

CORRESPONDENCE:

THE MOBILE PNEUMATIC ARM SLEEVE

EDITOR:

I wish to comment on the editorial by Beninson (LYMPHOLOGY 18:54, 1985) which refers to our article entitled, "The Mobile Pneumatic Arm Sleeve: A New Device for Treatment of Arm Lymphedema," appearing in the same issue (p. 68-71).

Beninson refers to the new pneumatic mobile device as an apparatus "for the definitive management" of postmastectomy edema. We do not use this term and in no sense suggest that the new unit is a definitive solution to the problem. To my sorrow, I also agree with the late Prof. Kinmonth that no effective operation for upper limb lymphedema exists, but I hasten to add that neither is there a definitive non-operative treatment.

While I appreciate Beninson's remarks about Lympha-Press, I suspect that he has no direct experience with this device, nor with reports concerning results of treatment with Lympha-Press pneumatic compression. He assumes that we propose Lympha-Press as the "ideal unit". In fact Lympha-Press has proven its superiority over one-cell devices in reducing lymphedema. True, it is expensive in the United States because of existing trade market regulations, but in Israel it is not overly costly. Moreover, it is beneficial for the entire spectrum of lymphedema, not just primary edema, as suggested by Beninson. We did not design the new mobile pneumatic sleeve to simplify compression management with Lympha Press. Indeed, careful reading of our article discloses that the sleeve is designed to

reduce the overall number of compression treatments.

Concerning Beninson's remarks about the disadvantages of the mobile pneumatic sleeve "trapped perspiration...feeling much as a snake...": our final product is made from synthetic material which permits perspiration to evaporate and no patient has described a cold, clammy discomfort or "of feeling like a snake". Moreover, Beninson's claim that where arm edema extends onto shoulder and chest there is little or no improvement is inaccurate. Such an occurrence is physiologically improbable because postmastectomy edema is secondary to lymph stasis, and therefore, consists of both fluid and interstitial proteins. Whereas the fluid component is absorbed directly into arm venules under pressure, thereby reducing lymph volume, interstitial proteins are squeezed through residual lymphatics and axillary lymphatic collaterals which open up and operate as an alternative drainage system in the shoulder region.

As for elastic stockinettes, the importance of which is emphasized by Beninson and which we also use routinely, their overall value is limited. They do not prevent reaccumulation of lymphedema and barely maintain reduction achieved by pneumatic compression even for a day or two. The new mobile device, in contrast, is not merely a static stockinette but, as was demonstrated, has the crucial additional advantage of actively working to reduce lymphedema during simple arm movements. Whereas undoubtedly there are nowadays with less radical resection fewer patients with postmastectomy lymphedema, the pro-

blem remains significant because lymphedema may occur many years after initial operation and regional irradiation.

Based on our broad and extensive experience in management of peripheral lymphedema, we disagree with Beninson's clinical approach and take exception to erroneous assumptions in criticism of our new mobile pneumatic sleeve.

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REPLY

Nowhere did I suggest that pneumatic compression was definitive management for lymphedema. I simply claimed that a non-operative treatment regimen consisting of pneumatic and elastic compression and appropriate muscular exercise is the most effective, cheapest, and least harmful of current treatment programs advocated for primary lymphedema. Whereas, I have been anxious to test machines advocated by Zelikovski, I have as yet been unable to obtain and use, with option to buy, such a device. Nonetheless, my clinical experience with similar units still makes me skeptical of many claims attributed to their use by their inventors.

As for the use of the "new" sleeve, it remains axiomatic that insensible water loss and perspiration is ongoing and becomes appreciable over a 5-6 hour interval. Accordingly, I remain convinced that an occlusive extremity dressing over that duration is likely to produce a damp, uncomfortable feeling. In contrast to Zelikovski's assertion, lymphedema fluid displaced from an extremity onto the torso is not readily absorbed. (Beninson, *J. Vascular Medicine* 3 (1985) 95-95). (Also see Foldi letter below.)

As for the other criticisms, I recognize the difficulty in caring for patients with long-

standing lymphedema, but proper elastic hose is sufficient to retard indefinitely reaccumulation of lymphedema reduced earlier by 1-2 weeks of pneumatic compression. Injury or infiltrating malignancy may reaggravate swelling, but unless these complicating factors are overly extensive, recurrent edemas usually respond to recompression.

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ALSO:

I feel obliged to take exception to the Editorial "Postmastectomy Lymphedema" by J. Beninson, (*LYMPHOLOGY* (1985) 18: 54). As there is no statistical information provided, its scientific validity is questionable. Beninson empirically describes a 32-year-experience with over 3,000 patients successfully treated using his technique, but like many surgical operations and other management protocols used to treat primary lymphedema, convincing, objective numerical data are lacking. Moreover, Beninson's treatment largely consists of pneumo-massage and intermittent compression, but we have found that this approach is of limited effectiveness even with sleeves extending onto the ipsilateral quadrant of the trunk. Its chief difficulty is that the transport capacity of residual lymphatics is easily overwhelmed including healthy channels located on the contralateral quadrant of the trunk (lymphatic watersheds divide the torso into four discrete quadrants). Accordingly, such therapy can paradoxically promote "lymphedema without lymph stasis," that is from a *relative*, in contrast to an *absolute*, insufficiency of lymphatic absorption.

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