

### WOUNDS UK Conference - Sharing Best Practice

## November 12th to 14th 2012, Harrogate, United Kingdom



## Effectiveness of the Neuromuscular Taping application: A Case of Lymphoedema of the Superior Limb Authors: <sup>1</sup>Coutinho, Joaquim; <sup>2</sup>Cruz, Ana

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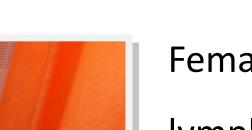
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#### Introduction

Extra articular features are usually found in rheumatological diseases sometimes with no correlation with the disease's activity in that moment. Lymphoedema is one of these manifestations and it's defined as a tissue fluid accumulation with gradual onset of swelling of a limb. Because it is an unusual finding, the physiopatological explanation of this feature is still difficult to understand.

The term lymphoedema concerns fluid accumulation in the tissues related to deficient lymphatic drainage. It's signs are presence of edema in extremities, without a godet shape, but partial relief with elevation. Lymphoedema may be classified in primary or secondary, weather it's origin is congenital or derives from a pathological condition and it's a rare manifestation in rheumatic diseases.

The case presented describes the use of neuromuscular tape to treat this kind of lymphoedema in a rheumatological patient.





#### Clinical Case

Female, 42 year's old with systemic rheumatoid arthritis, presents lymphoedema on right upper arm that persists for 3 months, with no identified cause and no associated systemic signs or symptoms. After evaluation of the lymphoedema, the clinical decision for the treatment was to use neuromuscular tape (Punch Tape and Cure Tape).

There was a reduction of the lymphoedema two hours after the application and we performed it for 3 weeks. In the follow up after one month the limb was without any lymphoedema.



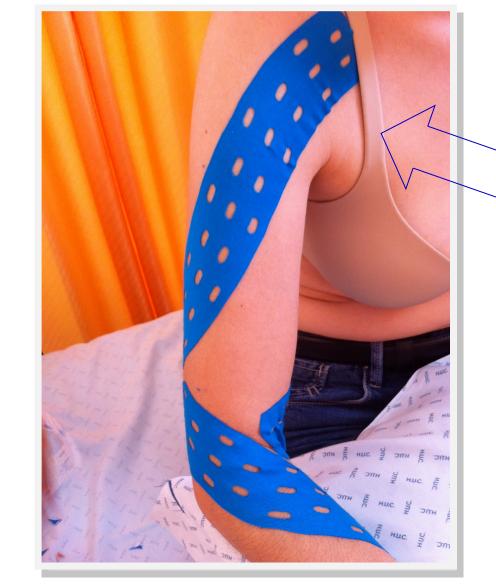
#### Method

Before applying the Cure Tape, perimetry has been measured on both superior limbs. The same procedure was performed after 2 hours of application and after 4, 8, 12, 16 and 20 days after the first application.

A lymphatic taping application was performed to the poorly draining area. We used "Punch Tape" on the arm and forearm and "Cure ape" in a Fan shape tape way, both special tapes with elasticity similar to the skin and similar in weight to the epidermis. The material used for the tape has been designed to allow 30-40% longitudinal stretch. It is composed of 100% cotton fibers and acrylic heat sensitive glue.

In the arm and forearm we applied "Punch Tape" from proximal of the ganglion zone to distal on the arm, and a second application from the lateral side of the elbow to the hand, both applied in a spiral way. In the hand we used "Cure Tape" in a fan shape way from distal to proximal of the wrist join. Both were applied without tension of the tape but with stretching of the skin.

For the application we used 1,5 meters of Punch Tape and 20 cm of Cure Tape and we need less them 10 minutes to perform that. The tape was changed each 4 days, during 3 weeks.



# \*Punch Tape from the Axilar node zone to the elbow

Punch Tape from the elbow to the hand

 $_{\scriptscriptstyle 
ightarrow}$   $^{\scriptscriptstyle *}$ Cure tape in a fan shape form in the hand



#### Results

There was a decrease of the perimeter of the limb in the first 2 hours and each time that we change the tape, especially in the hand. The result after 4 days was very satisfactory, but we performed the application for more four times. After one month without tapping the area there was no difference in both superior limbs. That happens because when applying the tape in a proximal to distal direction and positioning the body in a way that the tape is stretched during application, the lymphatic drainage system is stimulated 24 hours a day

			Measurements of the Superior Limb			
Dates	21-06-2012		After 3 hours	25-06-2012	28-06-2012	02-07-2012
References	Left arm	Right Arm	Right Arm	Right Arm	Right Arm	Right Arm
Acromion 10cm	28	28,6	28,3	28,3	28,1	28
Acromion 15cm	26,2	27,6	26,5	26,5	26,8	26,8
Acromion 25cm	22,3	22,8	22,7	22,4	22,7	22,6
Lateral epicondyl 5cm	21,6	22,5	22,1	21,8	22	21,8
Lateral epicondyl 10cm	19,8	20,8	20,6	19,9	19,9	19,9
Lateral epicondyl 20cm	14,5	15,5	15	14,9	15	14,5
From the ulnar stiloides	17,8	19,5	19	18,8	19,6	18,2

#### Discussion

Applying neuromuscular tape has physiological effects and will form convolutions to increase the space between the skin and muscles. Once the skin is lifted, the flow of blood and lymphatic fluid is promoted. The tape acts as a conductor of interstitial fluid, moving fluids from areas of higher pressure towards areas of lower pressure.

The results of the application of this tape in this case of rheumatoid arthritis were positive, once we registered the decreasing of the lymphoedema. We have seen the results not only in the few hours after, but they were maintained even one month after finishing the treatment, when follow up took place. The application was done four times even when seen the reduction of the perimetry but we stop when there was no difference in the perimetry of both arms.

This is a comfortable treatment technique which allows the patient to wear his/her regular clothes and doesn't interfere with daily activities. Other advantages are that a patient can take a shower without taking the tape off since it is waterproof and can wear it for several days.

**Acknowledgments:** 

. William Ahern

. ANEID, Pharmaceutical Products