

PARADIGM

# The interaction and outcomes of acupuncture, both traditional Chinese medicine and intra-muscular stimulation, with Deep Oscillation® Treatment: a case study-based discussion

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## Abstract

This article first explains what Deep Oscillation® Treatment (DOT) is and how it works, then focuses on four case studies in which the author has used acupuncture and DOT together effectively as part of overall patient treatment and management.

*Keywords:* Electrostatics, lymphatics, oscillation, pain reduction, tissue response.

## Introduction

DOT is an internationally-patented electro-mechanical therapy method based on the Johnsen-Rahbek effect in physics. It supplements and intensifies all types of connective tissue work without pressure, and reaches to a depth of 8 cm as proven by a burns study by Tápanes *et al.* (2010) and in a diagnostic ultrasound visual verification test by Medina Cabezas.

Research into the therapeutic uses of this effect on tissue was first carried out by two German physiotherapists, Wolfgang Walder and Hans Seidl, in the early 1980s. It works on the theory that if a semi-conductor is put between two electrodes and a voltage is applied, it creates an electrostatic force similar to rubbing a balloon on your clothes and holding it over your head so your hair stands up. This generates a minimal electrostatic field, and with a semiconductor layer this force can be transferred to human tissue without heat or the use of electrical stimulation. If we transfer this to deep oscillation, the membrane of the applicator or gloves of the therapist are the vinyl layer

(semiconductor); the adhesive electrodes as well as the metal plate, the applicator, and the titanium element held by the patient perform as the electrodes. It is a biphasic application in microampere range, thus metal implants are not contraindicated. To explain the working electrostatic field, the circuit is in the Deep Oscillation® machine. As the circuit changes polarity, the tissue is dropped and the circuit stopped temporarily through an active discharge device in the machine, which is part of the therapy's patented circuitry. There is no problem using the oscillator all day by the therapist or patient. Studies conducted in 1988 saw no adverse effects to therapist (Portnov & Zabelina 2002). The Deep Oscillation® machine can produce an electrostatic field at a low, medium or high frequency ranging from 5 Hz to 250 Hz. This alternating current is able to pick up treated tissue and then drop it at a variable speed, depending on the selected frequency. For example, at 5 Hz this occurs at 5 times a second, and at 250 Hz it occurs at 250 times a second. In treatment, this deep oscillation massage penetrates a depth of 8 cm through the skin, connective tissue, fat tissue and muscle, to reach its sphere of activity (Fig. 1).

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