or a Brachial Plexus lesion. The latter is a damaged nerve node, positioned behind the clavicle that innervates almost all muscles in the arm. When this nerve node gets damaged (for example when breaking the clavicle) this usually results in serious muscle failure in the arm, amongst others around the shoulder. Clavicle breakages are frequent with falling on the shoulder, for example in bicycle or motorcycle accidents. On top of shoulder muscle failure often also muscle failure around the elbow, wrist and hand can be seen

THE WILMER2 CARRYING ORTHOSIS

The carrying orthosis is the only orthosis in the world that effectively neutralises a shoulder (sub)luxation).

Thanks to the smart balancing construction the arm pushes itself upwards, bringing the shoulder back into its joint position again.

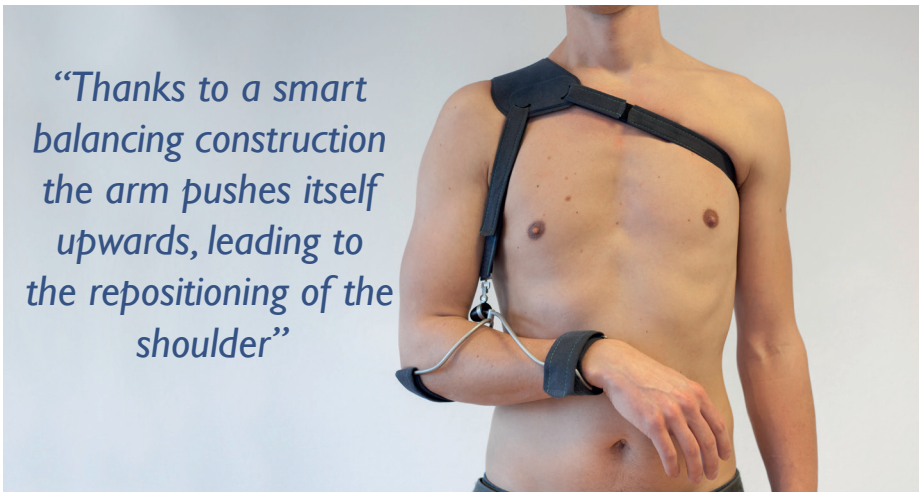

Figure 1:The WILMER2 Carrying Orthosis

Benefits of the W2DO

- Effective neutralisation of shoulder subluxation.
- Reduced chance on oedema formation in hand, fingers and forearm.
- Reduced pain and discomfort in arm and shoulder.
- No neck loading.
- Only minor limitation of arm mobility.
- Can be worn fully underneath clothing.
- High wearing comfort partly because of open and lightweight construction.

TREATMENT IS NECESSARY

In general a shoulder (sub)luxation is a permanent condition. If a (sub)luxation remains untreated, the shoulder will gradually increase its drop out of position. This is usually a highly painful situation. On top of that the arm can hardly be used functionally. An orthosis is necessary to prevent further increase of the (sub)luxation, to reduce pain and to regain some of the arm functions.

HOW DOES THE CARRYING ORTHOSIS WORK?

Treating the shoulder (sub)luxation by wearing a sling may reduce loading on the ligaments and capsule, it doesn't neutralise the (sub)luxation itself. On top of that a sling needs to be worn over clothing, highly limit arm mobility and load the neck.

The use of the WILMER2 Carrying Orthosis does lead to effective neutralisation of the (sub) luxation. The Carrying Orthosis suspends the arm close to the elbow (see Figure 2), leading to a slight misbalance of the weight of the forearm in reference to the weight of the upper

arm. When the forearm is directed downwards by gravity, the upper arm is, at the same time, pushed upwards, leading to the head of the upper arm finding its support in the shoulder joint again.
The Carrying Orthosis is equipped with a shoulder cap that leaves the neck unloaded. The design of the Carrying Orthosis allows it to be worn fully underneath clothing. There is only a mild limitation of arm mobility. The predominantly horizontal position of the forearm reduces the chance on oedema formation. The Carrying Orthosis is also post-operatively used to reduce loading of the shoulder joint, for instance after surgery on the humerus head or to prevent oedema formation after breast surgery resulting in a damaged lymph system.

COULD THE WILMER2 CARRYING ORTHOSIS BENEFIT YOU?

If you're interested in additional information on the carrying orthosis, or if you want to find out if the carrying orthosis could benefit you, please feel free to contact us. You can phone us at +31 53 430 28 36 or email us: info@ambroise.nl. One of our clinical experts is more than happy to discuss the best solution for your problems with you. And we're more than happy to see how we can realise a well fitted Carrying Orthosis for you, provided that this will be a suitable option in your case. Your local orthotist or specialist should also be able to provide additional information on the applicability of the WILMER2 Carrying Orthosis in your case.

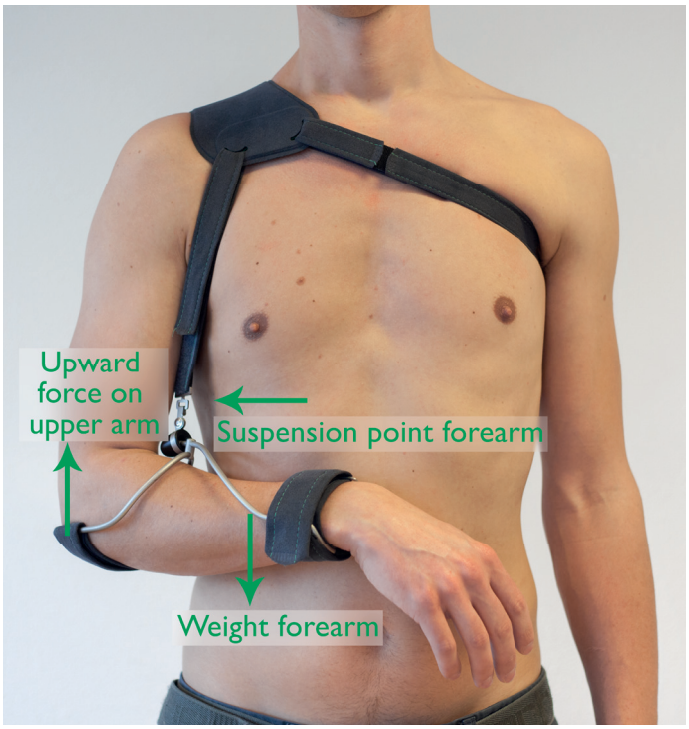

Figure 2: Working principle WILMER2 Carrying Orthosis


Figure 3: WILMER2 Carrying orthosis with handsupport (left hand)

WILMER2 CARRYING ORTHOSIS
PRODUCT INFORMATION

WILMER2 CARRYING ORTHOSIS MODELS

The Carrying Orthosis is available in two models.

The **standard model** supports the affected arm, but leaves hand and fingers free. The **hand model** not only supports the forearm but also the hand and wrist by means of a hand support (figure 3). All models are available in one size, left and right.

MEASUREMENT

Bring the arm in 90°. Mark the forearm from the biceps toward the wrist at +/- 19 cm.

The circumference of this section may be at least 15 cm and maximum 27 cm. See Figure 5.

Then measure the circumference of the thickest point on the forearm. This must be at least 20 cm and maximal 35 cm. Keep the arm in 90°.

Minimal length of the forearm (measured from the biceps to the wrist): 18 cm.

Maximum length of forearm (only hand model - measured from the biceps to the fold of the hand): 33 cm.

On request, an orthosis can be delivered with a different size.

Weight of the forearm orthosis: 95 grams; Weight of shoulder bandage: 75 grams.

ITEM NUMBERS

Standard model left: 250500
Standard model right: 250501
Hand model left: 250502
Hand model right: 250503

DONNING AND DOFFING THE CARRYING ORTHOSIS

The carrying orthosis is preferably worn underneath clothing, but can be worn on top of clothing. The orthosis slips somewhat easier in that case. The orthosis can be unlocked by pulling the suspension cone (F. figure 4) out. After that the arm can be extended, for instance to facilitate donning and doffing clothes. It requires a certain amount of training to get accustomed to donning and doffing the orthosis. Allow yourself some time for that. Please take a look at our donning and doffing instruction video on the Ambroise YouTube channel. www.youtube.nl/AmbroiseHolland

WEARING INSTRUCTIONS

Open chest strap (A). Stick the arm through the suspension strap (B).
Position shoulder cap (C) on the shoulder. Close strap on the chest (A).
Make sure the shoulder harness leaves the head of the humerus completely free.
Make sure the inside of the shoulder cap doesn't interfere with the neck.
Slide forearm through frame (D+E) and close wrist strap (E).
Adjust space between arm and frame using the Velcro closures (D+E)
Pull suspension cone (F) from arm orthosis. Connect cone hook to strap buckle of suspension strap (G).
Click black suspension cone (F) back onto arm orthosis.
Suspension strap (B) should be adjusted to horizontally level out forearm.
Placing the suspension point of cone (F) closer to the upper arm increases upward action of the carrying orthosis and vice versa.

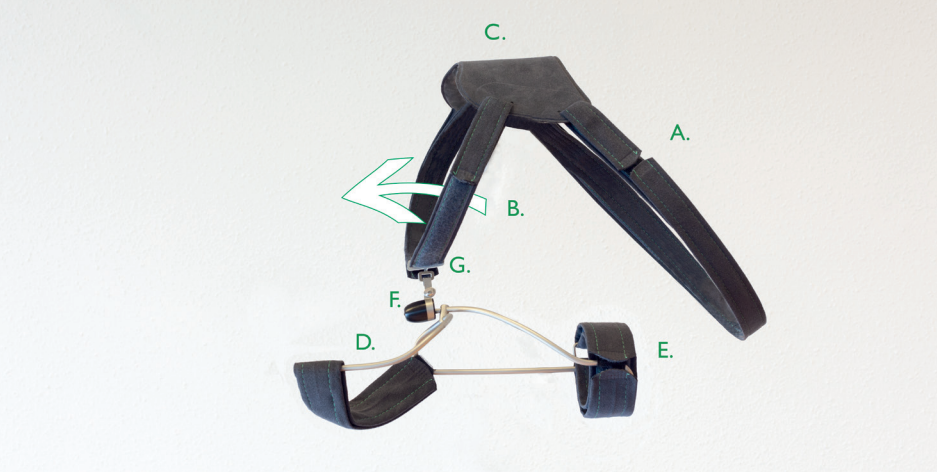

Figure 4: Wearing instructions of the WILMER2 Carrying Orthosis

MAINTENANCE OF THE CARRYING ORTHOSIS

The shoulder harness as well as the wrist and elbow straps can be hand washed. Please remove the straps from the orthosis. Make sure to close the Velcro in order to prevent cloth from sticking to it. You can use a laundry bag at temperatures of max 30°C. Additional parts of the orthosis can be cleaned using a damp cloth.

REPLACEMENT OF SPARE PARTS

It may occur that parts of the orthosis need to be replaced. Of course you can order these from us. Please contact us and we will send a replacement part.

ADJUSTING THE ORTHOSIS

If you have the feeling the orthosis is too tight (pinches) or too loose (slips) it is important that the orthosis will be properly fitted by your orthopedic spacialist.

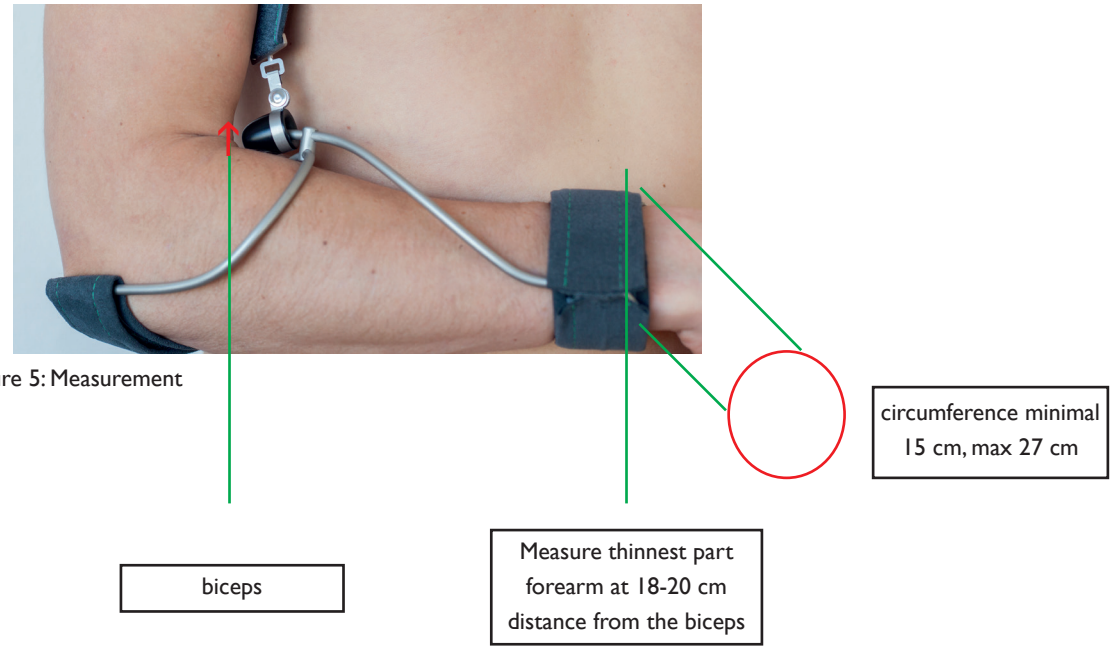

Figure 5: Measurement

WILMER2 CARRYING ORTHOSIS INFORMATION FOR THE PROFESSIONAL

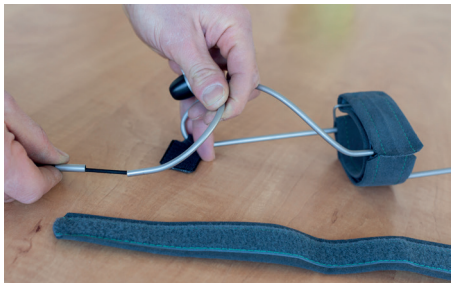

Figure 6: Shorten armorthosis.

THE PRODUCTSET

- One stainless steel arm frame
- One hand support (hand model only)
- One elbow strap
- One wrist strap
- One shoulder harness
- One eyelet at Velcro strip

Figure 7: strap buckle, mounted to suspension strap.

FITTING DIRECTIONS

1. Fit the arm frame to the forearm shape. Use a regular vice with soft jaws to bend.
2. When the arm frame is too long, the end extension at the elbow side can be removed to shorten the frame (figure 6). First pull out the elastic enough to make a new knot between the end extension and the rest of the frame. Then cut the elastic and remove the end extension. Melt the knot with a lighter to finish the ends. Finally reposition the strap using the spare Velcro hook part.
3. The hand model comes with a hand extension and a hand support. Determine the length of the hand extension and cut at the required length. Determine the alignment of the hand in the hand support with reference to the arm frame and mark this. Lock the hand support to the hand extension by pressing the Weld-dot-lock inwards, using a regular vice. Open or close the hand extension if required.
4. The eyelet is mounted on the carrier strap by using the Velcro strip (figure 7). (Pay attention to the rotation of the eyelet. There is a left and right version.)
5. Adjust elbow and wrist strap and cut at appropriate length and lock the ends.
6. The shoulder cap should be positioned to leave the head of the humerus entirely free but also to not interfere with the neck at the medial side (figure 8). Place the shoulder cap symmetrically in dorsal/ventral direction. This is achieved by a correct position of the suspension eye. Slide the forearm through the frame and close the wrist strap.
7. Adjust the suspension strap (figure 8) to horizontally level the forearm.
8. Pull the suspension cone from the frame and connect the cone hook to the suspension strap buckle.
9. Bringing the suspension point closer to the elbow increases the upward action and will result in a stronger compensation of the subluxation. A more distal position of the suspension point will reduce the neutralisation of the subluxation. When pain increases rather than decreases, the upward action might be too strong and a more distal placement might help in reducing the pain.

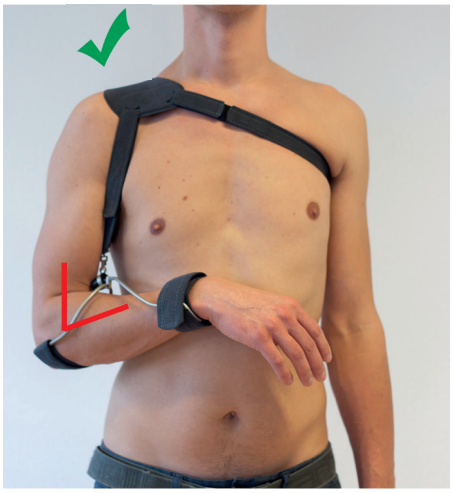

Figure 8: The shoulder cap is positioned correctly but the arm is lifted too high.

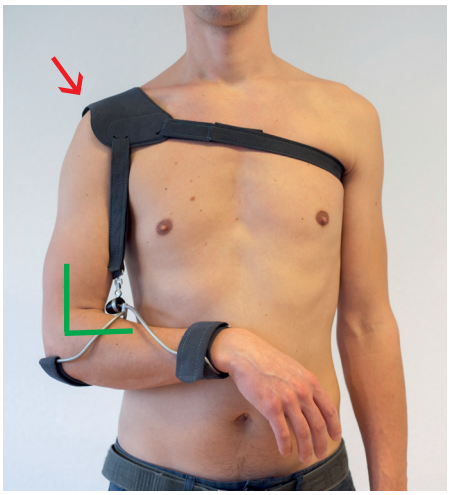

Figure 9: The shoulder cap leans too much on the head op de humerus, but the arm hangs correct horizontally.

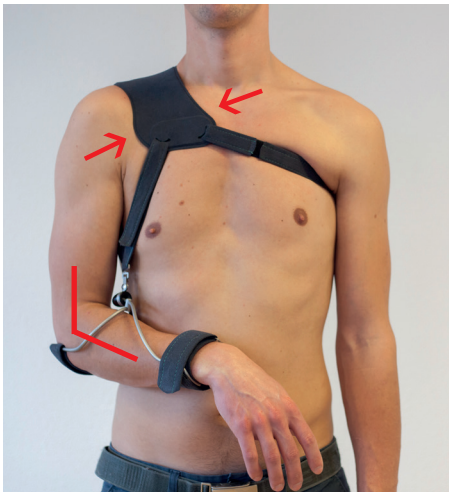

Figure 10: The shoulder cap is positioned ventrally too much and the arm is not lifted enough

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