



120 West Commercial Avenue, Moonachie, NJ 07074
201-939-0716 ■ 800-888-0908 ■ Fax 201-939-4503
E-Mail: biosystems@biocompression.com
www.biocompression.com



PROGRAM PROTOCOL

for

SEQUENTIAL CIRCULATORS

Gradient, Sequential, Pneumatic Compression Devices

I. Purpose

To establish a standardized procedure for evaluation and treatment using the Bio Compression Systems' Sequential Circulator for patients with lymphedema.

II Evaluation

1. *Individual has lymphedema of an extremity* which has been unsuccessfully managed with other methods of treatment.
2. *Individual does not have a medical condition that would be a contraindication* for the use of a sequential compression device with calibrated gradient pressure, such as:

- A. **Infections of the limb without appropriate antibiotic coverage**
- B. **Presence of Lymphangiosarcoma**
- C. **Congestive Heart Failure, unresolved**
- D. **Deep Vein Thrombosis, unresolved**
- E. **Inflammatory Phlebitis or during episodes of pulmonary embolism**

3. *Individual has a family member* or significant other to assist in treatment if needed.
4. *Individual has a primary care physician* who will assume responsibility for writing order for pump pressures, frequency and duration of treatment.

III. Patient Education

1. During evaluation, the patient and family member will be educated in the appropriate use of the Bio Compression Sequential Circulator, including:
 - A. Operation of the Sequential Circulator
 - B. Specifics regarding the patient's course of treatment
 - C. Specifics as to proper skin care
 - D. Wear and maintenance of appropriate compression garment
 - E. Exercise appropriate to treating a specific area of body (arm/leg)
 - F. Recognizing adverse signs and symptoms of infection or cellulitis
 - G. Demonstrated knowledge of appropriate prevention measures
 - H. Importance of follow-up in order to evaluate the effectiveness of therapy
 - I. Importance of pre/post-treatment measurements
 - J. Importance of blood pressure measurement as it pertains to setting of pump pressures

IV. Treatment Procedures

Physician's written order is required for pressure, time and frequency of treatment.

1. Place patient in a comfortable position on recliner, sofa, bed, etc. Explain procedure to patient.
2. **Assess skin for any signs or symptoms of infection or cellulitis. If any signs are noticed do not put patient on the pump. Instead, contact doctor immediately.**
3. Measure swollen limb at appropriate anatomical landmarks. (Use same tape measure each time). Mark each location on skin to ensure same measurement. Ideally, the same person should measure the patient each time. A family member can be taught to measure the patient at home. Measurements should be recorded on a chart.
4. **Cover limb with cotton stockinette. Remind patient to keep hand flat if using an arm garment.**
5. Help patient apply garment to affected arm or leg. Use zipper to secure garment.
6. **Connect appliance to pump via the tubing connector.**
7. Turn pump on. Set pressure as first garment chamber is inflating. The pump may have to run through a couple of cycles before it reaches full pressurization in all chambers of the garment.
8. **Make sure patient is comfortable, using a blanket for warmth, proper lighting, etc.**
9. Set up time schedule if necessary to help patient keep track of treatment times.
Treatment schedule may be 1-2 hours or longer, depending on physician's order.
10. **Instruct the patient to stop treatment immediately should symptoms such as numbness, loss of sensation, pain, coldness, pins and needles or cramping occur. Investigate cause, such as pressure set too high, etc.**
11. At end of session, turn pump off. Remove appliances and measure limb at the same location as previously indicated with markings on skin. Record measurements on chart.
Check skin for rashes, blisters or bruises and make note of same.
12. **Inquire of patient whether any problems were encountered. If so, deal with them immediately**
13. If leaving pump in patient's home, have patient demonstrate the proper use of pump and appliances while present.
14. **Fill out home instructions and leave copy with patient. Send copy of measurements and home instructions to patient's physician.**
15. After pump cycle is concluded, patient should be fitted with a proper compression garment to help control edema of limb.
16. **Discuss maintenance pumping schedule with patient and family.**
17. Report all treatment plans and follow-ups to patient's physician.

V. Pressure Settings

ARMS

Primary & Secondary Arm 20-40mmHg

Primary—1½ hours daily

Severe Primary 2 times daily

Secondary: 1 to 1½ Hours Daily

LEGS

Primary 50-60mmHg

1½ Hours Daily

Severe Primary 2 Times Daily

Secondary LE 40-50 mmHg

1 Hour daily

VENOUS INSUFFICIENCY

50 mmHg

1 Hour Daily

RESOLVED DVT'S

A negative Doppler is suggested

40 mmHg

1 Hour Daily

RESOLVED DVT'S W/FILTER

Requires a negative Doppler and waiver from physician

30-40mmHg

½ Hour Twice Daily