



C.B.F., Inc.
Home Medical Supplies
8044 Ray Mears Blvd., Suite 100
Knoxville, Tennessee 37919
(615) 693-7304 or 1-800-225-8129



OUTPATIENT PROTOCOL for Lymphedema Treatment with the Wright Linear Gradient Sequential Pump

This recommendation is only one way in which the Wright Pump can be used in the management of lymphedema. Variations of pump usage will depend on the patient's specific condition. Treatment should be prescribed and undertaken only under care of a physician.

- I. Goal of the Lymphedema Clinic is to improve the lymphatic extremity by:
 1. Softening tissue
 2. Reducing circumferential measurements
 3. Increasing flexion
 4. Decreasing risk of infection
 5. Returning to more normal contours

- II. Before beginning treatment with a compression pump:
 1. Patient must have a diagnosis of lymphedema and a history and physical by a physician

- III. Contraindications for pump usage should be ruled out by a physician before beginning therapy. The contraindications are:
 1. Cardiovascular disease including congestive heart failure
 2. Active infections in the edematous extremity
 3. Acute thrombophlebitis or emboli
 4. Arterial disease
 5. Neuropathic disease
 6. Active malignancies in the edematous extremity should be considered on an individual basis

- IV. Ready to begin treatment:
 1. Pressure settings
 - a. **Distal Pressure** To determine distal pressure, add the systolic and diastolic blood pressure values and divide by 2. The distal pressure should **not** exceed a **100 mm Hg.** pressure setting even though the formula may indicate a slightly higher distal pressure.

- b. Medial Pressure 20 mm Hg less than the distal pressure
- c. Proximal Pressure 20 mm Hg less than the medial pressure

2. Set Time Sequence

120 second cycle

90 seconds - Cell A

70 seconds - Cell B

50 seconds - Cell C

Set "on" time to 90 seconds

Set "off" time to 30 seconds

Set delay cell A timer to 20 seconds

Set delay cell B timer to 20 seconds

(This is a 20 second delay between A & B cells; and a 20 second delay between B & C cells.)

For extremely large lower extremities or (bilateral cases) the overall cycle will be increased to 150 seconds.

150 second cycle

120 seconds - Cell A

90 seconds - Cell B

60 seconds - Cell C

Set "on" time to 120 seconds

Set "off" time to 30 seconds

Set Cell A to 30 seconds

Set Cell B to 30 seconds

(This is a 30 second delay between A & B cells; and a 30 second delay between B & C cells.)

3. Run two cycles to evaluate connections, air leaks, etc. Place pump on bedside table or cart with pad under pump to reduce vibration.
4. Review procedure and the purpose of the procedure to the patient.
5. Record pulse and blood pressure before beginning treatment.
6. Measure limb and record measurements before pumping.
7. Patient should be in a reclining position with extremity propped on a pillow.
8. Apply stockinette to extremity.
9. Place limb into the appliance. Attach waist straps if needed.
10. Turn power switch to ON. Stay with patient for first several cycles. As pump cycles, again observe hoses, clamps and connections for leaks. Observe the pressure dials.
11. Pump for 2 hours the first day. Pump for 4 hours the second day. Normally after the second day of pumping the patient should be measured for compression hosiery. If the extremity is changing rapidly a third day of pumping would be in order with compression hosiery measurements taken at this time.
12. If the patient complains of pain, reduce pressure in each cell, keeping a 20 mm Hg decrement between cells. Sometimes it is necessary to apply a removable plaster cast around the toes or wrap them with foam.
13. Take blood pressure after pumping session.
14. Take circumferential measurements after pumping session.
15. Discharge with home use instructions.



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**Outpatient Instructions for Using
 The Wright Gradient Pressure Sequential Pump**

Date: _____

Name: _____

M.D. _____

Medications:

Pumping Time per day

NO MORE than 4 hours on the pump
 without an hour break

Pump Settings

Time on and Cell C _____

Time off _____

Delay Cell A _____

Delay Cell B _____

Pressures

Cell A _____

Cell B _____

Cell C _____

- I. Measure extremity once per week before and after pumping sessions. Use the marking pen to reinforce measuring areas as they become dim. It is important to measure in the same place every time. Call measurements to the clinic once a week for the first month after taking pump home. Then report measurements once a month for 6 months.

- II. Record comments or problems.
- III. Call your primary physician if shortness of breath occurs, increased rate of breathing, or increase in pulse rate of 20 points over normal pulse rate. Coughing that occurs after pump therapy begins should be reported.
- IV. Notify your primary physician for symptoms of infection such as redness, increased warmth, swelling, or pain in the extremity. **If infection occurs, discontinue pump usage immediately. At the direction of your physician, resume pump usage when the infection has subsided.**
- V. Avoid situations that lead to cuts, scratches, burns, insect bites, etc. Even the least traumatic of these can lead to infection. Each infection further damages the lymphatic channels.
- VI. Shoes should be worn when walking and feet should be inspected daily for:
 - 1. Cracks or sores
 - 2. Color changes
 - 3. Swelling associated with tenderness
 - 4. Temperature changes
 - 5. Sensation changes
 - 6. Ingrown toenails
 - 7. Drainage or odor
 Report any of these to your doctor immediately.
- VII. Keep hands and feet dry.
- VIII. Wear gradient compression hosiery during waking hours when off the pump. When circumferential measurements decrease by 1/2 to 3/4 inch or after 3 to 4 months of wear, it is time for new hosiery.
- IX. Keep extremity horizontal when pumping. It will also help to elevate the extremity on a pillow.
- X. Loss of sensation, pain, coldness, a pins and needles sensation, cramping or other similar symptoms when on the pump should be investigated. Turn pump off and remove appliance. After 30 minutes resume pumping. If symptoms persist, call your primary physician.
- XI. Redness or blisters lasting longer than 20 minutes after pump time should be reported to primary physician.
- XII. Always place stockinette over extremity before inserting into appliance.

XIII. Always contact your primary physician before changing pump pressures.

XIV. Sometimes pressure points will need to be padded with foam or cast material. Pump clinician will work with the patient when this is necessary.

XV. Recommended physician check ups:

See your primary physician in:

3 months _____

6 months _____

1 year _____

XVI. See clinic medical consultant in:

2 months _____

1 year _____

XVII. Return to Lymphedema Clinic on: _____

At that time return visits will be determined.

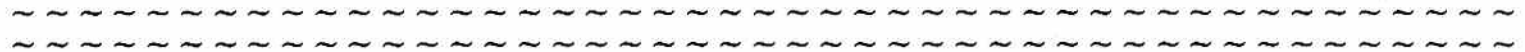
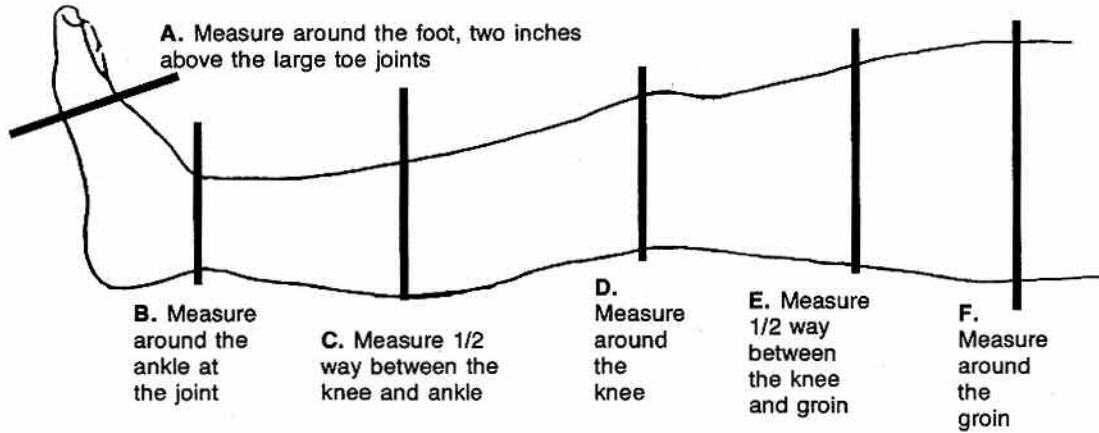
XVIII. Call extremity measurements to your clinic on:

XIX. When the affected limb is within 10 to 15% the size of the non affected limb, a maintenance pumping schedule can be initiated. If both limbs are affected, the size of the limb can be determined by using the extremity measurement of another person similar in body build.

REMEMBER - A gradient compression stocking is the second part of the treatment. They must be worn daily and new ones must be purchased every 4 to 6 months.

Home Care Program

MEASUREMENT LOG FOR WRIGHT LINEAR PUMP USE



Patient's Name

Please check the **affected** limb:
[] - Right Leg [] - Left Leg

Length of leg

Measure your leg as directed.



Bring this record to your clinic visits.

Date	Measurement before/after pump	Time on Pump (hours)	B/P	A/Foot	B/Ankle	C/Calf	D/Knee	E/Thigh	F/Groin



In these spaces please record measurements of the **unaffected** limb:
(These measurements are used for comparison purposes.)

Length of leg

Date	*****	*****	A/Foot	B/Ankle	C/Calf	D/Knee	E/Thigh	F/Groin
	*****	*****						



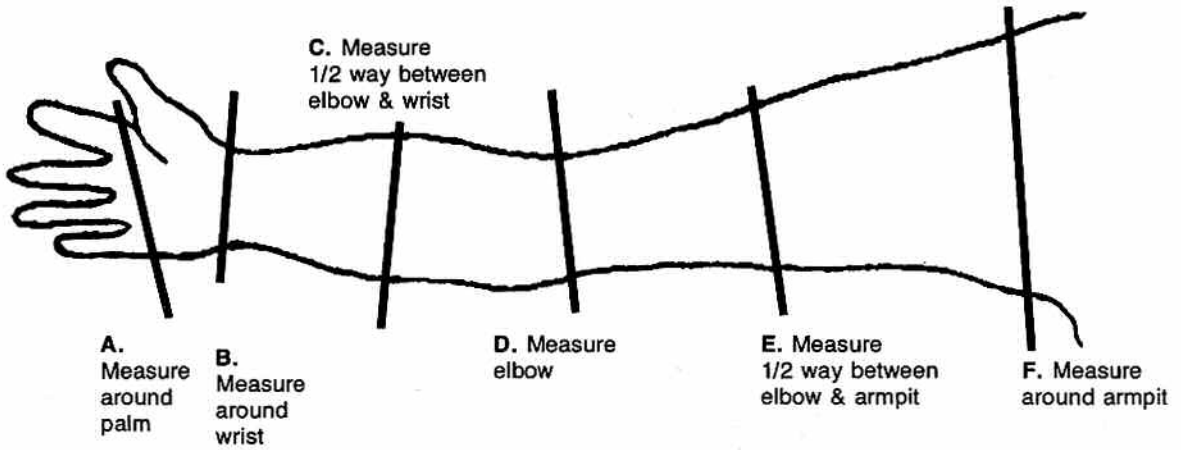
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Home Care Program

MEASUREMENT LOG FOR WRIGHT LINEAR PUMP USE



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\_\_\_\_\_

Patient's Name

Please check the affected limb:  
 - Right Arm     - Left Arm

Length of arm  
 \_\_\_\_\_

Measure your arm as directed.



Bring this record to your clinic visits.

| Date | Measurement before/after pump | Time on Pump (hours) | B/P | A/Hand | B/Wrist | C/Midarm | D/Elbow | E/Midupper arm | F/Axilla |
|------|-------------------------------|----------------------|-----|--------|---------|----------|---------|----------------|----------|
|      |                               |                      |     |        |         |          |         |                |          |
|      |                               |                      |     |        |         |          |         |                |          |
|      |                               |                      |     |        |         |          |         |                |          |
|      |                               |                      |     |        |         |          |         |                |          |
|      |                               |                      |     |        |         |          |         |                |          |
|      |                               |                      |     |        |         |          |         |                |          |
|      |                               |                      |     |        |         |          |         |                |          |
|      |                               |                      |     |        |         |          |         |                |          |

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In these spaces please record measurements of the unaffected limb:
 (These measurements are used for comparison purposes.)

Length of arm

Date	*****	*****	A/Hand	B/Wrist	C/Midarm	D/Elbow	E/Midupper arm	F/Axilla
	*****	*****						
	*****	*****						



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**Admission Information for Outpatient
 Lymphedema Management**

Date: _____

Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

Sex: M _____ F _____ D.O.B.: _____

Affected Area: _____ right / left arm _____ right / left leg

Blood pressure: _____ Pulse: _____

Diagnosis: _____

Medications:

Venogram: Yes _____ No _____ Date: _____

Report: _____

Lymphangiogram: Yes _____ No _____ Date: _____

Report: _____

Contraindication present now or previously:

- 1. Cardiovascular disease including congestive heart failure Yes _____ No _____
- 2. Active infections in the edematous extremity Yes _____ No _____
- 3. Acute thrombophlebitis Yes _____ No _____
- 4. Arterial disease Yes _____ No _____
- 5. Neuropathic disease Yes _____ No _____
- 6. Active malignancies in the edematous extremity Yes _____ No _____

If surgically related, what surgery was performed?

Date of surgery: _____

When did lymphedema develop? _____

Comments on development: _____

Have there been any previous infections? Yes _____ No _____

Dates: _____

Has there been previous treatment for lymphedema?

Surgery	Yes _____	No _____	
Pump	Yes _____	No _____	Brand name of pump _____
Garments	Yes _____	No _____	
Other	Yes _____	No _____	

