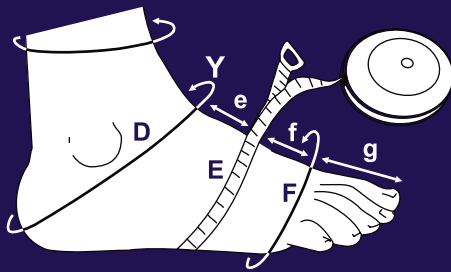


# MEASURING FOR CUSTOM-MADE PRESSURE GARMENTS

## THE FOOT



Revised January 2013

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**2424 East University Drive, Phoenix, Arizona 85034**  
voice: 602-267-7854 • toll-free: 800-421-5647 • fax: 602-273-6931

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**Feet for #19 Two Legs to Waist**

Requested features:

1. bilateral anterior ankle inserts to reduce irritation caused by fabric bunching in the ankle crease
2. open toe left foot
3. #36 Foot Glove, right foot, foot tracing attached
3. bilateral expansion panels from the #19 legs (page 50) will continue to the heel and plantar foot

Foot Gloves, Foot Gauntlets, and Foot Mittens (items #36, #37, and #38, respectively) are specialty items required for the separation of toes, they would normally be attached to some other lower extremity garment such as stockings or anklets. A tracing of the foot (see p. 65) and toe circumferences would be required.

**FOOT MEASUREMENT CHART**

Bio-Concepts Custom Pressure Garments are available only under Physician's Order

Patient Doe, Jane  
Last Name First Name

Date 06/07/2013

Garment color \_\_\_\_\_

Insert anterior ankle L/R

Lining \_\_\_\_\_

Zipper(s):  
 Left  Lateral  Medial  Hook & loop zipper stop tab  
 Right  Lateral  Medial  Hook & loop zipper stop tab

Expansion panel:  Left  Right  
(default location is posterior leg to plantar foot)

Refer to the Bio-Concepts Measuring Manual for detailed procedures, additional instructions, and example measuring charts.

Additional instructions or comments:  
open toe left foot,  
foot glove w/ open toes  
right foot



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2424 East University Drive, Phoenix, Arizona, U.S.A. 85034-6911  
 VOICE: 800-421-5647 / 602-267-7854 • FAX: 800-650-9424 / 602-273-6931  
 e-mail: bio-con@bio-con.com • worldwide web: http://www.bio-con.com

**CIRCLE ITEMS ORDERED**

Bio-Concepts Use Only: F=

For additional measurements above the 4 1/2 inch circumference use the LOWER EXTREMITY CHART

**FOOT MEASUREMENTS**

	LEFT	RIGHT
4 1/2		
3		
1 1/2		
D	11 <sup>6</sup>	11 <sup>4</sup>
E	8 <sup>7+</sup>	8 <sup>6</sup>
F	9 <sup>2</sup>	8 <sup>7+</sup>
e	1 <sup>3</sup>	2 <sup>1</sup>
f	2 <sup>0+</sup>	1 <sup>5</sup>
g	2 <sup>7</sup>	2 <sup>7</sup>

Self toe  Soft toe  Open toe



**STANDARD TOES**

**Self Toe:** the toe box is made from the same fabric as the rest of the garment.

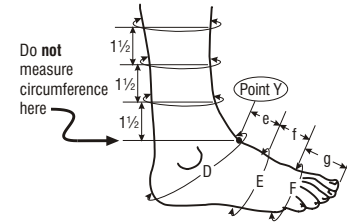
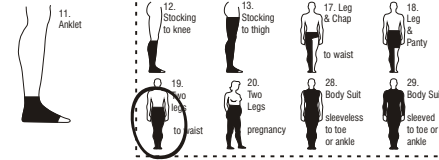
**Soft Toe:** the toe box is made of a soft lining material; there is a seam around the foot joining it to the rest of the garment.

**Open toe:** stocking ends at your last circumference.

Use this form for all garments requiring foot measurements. Use the LOWER EXTREMITY CHART for measurements of the leg and lower torso

PLEASE DO NOT WRITE IN MARGINS

**Feet For:**



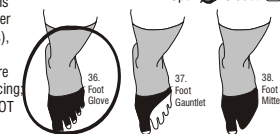
TOE CIRCUMFERENCES and FOOT TRACINGS are **ONLY REQUIRED** for:

36. Foot Glove
37. Foot Gauntlet
38. Foot Mitten

	LEFT FOOT	RIGHT FOOT
a		3 <sup>2</sup>
b		2 <sup>0</sup>
c		1 <sup>7+</sup>
d		1 <sup>7+</sup>
e		1 <sup>7</sup>

Foot Gloves, Gauntlets, and Mittens are specialty items (normally attached to other lower extremity garments), used only when separate enclosures for the toes are needed. Attach a foot tracing use the Bio-Concepts FOOT TRACING GUIDE.

Individual toes: Open  Closed



**SPECIALTY TOES**

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See page 16 for an explanation of the shorthand measurement notation system.

Foot Chart -- EXAMPLE

## MEASURING THE FOOT

### Measurement Techniques

There are two primary measurement techniques for the extremities: the "Mark and Measure Method" and the "Paper Tape Method." Neither method is inherently superior over the other. Both methods, when properly done, will yield correct measurements. If you or your facility have no previous experience measuring extremities for custom garments, we suggest you begin by learning the Mark and Measure Method. This is the method that all Bio-Concepts technicians are trained to use and we can, therefore, be more helpful in guiding you in the use of this method.

The Mark and Measure Method involves making a mark on the patient with a pen, every  $1\frac{1}{2}$  inches from where the stocking will begin to where the stocking will end. Very often, the last mark will not be  $1\frac{1}{2}$  inches from the second to the last mark. Measure the actual distance between the last two marks and record it on the **Foot Measurement Chart** as shown in the example on page 59. Using the retractable tape measure or the wide tape measure, measure the circumference of the leg at each mark.

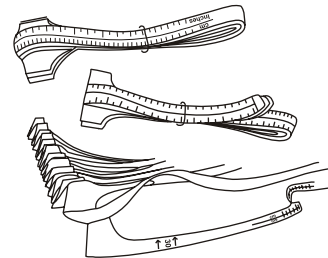
The Paper Tape Method involves the use of paper measuring tapes, which are paper straps spaced every  $1\frac{1}{2}$  inches along a central spine. Place the spine against the leg beginning where the sleeve is to begin, wrap each strap around the leg and foot and secure with cellophane tape. Keep wrapping around the leg and foot until the desired end is reached and tear off any remaining portion of straps. Then tear the straps so the whole assembly can be removed from the limb. Read the measurements along the straight part of the paper tape spine.



Retractable Tape



Wide Tape



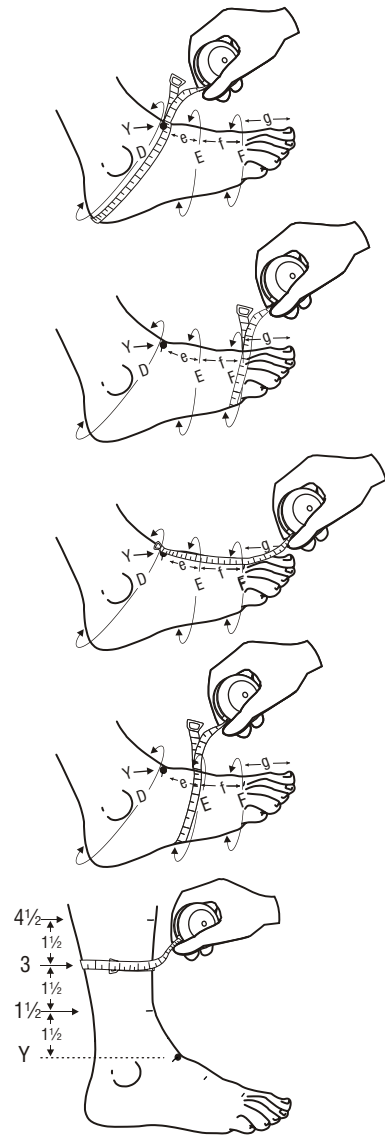
Paper Tape

**Mark and Measure Method**

Wrap the retractable tape measure around the foot from the back of the heel to the front of the ankle. It is best to have the patient seated with the toes pointed up and the heel at rest. Measure the circumference of the heel and make a mark on the patient at the anterior of the ankle at **Point Y**. This is circumference **D** and is entered into the appropriate blank on the **Foot Measurement Chart**.

Wrap the retractable tape around the end of the foot at the bases of the toes, and make a mark on the foot to indicate the location of the measurement. This is circumference **F** and is entered into the appropriate blank on the **Foot Measurement Chart**.

Find a point about halfway between the two marks you made for **D** and **F** and wrap the tape measure around the foot. Make a mark on the foot to indicate the location of the measurement. This is circumference **E** and is entered into the appropriate blank on the **Foot Measurement Chart**. Use the retractable tape measure or the clear plastic ruler to measure the actual distance between **D**, **E**, and **F** along the top of the foot. These are measurements **e** and **f** and are entered into the appropriate blank on the **Foot Measurement Chart**.



Using the retractable tape measure or the clear plastic ruler, measure the actual distance between the mark you made at circumference **F** and the end of the longest toe (usually, but not always the great toe). This is measurement **g** and is entered into the appropriate blank on the **Foot Measurement Chart**.

If this foot garment is part of a stocking or some other garment incorporating the foot, then all of the lower leg circumferences, beginning at  $1\frac{1}{2}$  inches above **Point Y**, will be entered on the **Lower Extremity Chart** beginning in the  $1\frac{1}{2}$  inch box.

- If the garment will include the foot and only the lower portion of the lower leg, ( $4\frac{1}{2}$  inches or less above **Point Y**), then you can put all of the lower leg measurements in the three boxes above **D** on the **Foot Measurement Chart**,  $1\frac{1}{2}$  inches, 3 inches, and  $4\frac{1}{2}$  inches).

Measurements for a right #11 Anklet entered in the **Foot Measurement Chart**.

	LEFT	RIGHT
$4\frac{1}{2}$		12 <sup>5</sup>
3		10 <sup>2</sup>
$1\frac{1}{2}$		10 <sup>1</sup>
D		13 <sup>0</sup>
E		9 <sup>2</sup>
F		8 <sup>7</sup>
e		2 <sup>1</sup>
f		2 <sup>1</sup>
g		2 <sup>2</sup>

- If the garment includes the foot and it goes higher than  $4\frac{1}{2}$ " above **Point Y**, then put all of your lower leg measurements on the **Lower Extremity Chart**.

Measurements for a right foot to be attached to a garment that extends higher than  $4\frac{1}{2}$  inches above **Point Y** entered in the **Foot Measurement Chart**.

	LEFT	RIGHT
$4\frac{1}{2}$		
3		
$1\frac{1}{2}$		
D	13 <sup>0</sup>	
E	9 <sup>2</sup>	
F	8 <sup>7</sup>	
e	2 <sup>1</sup>	
f	2 <sup>1</sup>	
g	2 <sup>2</sup>	

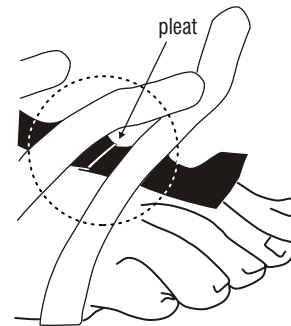
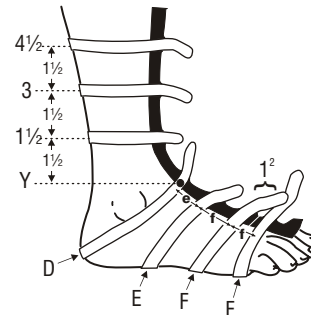
**Paper Tape Method**

Begin by wrapping and securing the strap marked "HEEL" around the ankle to the back of the heel as shown. This is circumference **D** and is entered into the appropriate box on the **Foot Measurement Chart**. Align the spine of the tape, that is, the straight edge of the colored portion, with the front of the foot and leg.

Secure the foot tapes around the foot. There could be from one to five foot tapes depending on the length of the foot. Continue wrapping and securing the tapes around the leg to as high as you want the garment to extend.

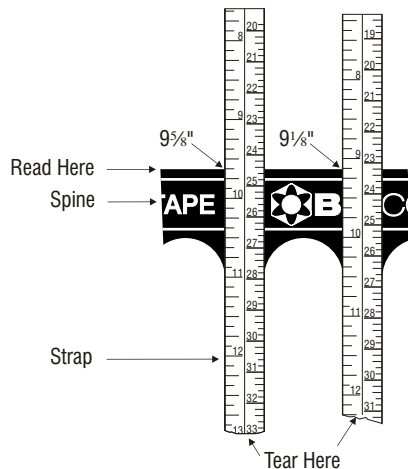
If the garment is to be a **#11 Anklet**, use the 1½, 3, and 4½ inch boxes on the **Foot Measurement Chart** to record the lower leg circumferences. Any other lower extremity garment, such as a **#12 Stocking to Knee**, or **#19 Two Legs to Waist**, will require that the lower leg measurements be entered into the appropriate boxes on the **Lower Extremity Measurement Chart**. If so, leave the 1½, 3, and 4½ blanks on the **Foot Measurement Chart** empty and write all of the lower leg measurements on the **Lower Extremity Chart** beginning with the 1½ inch box.

The straps on the paper tapes are 1½ inches apart. The two most distal straps on the foot are usually not going to be 1½ inches apart. Pleat the tape by folding the spine over itself and measure the distance between the last two foot tapes using the retractable tape or the clear plastic ruler. Use boxes **E** and **F** to record the circumferences and use boxes **e** and **f** to record the distances. If there are more than two foot circumferences between point **Y** and the bases of the toes, write them side-by-side as shown in the example foot chart to the lower right.



Measurements for a right #11 Anklet entered in the **Foot Measurement Chart**. A foot tracing is not required.

	LEFT	RIGHT
4½		12 <sup>5</sup>
3		10 <sup>2</sup>
1½		10 <sup>1</sup>
D		13 <sup>0</sup>
E		9 <sup>2</sup>
F		8 <sup>7</sup> /8 <sup>6</sup>
e		1 <sup>4</sup>
f		1 <sup>4</sup> /1 <sup>2</sup>
g		2 <sup>2</sup>



**Foot Gloves, Gauntlets, and Mittens**

The standard foot garment with closed toe is made with a "Soft toe" closure. Request a "Self toe" when you want the toe to be made from the same material as the rest of the garment. **Foot Gloves, Foot Gauntlets, and Foot Mittens** are specialty items which would generally only be ordered if the patient is experiencing severe scarring of the toes, particularly in the toe web spaces. Some patients with lower extremity vascular dysfunction may also benefit from these garments.

A **Foot Glove, Foot Gauntlet, or Foot Mitten** is considered a separate garment which would be attached to another foot garment, including **#12 Stocking to Knee, #13 Stocking to Thigh, #17 Leg & Chap to Waist, #18 Leg & Panty to Waist**, etc.

A foot tracing and toe circumferences are required for a **Foot Glove, Foot Gauntlet, or Foot Mitten**. A foot tracing and toe circumferences are not required for standard, soft toe or self toe garments. The **Foot Measurement Chart** includes a chart to record the circumferences of the toes. For a **Foot Glove**, measure the circumference of each toe and record it in the appropriate box.

Measurements for a right **#11 Ankle** with a **#36 Foot Glove** entered in the **Foot Measurement Chart**. These must be accompanied by a foot tracing.

	LEFT	RIGHT
4½		12 <sup>s</sup>
3		10 <sup>2</sup>
1½		10 <sup>1</sup>
D		13 <sup>0</sup>
E		9 <sup>2</sup>
F		8 <sup>0</sup>
e		1 <sup>4</sup>
f		1 <sup>4</sup>
g		2 <sup>2</sup>

	LEFT FOOT	RIGHT FOOT
a		2 <sup>4</sup>
b		1 <sup>8</sup>
c		1 <sup>6</sup>
d		1 <sup>5</sup>
e		1 <sup>3</sup>

**STANDARD FOOT CLOSURE STYLES**  
Foot tracing & toe circumferences **not required**

**Self Toe**, Toe made of same material as rest of garment.

**Soft Toe**, Toe made of lining material, default toe closure for closed toe foot garments.

**Open Toe**, stocking ends at the most distal circumference

**SPECIALTY FOOT CLOSURE STYLES**  
Foot tracing & toe circumferences **required**

**36. Foot Glove**, the great toe and at least one other toe individually enclosed. Toes may be open or closed

**37. Foot Gauntlet**, great toe enclosed, other toes in common opening. Great toe may be open or closed.

**38. Foot Mitten**, great toe enclosed, other toes in common closure. Great toe may be open or closed.

**Foot Gloves, Foot Gauntlets, and Foot Mittens (items #36, #37, and #38, respectively) are specialty items used only when separate enclosures for the toes are required.**

*They would normally be attached to some other lower extremity garment such as stockings or anklets.*

# Foot Tracing Guide -- FOOT GLOVE EXAMPLE

**FOOT TRACING GUIDE**

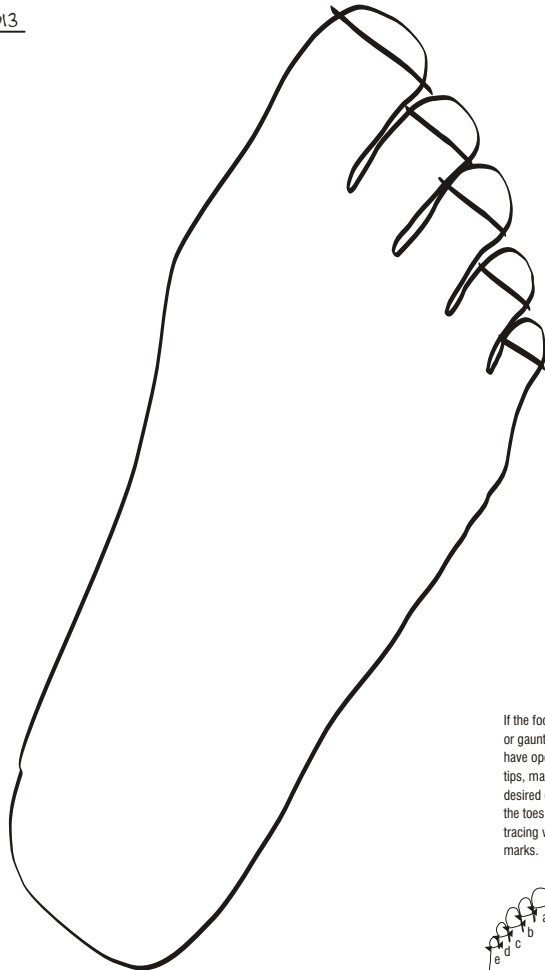


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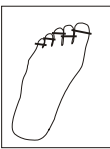
Patient Doe, Jane

Date 06/07/2013

PLEASE DO NOT WRITE IN MARGINS  
 Please do not send a hand tracing without a scale  
 Draw a 3-inch long line in this box



If the foot glove or gauntlet is to have open toe tips, mark the desired ends of the toes on the tracing with tic marks.



Take one circumference measurement for each toe and write it in the appropriate box on the Foot Measurement Chart.



**Required ONLY for Foot Gloves, Foot Gauntlets, and Foot Mittens (Items 36, 37, & 38)**

## Right Foot Tracing

Open toe tips are indicated by lines drawn across the digits.

Foot tracings are not useful for most foot garments, but they are required for Foot Glove, Foot Gauntlets, and Foot Mittens. Foot tracings may also be needed for deformed feet or feet with toe amputations.

PLEASE DO NOT WRITE IN MARGINS



### **Common Options for Foot Garments**

#### **Foot Closure**

The standard foot garment with closed toe is made with a "Soft toe" closure. Request a "Self toe" when you want the toe to be made from the same material as the rest of the garment.

Check "Open" on the **Foot Measurement Chart** to leave the foot open and do not enter a measurement for **g** (leave it blank).

A **Foot Glove, Foot Gauntlet, or Foot Mitten** is considered a separate garment which would be attached to another foot garment, including **#12 Stocking to Knee, #13 Stocking to Thigh, #17 Leg & Chap to Waist, #18 Leg & Panty to Waist**, etc.

#### **Inserts**

An "Anterior Ankle Insert" is a circular piece of soft stretchy Insert Material (page 10) positioned over the front of the ankle. This helps prevent bunching of the regular garment fabric at the ankle.

Heel Inserts are made of a layer of Insert Material from about the middle of the plantar foot surface to approximately two inches above the ankle. The heel insert assists the patient in pulling the stocking over the heel and it may be used to avoid the standard seam over the bottom of the foot.

#### **Linings**

Any part of the foot may be lined with Lining Material (page 10) for patient comfort. Linings work especially well to prevent soreness resulting from rubbing, such as the back of the heel, or the dorsum of the foot.

#### **Expansion Panels**

Expansion panels, constructed of soft stretchy Insert Material (page 10), are normally installed posteriorly in a lower extremity garment. Lateral expansion panels are occasionally requested. A posterior expansion panel in a stocking includes the back of the leg, the heel, and the plantar foot surface. It is a comfortable means to allow for growth of the patient, facilitate donning the garment, and avoid the posterior/plantar garment seam.

#### **Zippers**

For some patients a zipper may be needed in a lower extremity garment so the patient can get it over the foot. Zippers may be lateral or medial, and normally end at a level even with **Point Y**. Anterior or posterior zippers are technically feasible, but should only be requested in extreme cases where the lateral and medial surfaces are too painful or otherwise involved.