THE FLEXITOUCH SYSTEM

VS.

THE BIO COMPRESSION 3008 SYSTEM

Analyzed by,
Dr. Waldemar Olszewski

THE FLEXITOUCH SYSTEM

VS.

THE BIO COMPRESSION 3008 SYSTEM

Dr. Waldemar Olszewski a world renoun expert on Lymphedema and the Lymphatic System was asked to compare the Flexitouch System to the Bio Compression 3008.

1. First understand, after much research and actual measurements of the movement of lymphatic fluid Dr. Olszewsksi has come to the following conclusions:

    a. 95% of Lymphatic fluid is subcutaneous

    b. It takes a minimum of 25mmHg subcutaneously to move that fluid

    c. Depending on the skin's tonometry it takes a higher pressure at the interface between the sleeve and skin to achieve the 25mmHg needed subcutaneously. With very fibrotic skin the external pressure needed to achieve the proper pressure subcutaneously could be as high as 100mmHg.

2. Listed below are Dr. Olszewski's comments to Flexitouch's claim that their pre-massage function is necessary:

    a. Massage adjacent to Lymphedema normal tissues is totally irrational

    b. There is no free tissue fluid in normal skin and subcutis

    c. Even if there were some edema it would not produce any physical resistance to the flow of Lymphedema fluid as hydraulic conductivity (our data) of lymphedematous tissue is high and skin compliance is high

    d. Free tissue moved proximally returns to its primary site within minutes (our data). This is why we advice keeping distal compartments inflated and putting on an elastic garment immediately after discontinuation of pneumatic compression.

3. The following is Dr. Olszewski response to one of Flexitouch's pronouncements that other pumps cause fibrosis.

    a. "Lymphedema of limbs rarely extends to adjacent body quadrants. Treatment of adjacent lymphatic in addition to lymphedeamatous limbs has been based on assumptions but not objective testing (no literature).

The text in quotation marks is full of inaccuracies. There is no medical term "lymphatic congestion". We call it street language.

b. Pumps push fluid to the subcutaneous space of the buttock or arm, where absorption is taking place. Nobody has shown fibrosis after compression treatments in the upper thigh or arm (no literature). Had there been fibrosis after pneumatic compression then it would have also developed after manual massage as in both types of mobilization fluid, finding its way through the groin or arm. Fibrosis develops in distal areas of limbs with most stagnation of lymph. This should be treated. Appearance of edema in the trunk or buttock or hypogastrium is a sign of efficacy of compression therapy. We are happy about it. Statistics shown by authors in the group of manual massage indicating lack of edema in genital area clearly point to lack of effective drainage with this method of treatment. Author's statements are non-professional and point to lack of knowledge of physiology."

4. Interpretation of the accompanying graphs

   a. Tissue fluid pressures are measured by means of inserting needles directly into the subcutaneous tissue. They are actual fluid pressures.

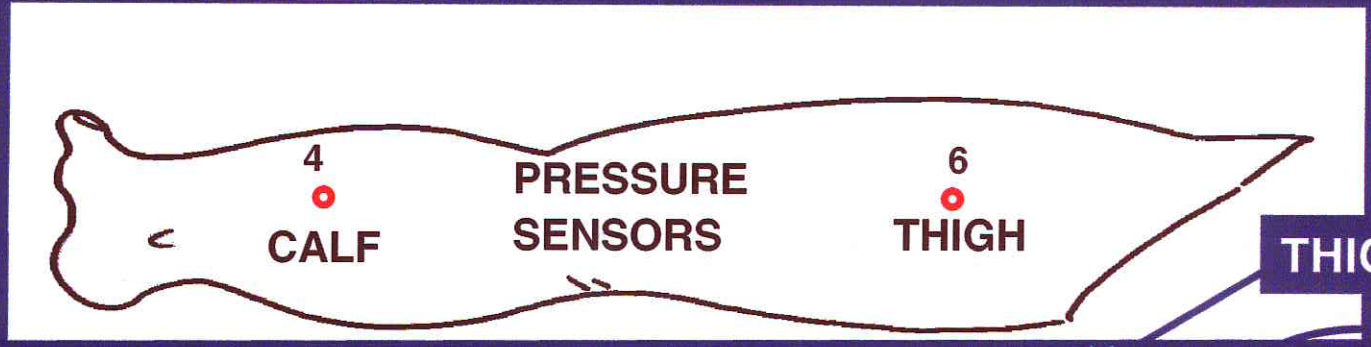
   b. Both the Flexitouch and Bio Compression 3008 pumps were set at 50mmHg

   c. In both graphs the tissue fluid pressure with the Bio Compression 3008 reached approximately 50mmHg, where the pressure with the Flexitouch pump reached only 10mmHg (not enough to move tissue fluid).

Waldemar L. Olszewski, MD, PhD full Professor Medical Academy and Medical Research Center, Polish Academy of Sciences in Warsaw and Chairman of Clinical Department of Surgery, Ministry of Internal Affairs/Polish Academy of Science Hospital, Warsaw. Carried out research studies in Hammersmith Hospital, London and Harvard Medical School in Boston. He holds many professional positions among them Research Officer World Health Organization, Past President of European Society for Surgical Research and past President of International Society of Lymphology. Served as a member of many International Medical Journals, among them Lymphology, Lymphatic Research and Biology. Recipient of many awards including National Lymphedema Network, Lymphatic Research Foundation, American Society of Lymphology.

As an expert on the Lymphatic System, he has published 600 publications and 7 Scientific Books.

TISSUE FLUID PRESSURE DURING PNEUMATIC MASSAGE AT 50 mmHg



TISSUE FLUID PRESSURE mm Hg

70
60
50
40
30
20
10
0

CALF

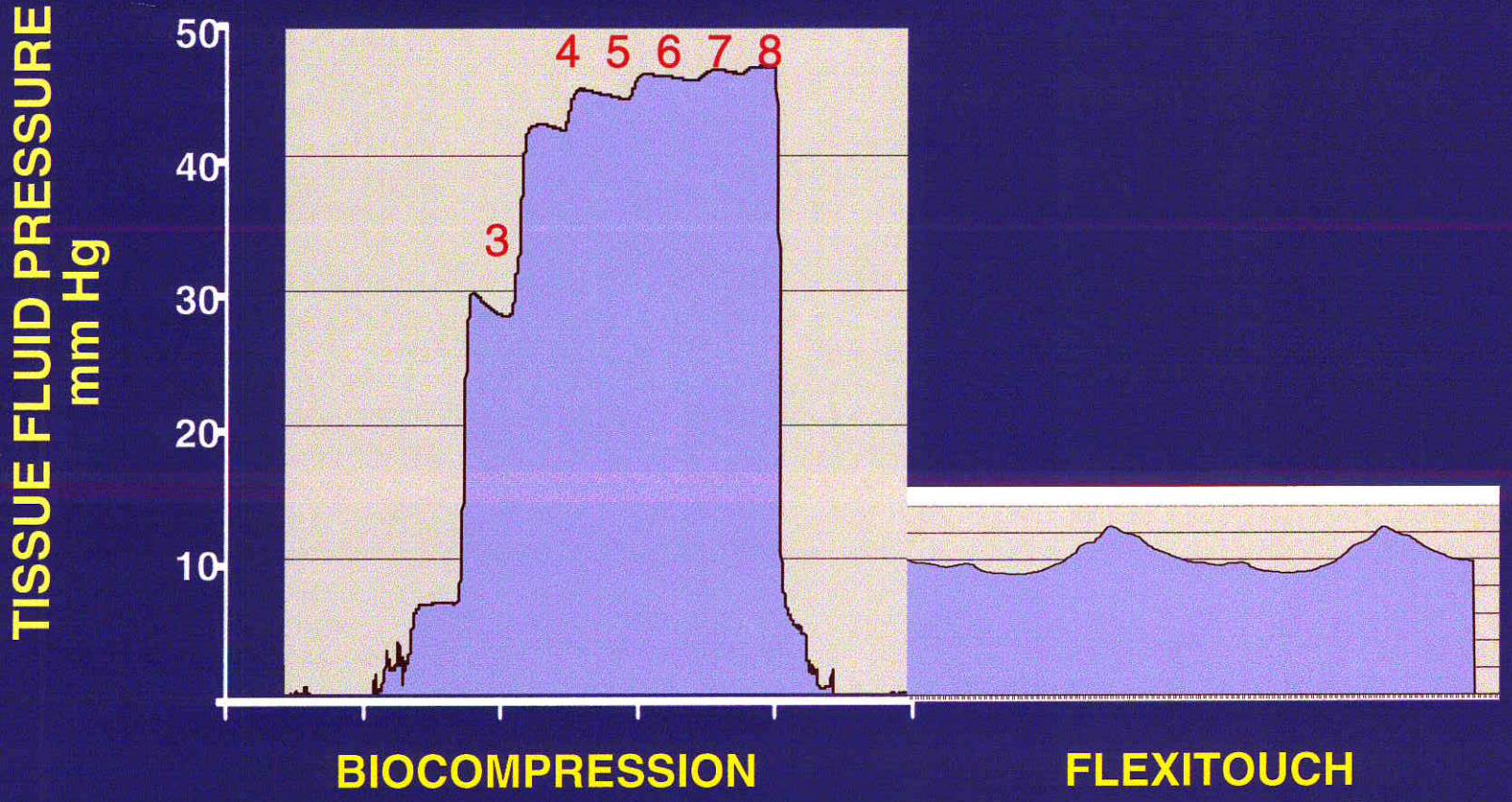
THIGH

BIOCOM

FLEXI

BIOCOMPRESSION 8 CHAMBERS (9 cm WIDE) INFLATION 50'' EACH, NO DEFLATION
FLEXITOUCH 10 CHAMBERS (4 cm WIDE) 20'', DEFLATION

0 1 2 3 4 5 6 7 8

BIOCOMPRESSION SLEEVE CHAMBERS
TIME (MIN)

COMPARISON OF TISSUE FLUID PRESSURES MEASURED AT CHAMBER 4 (BIOCOMPRESSION) AND CHAMBER 6 (FLEXITOUCH) DURING SEQUENTIAL INFLATION AT 50 mmHg