

# Non-focussed ESWT & skin ulceration in complex neurological disabilities

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**Device and producing company:**

Orthowave 180c with unfocussed head. NITS Europe GmbH

**Introduction:**

Skin Ulceration in complex neurological disabilities is often slow to heal in spite of good nursing care. ESWT offers an opportunity for improving healing rates.

**Methods:**

A blind cross-over study with washout-out period (2 weeks) between unfocussed ESWT and fake ESWT (both weekly for 4 weeks) was used to assess 15 patients with skin lesions secondary to chronic neurological disabilities (late stage multiple sclerosis and brain damage). Nearly all of the patients had cognitive impairment which complicated nursing care.

**Results:**

Several patterns emerged. The ulceration of those with multiple sclerosis either did not heal or took a long time to heal. Some patients showed improvement during the fakeESWT phase and this was usually rapid. Sinuses did not respond or responded very slowly to unfocussed ESWT.

**Discussion:**

A cross-over study was used to evaluate the response to good nursing care, the Hawthorne and Pygmalion effects or the possibility that concomitant effects (such as the ultrasound gel) might confound the effect of ESWT. When healing occurs in chronic ulceration it is delayed but more rapid than the normal healing pattern. It is still unclear as to the frequency, the 'dosage' or the length of treatment period for optimal benefits from ESWT treatment. Treatment of sinuses may require a focussed head for optimal benefit.

**Conclusion:**

1. A cross-over study design is essential to identify the effects of recovery associated with good nursing care.
2. The optimal 'dose', frequency and treatment period are yet to be identified.
3. Different types of ulceration require different forms of ESWT.