

# Push<sup>®</sup> ortho Thumb Brace CMC

Come to grips with  
thumb osteoarthritis



# Mobility in your hands

**CMC-1 thumb joint osteoarthritis occurs frequently, due to wear and tear of the articular cartilage. It particularly affects women aged 40+, while men are affected less frequently. (16-25% of women in Europe vs. 10% of men). This means that one in 4-5 people feels the effects of CMC-I osteoarthritis.**

Osteoarthritis of the thumb metacarpal joint, in combination with softening of the ligaments, leads to functional instability. As a result, symptoms such as pain, reduced hand function, loss of strength and stiffness occur. The thumb is involved in an estimated 40% of hand function, meaning that CMC joint osteoarthritis can lead to serious limitation of hand functionality.

The Push CMC Brace utilizes a new concept which stabilises the thumb metacarpal joint and positions the first metacarpal bone in a functional position. This alleviates pain when the thumb loads. Using this method of stabilization, the adjacent joints - including the wrist - aren't limited in their range of motion, resulting in optimal hand function.

The Push CMC includes a cylindrical component that encircles the thenar, with a construction across the palm, around the outside of the hand, and fastens on the back of the hand using two non-elastic pull-tabs. The cylindrical component is reinforced with an embedded aluminium strip, which offers custom-adjustability, for optimum stabilization of the basal thumb joint.

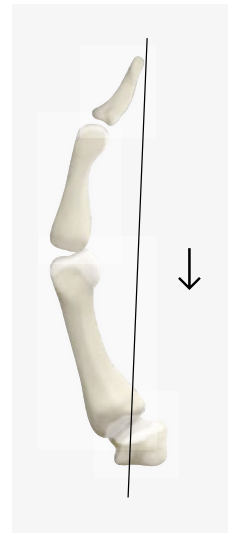
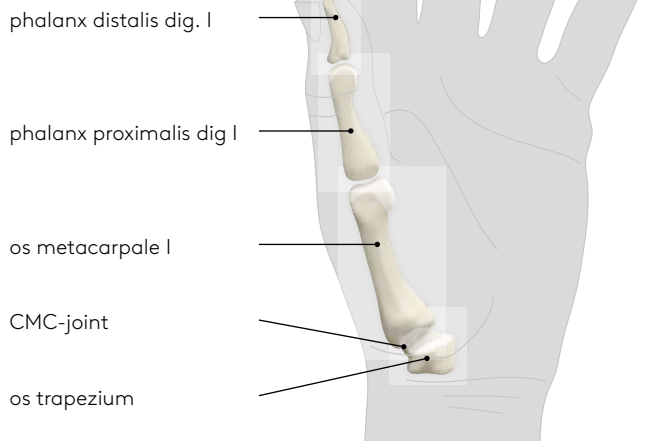
The soft materials and rounded contours of the brace guarantee optimum comfort. A simple one-handed fastening system enables the patient to apply the brace easily. The Push CMC is slim, compact and so low-profile, it allows for virtually any activity. The brace can be used in water. With an eye on hygiene, we designed the brace with antibacterial plastic and made it machine washable at 40°.





# The CMC joint

## Anatomy



## Stable position

The term stable position describes the position of the healthy thumb column during active pinch. The position is stable when the thumb arch is formed, which ensures a healthy distribution of force on the CMC joint. The arrow indicates the direction of force.



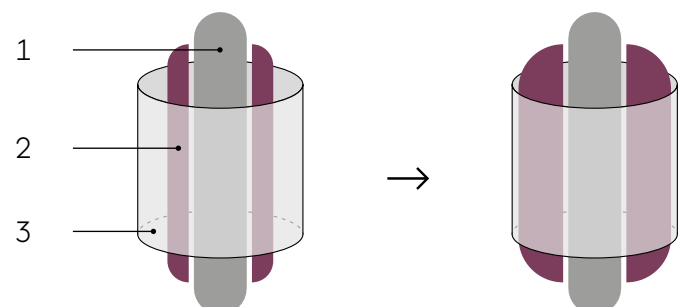
## CMC Osteoarthritis

The progression of CMC osteoarthritis causes weakening of the ligaments. In particular, the increased tendency for translation in the CMC joint causes pain and instability of the whole thumb column. The force applied to the CMC joint further increases due to contraction of the thumb muscles. In this example, we see a dorsoradial shift of the metacarpal bone during pinch gripping. This can lead to subluxation.

View: left hand, palm side

## The contraction of the thumb muscles during use of the Push CMC provides stabilisation (a pseudo-hydraulic effect)

The first metacarpal bone (1) with the thumb muscles (2) is locked in the CMC orthosis cylinder (3). When the muscles contract, a pseudo-hydraulic environment is created: the grip on the first metacarpal bone is strengthened as the muscles are unable to expand. The inward pressure becomes greater and stabilizes the first metacarpal bone, and with it the CMC joint.





### The function of the CMC joint

The most important function of the carpometacarpal joint (CMC) is pinch grip. The pinch grip is the combination of flexion/abduction and rotation, also referred to as opposition. The lig. obliquus anterior, also referred to as the beak ligament, has an important role in limiting the dorsoradial translation of the first metacarpal bone during active pinch gripping.



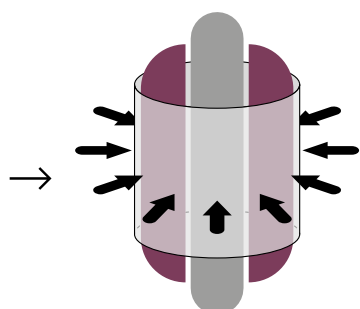
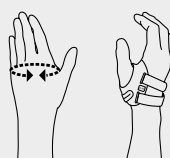
### The Push CMC Thumb Brace

- A Adaptable and adjustable cylindrical component
- B Palmar assisted support for the CMC brace
- C Closed strap system prevents turning

### Indications

- Osteoarthritis of the CMC-joint
- Post-operative after-care of the CMC-I joint
- Status after arthroplasty of the CMC-I joint
- Instability of the CMC-I joint

Execution:	Circumference:	Size:
left and right	15,0 - 17,5 cm	0
	17,5 - 19,5 cm	1
	19,5 - 22,5 cm	2
	22,5 - 27,0 cm	3





## **Push ortho Thumb Brace CMC**

- Stabilizes the CMC joint
- Aids in the formation of the thumb arch
- Alleviates pain
- Maintains or improves hand function



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freedom

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