

# Solutions in Compression Therapy

DBST

Venous & Lymphatic Conditions Lower Extremity

JOBST





# **VENOUS OVERVIEW**

### **BLOOD, VEINS & VALVES**

#### How it circulates

The circulation of blood is possible based on three major components: the heart, arteries, and veins.

The pumping action of the heart forces blood through the arteries and veins of the body. Arteries are the vessels that carry blood from the heart to the body tissues. Veins return the blood back to the heart.

#### How they work

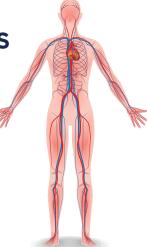
Valves, located inside the veins, keep the blood flowing in one direction - toward the heart. Valves open to allow blood to return to the heart. They then close to prevent the blood from flowing backwards.

#### How vein problems occur

When a valve no longer closes properly or fully, problems can develop. Weak or damaged valves cannot support the blood when the muscle relaxes. This allows blood to flow backwards in the vein, creating pressure on the valves below. These valves can also weaken. Blood return to the heart is reduced and other complications can develop.

#### Pooling

A damaged or poorly closing valve in a vein allows blood to flow backwards. This can cause blood to back up and collect in the veins of the lower leg. Pooling of blood in the veins of the lower leg causes swelling, especially near the ankles and calves.





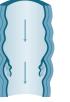
Valves open when muscles contract, allowing blood to return to the heart.



Valves close when muscles relax. Blood cannot flow backwards.

Deficient valve: W Allows venous blood to reflux

With compression: Allows muscle to assist valve to function correctly





#### **Enlarged Veins**

When a valve is damaged or missing, the backup of blood results in higher pressure in the veins below. This higher pressure, which directly affects the superficial veins (those closest to the skin), may strain the walls of the vein, causing them to enlarge and even twist. As the veins enlarge, the valves within them can no longer close fully. Enlarged superficial veins are visible bulges under the skin of the leg. These "ropy" veins are called varicose veins.

#### **Blood Clots**

When blood cells stick together near a valve, a clot can form which may partially or completely block the flow of blood through the vein. Slow moving or poorly flowing blood in the veins is more likely to clot. Clots may be caused by sluggish blood flow, injury to a vein, or abnormal blood clotting factors.

A clot in the deep veins, which is the most serious, is called a deep vein thrombosis (DVT).

Part of a DVT may break loose and lodge in the lungs or may also cause long-term problems in the leg.

#### Chronic Venous Disease (CVD)

CVI results from damaged valves in the veins, causing blood to pool in the legs. This can lead to swelling, discomfort, skin damage, and leg ulcers. Although there is no cure for this chronic condition, CVI can be effectively managed.

#### Symptoms of CVI include:

- inflammation and/or swelling of the leg
- leg pain
- varicose veins
- discoloration of the skin
- hardening of the skin or leg ulcers

#### Venous Leg Ulcer (VLU)

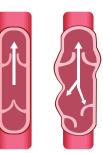
The chronic backup of blood due to damaged valves allows blood to pool in the lower leg, causing swelling. Chronic swelling interferes with the nutrition and oxygen supply to the skin. The skin becomes dry, flaky and darker in color. The skin is fragile and easily breaks with minor trauma, forming an open wound, which is slow to heal.

#### Symptoms of venous ulcers include:

- swelling of the lower leg
- dermatitis (or changes in the skin)
- purple or brown discoloration of the skin around and above the ankles
- open wound which may have drainage/discharge



To learn more about venous and lymphatic conditions, visit JOBST<sup>®</sup> Compression Institute at **jobstcompressioninstitute.com** 





# LYMPHEDEMA OVERVIEW

#### Introduction

The complex circulatory system is comprised of two systems:

- The closed-blood circulation system consisting of veins and arteries
- The half-open lymphatic system which, in addition to its known immunological functions, also has important circulatory functions





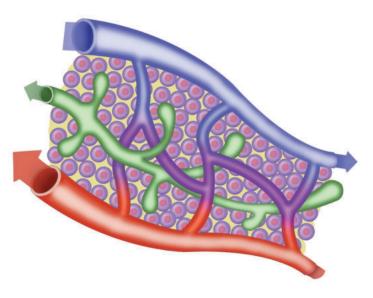
Circulatory System

Lymphatic System

#### Functional anatomy

The lymphatic system can be divided into three functional parts:

- 1. lymph production in the initial lymph vessels
- 2. lymph transport through the lymph collectors
- 3. lymph concentration and filtration in the lymph nodes

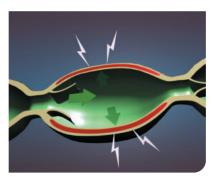


#### Lymph production

Lymph production takes place in the terminal vessels which are comprised of the blood capillaries and initial lymph vessels.

#### Lymph transport

The initial lymph vessels make up a superficial, valveless network extending throughout the entire body. The lymph is transported from these vessels to the larger, deeper lymph vessels, the lymph collectors.



The lymph collectors run to the regional lymph nodes. This gives rise to different lymph territories separated from each other by lymphatic watersheds.

The lymph vessels are equipped with valves which determine the direction of flow. The lymph vessel segment bounded by two valves is known as a "lymphangion." Each lymphangion has an innervated powerful smooth muscle that

makes it pulsate like a small heart which transports the lymph from one lymphangion to the next.

Lymph transport is influenced by several auxiliary mechanisms. The most important of these in the limbs are the muscle pumps that come into effect during movement.

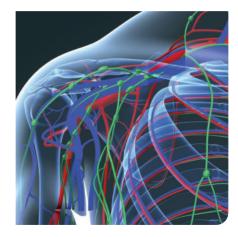
On its way into the closed blood circulation, the lymph passes through several lymph nodes frequently arranged in groups.

The lymph nodes have important immunologic functions. Bacteria and cell debris are filtered out of the lymph by immune defense cells. The lymph nodes also contain specific cellular defense substances which can destroy cancer cells.

#### Lymphedema

In this complex system of lymphatics, disorders can develop, which can have serious consequences. The most prevalent of these disorders is lymphedema.

Lymphedema is a chronic disease with a tendency to progression. It can affect all parts of the body, most often the limbs.





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#### Causes

The causes of lymphedema may be found in lymph production, lymph transport, or lymph nodes.

Primary lymphedema is usually due to a birth defect, such as hyperplasia or hypoplasia of the lymph capillaries or lymph vessels.

Secondary causes can be due to disease or damage to the originally intact lymphatic system.

# **ABOUT JOBST®**

### **GRADIENT COMPRESSION THERAPY - THE ESSENTIAL ELEMENT**

Gradient compression legwear, pioneered by Conrad Jobst over 60 years ago, remains the basis for the management of venous disease and lymphedema.

Gradient compression reduces swelling and helps prevent the pooling of fluid in the venous or lymph systems and in the interstitial spaces. This results in clinically proven improvement to the venous and lymph fluid return, thus providing beneficial effects for persons with edema or venous disease.

JOBST<sup>®</sup> gradient compression garments work by increasing the tissue pressure to help balance the flow of fluid across the capillaries of the limb. This helps to reduce swelling.

### Fabric ...

JOBST<sup>®</sup> compression therapy comes in a wide assortment of fabric types. From UltraSheer compression therapy to custom flat-knit for maximum containment, there is a fabric choice to every patient's needs. If color is a concern, JOBST<sup>®</sup> compression therapy comes in a wide array of fashionable colors.

### Compression Levels...

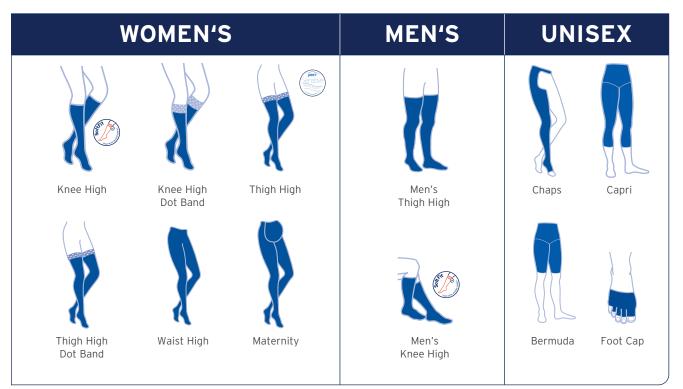
JOBST<sup>®</sup> Ready-to-Wear medical compression products are available in four compression levels: 8-15, 15-20, 20-30 and 30-40 mmHg. JOBST<sup>®</sup> Custom garments can be ordered in a variety of compression levels. The right compression level helps ensure that venous and lymphatic disease is managed effectively.

### Styles...

JOBST<sup>®</sup> Compression Therapy is available in many styles. Any style is suitable provided the affected area is covered.







# **PRODUCT SELECTION GUIDE**

JOBST<sup>®</sup> offers a wide range of fashionable compression wear to meet all of your patients' therapeutic and lifestyle needs.

### **COMPRESSION GUIDE**

Support Wear		Custom (Lymphology)			
8-15 mmHg* (Mild)	15-20 mmHg* (Moderate)	20-30 mmHg* (Firm <b>)</b>	30-40 mmHg* (Extra Firm)	15 -90 mmHg <sup>+</sup>	
<ul> <li>Tired, aching legs</li> <li>Minor ankle, leg and foot swelling</li> </ul>	<ul> <li>Minor varicosities</li> <li>Minor ankle, leg and foot swelling</li> <li>Minor varicosities during pregnancy</li> <li>Tired, aching legs</li> </ul>	<ul> <li>Moderate to severe varicosities</li> <li>Moderate edema</li> <li>Moderate to severe varicosities during pregnancy</li> <li>Helps prevent recurrence of venous ulcerations</li> <li>Superficial thrombophlebitis</li> <li>Post-surgical</li> </ul>	<ul> <li>Severe varicosities</li> <li>Severe edema, lymphatic edema</li> <li>Chronic venous insufficiency</li> <li>Helps prevent recurrence of venous ulcerations, manages active venous ulcerations</li> <li>Helps prevent postthrombotic syndrome</li> <li>Manages manifestations of PTS</li> <li>Post-surgical</li> </ul>	<ul> <li>Severe edema, Lymphatic edema</li> <li>Chronic venous insufficiency</li> <li>Manages active venous ulcerations</li> <li>Postphlebitic syndrome</li> </ul>	
JOBST <sup>®</sup> UltraSheer JOBST <sup>®</sup> soSoft JOBST <sup>®</sup> forMen JOBST <sup>®</sup> Men's Dress JOBST <sup>®</sup> SensiFoot <sup>®</sup> JOBST <sup>®</sup> Athletic	JOBST® UltraSheer JOBST® Opaque JOBST® soSoft JOBST® forMen JOBST® forMen Casual JOBST® forMen Ambition JOBST® Relief® JOBST® ActiveWear JOBST® Sport JOBST® Travel Socks	JOBST® UltraSheer JOBST® Opaque JOBST® soSoft JOBST® forMen JOBST® forMen Casual JOBST® forMen Ambition JOBST® Relief® JOBST® ActiveWear JOBST® Sport JOBST® FarrowWrap®	JOBST® UltraSheer JOBST® Opaque JOBST® soSoft JOBST® forMen JOBST® forMen Casual JOBST® forMen Ambition JOBST® Relief® JOBST® ActiveWear JOBST® UlcerCARE™ (40+ mmHg**) JOBST® FarrowWrap®	Elvarex® Elvarex® Plus Elvarex® Soft Elvarex® Soft Seamless Custom Seamed Custom Seamless Soft Bellavar® JOBST® Confidence JOBST® FarrowWrap®	

\* The mean compression of an average ankle size.

<sup>†</sup>Design Pressure. \*\*The targeted nominal combined compression

\*\*The targeted nominal combined compression for an average ankle size.

The information included is for educational purposes only. It is not intended to be a substitute for professional nursing services. Always consult your healthcare provider if you have questions concerning your medical condition or treatment plan. Please refer to the product label and/or package insert for full instructions on the safe use of these products.



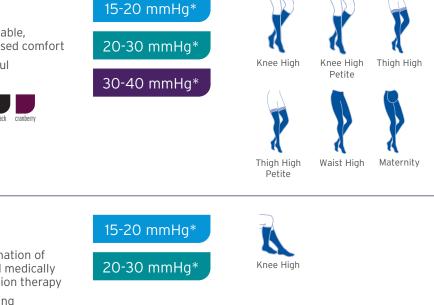


### Opaque

- Smooth and breathable, designed for increased comfort
- Available in beautiful trendy colors







### Sport

- The perfect combination of athletic styling and medically effective compression therapy
- Ideal for any sporting activity





### **ActiveWear**

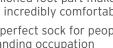
- Cushioned foot part makes this sock incredibly comfortable
- The perfect sock for people with a standing occupation





### 15-20 mmHg\* 20-30 mmHg\* 30-40 mmHg\*









### **Relief**<sup>®</sup>

- Quality and efficacy at a moderate price
- · Available in a variety of styles and compression levels













Waist High

Thigh High Silicone Dot

Chaps

# UNISEX





**Casual Pattern** 





### 15-20 mmHg\* 20-30 mmHg\* 30-40 mmHg\*



beige black

espresso black



# Travel Socks

• Promote leg health during long hours of inactivity





Knee High

# WOMEN'S



# WOMEN'S



### soSoft

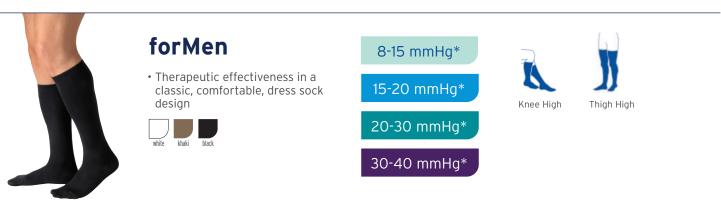
- Stylish patterns give an edge to its laid back, contemporary design
- Softness of the yarns supports easy donning and high patient compliance





Knee High

# MEN'S



### forMen Casual

• Wicking technology in a casual versatile sock



### 15-20 mmHg\* 20-30 mmHg\* 30-40 mmHg\*

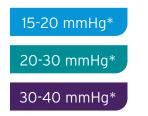


### forMen Ambition

- Fashionable ribbed men's sock
- Unique combination of cotton and carbon supports odor control









Knee High

10

# **DIABETIC LEG ULCER**



### SensiFoot<sup>™</sup>

- Provides comfort and protection for sensitive feet
- Especially for people with diabetes



\*Knee and crew, the mean compression for an average ankle size.

8-15 mmHa\*

40 mmHg\*

# **VENOUS LEG ULCER**



### **UlcerCARE**<sup>™</sup>

• Effective management of a venous leg ulcer while offering ease of use

• The perfect combination for providing high quality of life



\*The targeted nominal combined compression for an average ankle size.

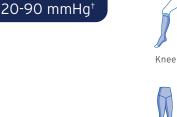
# **CUSTOM-MADE GARMENTS**



### **Custom Seamed**

- The solution for both venous and lymphatic indications
- Available in over 70 styles and options for upper and lower extremities











Capri



Pelvic Garment

### Custom Seamless Soft

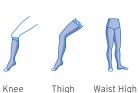
- · Soft and fashionable custom garment for mild to moderate edema
- Ideal for venous indications of the lower extremities



Most popluar styles shown. Many more styles and options available. Colors and compression classes vary by textile and style. Please check with your local BSN representative for a complete listing.

Class 2 Class 3

Class 1





Waist High

Chaps

Maternity



Without Zipper

With Zipper

Liner

One-Leg



Mini-Crew

Knee High Crew

# **CUSTOM-MADE GARMENTS**



# **JOBST® WRAPS**



20-30 mmHg

# **JOBST® DONNING AIDS & ACCESSORIES**

JOBST<sup>®</sup> offers a full portfolio of products to help you easily put on and extend the wearing life of your compression legwear.













### JOBST<sup>®</sup> Stocking Donner

Easy-to-use device to help apply JOBST<sup>®</sup> LegWear. Ideal for people who have limited dexterity or have difficulty reaching their feet. Use with closed and open-toe styles. Available in 2 sizes: Regular and Large Calf.

### JOBST<sup>®</sup> Donning Gloves\*

Putting on JOBST<sup>®</sup> LegWear is always easier with JOBST<sup>®</sup> Donning Gloves! JOBST<sup>®</sup> gloves help create friction, provide grip and help evenly distribute the fabric on the leg.

\*Caution: This product contains natural rubber which may cause allergic reactions.

### JOBST<sup>®</sup> Stocking Slips

For use with open-toe styles only. Helps the stocking slide smoothly onto the foot by reducing friction between the patient's skin and the compression stocking.

### JOBST<sup>®</sup> Easy Wash & Wear Kit

Everything needed to help apply and extend the life of JOBST<sup>®</sup> LegWear. Kit includes JOBST<sup>®</sup> Donning Gloves, Wash Bag, Jolastic<sup>®</sup> Washing Solution, and brochure with helpful hints for putting on JOBST<sup>®</sup> LegWear.

### Dycem<sup>®</sup> Non-Slip Material

Improves grip and provides stability to help with easier donning of a JOBST<sup>®</sup> garment.

### Upper & Lower Easy-Slide®

Easy-Slide<sup>®</sup> donning aids are for upper and lower garments (with open toe). This donning aid works well with the JOBST<sup>®</sup> Donning Gloves.

### Arion Magnide<sup>®</sup> 2in1

The Magnide<sup>®</sup> 2in1 donning aid is a user friendly device for putting on and taking off closed toe compression stockings and tights.

# 2 EASY METHODS FOR PUTTING ON YOUR JOBST<sup>®</sup> LEGWEAR

Method 2

back of donner.

**JOBST<sup>®</sup> Stocking Donner** 

1. Place your JOBST<sup>®</sup> LegWear inside the

semi-circle frame and pull the top on

the stocking down over the semi-circle.

The heel of the stocking must face the

### Method 1 "Heel Pocket Out" Method

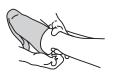
1. Reach inside the stocking to pinch the heel.



2. While holding onto the heel, turn the fabric of the stocking inside out.



3. Open the stocking and slide your foot in until your toe and heel are in the foot.



- 2. Continue to slide the stocking down over the semi-circle until the heel is centered and even with the top of the semi-circle.
- 3. While sitting or standing (which ever is more comfortable), insert your foot into the stocking until your foot is on the floor.

4. Once the heel is in place, grasp the fabric below the band and pull it up over your heel and ankle.

5. Work the stocking up the length of your leg,

smoothing out the

wrinkles as you go.

doffing your compression legwear.

Please visit www.jobst-usa.com for more tips on donning and



- 4. Grasp the padded handles and gently pull the JOBST® Stocking Donner - with the stocking - up toward you. Continue this upward movement until the stocking is above the calf.
- 5. Once the donner is free of the stocking, put it aside.
- 6. Be sure the heel of the stocking is positioned correctly on the foot. Then adjust the length and smooth out any wrinkles by stroking with the palms of your hands.









# **READY-TO-WEAR SIZING CHARTS/COLORS**

UltraSheer, UltraSheer Diamond Pattern, Opaque, soSoft, forMen, forMen Casual, Sport, ActiveWear, Relief® and Casual Pattern

	ANKLE		тнісн 🛨	нір	HIP (Maternity)
S	7-8¼" (18-21 cm)	11''-15'' (28-38 cm)	15 <sup>3</sup> /4"-24 <sup>3</sup> /8" (40-62 cm)	28''-46'' (71-117 cm)	32"-52" (81-132 cm)
М	8 <sup>3</sup> / <sub>8</sub> "-9 <sup>7</sup> / <sub>8</sub> " (21-25 cm)	11 <sup>7</sup> / <sub>8</sub> ''-16 <sup>1</sup> / <sub>2</sub> '' (30-42 cm)	18 <sup>1</sup> / <sub>8</sub> "-27 <sup>1</sup> / <sub>2</sub> " (46-70 cm)	30''-50'' (76-127 cm)	34"-56" (86-142 cm)
L	10''-11 <sup>3</sup> / <sub>8</sub> '' (25-29 cm)	12 <sup>1</sup> / <sub>2</sub> "-18 <sup>1</sup> / <sub>8</sub> " (32-46 cm)	21 <sup>1</sup> /4"-30 <sup>3</sup> /4" (54-78 cm)	32''-54'' (81-137 cm)	36"-60" (91-152 cm)
XL	111/2"-13" (29-33 cm)	13 <sup>3</sup> / <sub>8</sub> "-19" (34-50 cm)	23⁵⁄₀"-32" (60-81 cm)	40"-65" (102-166 cm)	44"-71" (112-180 cm)
МТ	8 <sup>3</sup> / <sub>8</sub> "-9 <sup>7</sup> / <sub>8</sub> " (21-25 cm) for shoe size >12	11 <sup>7</sup> / <sub>8</sub> "-16 <sup>1</sup> / <sub>2</sub> " (30-42 cm) for leg length >19 <sup>3</sup> / <sub>4</sub> " (50 cm)			
LT	10"-11 <sup>3</sup> ∕ <sub>8</sub> " (25-29 cm) for shoe size >12	12 <sup>1</sup> / <sub>2</sub> "-18 <sup>1</sup> / <sub>8</sub> " (32-46 cm) for leg length >19 <sup>3</sup> / <sub>4</sub> " (50 cm)			
LFC	10''-11 <sup>7</sup> / <sub>8</sub> '' (25-30 cm)	18"-24" (46-61 cm)			
XLFC	12"-14" (30-36 cm)	18"-24" (46-61 cm)			
	Regular: Greater than Petite: 15″ (38 cm) or l			Greater than 27" (68.5 ( " (68.5 cm) or less	cm)

For Knee High, Measure Ankle and Calf. For Thigh High, Measure Ankle, Calf and Thigh. For Waist High, Maternity and Chap, Measure Ankle, Thigh and Hip.

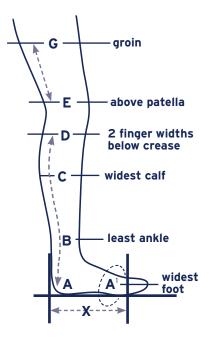
#### forMen Ambition

Measi		1	2	3	4	5	6
ference	Ankle	7¼- 8	8 - 8¾	8 <sup>3</sup> / <sub>4</sub> -9 <sup>3</sup> / <sub>8</sub>	9¾ - 105⁄8	10 <sup>5</sup> / <sub>8</sub> -11 <sup>3</sup> / <sub>4</sub>	11¾ - 13¾
s (cm)		(18-20)	(20-22)	(22-24)	(24-27)	(27-30)	(30-34)
circumference	Calf	11 - 14½	11 <sup>3</sup> / <sub>4</sub> - 1 5 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>8</sub> - 17 <sup>3</sup> / <sub>8</sub>	15 - 19³⁄₄	17 <sup>3</sup> / <sub>8</sub> - 22 <sup>1</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>4</sub> -24 <sup>3</sup> / <sub>8</sub>
inches (cm)		(28-36)	(30-40)	(34-44)	(38-50)	(44-56)	(50-62)

For Knee High, measure Ankle and Calf. Lengths: Regular: 15-17<sup>3</sup>/<sub>8</sub>" (38-44 cm); Long: 17<sup>3</sup>/<sub>4</sub>-20" (45-51 cm)

#### **FarrowWrap**

READY-TO-WEAR						
Thighpiece	XS	S	м	L	XL	
<b>G</b> Groin	60-70 cm	65-75 cm	70-80 cm	75-90 cm	85-100 cm	
E Above Knee	47-52 cm	53-59 cm	60-66 cm	67-73 cm	74-80 cm	
E-G Short	16-20 cm					
E-G Regular	21-26 cm					
E-G Tall	27-31 cm					
Legpiece	XS	S	м	L	XL	
<b>C</b> Calf	36-43 cm	42-50 cm	48-58 cm	53-63 cm	58-68 cm	
<b>B</b> Ankle	21-25 cm	25-30 cm	30-36 cm	36-42 cm	42-50 cm	
A-D Regular	33-37 cm	35-39 cm	37-41 cm	39-43 cm	39-43 cm	
A-D Tall	38-41 cm	40-43 cm	42-45 cm	44-47 cm	44-47 cm	
Footpiece	XS	S	м	L	XL	
A <sup>1</sup> Midfoot	22-24 cm	25-27 cm	28-30 cm	31-34 cm	35-40 cm	
X Regular	16-17 cm	17-18 cm	19-20 cm	20-21 cm	22-23 cm	
X Tall	18-19 cm	19-20 cm	21-22 cm	22-23 cm	24-25 cm	
Kneepiece	XS	S	м	L	XL	
E Above Knee	47-52 cm	53-59 cm	60-66 cm	67-73 cm	74-80 cm	





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