

SIGVARIS

Sigvaris Medical Compression Garments

Aims and outcomes -

- To give an overview and refresh the anatomy and physiology.
- To gain an understanding of compression garments their uses and their limitations.
- Theory of measuring and fitting correctly
- Introduction to using devices.

Graduated Compression

Application of controlled, graduated external pressure to the limb to reduce venous pressure within the limb

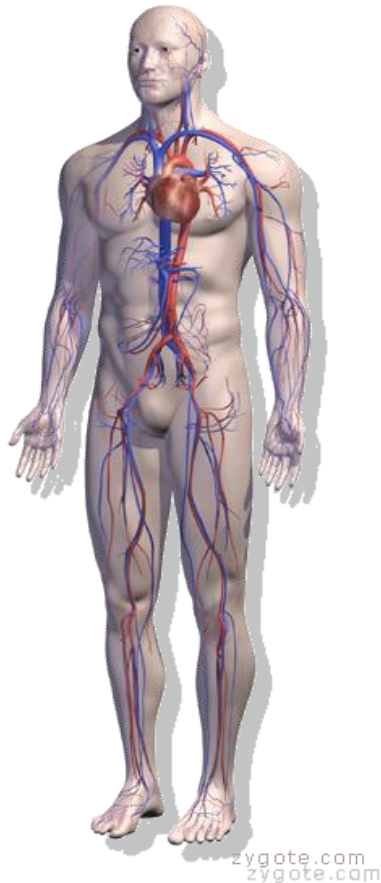
Goals of Compression Therapy

- To restore blood flow velocity to normal
- To reduce or prevent oedema
- Reduce or prevent progression of venous or lymphatic disease



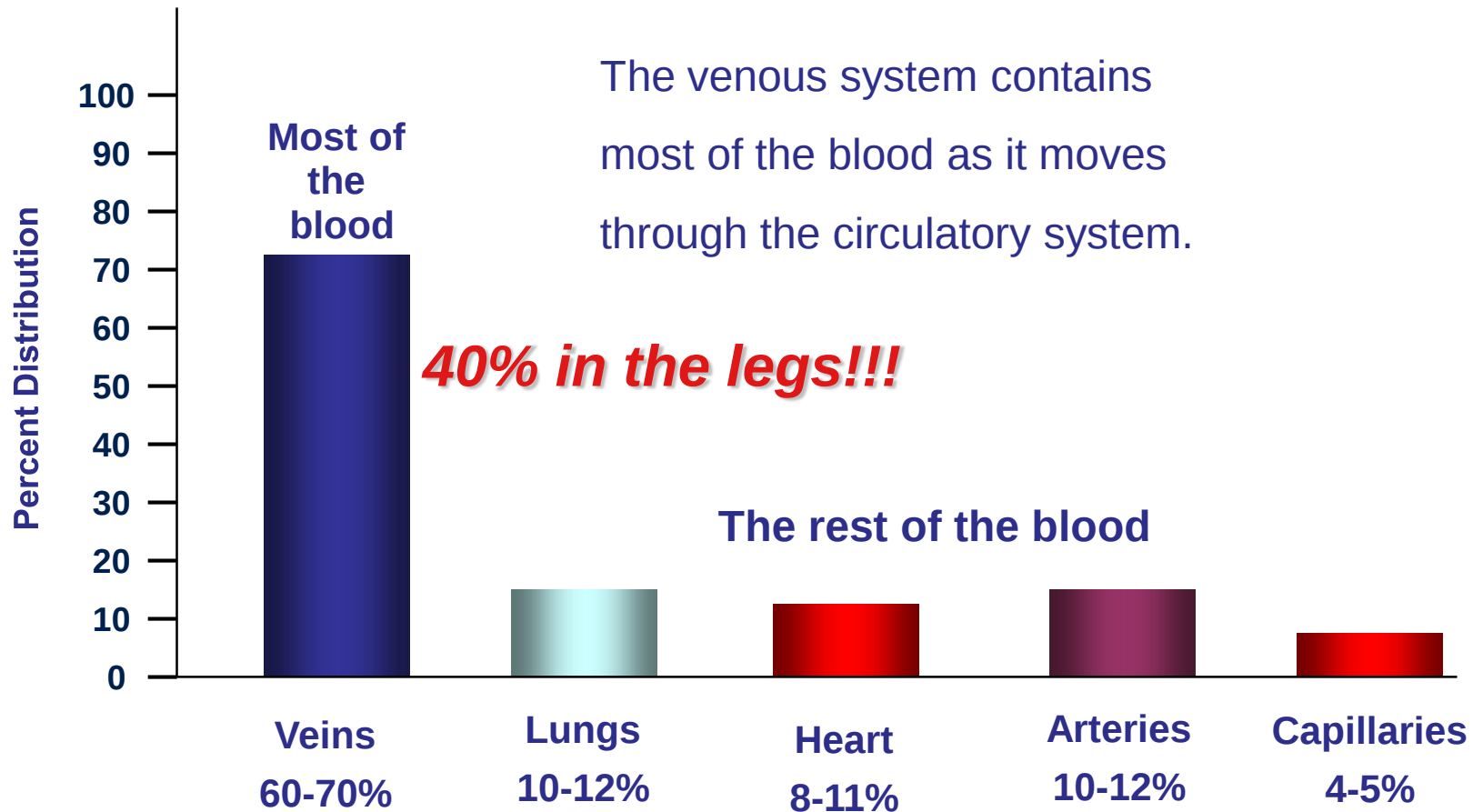
...let's have a brief look back at the anatomy

The Circulatory System



- The Heart is the main pump to get oxygenated blood to tissues via the **arteries**
- The Calf muscle is the main pump to get blood back to the heart via the **veins**

The Significance of Veins



Venous Pressure at the Ankle in Normal Legs

Recumbent	→	10 mmHg
Standing	→	90 mmHg
Walking	→	25-35 mmHg

The effect of the calf and ankle pumps takes place after
only 7 steps!

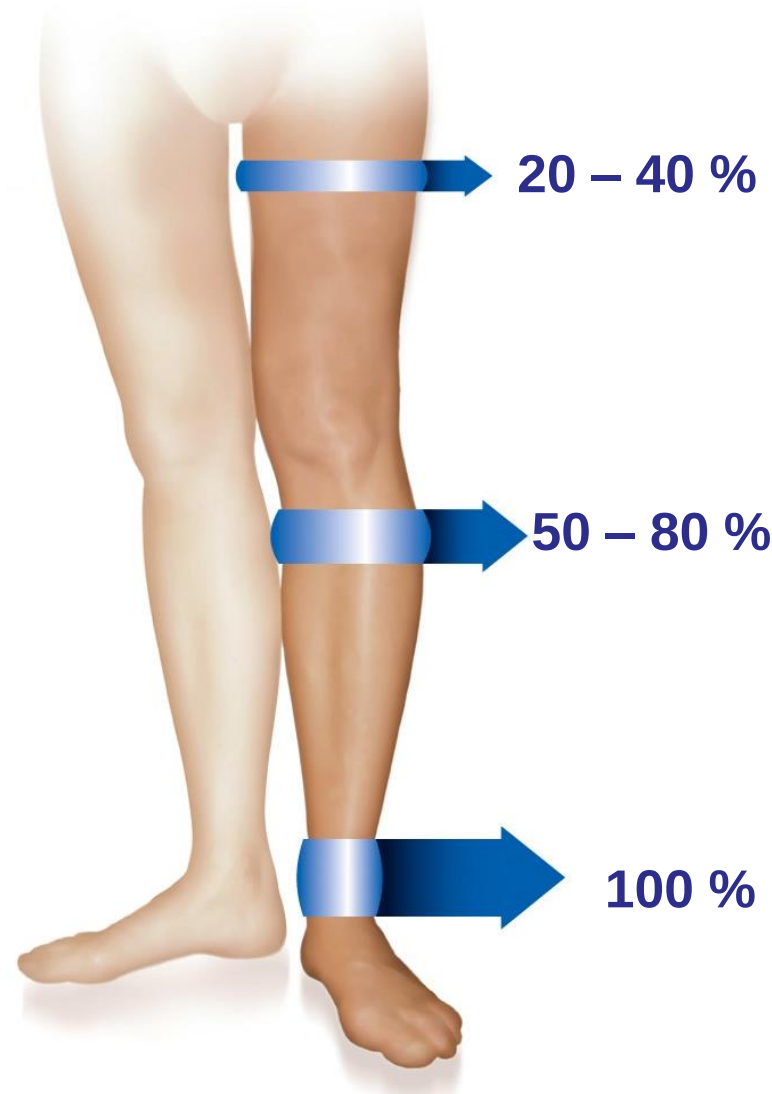
Why graduated compression?

....We can use the analogy of a toothpaste...

- If we squeeze in the middle of the tube, we force the paste to both sides – up and down in the tube
- But we want to bring the whole amount of the paste out of the tube
- So we have to squeeze at the bottom to be successful

Graduated Compression Therapy

- To be effective, it is very important that compression be graduated
- Strongest at the ankle and decreasing in the proximal direction



Meaning of RAL GZG 387/1 norm

- RAL was founded in 1925 by the German Institut of Quality Assurance (GZG)
- RAL is a community of 9.000 member companies from all industrial sectors
- The RAL quality mark for medical compression stockings currently has 18 member companies
- It guarantees the medical benefits of the products and thus reimbursement by health insurance in German speaking countries

Different Compression Levels

- Compression Class 1: 18 – 21 mmHG
- Compression Class 2: 23 – 32 mmHG
- Compression Class 3: 34 – 46 mmHG
- Compression Class 4: min. 49 mmHG

Treatment with compression garments plays a significant role in the field of venous disease.

Scientifically proven studies all over the world show the medical benefit of compression garments. (Stemmer Library)

**Compression only works if correctly applied.
A MCG must fit like a second skin.**

Contraindications for the use of Compression Hosiery



Arterial insufficiency
Acute heart failure
Extensive ulceration
Cellulitis
Peripheral neuropathy
Extreme distortion and
deep skin folds

Measuring and Fitting :

Medical compression stockings (MCS)



Taking Measurements

WHEN

Take the measurements first thing in the morning when possible.

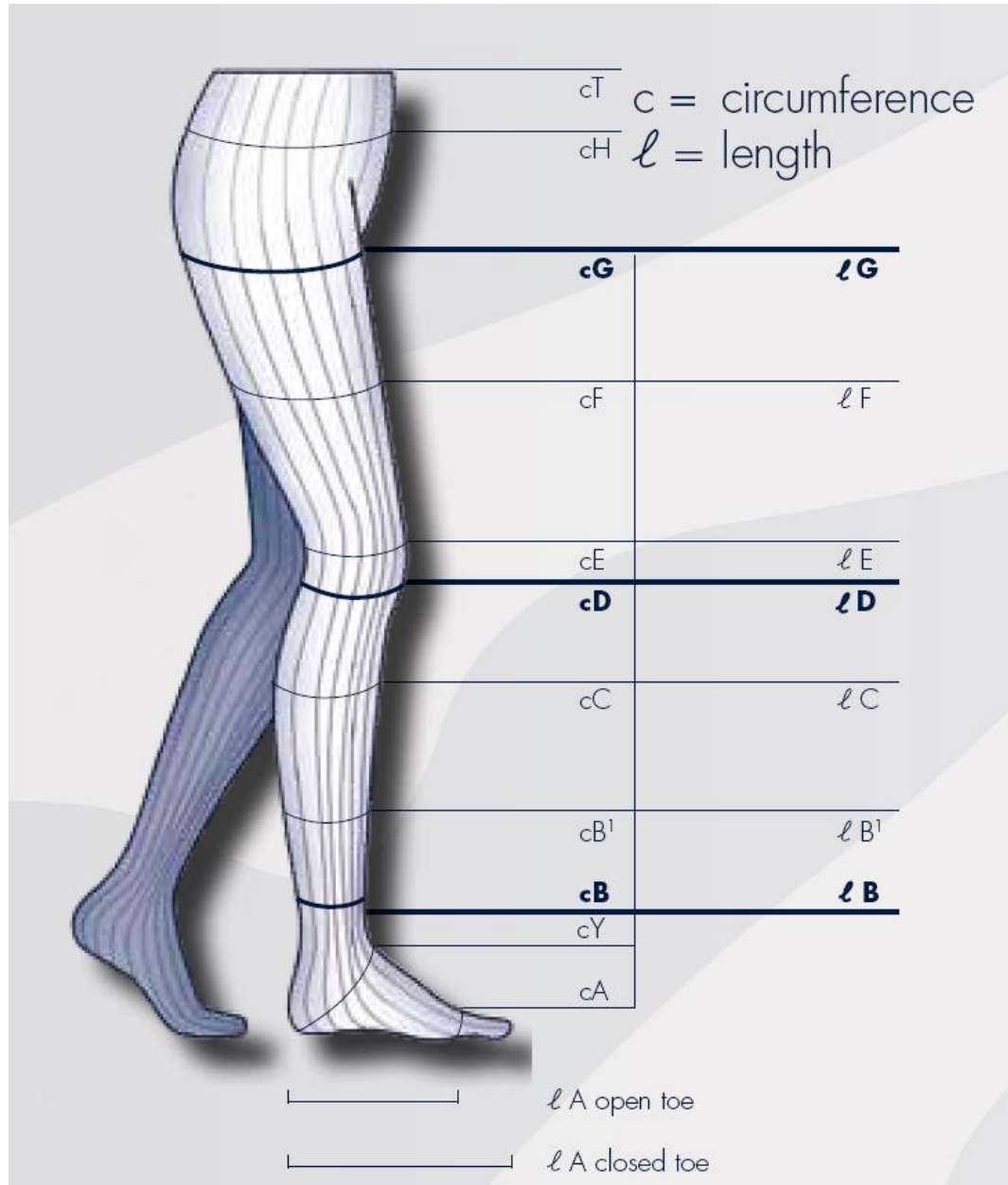
HOW

- Circumference: Place the measuring tape firmly around the leg/hip/waist without constricting.
- Length: Measure on the inside of the leg, with the leg straight except for the point “T” (waist) where you must measure on the outside of the leg.

WHERE

The following drawings will show us where we have to measure.

Overview of the measuring points



Circumferences-



cB
Measure at the
thinnest part
at the ankle.



cD
Measure at head
of fibula or 2 cm
below knee.



THIGH & PANTY

additional
measurements
to the calf
measures



cG
Measure approx.
5 cm below the
crotch.



Length - Calf

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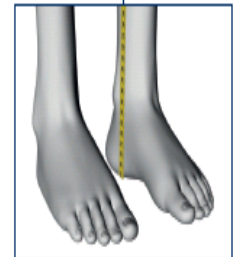
ℓD
Measure the length
inside from heel to
point ℓD.



Thigh

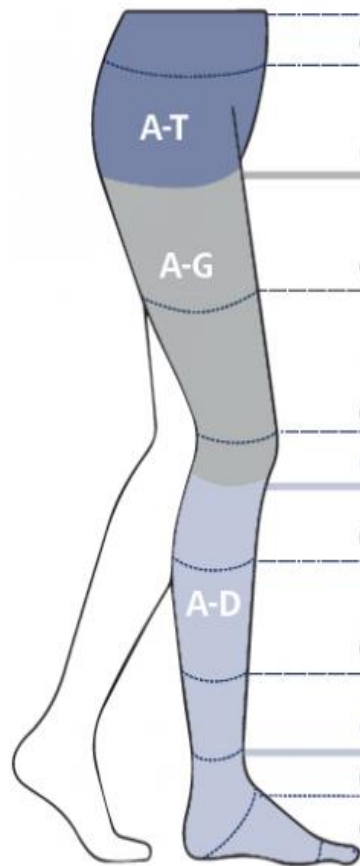


ℓG
Measure the length
inside from heel to
point ℓG.



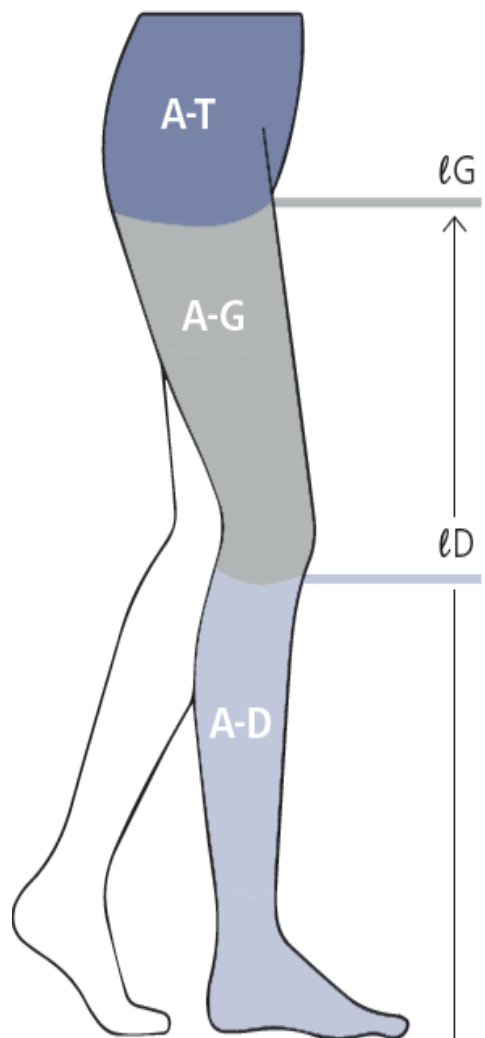
Wide size range of the shelf: 12 different circumferences

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		Circumference in cm											
		XXS	XXS PLUS	XS	XS PLUS	S	S PLUS	M	M PLUS	L	L PLUS	XL	XL PLUS
	cT	60–75	65–80	65–80	75–90	75–90	85–100	85–100	95–110	95–110	105–120	105–120	115–130
	cH	75–90	80–95	80–95	85–100	85–100	95–110	95–110	105–120	105–120	115–130	115–130	125–140
	without grip top	42–54	47–59	47–59	52–64	52–64	56–68	56–68	61–74	61–74	66–79	66–79	73–85
	cG with grip top	42–52	47–56	47–56	52–61	52–61	56–65	56–65	61–71	61–71	66–76	66–76	73–85
	cF	38–49	41–52	41–52	44–55	44–55	49–60	49–60	53–64	53–64	59–70	59–70	63–78
	cE	29–36	33–40	33–40	37–44	37–44	39–46	39–46	41–48	41–48	45–52	45–52	46–53
	cD	23–30	27–34	27–34	31–38	31–38	34–41	34–41	37–44	37–44	41–48	41–48	42–50
	cC	25–32	29–36	29–36	33–40	33–40	35–42	35–42	38–45	38–45	42–49	42–49	43–51
	cB ₁	22–26	22–26	24–29	24–29	26–32	26–32	29–35	29–35	31–37	31–37	33–39	33–39
	cB	18–20	18–20	20–22	20–22	22–24	22–24	24–26	24–26	26–29	26–29	29–32	29–32
	cY	27–31	27–31	28–33	28–33	29–35	29–35	31–37	31–37	32–38	32–38	33–39	33–39
	cA	18–20	18–20	20–22	20–22	22–24	22–24	24–26	24–26	26–29	26–29	29–32	29–32

A-T = Pantyhose; A-G = Thigh; A-D = Calf

3 different lengths



Length in cm					
short*	31–34	short	56–64	short**	56–64
normal	35–40	normal	65–74	normal	65–74
long	41–45	long	75–84	long	75–84
					

* short length only available in COTTON A-D with soft top in CCL 2, colours black and nature

** short length only available in COTTON A-T with soft top in CCL 2 and 3, colour nature

Measuring and Fitting :

Arm sleeves



Traditional Armsleeves

Circumference

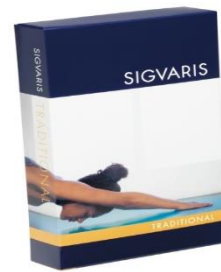
cF: circumference of the arm at the thickest place

cD: circumference of the arm at mid forearm

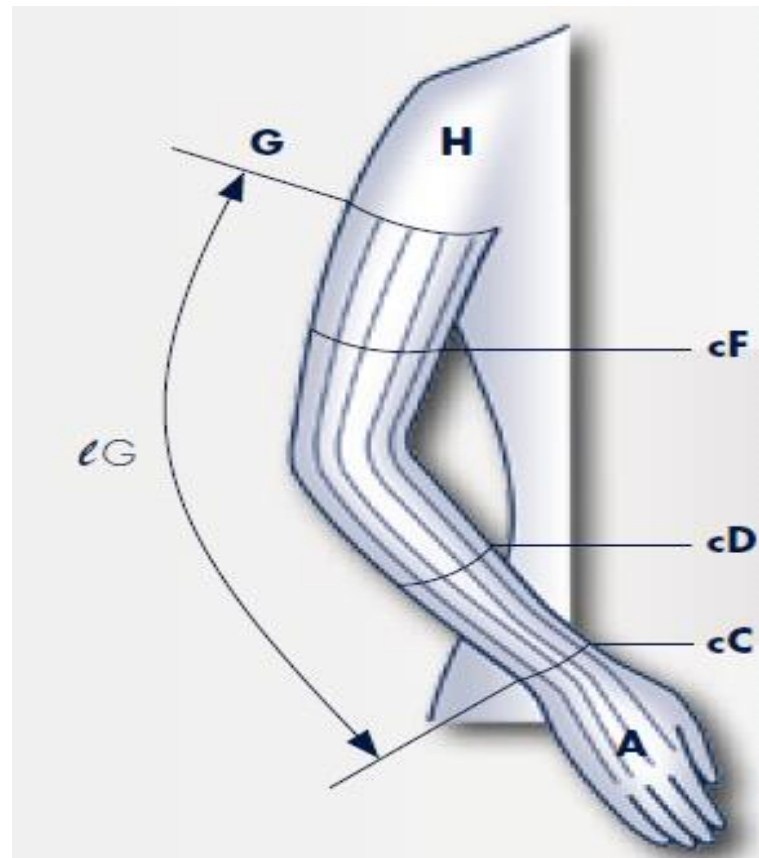
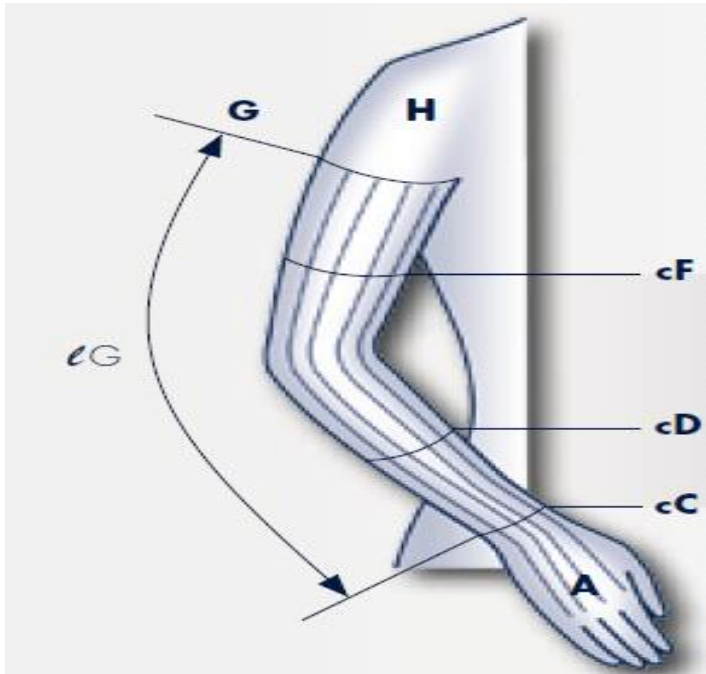
cC: circumference above the wrist bone

Length

ℓG: Measure the length outside from the wrist to 2 cm below the axilla



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Advanced Arm sleeve



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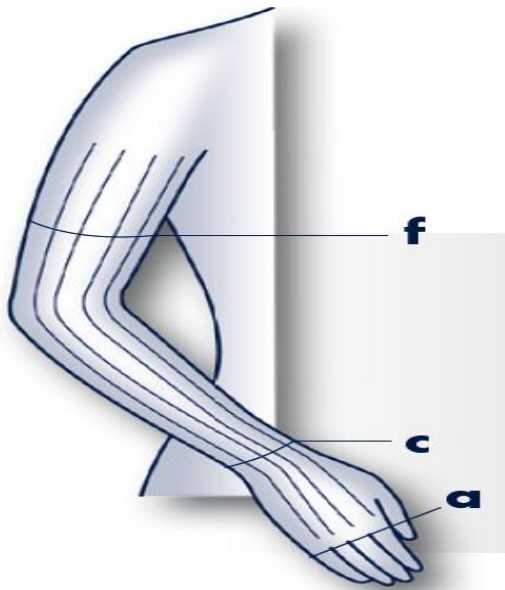
Circumference

cf: circumference of the arm at the thickest place

cc: circumference above the wrist bone

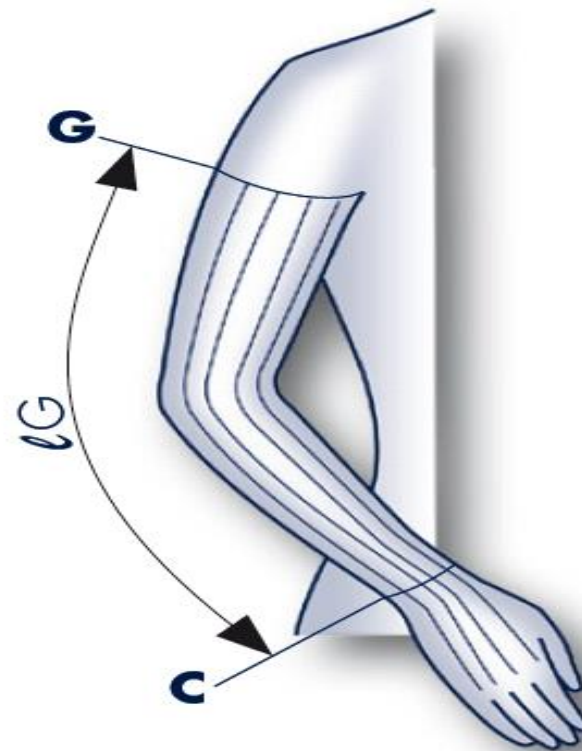
ca*: circumference over the knuckles at the base of the fingers

*only for Arm Sleeves with Mitten



Length

lG: Measure the length outside from the wrist to 2 cm below the axilla



Devices available -



At SIGVARIS, we constantly develop and update our existing products.

Many more indications could be treated by compression, but we do not have yet the scientifically documented results

Examples: compr. after trauma, compr. after fractures, compr. after knee operation / replacement, compr. of leg edema due to renal insufficiency, etc.

A lot still needs to be done and the future of compression therapy is assured !