

### **PBM Dosage Calculations**

1. Measure the following for each patient:

L1—length in cm from floor to top of calf

C1—Circumference of calf at widest point in cm

C2—Circumference of ankle (narrowest point) in cm

2. Treatment to deliver is calculated by:

$$\text{Treatment Dose (J)} = D * [L1 * \frac{1}{2} \{ (C1)/2 + (C2)/2 \}]$$

(See following pages for area calculation.)

3. Treatment will be to the back half of the calf from the fold in the back of the knee to the bottom of the foot with the large massage ball.

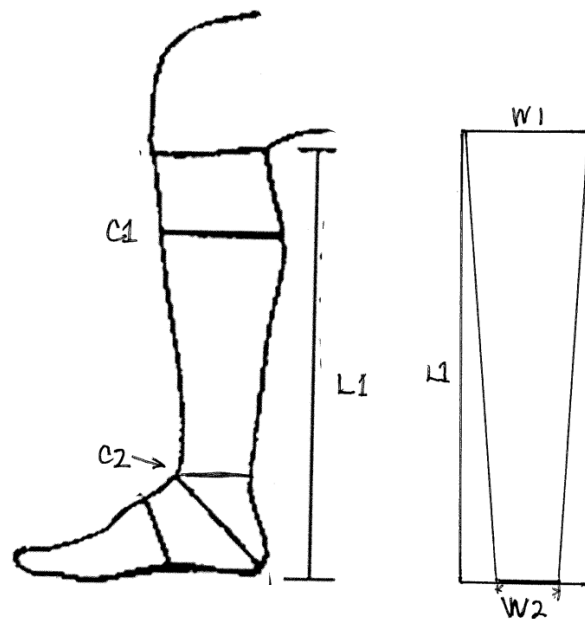
### Plantar Fasciitis Treatment Area Calculation

Take Three measurements:

L1—length in cm from floor to top of calf

C1—Circumference of calf at widest point in cm

C2—Circumference of ankle (narrowest point) in cm



Treatment area would be back of the calf for the entire back section (A1).

Calculation of Area A1.

A1 is essentially a trapezoid with upper base having a width equal to half of the calf circumference ( $W1 = C1/2$ ) and a lower base having a width equal to half of the ankle circumference ( $W2 = C2/2$ ).

$$\text{Area of A1} = L1 * (W1 + W2)/2 = L1 * (C1 + C2)/4$$

Total dose will be calculated as  $10 \text{ J/cm}^2$ , so

$$\text{Dose} = 10 * A_{\text{total}} * L2 * C2/2$$

**Example:**

Taking calf and leg measurements:

$$L1 = 36 \text{ cm}$$

$$C1 = 38 \text{ cm}$$

$$C2 = 21 \text{ cm}$$

$$A_{\text{total}} = 531 \text{ cm}^2$$

$$\text{Dose} = 5310 \text{ J}$$

Treating at 25 W, this would take 212 s or 3:32.

The measurements will be entered into the calculation spreadsheet and confirmed by another study team member.