

## The Plussock: A presentation.

The Plussock has been developed by Morten Boesen, *PhD, Orthopaedic specialist in sports medicine and surgery Doctor, FC Copenhagen Doctor, Sparta - field and track Specialist in musculoskeletal ultrasound diagnostics* and Henning Langberg, *Professor, DMSc, PhD University of Copenhagen, Specialist in sports medicine and Musculoskeletal Physiotherapy Fellow International Federation of Sports Physiotherapy.*

Throughout quite a number of years, they have both conducted research into the Achilles tendon and its adjustment in relation to the high load, it is subjected to. And therefore they have developed a compression sock with special focus on the area around the Achilles tendon; it provides relief and prevents pain in this exact area. In their capacity as specialists in the area of the Achilles tendon, they meet many athletes, and therefore have set out to make "the most efficient sports compression sock".

The idea behind a sports compression sock is based on the bloodstream's transportation of oxygen to the muscles; when the athlete runs, the arteries transport oxygen-rich blood from the heart down to the feet, while at the same time the veins carry oxygen-poor blood back to the heart.

A lot of the oxygen that is pumped into the legs accumulates due to gravity, and thereby the oxygen-poor blood is 'pooled' in the legs over time. This inhibits the free flow of the fresh, oxygen-rich blood. And that means the athlete feels fatigue, irritation and possibly pain.

A correctly graduated compression sock puts a constant, hard pressure on the veins in the lower leg – highest pressure at the ankle, lowest pressure just below the knee. In this way, the bloodstreams are squeezed together and the circulation is increased, much the same way as when you squeeze the hole of a hose together; and that means that the oxygen-poor blood is – in popular terms – "flushed" back to the heart. Among other things, this reduces lactic acid in the lower legs – and that means less fatigue, irritation and pain for the athlete.

As one of the few sports compression socks, Kinesio tape is incorporated directly in +PLUSOCK.

Kinesio tape is developed by chiropractor and kinesiologist Kenzo Kaze, who is also working with an actual treatment method with the tape.

Via his studies of the body, he discovered that the tape provided support and stability for joints and muscles without influencing the freedom of movement of the body or the joints. Today, the taping method is also used for preventative measures, oedema and pain management.

Kinesio taping is a technique based on the body's own, natural healing process, and the tape works effectively via activation of the neurological circulation.

In high-level sports, the Japanese Olympic volleyball team started



using the tape – but the rumour about the tape's amazing effect on the athletes quickly spread to athletes in other sports.

Today, Kinesio tape is accepted by doctors for treatment within various areas, and it is expected that Kinesio tape will open up other areas within clinical treatment in the future.

+PLUSOCK comes with a 7 degree fit system.

#### 1A+B GRADUATED COMPRESSION PRESSURE

The +PLUSOCK has a correctly graduated compression pressure. The only type of sock graduation that actually has an effect. The pressure is always 100% around the ankle (1A), falling gradually to 70% right below the knee (1B).

As you can read in the section about sizes and compression pressure, the +PLUSOCK is one of the only sports compression socks which features both a medium and a high compression sock. And that means you can find a sock to fit your needs more accurately.

#### 2. UNIQUE ACHILLESTENDON COMPRESSION ZONE

The +PLUSOCK has an extra and truly unique compression zone around the Achilles tendon, developed on the basis of many years of medical experience in the area. The zone is an extra precaution when you want to avoid problems in the Achilles tendon. And if you've already had problems with the Achilles tendon, well – the zone will help relieving and preventing pain and injuries in just that place.

The special compression pressure around the Achilles tendon reduces the risk that the tissue swells when you run.

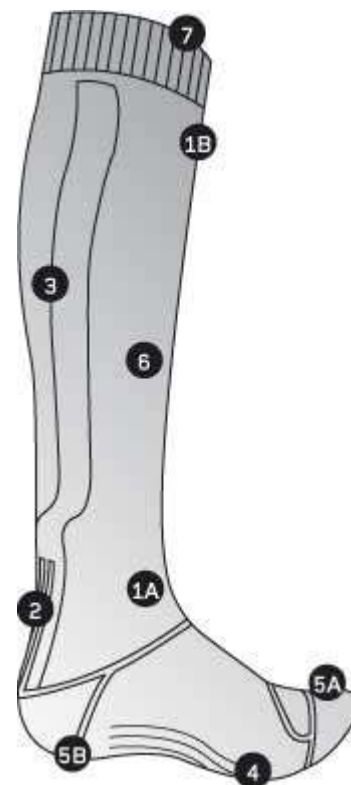
#### 3. KINESIO EFFECT

The +PLUSOCK has two efficient Kinesio bands in a straight line from the Achilles comfort zone – one on each side of the calf, all the way to below the knee. The Kinesio bands provide sensory motor stimulation, i.e. the bands activate the neurological circulation by massaging and stimulating while at the same time providing support and stability to the muscles so that soreness and pain is theoretically reduced.

#### 4. TOP-NOTCH MIDTFOOT COMFORT

The +PLUSOCK has a particularly comfortable middle foot area which provides perfect shock absorption, slip-resistance and top-notch comfort, even during demanding runs. And at the same time, air ducts in the area mean less heat and a better climate for your feet when you're on the move for a long time.

#### 5. REINFORCED HIGH IMPACT ZONES



Heel and toe are 'High Impact zones'. And therefore the +PLUSOCK has extra, built-in reinforcement in these areas. Both zones are reinforced with several extra layers of material, which makes the sock even more hard-wearing while at the same time providing a high degree of comfort when the heel and toe hits the ground.

The 'Toe Impact zone' has an efficient and almost invisible seam (on which we have worked hard), and that means that the toes are not irritated during long runs.

The 'Heel impact zone' has an optimal firm fit to best prevent blisters.

## 6. ANTI-BACTERIAL FIBRES

The +PLUSOCK is knitted from yarn containing the anti-bacterial fibres Prolen® Siltex and Prolen® Bodyfresh. The fibres efficiently prevent bacterial and fungal growth. In short, this means that bad smells are reduced and the skin's natural balance is kept closely to status quo. In the long run, this provides a more hygienic climate in both shoe and stocking.

## 7. ELASTIC COMFORT EDGE

The +PLUSOCK is cut off just below the knee with a wide, flexible comfort edge that ensures that the sock is held firmly to the leg in all conditions – even in the case of very demanding runs.

+PLUSOCK is available in three sizes for men and three sizes for women – and each size comes in two different compression pressures..!

The most important choice after gender is the size of the calf in cm. So when you've measured the calf at the widest place – then you know which size to get by looking at the sizes below.



A good compression sock is not bought according to shoe size..!

Men	II	III	IV
High Compression	32-38 cm	39-44 cm	45-50 cm
Medium Compression	32-38 cm	39-44 cm	45-50 cm

Woman	I	II	III
High Compression	26-31 cm	32-38 cm	39-44 cm
Medium Compression	26-31 cm	32-38 cm	39-44 cm

With +PLUSOCK, the customer can choose between 'Medium Compression' and 'High Compression socks' – one of the only sports compression socks with this feature. What's the difference?

We'll let the research scientists explain themselves:

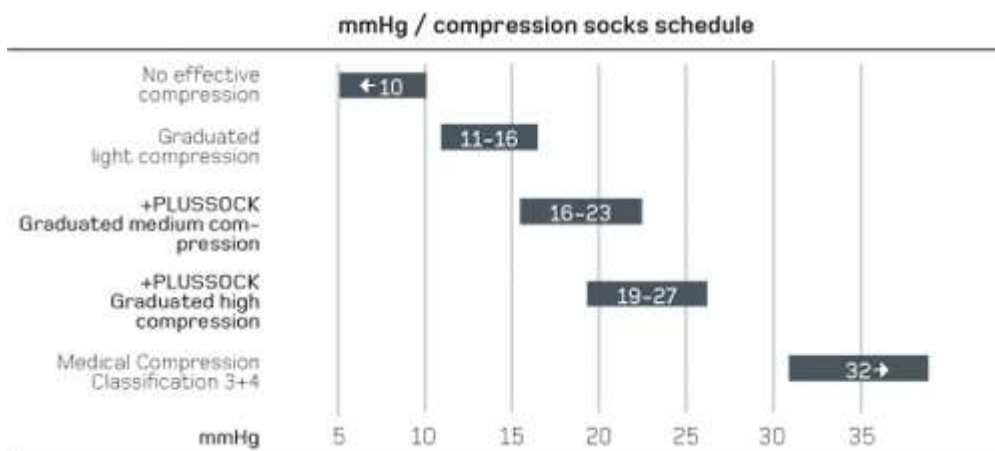
*'We've developed the +PLUSOCK with two types of compression: high and medium.*

*Medium compression is intended for most people – typically for people who want a sports compression sock, but who don't have an actual problem. A kind of preventative sock.*

*High compression, however, is for people with a prior problem in the peroneus and/or the Achilles tendon. In this case, more compression in the soft parts is needed.*

*This sock could also be used if your doctor or physiotherapist thinks that compression socks might be a good idea – but you don't have a need for an outright medical compression sock.*

*Both types of socks can be used as flight socks.*



As stated in the section above, you only achieve an efficient effect if the compression is graduated. I.e. the pressure is highest at the ankle and lowest just below the knee. If the compression is constant and not graduated, the "flush" effect simply fails to happen.

The pressure in a compression sock is measured in Mercury (Hg) millimetres (mm) – or in everyday speech: mmHg. The higher the mmHg number, the tighter the pressure.

As can be seen in the schedule, compression doesn't have any actual effect when the mmHg of the sock is less than 12-13. These are socks that fit snugly, but they've no actual effect - and even less than that, if the compression isn't graduated.

At the other end of the spectrum is pressure above 30 mmHg. This is actual medical compression, i.e. socks that are only to be used by patients diagnosed by a doctor. These are typically diabetics or people who are rather sedentary or bedbound or otherwise have a bad circulation.

As one of the only sports compression socks, the +PLUSOCK offers a 'medium' and a 'high' model:

The 'Medium' compression sock – the preventative sock, which the research scientists describe it – has a compression pressure at the ankle of 23 mmHg, falling gradually to around 16 mmHg below the knee.

The 'High' compression sock – for people with prior problems with the peroneus or the Achilles tendon – has a higher pressure of 27 mmHg at the ankle, falling to around 19 mmHg below the knee.

The +PLUSOCK with two compression pressures makes it possible for you to get really close to your actual need.

See the graduated MMGH levels with which the Plussock is produced.

