



## ***Basic Introduction to Compression Hosiery***



*I Can Help You*

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## *Establishing the Need*

Compression is an often overlooked and misunderstood component to lower extremity care. This course offers the training necessary to identify, evaluate and properly don compression wear. With the millions of sufferers of circulatory conditions and the millions more which could benefit due to long periods of inactivity, the need for compression therapy is tremendous.

*Upon completion of this session, you will be able to:*

- \*Identify components of circulatory system
- \*Define treatments and procedures for venous disease
- \*Define indications and contraindications for compression
- \*Define Compression Therapy and its application in venous disease and treatment
  - \*Properly measure and fit compression hosiery
  - \*Demonstrate proper donning and doffing
- \*Develop tactics to grow your compression business
- \*Recall technical requirements of Diabetic Socks

## *To Receive Credits:*

### **UPON COMPLETION OF THIS PRESENTATION**

\*YOU WILL BE REQUIRED TO COMPLETE A QUIZ –PASSING SCORE OF 80% OR BETTER

\*PAY FOR THE COURSE-\$40 (EITHER CREDIT CARD OR BILLED DIRECTLY TO YOUR DR. COMFORT ACCOUNT)

\*SEND THE QUIZ AND PAYMENT TO

[brian.lane@djoglobal.com](mailto:brian.lane@djoglobal.com) or fax (262) 226-8025



## *Covered information*

ANATOMY & PHYSIOLOGY

PATHOLOGIES

COMPRESSION HOSIERY

SHAPE TO FIT MARKETING

GROWING YOUR BUSINESS

DIABETIC SOCKS

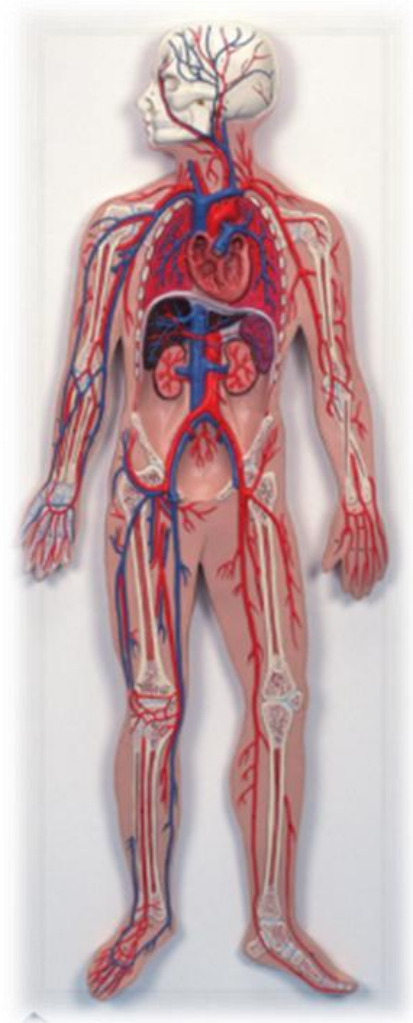


# ***Anatomy***

A brief review

# Anatomy

- To discuss compression, we need to discuss the anatomical relationships and conditions. This will be kept to the fundamentals and not the in-depth understanding of disorders.
- Blood vessels include the arteries, veins and capillaries. The main responsibility is to pump blood throughout the body.
- Most of the following conditions relate to the return of blood back to the heart.

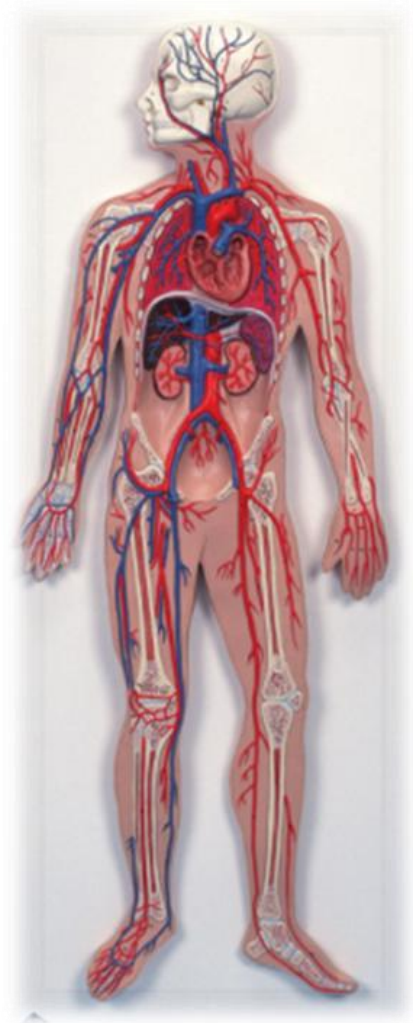




# *The Circulatory System:*

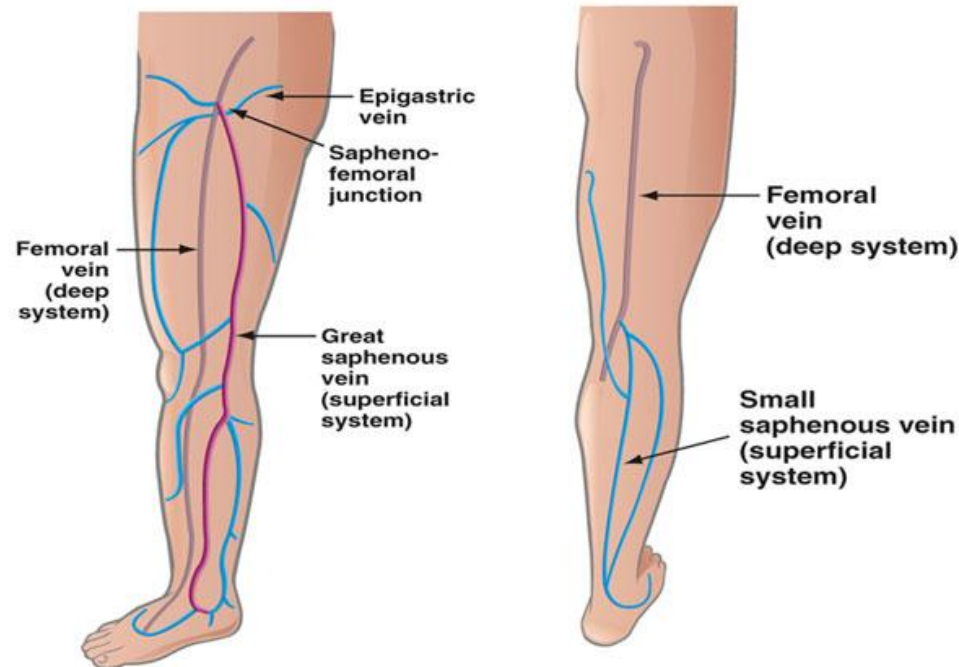
*Moves blood to and from the heart*

- 1. Heart
- 2. Blood Vessels
  - Arteries, Veins, and Capillaries
    - Arteries are large blood vessels that carry blood away from the heart
    - Veins carry blood back to the heart; **contain valves**
    - Capillaries are where substances are exchanged between blood and cells
- 3. Blood



## 3 Systems of Veins:

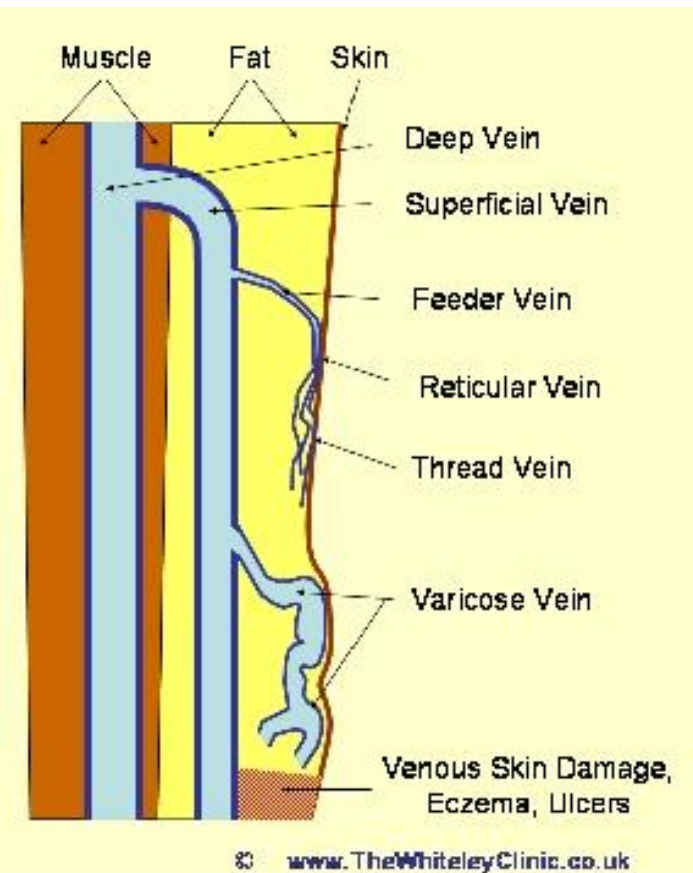
- 1. Deep System handles 90%
  - Femoral and Popliteal vein
  - Anterior and Posterior tibial veins
  - Peroneal veins
- 2. Superficial System handles 10%
  - Great and smaller saphenous veins and tributaries
- 3. Communicating (Perforator)
  - Connect deep veins to superficial veins



## 3 Systems of Veins:

You can think of the venous system like a “road map”

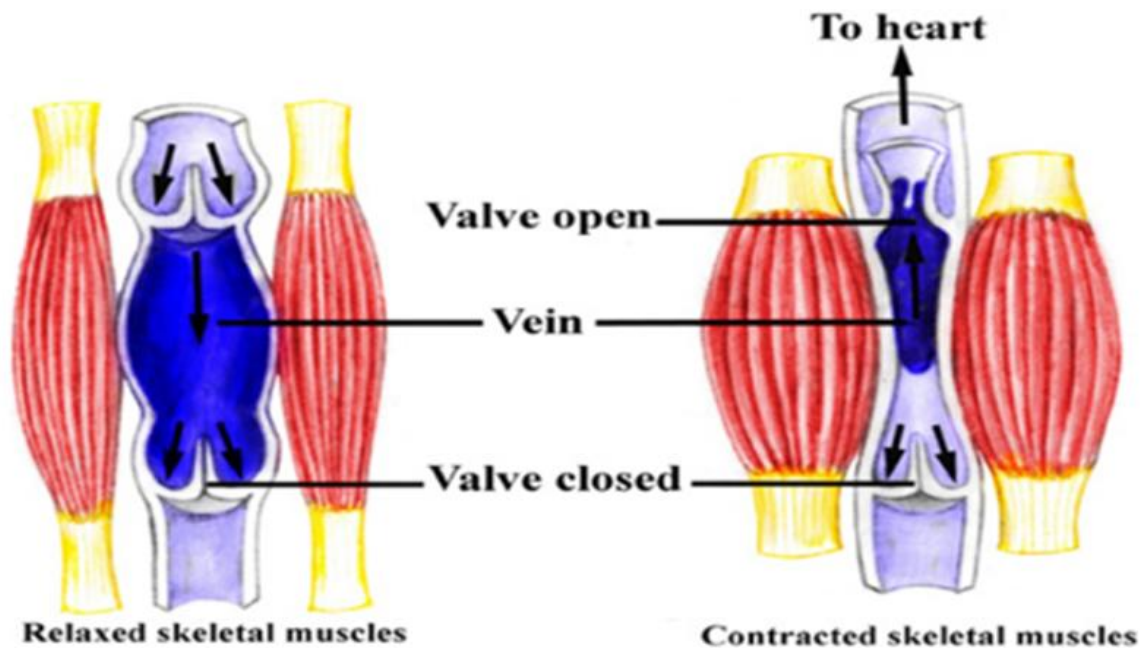
- 1. Deep
  - Deep veins are the interstates
- 2. Superficial
  - Superficial are the county highways
- 3. Communicating (Perforator)
  - Perforators are the on ramps



## *Venous Return - your bodies natural pump*

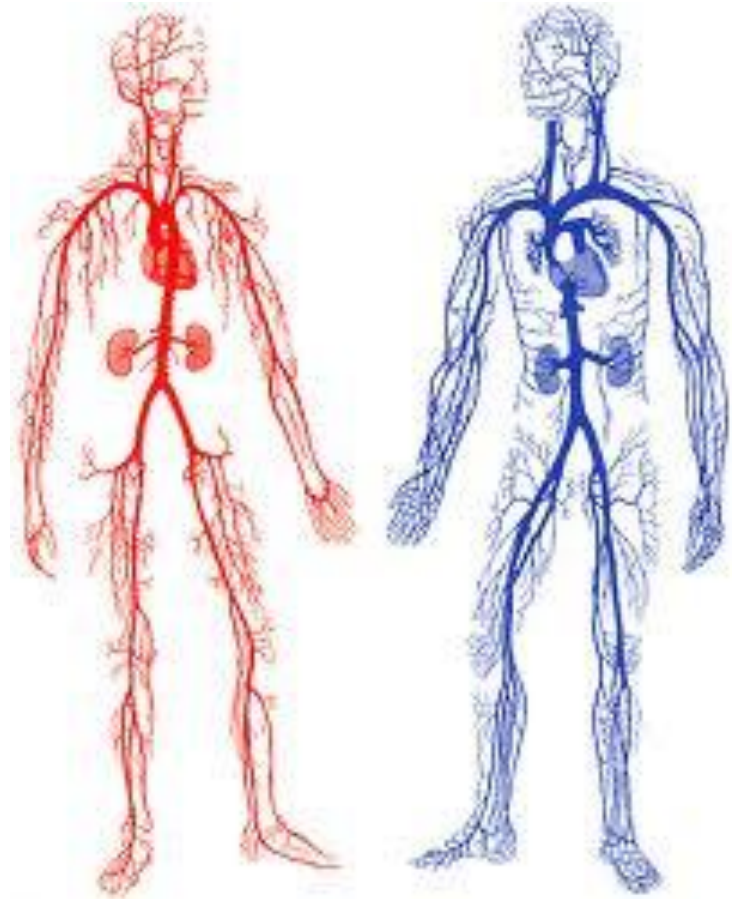
*The “skeletal muscle pump” includes the muscles in the feet, ankles, and calves.*

- Collapses the deep veins and forces blood upward when flexed*
- Properly working one way valves within veins keep the blood from pooling*

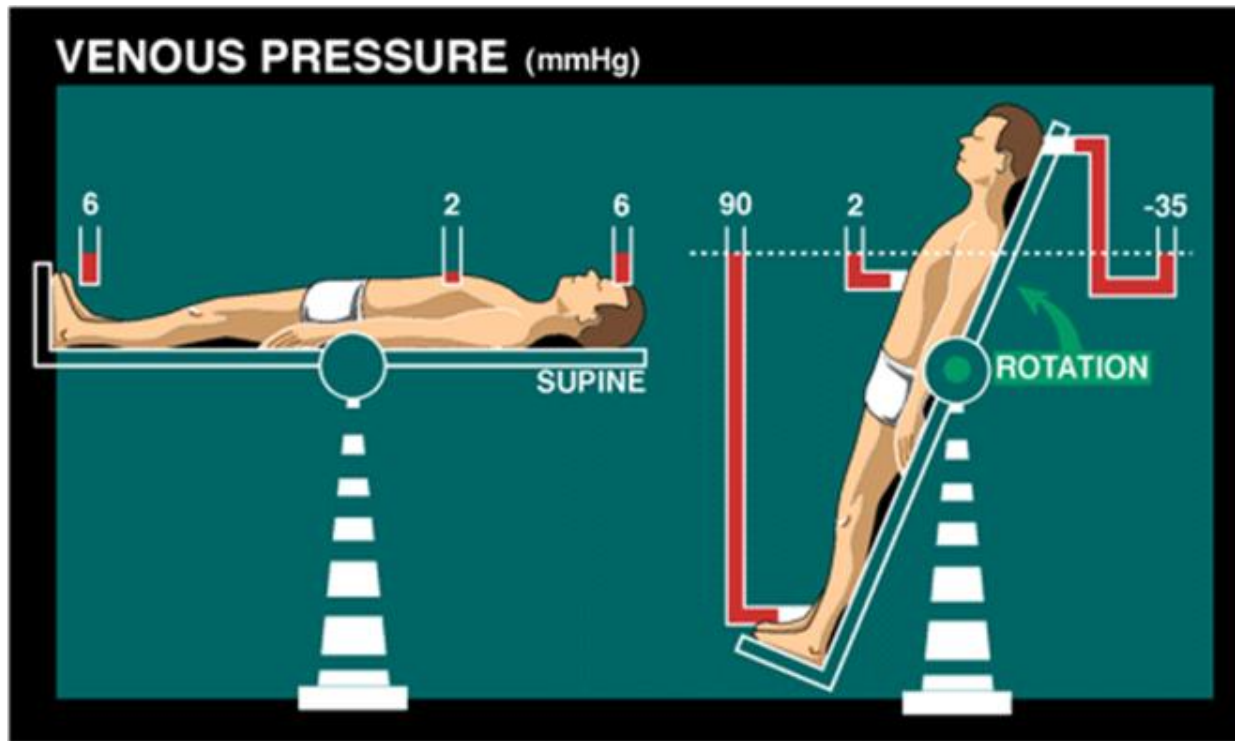


## *Venous Return - your bodies natural pump*

- We have **16 miles** of veins in our bodies
- There are **valves every 2-7 cm** throughout the veins in the leg.
- The venous system contains most of the blood as it moves through the circulatory system.
  - **40% of that is in our legs!**



## *Venous Pressure at Ankle*



Venous pressure at the ankles is about 6-10 mmHg when laying down.

After standing for 3 minutes, pressure rises to about 90mmHg.

Walking reduces pressure to about 25 mmHg after only 7 steps!

If pressure doesn't reduce when walking, probably has incompetent valves/CVI.



# ***Pathologies***

Disease states that may benefit from Compression Therapy



*More than 80 million Americans  
suffer from some form of venous disease*

*Venous ulcers present in an estimated  
1-2 million patients in the US*

*Over 2 Million people develop DVT/year*

*Recurrence of DVT ~30%*

*50% of DVT pts have NO SYMPTOMS*

*Compression stockings worn after DVT lessen recurrence by 50%*





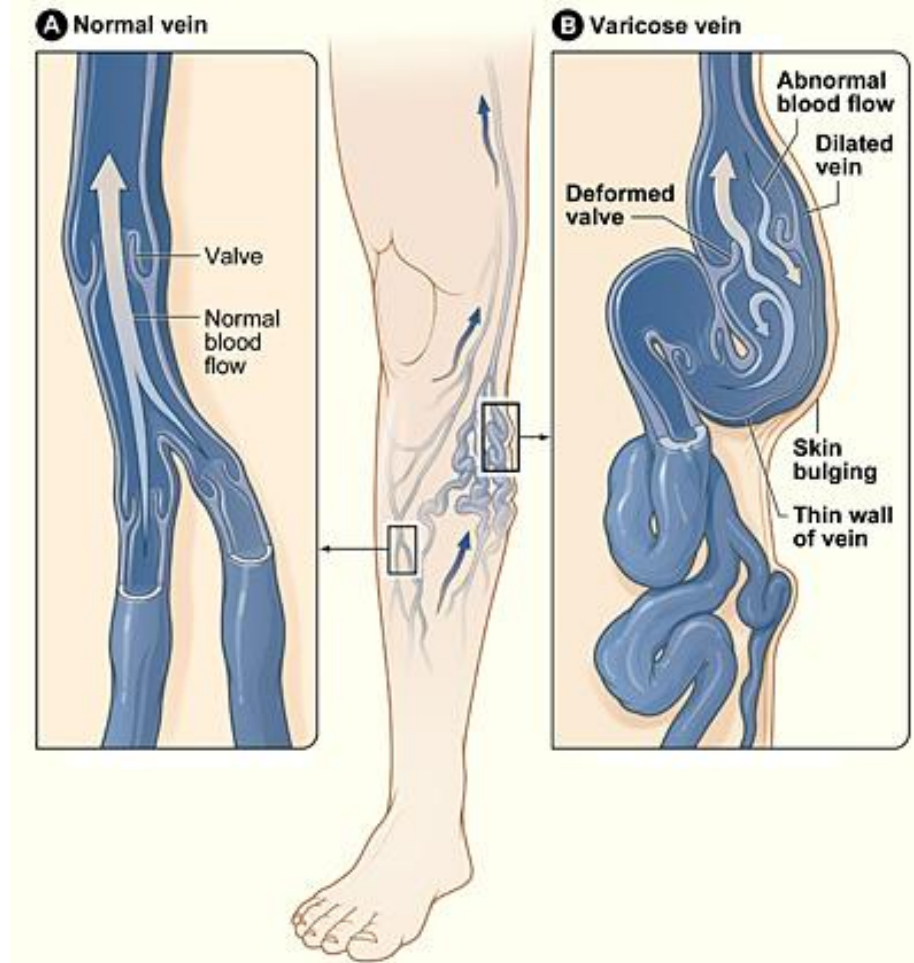
## *Blood flow malfunction*

### ***Incompetent venous valve***

blood flows backward away from the heart and into the superficial system causing venous congestion and high pressures

### ***Competent venous valve***

ensures the forward flow of blood by preventing reflux of blood during the relaxation phase of the calf muscle



# Pathologies

## **Varicose Veins**

*Bulging veins due to faulty valves in veins allowing blood to pool and distend the vein*

### **Causes**

hereditary, pregnancy, occupation, age

### **Symptoms**

bulging veins, aching and discomfort in thigh,  
leg heaviness and fatigue, inflammation

### **Treatment**

Compression hosiery, laser surgery, microphelbectomy, sclerotherapy, endovenous thermal ablation, endoscopic perforator vein surgery, etc.



# Pathologies

## ***Varicose Veins and Pregnancy***

40-50% increase in blood volume

### ***Varicose veins develop***

- ***30% first time pregnancy***
- ***55% two or more***

\* Compression stockings beneficial during pregnancy and post partum



# Pathologies

## ***Preventing Varicose & Spider Veins***

- Exercise regularly – improves leg and vein strength, circulation
- Control weight – helps control pressure on legs
- Don't cross your legs for long periods of time
- Elevate your legs when resting as much as possible
- Avoid wearing high heeled shoes for long periods of time.
- Don't stand or sit for long periods of time
  - If you must stand for long periods – shift weight from leg to leg every few minutes
- If you must sit for long periods – stand up and move around every 30 minutes
- Eat a low-salt diet rich in high fiber foods.
  - Fiber reduces chances of constipation – contributes to varicose veins
  - Less salt can help with swelling
- Wear elastic support stockings and avoid tight clothing that constricts any of the following
  - Waist
  - Groin
  - Legs



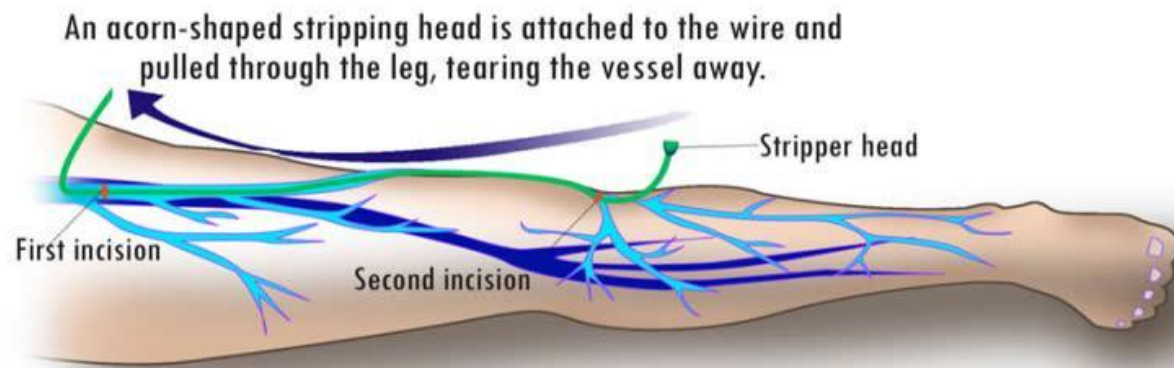
# Pathologies

## ***Varicose Vein Treatment***

In the past, treatment of varicose vein disease was primarily limited to vein ligation and stripping.

This is an invasive, debilitating, painful procedure that often causes patients to lose up to 6 weeks or more of work or downtime from other activities.

\*Note - this is still being performed today



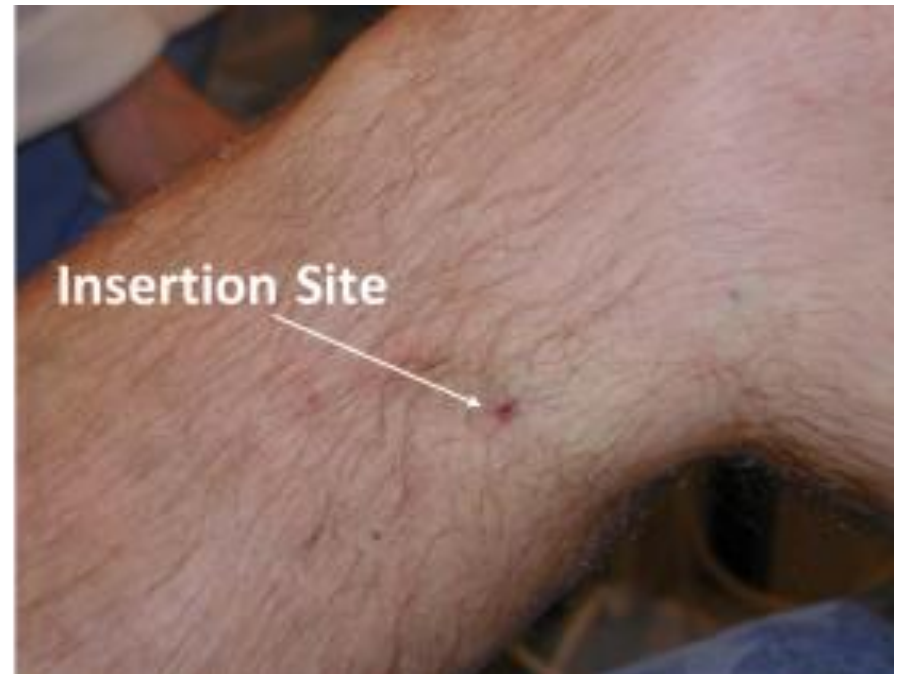
## *Pathologies*

### ***Varicose Vein Laser Treatment***

Non-surgical alternative to traditional surgery.

The procedure offers the following benefits:

- Minimally invasive
- No significant recovery time
- Low risk of infection
- Minimal discomfort



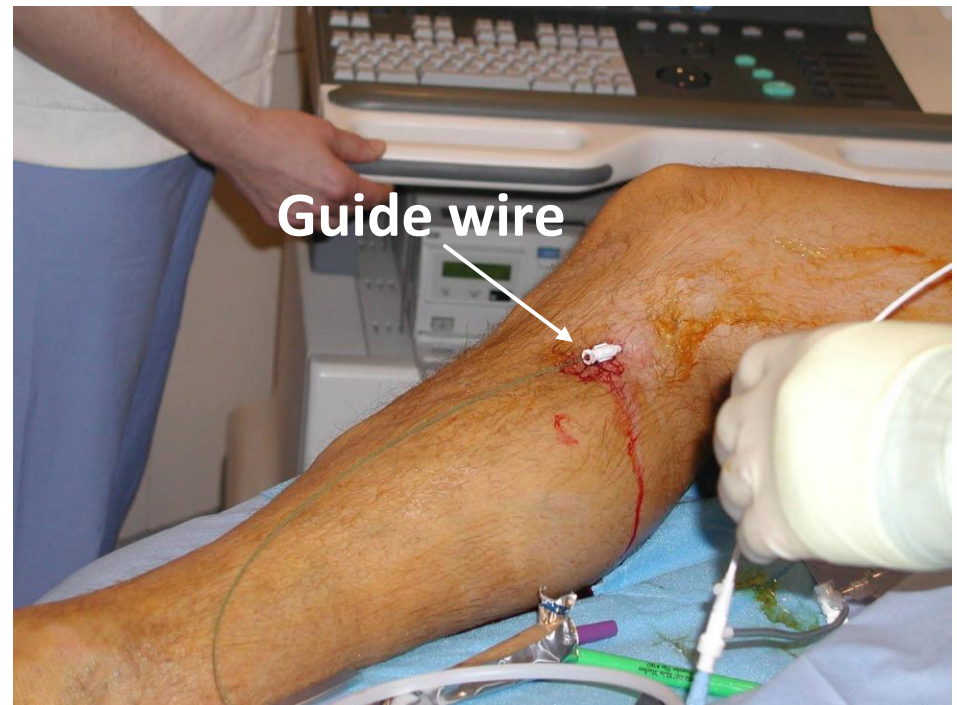
Most patients are able to return to work and normal activities in a day or two at most.



# *Pathologies*

## ***Varicose Vein Laser Treatment***

Dr. Bruce Cardonne, MD , Medical Director at the Vena Varicose Vein Institute in Waukesha, WI

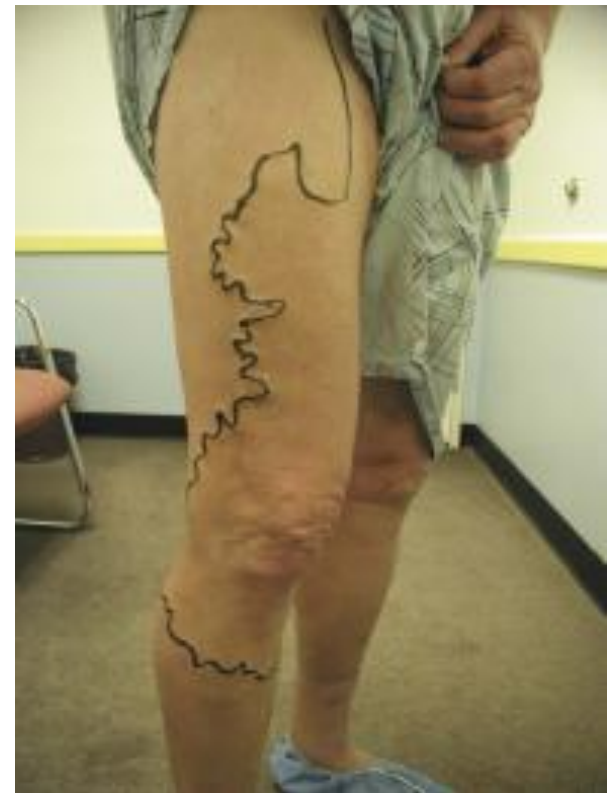


## *Pathologies*

### ***Varicose Vein Microphlebectomy Treatment***

In conjunction with the laser vein treatment procedure, there are often bulging, enlarged varicosities which need immediate treatment. A technique known as microphlebectomy is utilized.

The skin is numbed with a local anesthetic. Several small 1-2 millimeter incisions are made in the skin over the bulging veins which are marked prior to beginning the procedure.





## *Pathologies*

### ***Varicose Vein Microphlebectomy Treatment***

Using a special instrument the varicosities are pulled to the skin surface and removed.  
This procedure is safe and generally painless.



# *Pathologies*

## ***Varicose Vein Sclerotherapy Treatment***

- Procedure costs \$400-500 per area; considered aesthetic, not covered by ins.
- Treats small superficial veins and spider veins.

\*Should wear 20-30mmHg compression for 2-3 weeks after procedure

# Pathologies

## **Edema**

*accumulation of fluid trapped beneath the skin*

### **Causes**

medications, liver or kidney disease,  
heart failure, venous insufficiencies,  
pregnancy/hormones, paralysis, surgery,  
lymphatic problems

### **Symptoms**

swelling found in the lower extremities

### **Treatment**

Compression hosiery, treat the underlying cause, lifestyle modifications,  
medications, properly fit shoes, leg elevation



# Pathologies

## ***Pitting Edema***

Can be demonstrated by applying pressure to the swollen area by depressing the skin with a finger. If the pressing causes an indentation that persists for some time after the release of the pressure, the edema is referred to as pitting edema. Any form of pressure, such as from the elastic in socks, can induce pitting with this type of edema.

***\* Pregnant Kim Kardashian***



## *Pathologies*

### ***Non-Pitting Edema***

Usually affects the legs or arms, pressure that is applied to the skin does not result in a persistent indentation.

Non-pitting edema can occur in certain disorders of the lymphatic system such as [lymphedema](#), which is a disturbance of the lymphatic circulation that may occur after a mastectomy, lymph node surgery, or congenitally.





# Pathologies

## ***Stasis Dermatitis – affects 1 million/year***

***inflammatory skin disease*** which usually precedes venous ulcers – fluid accumulation in tissues beneath skin and capillaries unable to remove waste

### ***Causes***

age, diabetes, weight, PVD, smoking, sedentary, varicose veins, CVI

### ***Symptoms***

darkening of the skin at ankles/legs, itching and flaking, and thin in appearance or can be hard and scar-like

### ***Treatment***

Compression hosiery, topical steroids, antibiotics, lifestyle modifications, surgery



# Pathologies

## ***Venous Leg Ulcers***

*open wound due to blood leakage out of vein and surrounding tissue breaking down*

### ***Causes***

CVI, varicose veins, sedentary or non-ambulatory, edema, history of DVT, history of ulcer

### ***Symptoms***

found on inside of ankle, irregular borders, may have partial skin loss, may have a yellow or greenish discharge, painful

### ***Treatment***

Compression hosiery, lifestyle modifications, nutrition evaluation, antibiotics, topical wound care, surgery



# Pathologies

## ***Venous Leg Ulcers, cont.***

- ***500,000 sufferers***
- ***20,000 newly diagnosed/year***
- ***30% will suffer recurrence without treatment***
- ***Est. 2 million workdays lost every year***

(Rudolph DM et al, *Wound, Ostomy, Continence Nurse* 1998, 25:248-255)

- ***Average per episode cost of care can exceed \$40,000*** (Rudolph DM et al, *Wound, Ostomy, Continence Nurse* 1998, 25:248-255)





## Pathologies

### *Venous* vs. *Arterial* Leg Ulcer

## Venous Leg Ulcer



- Venous ulcers can be small or large but one thing is for sure  
The edges are ***NOT A PERFECT CIRCLE***
- These ulcers are wet all the time, and depending on how long the patient legs are kept dangling will determine how much drainage there will be
- Almost always there will be edema (swelling of the leg) and in fact, edema is usually the **FIRST** thing you will find.
- There usually is no pain with walking, per se, but the patient will say it hurts to stand up. Once they are up and start walking, the pain subsides

## Pathologies

### ***Venous* vs. *Arterial* Leg Ulcer**

## **Arterial Leg Ulcer**



- Skin is often cool or cold to touch
- Ulcers are most likely perfectly round, smooth edges, minimal drainage, no odor
- May or may not have swelling (edema) of the lower extremities
- May be found on tips of toes, between the toes or on the outside of ankles.
- Skin on lower extremities often tight, hard, shiny
- There may not be any hair on the toes or on the legs
- There may be pain with walking (claudication)
- Faint to absent pedal pulse

## *Pathologies*

### ***Chronic Venous Insufficiency (CVI) – collective term***

*Long standing condition due to damage of the deep veins where veins can't pump enough oxygen poor blood back to the heart – PROGRESSES IF NOT TREATED*

#### ***Causes***

hereditary, pregnancy, diet, weight, inactivity, trauma/surgery, occupation, age

#### ***Symptoms***

skin becomes shiny, itchy, brown, weepy, recurrent ulcers common, pain when standing

#### ***Treatment***

Compression hosiery, anticoagulants, bed rest (acute cases), elevate leg, exercise

## *Pathologies*

### ***Chronic Venous Insufficiency (CVI) – cont.***

- 50% of Americans are affected by CVI (*Society of Interventional Radiology*)
- **4.6 Million workdays are missed in the US due to CVI** (*Society for Vascular Surgery*)



## Pathologies

### **Deep Vein Thrombosis (DVT)**

*Blood clot in a deep vein*

#### **Causes**

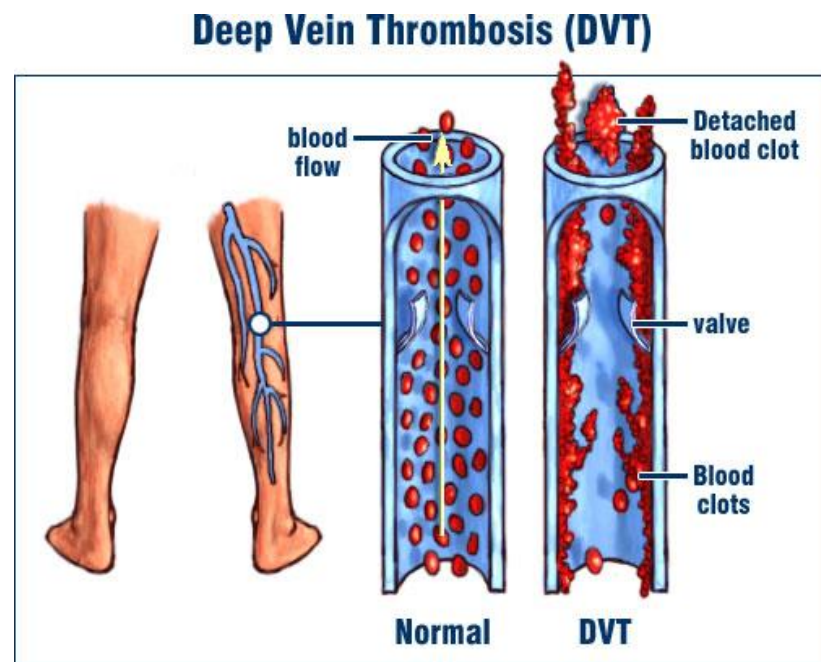
inactivity, prolonged immobility, recent surgery, pregnancy, age, obesity, history of venous disease, malignancy, being tall

#### **Treatment**

Compression hosiery (both for prevention and treatment) lifestyle modifications, blood thinners

**ACCP guidelines call for compression therapy for minimum of 2 years after DVT**

(American College of Clinical Pharmacy)



## *Virchow's Triad - (1800's Dr. Rudolph Virchow)*

### ***3 main factors thought to contribute to Thrombosis***

Any 2 of the 3 factors put you at a medium/high risk.

When all 3 are met the risk is very high.

- **Abnormal blood flow**

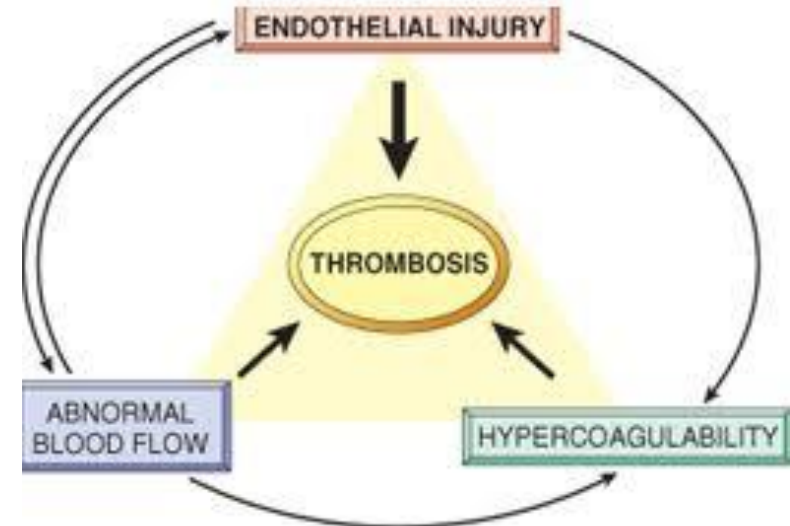
Possible situations include venous stasis, turbulence, mitral stenosis, and varicose veins.

- **Endothelial injury**

Refers to injuries and/or trauma to endothelium arising from shear stress or hypertension.

- **Hypercoagulability**

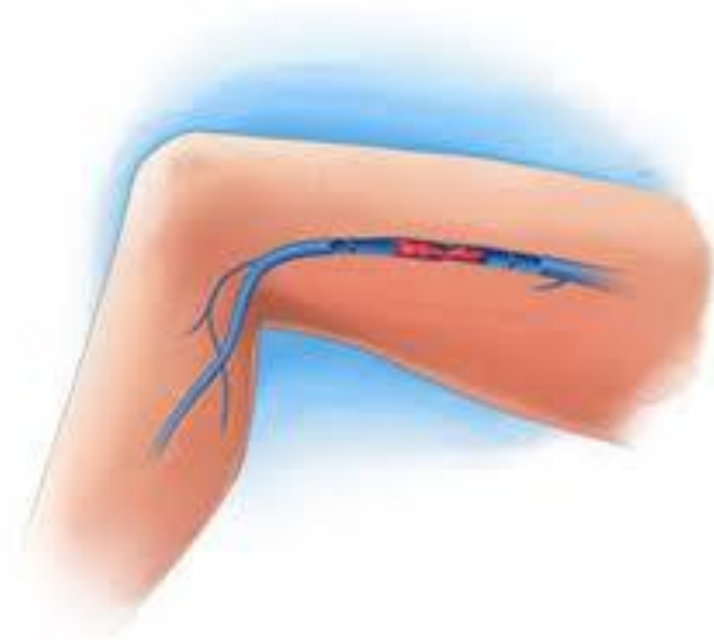
This includes hyperviscosity, disseminated cancer, late pregnancy and delivery, race, age, obesity, and smokers.



# Pathologies

## ***Deep Vein Thrombosis (DVT), cont.***

- 1 in 100 will die
- 30% of DVT sufferers at risk for another episode
- 600,000 newly diagnosed DVT's/year
- Most serious complication of DVT is PE
  - 10% of all hospital deaths
- Most preventable cause of hospital deaths
  - 2008 Surgeon General "CALL TO ACTION"



# Pathologies

## ***Pulmonary Embolism (PE)***

*Blood clot that migrates into the lungs blocking the flow of blood to the lung and preventing blood from being reoxygenated*

### ***Causes***

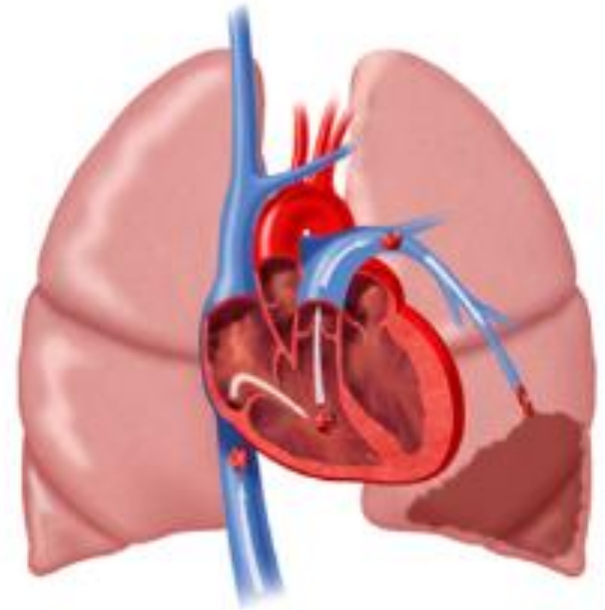
Deep vein thrombosis DVT

### ***Symptoms***

shortness of breath, sharp chest pain, feeling of apprehension, fainting, rapid pulse, coughing, sweating, bloody phlegm

### ***Treatment***

Compression hosiery, anticoagulants, aspirin, exercise/ambulation



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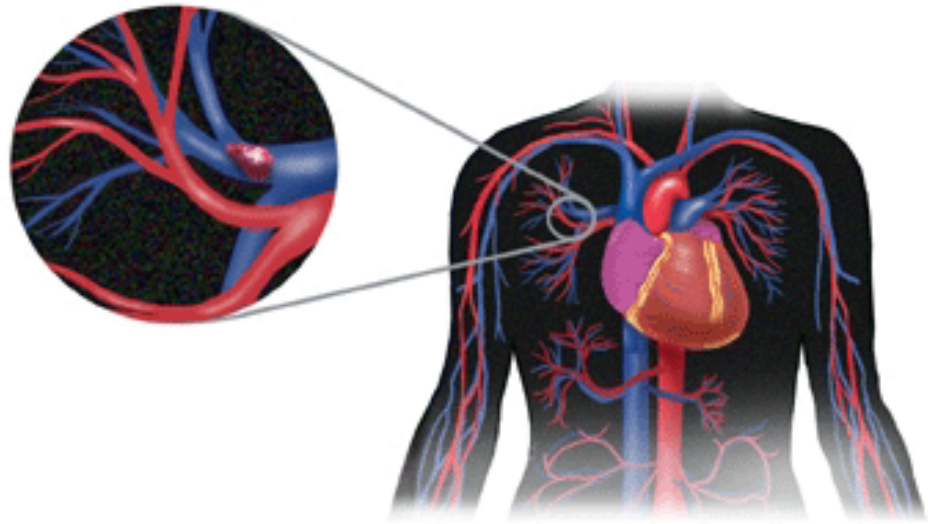


# Pathologies

## ***Pulmonary Embolism (PE), cont.***

- Death is first symptom in 25% cases
- 30% of patients suffer mortality after 30 days
- Leading cause of maternal death
- More people die each year from PE than breast cancer and AIDS combined
- 2/3<sup>rd</sup> of all events associated with recent hospitalization

Site of Pulmonary Embolus



© 2003 Society of Interventional Radiology

# *Pathologies*

***PE can happen to anyone!***



Serena Williams



Heavy D

David Bloom



# Pathologies

## ***Post Thrombotic Syndrome (PTS)***

*Long term chronic complications of DVT with  
Varying degrees of severity*

### ***Symptoms***

reduced quality of life, impaired physical  
function, impaired ability to work, unsightly  
leg changes

### ***Treatment***

Compression hosiery (recommended 20-30mmHg for at least 2 yrs after DVT),  
lifestyle modifications, medications, surgical treatments

***\* 40% of DVT patients will develop PTS within 2 years***



## *Other symptoms that benefit from compression use:*

***Tired, achy, heavy legs***

***Swollen ankles in the evening***

***Leg pain that goes away when legs are elevated***

***Slow healing wounds on lower legs***

***Spider and reticular veins***

***Temperature variances***

***Discoloration of skin on legs***



## ***Contraindications***

- ☐ Severe arterial insufficiency (lack of blood flow in the arteries-atherosclerosis)
- ☐ Intermittent Claudication (muscle pain during activity)
- ☐ Ischemia (restriction of blood supply to tissues)
- ☐ Uncontrolled Congestive Heart Failure (heart isn't able to pump enough blood for the needs of the body)
- ☐ Untreated Septic Phlebitis (inflammation of a vein due to bacterial infection)
- ☐ PAD (Peripheral artery disease-narrowing and hardening of the arteries that supply the lower legs and feet)



## *Contraindications!*

*Use caution when compression is used on people with:*

- Skin infections
- Weeping dermatoses
- Allergies to fabrics used
- Impaired sensitivity of the limb
- Immobility (confined to bed)
- Open wounds



## Commonly Used Terms

- **Ischemia**-restriction in blood supply to tissues
- **Thrombosis**- the formation or presence of a blood clot in a blood vessel
- **Embolism**-obstruction in a blood vessel due to a blood clot or other foreign object
- **Anti-embolism** - Worn when non-ambulatory or post-surgical to help prevent pooling of blood in the legs that could lead to a venous thrombosis.
- **Pulmonary**-pertaining to the lungs
- **Custom** - uniquely made for a specific individual.
- **Lymphedema** - compression stockings used to manage edema resulting from the onset of Lymphedema
- **Support** - mild compression stockings sold over-the-counter and without a physician's prescription





## ***Compression Therapy***

*...is the application of controlled graduated external pressure to the limb to reduce venous pressure within the limb and to reduce lymph process (edema)*

## *What are Compression garments?*

***Compression stockings are specially designed knit legwear.***

Designed with the following goals in mind.

- To aid the venous system in getting blood back to the heart
- To reduce or prevent edema
- Reduce progression of venous or lymphatic disease



## *Compression Hosiery*

- Socks are an important aspect to overall foot health as it begins inside the foot and works it's way from the socks to the orthotics and shoes.
- A complete foot health system should include hosiery or socks.
- While Compression Therapy can be used for a number of circulatory issues to further benefit patients overall health, don't assume it only addresses those suffering a condition.



## *How does compression work?*

***Compression stockings help your body pump blood back to your heart as it moves through your circulatory system.***

Can be likened to a tube of toothpaste...

When you squeeze the bottom of the tube, the toothpaste migrates up and out. You are applying the most pressure to the very bottom and the pressure is decreasing as it moves up the tube moving the toothpaste up.



## *Compression Hosiery*

*mmHg =  
Millimeters of Mercury*

The basic unit of measurement used to determine how “strong” the compression is



# *Categories of Compression*

## ***Anti-Embolism vs. Medical Compression***

### **Anti-embolism**

**(VenaFlow AES, T.E.D.S.):**

Near 18 mmHg at ankle

Designed for DVT prevention for those on bed rest

Not designed for long term wear

### **Medical Compression**

**(Dr. Comfort Shape to Fit, Sigvaris, Jobst, Medi, Juzo):**

Compression ranges from 20-60mmHg

Designed for Ambulatory Use

For the Treatment and Prevention of Venous Disorders

# Anti-Embolism Stockings

*T.E.D. (Thrombo Embolic Deterrent)*

- usually 18 mmHg at ankle
- intended for **bed-ridden** and some post-surgical patients
- prevent blood clots associated with post surgical inactivity
- **short-term use**
  - Usually during hospitalization



Knee high and thigh with belt also available.

***NOT THE SAME as graduated compression***

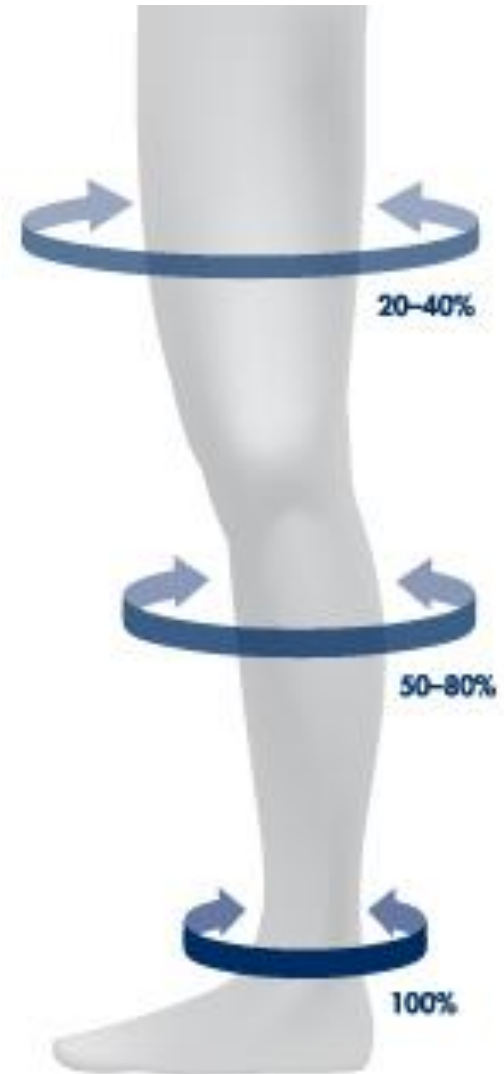


# Graduated Compression

*The garments are knit so that the pressure is greatest at the ankle and least at the knee or thigh*

- Available in variety of ranges
  - 10-15 mmHg
  - 15-20 mmHg
  - 20-30 mmHg
  - 30-40 mmHg
  - 40-50+ mmHg

***Designed for ambulatory use***



## *Why the range of compression?*

- 10-15 mmHg
- 15-20 mmHg
- 20-30 mmHg
- 30-40 mmHg
- 40-50 mmHg
- 50 + mmHg



15mmHg vs 10 mmHg

*For individuals with thinner ankles (on the lower end of the measurements), compression levels will be less. For individuals with thicker ankles (on the higher end of the measurements), compression levels will be greater.*

## *Categories of Compression Hosiery*

### **Sheer**

- High transparency
- Lighter
- May seem cooler
- All styles (knee, thigh, OT, CT)



## *Categories of Compression Hosiery*

### **Surgical Weight**

- Less transparency/opaque
- Heavier/stiffer
- May seem warmer
- All styles (knee, thigh, OT, CT)



## *Categories of Compression Hosiery*

### **Microfiber Surgical Weight**

- Less transparency/opaque
- Softer
- All styles (knee, thigh, OT, CT)
- \*knit on machines with more needles per inch



# *Medical Grade Compression Hosiery should include:*

## **Pressure point elimination**

### **Graduated compression**

#### **Seamless** - aids in reducing hot spots

Construction should be hand-linked, machine-linked, Linto closure or open tooth closure to create “seamless” function

#### **Anatomically correct fit**

noticeable heel and toe area

#### **High quality materials, specifically the yarn**

#### **Appropriately measured and sized**

is critical to overall support and ensures proper fit with less pressure

## *Medical Grade Compression Hosiery should include:*

**Pressure point elimination – anatomically correct fit**

**Anatomically correct fit**



**NOT Anatomically correct fit**



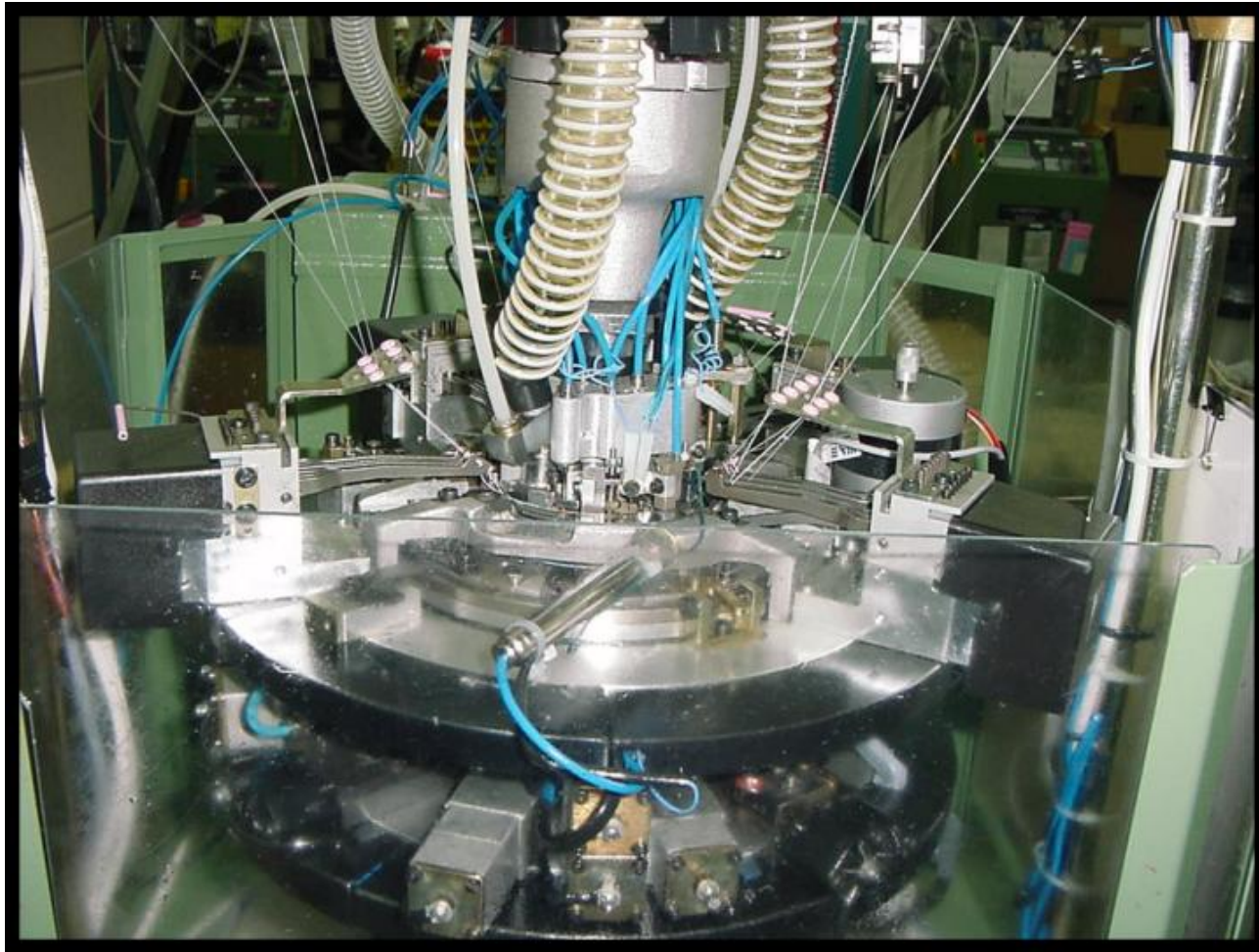


## *Knitting Machines*

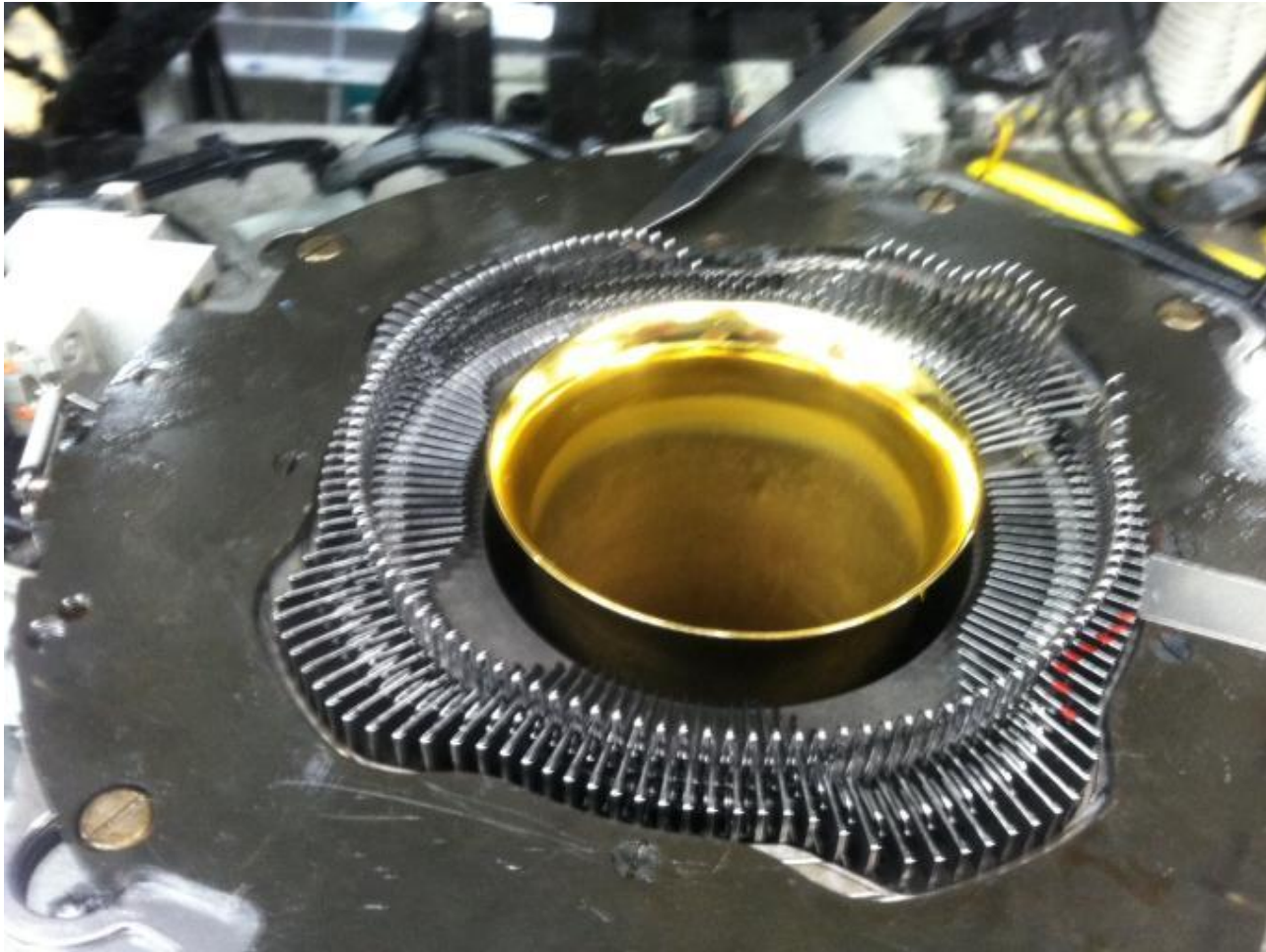
Can be set up with different circular inserts that determine the hand, compression, and style of stocking



# *Knitting Machines*



## *Circular Knitting Machines*





## *Hand-sewing - video*

*Done on many garments – can be very labor intensive*



## *Quality Control*

- Compression Hosiery is regulated, registered monitored by the U.S. Food and Drug Administration (FDA).
- Regulations and quality standards must be met in order to sell compression with designated measurements.
- ISO 13485 is a standard that represents the requirements for a comprehensive management system for the design and manufacture of medical devices.

## *Quality Control*



# *How to determine the best product for the customer?*

## **Step 1: Appropriate compression amount**

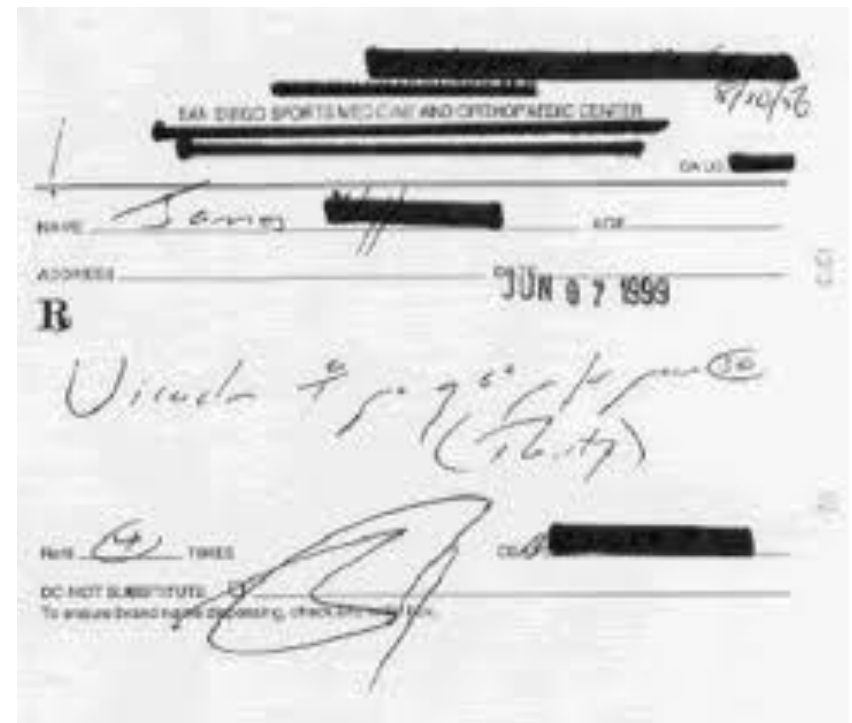
The best way to determine is to work from the prescription. If that is not an option, determine the appropriate compression the patient will tolerate and benefit from.

**10-15, 15-20, 20-30 compression levels considered (OTC)**

**30-40+ levels are Rx Products**

doesn't guarantee insurance will cover the cost

\*Consider layering 2 garments of light compression to get the appropriate compression level





# *How to determine the best product for the customer?*

## **Step 1: Appropriate compression amount**

### **10-15 mmHg:**

- Gentle compression
- Relaxed, comforting fit
- Considered over-the-counter
- Safe for people with Diabetes
- Prevents minor leg and ankle swelling

*These will help just about everyone's legs feel better.*



# *How to determine the best product for the customer?*

## **Step 1: Appropriate compression amount**

### **15-20 mmHg:**

- Moderate compression
- great for mild edema
- minor varicose veins
- Good for during and after pregnancy
- Great for traveling
- Preventative

*These would be good for “occupational” or “evening edema”-leg discomfort due to long hours sitting or standing.*



# *How to determine the best product for the customer?*

## **Step 1: Appropriate compression amount**

### **20-30 mmHg:**

- Firm compression
- Moderate Edema
- Moderate varicosities
- Great for traveling
- Prevent recurrent DVT's and Venous Ulcers

*These would be good for use during pregnancy and post partum and after vein procedures.*



# *How to determine the best product for the customer?*

## **Step 1: Appropriate compression amount**

### **30-40 mmHg:**

- Significant compression
- Active venous ulcers
- Severe edema
- Moderate to Severe varicosities
- Management or treatment of DVT or PTS
- Mild Lymphedema

*These would be good for post procedure of larger veins to maintain treatment success.*



# *How to determine the best product for the customer?*

## **Step 1: Appropriate compression amount**

### **40-50+ mmHg:**

- Significant compression
- Severe edema
- Severe varicosities
- Severe PTS
- Lymphedema

*These are used for very severe issues.  
Usually a custom product (flat knit).*

*\*Dr. Comfort does not have items in these ranges*



# How to determine the best product for the customer?

**Step 2: Size of the patient** (2-3 measurements are needed depending on the style of the garment)

- Knee Hi stockings need ankle and calf measurement
- Thigh Hi need ankle, calf, and thigh
- Panty hose need ankle, calf and hip measurement

**Always measure the NARROWEST part of the ankle and the WIDEST part of the calf and thigh**



# *How to determine the best product for the customer?*

## **Step 2: Size of the patient**

*\* Measuring for compression should be done early in the PATIENT'S day, prior to swelling.*

*(think of 3<sup>rd</sup> shift workers)*

*•Dispensing should also be done around the same time they were originally measured.*

*• Tape Measures = \$2.00*





# *How to determine the best product for the customer?*

## **Step 3: Appropriate style**

With the various style choices (knee high, open toed, sleeve, etc.), you must determine the most appropriate for the patient's condition and lifestyle.

### **Fitters will need to pay attention to:**

- Dexterity
- Mental competency
- Care giver
- Characteristic of limb(s)
- Pathology
- Price

*Once the problematic area is covered, then the st*

*Varicosities are only in calf - knee hi is fine*

*Varicosities go beyond knee - then a thigh hi or panty hose is appropriate*



# How to determine the best product for the customer?

## Dr. Comfort Shape to Fit Product Line

**All of our styles offer the same best-in-class features:**

- *Signature non-binding comfort band*
- *Seamless construction*
  - *Expect sheer*
- *Durable, breathable material*
- *Supreme color fastness*
- *100% latex free*
- *Compression levels and sizes sewn into inside of comfort band*



# *How to determine the best product for the customer?*

## **Step 3: Appropriate style**

### **Knee High**

Most widely used

Can be made to look like fine hosiery,  
lace, patterns, trouser socks, dress socks etc.



# *How to determine the best product for the customer?*

## **Step 3: Appropriate style**

### **Extra Roomy**

For larger patients, extra room is key  
Can accommodate calves up to 24"

*Putting the wrong size compression on a patient may increase the level of compression and be potentially harmful. Many patients (obese) are outside their circumference of their measurements*



# *How to determine the best product for the customer?*

## **Step 3: Appropriate style**

### **Open Toe**

Good for individuals with forefoot  
Conditions

- Bunions
- Hammer toes
- Sandal wearers
- Very large feet



# *How to determine the best product for the customer?*

## **Step 3: Appropriate style**

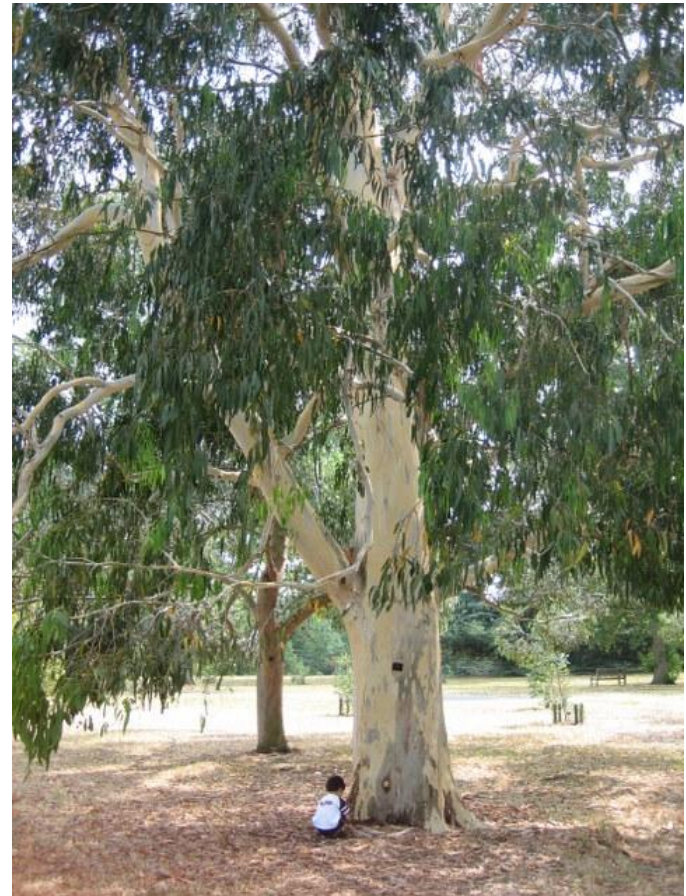
### **Tencel**

Developed for people  
with sensitive skin



### *What is Tencel?*

100% natural fiber created by the bark  
of the Eucalyptus tree



# *How to determine the best product for the customer?*

## **Step 3: Appropriate style**

### **Wool**

Great insulation for cooler climates  
yet still breathable, a natural product





# *How to determine the best product for the customer?*

## **Step 3: Appropriate style**

### **Diabetic Socks**

Moisture wicking

Bacteria control fabrics

*New materials such as Coolmax, Bamboo Charcoal, silver, copper, acrylic and other products have moisture wicking qualities. The thought of 100% cotton materials providing good moisture control is in the past.*



# *How to determine the best product for the customer?*

## **Step 3: Appropriate style**

### **Calf sleeves**

Excellent starter compression

Great for exercise

reduces trauma to muscles (less vibration)

helps aid in muscle fatigue recovery



*Not for patients with swelling in the foot.  
This would create a tourniquet effect.*

# *How to determine the best product for the customer?*

## **Step 3: Appropriate style**

### **Thigh High**

Best after vein surgery or cosmetic treatments, or when the area needs to be treated is above the knee

\*Features non-slip silicone dot band for superior hold and comfort



# *How to determine the best product for the customer?*

## **Step 3: Appropriate style**

### **Panty Hose**

Preference or varicosities

treatment area is in the groin

- Features wider gusset for comfort
- Signature stay-up non-binding waist
- Tummy control panel



# How to determine the best product for the customer?

## Step 4: Donning the hosiery

*\*Be sure to remove any jewelry prior to donning\**

Grab the heel cup of the stocking from the inside and turn inside out until just before the foot portion comes through. Place over the individuals toes and over their heel. Then pull the rest of the stocking up the leg, being careful not to over stretch.



# How to determine the best product for the customer?

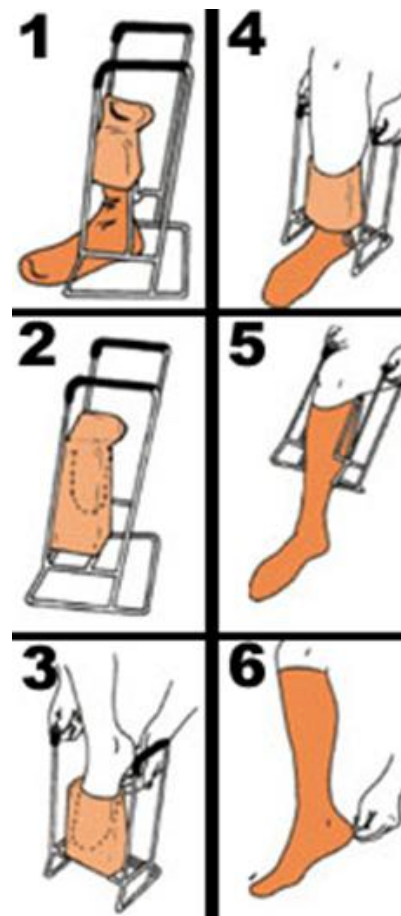
## Step 4: Donning the hosiery

*\*Be sure to remove any jewelry prior to donning\**

### **Donning Stand**

Stretch the hosiery over the donning stand until you see the heel cup at the top. Have individual place their foot inside and grasp the side handles to pull the stocking up their leg.

Stocking may need minor adjustment afterward.



# *Many devices that can help with donning and doffing*

**Stocking donner**



**Donning Gloves**



**Toe Sleeve**





## Step 5: Break In and Wearing Instructions

Wear the hosiery for a limited amount of time for the first few days.

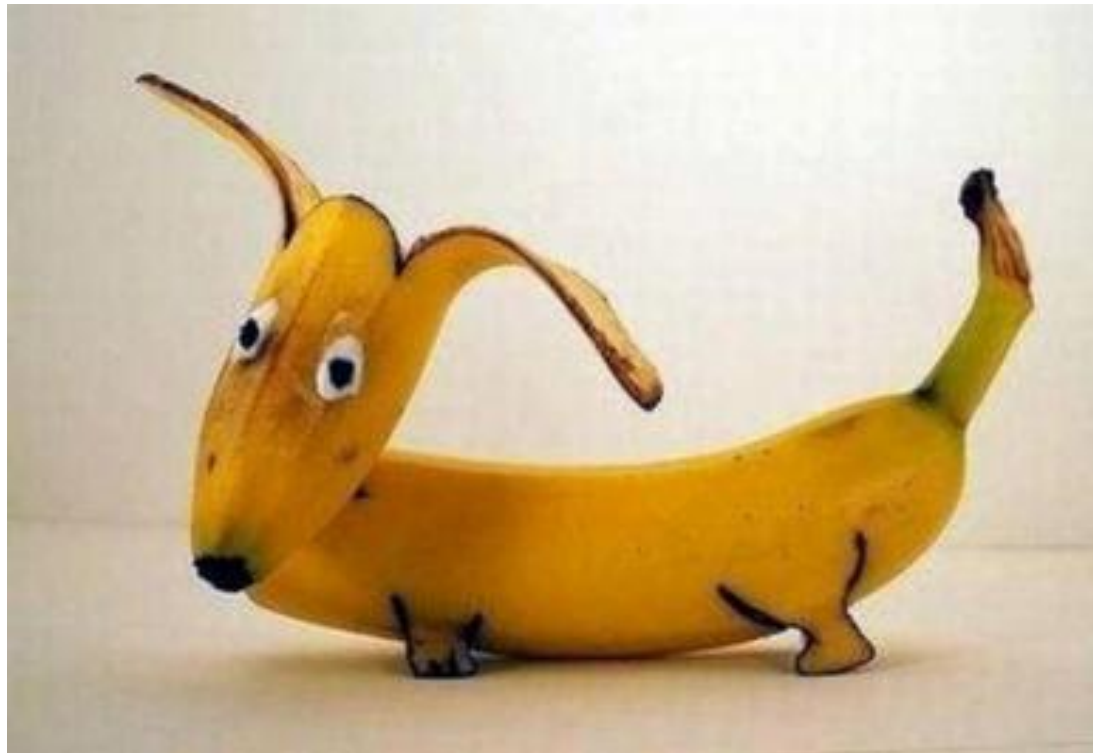
**TAKE THEM OFF AT NIGHT!**



## Step 6: Removing/doffing the hosiery

Use the “banana peel method”

*pull off from the top band of the garment so that it is inside-out when it is removed.*



## *Care Instructions:*

- Wash in warm water either by hand or in gentle machine cycle
- DO NOT use bleach or fabric softener
- Dry in a low to medium heat dryer or hang dry
- Never iron or dry clean
- Never wring out hosiery
- Never swim with compression
  - Chlorine will destroy hosiery



# Wound Care for Venous Ulcers

***Available in Left or Right zipper designs***

- *Apply zipper opposite of wound*

***The Ulcer Care Kit is billable to Medicare (HCPC A6531)  
with the following criteria:***

- *Patient has an active venous stasis ulcer and*
- *Debridement was performed by a healthcare professional  
and*
- *A gradient compression stocking of at least 30-40 mmHg  
was supplied*



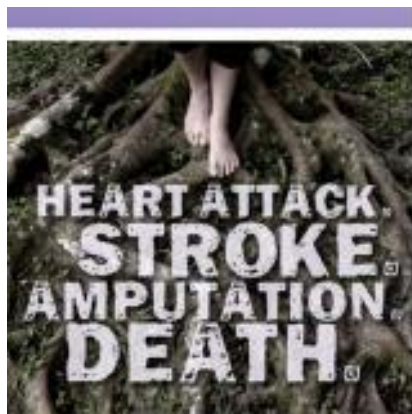
## *Growing your business*

- Ensure people know you are their go-to for Compression Stockings!
  - ✓ Market to local physicians, vein centers, Wound clinics, OT's
  - ✓ Send introduction letters to possible
    - “users” (mfg. plants, teachers, nurses, firefighters, police, beauticians)
      - anyone on their feet a lot
  - ✓ Highlight “Certified Fitter” achievement
  - ✓ Partner with you good referral sources



## *Growing your business*

- ✓ Highlight Health awareness months (March-DVT, Nov-Diabetes, September-PAD)
- ✓ Send out reminder cards
- ✓ Look at new Demographics
  - ✓ Sports (fitness centers, schools, running clubs)
- ✓ Open Houses / Vascular Health Days
- ✓ Utilize social media
  - ✓ Facebook, twitter, etc.



**PERIPHERAL  
ARTERIAL  
DISEASE  
IS NO WALK  
IN THE PARK.**

September is  
Peripheral Arterial Disease  
Awareness Month



**November is  
Diabetes Awareness  
Month**  
Are You Really Aware?



# Frequently Asked Questions

- **What size do I use if the patient's ankle measures a "L" and their calf measures a "M"?**

Follow the ankle measurement, as this is where the compression starts; when another pair is purchased, it is wise to re-measure because the swelling/edema might have decreased and therefore, the size might have changed.

- **What size do I use if the patient's ankle measures a "S" but the calf measures a "M"?**

Because we do not want anything to decrease circulation in the leg, it is best to choose the size that corresponds to the calf

- **If a patient wears custom hose and cannot afford them, is there an alternative?**

Many manufacturers have expanded their ready-to-wear sizes so there may now be an alternative to a patient's custom hose. Sometimes, because of a patient's special needs to contain edema or lymphedema, custom hose may be the only solution.



## *Frequently Asked Questions (continued)*

- **How long should compression stockings last?**

Generally, a pair of **compression** socks or stockings is designed to last roughly 6 months

- **Do patients need a prescription to purchase support stockings?**

Proper compression wear is approved by the FDA for over-the-counter sales, which do not require a doctor's prescription

Some facilities require a prescription on these as a matter of safety for those customers that do not know anything about compression wear and want the "strongest"

Also, if a patient intends to request reimbursement from their insurance company, they will require a prescription

- **Will compression stockings get runs?**

They are more substantial than regular hosiery, however they still can get runs.

Use donning gloves

Use the balls of the fingers, as opposed to the finger tips

Trim finger nails

## *Frequently Asked Questions (continued)*

- **Why won't my patient's stockings stay up?**

Improper size - stockings are just too big

Stockings may be too old - Compression wear will last approximately 4-6 months, after which they lose their compression and stretch out

Improperly washing the stockings. Compression hose must be washed in warm water

Males may need to shave thigh area to remove hair (thigh high only)

Silicone bands (on thigh highs) may need to be cleaned of body oils periodically; apply some rubbing alcohol to the silicone with a cotton ball to rejuvenate the stickiness

- **What can patients do to avoid getting wrinkles in their hosiery?**

They should be pulled up and massaged upwards until they are smooth on the legs

Another reason for wrinkles may be that the socks are too big or too small

## *Quiz*

- **Be sure to take the quiz including your name, payment information and certification number for proper credits.**



*POWERING MOTION*

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