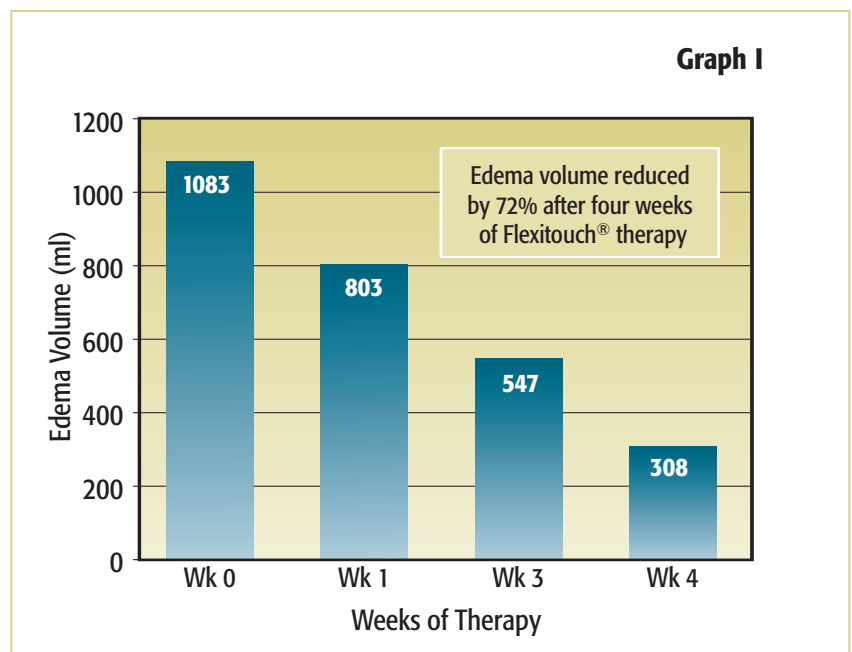


# CASE STUDY

## JF – Severe Right Arm Lymphedema in a Postmastectomy Patient



### ABSTRACT

A 69-year-old woman with severe right arm lymphedema was unable to manage her condition independently with either self-manual lymphatic drainage (MLD) or traditional pneumatic compression pump therapy. Although professionally administered MLD therapy provided short-term relief, the patient could not sustain that benefit in the home. After completion of a 30-day trial using the Flexitouch® Lymphedema System, she experienced significant improvement; a 72 % reduction in her arm edema volume and a 16.9% reduction in arm circumference. (Graph I) The Flexitouch system provided a consistent, clinically effective means for successful home maintenance of JF's lymphedema.

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## CASE SUMMARY

JF was diagnosed with carcinoma of the right breast in October 2000. Treatment consisted of surgical excision of the tumor, including removal of thirty-five lymph nodes, followed by radiation and chemotherapy.

In 2001, approximately one year after surgery, JF was diagnosed with severe lymphedema in her right arm. In addition to characteristic discomfort, her complications included recurrent cellulitis requiring numerous hospitalizations and intravenous antibiotic therapy.

JF received professional manual lymphatic drainage (MLD) therapy with good results. MLD is a complex, two-step form of massage therapy designed to 1) remove lymph fluid from congested areas, particularly the trunk, by stimulating lymph flow in more proximal, functioning lymphatics and 2) re-direct “collected” lymphatic fluid to functioning lymph nodes for return to the circulation by normal physiological processes.<sup>1</sup> Although MLD may be effective,<sup>2</sup> the nature of the therapy and the need for life-long treatment limit the patient’s ability to effectively comply with the rigorous and specific techniques.<sup>1</sup>

The expense and requirement for daily clinic visits ruled out ongoing professional MLD therapy for JF; consequently, her edema returned. In an

effort to regain the benefits of MLD, she attempted a professionally guided regimen of self-administered MLD maintenance therapy. Unfortunately, that effort failed because she lacked the physical strength, flexibility and coordination required to independently treat her affected arm.

As an alternative, JF tried to manage her condition with a traditional 4 chamber pneumatic compression pump. Such pumps apply sequential pressure to forcibly displace and move fluid.<sup>3,4</sup> Although a reduction in limb volume may result, compression pumps are associated with significant adverse events and their use is now discouraged.<sup>3,4</sup> During 13 months of pump therapy, JF’s condition deteriorated; her edema, cellulitis, and discomfort were unabated. She also developed a lump on the back of her arm.

In November of 2004, upon the recommendation of both her physician and therapist, JF agreed to participate in a trial of the Flexitouch Lymphedema System. Therapeutic goals of the trial included achievement of clinically significant reductions in edema, incidence and severity of infection and improvement in functional status.

The Flexitouch Lymphedema System utilizes a 2-Phase Lymph Preparation and Drainage System designed for use in the home setting as part of continued lymphedema therapy maintenance. Equipment consists of an electronic controller unit and garments tailored to accommodate the affected areas. The Flexitouch system uses a two phase preparation and drainage sequence that follows the physiology of the lymphatic system and is designed to simulate MLD therapy. First a slight gradient of pressure is applied to the trunk to prepare for and direct an augmented flow of

lymphatic fluid. Then, drainage of the affected limb is accomplished by gentle pressure cycles that advance and direct lymphatic flow along anatomical pathways for return to the central circulation.<sup>5</sup>

JF's therapy protocol with the Flexitouch system consisted of twice daily 60-minute treatments administered at a standard pressure setting. Outcomes were monitored weekly by a physical therapist who recorded arm volume and circumference measurements.

After 30 days of treatment with the Flexitouch system, JF's arm volume had been reduced by 72% and her arm circumference by 16.9%, using her unaffected arm as a control. (Graph 1). Notably, her significant and consistent results were achieved despite having recently completed a session of intense in-clinic MLD therapy. In addition to improvement of her lymphedema symptoms, JF reported both reduced physical discomfort and the disappearance of the lump on the back of her arm.

The Flexitouch system provided a consistent, and clinically effective means for successful home maintenance of the JF's lymphedema. This has been the only effective method found for this patient to successfully manage her lymphedema condition at home.

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N.B. For good discussions of the incidence and long-term effects of lymphedema in breast cancer survivors, see: 1) Clark B, Sitzia J, Harlow W. Incidence and risk of arm oedema following treatment for breast cancer: a three-year follow-up study. *Q J Med* 2005; 98: 343-348 and; 2) Moffatt CJ, Franks PJ, Doherty DC, Williams AF, Badger C, Jeffs E, Bosanquet N, Mortimer PS. Lymphedema: an underestimated health problem. *Q J Med* 2003; 96: 731-738.



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