Shockwave-Based Therapy ::Emerging Applications::

Prof Tim Watson

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Shockwave:Emerging Applications I

- **Delayed and non union long bone fractures** (e.g. Alvarez et al (2011); Birubaum et al 2002; Cacchio et al 2009; Elster et al 2010; Furia et al (2010); Kobayashi et al 2020; Notarnicola et al 2020; Schleusser et al 2020; Wang (2012) +
- **Stress Fractures** (Moretti et al 2009)
- **Avascular necrosis femoral head** (e.g. Cheng et al 2021; Furia et al 2010; Wang et al 2008; Zhao et al 2021)
- **Chronic venous ulcers (diabetic and non diabetic)** (e.g. Larking et al 2010; Saggini et al 2008; Wang et al 2011; Wolff et al 2011) and other **Chronic Wounds** (e.g. Antonic et al 2011; Mittermayr et al 2012)
- **Complex Regional Pain Syndrome** (e.g. Notarnicola et al 2010)
- **OA Knee** (e.g. Chen et al 2020; Frisbie et al 2004; Ma et al 2020; Wang et al 2013, 2014; Zhao et al 2013; Zhang et al 2021)

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Shockwave:Emerging Applications II

- **Post spinal fusion** (e.g Lee et al 2008)
- **Spasticity in CP children** (e.g. Corrado et al 2019; El-Shamy et al 2014; Park et al 2015; Vidal et al 2011; 2020)
- **Hypertonicity post stroke** (e.g. Cabanas-Valdes et al 2020; Jia et al 2020; Leng et al 2020; Manganotti et al 2005)
- **Post Carpal Tunnel pillar pain** (e.g. Haghighat et al 2019; Romeo et al 2011)
- **Carpal Tunnel Syndrome** (Li et al 2020; Raissi et al 2017; Seok et al 2013; Xu et al 2020)
- **Trigger point application** (e.g. Gleitz et al 2012; Luan et al 2019; Ramon et al 2015; Zhang et al 2020)
- **Cellulite management** (e.g. Angehrn et al 2007; Schlaudraff et al 2014; Troia et al 2021)

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Shockwave:Emerging Applications III

- **(Medial) Tibial Stress Syndrome** (e.g. Moen et al 2012; Rompe et al 2010; Menendez et al 2020)
- **Various DENTAL related applications** (e.g. Elisetti 2021; Goker et al 2019; Li et al 2010; Song et al 2020)
- **Chronic Low Back Pain** (e.g. Lee et al 2014; Taheri et al 2021)
- **Myositis Ossificans** (e.g. Buselli et al 2010; Reznik et al 2013)
- **Coccydynia** (Ahadi et al 2021; Marwan et al 2014)
- **Myofascial Pain Syndrome** (Cho et al 2012)
- **Erectile Dysfunction (various causes) + Peryroine's** (e.g. Kim et al 2020; Ladegaard et al 2021; Liu et al 2021; Sokolakis et al 2021; Towe et al 2021)
- **(Neuro related) Muscle Contractures** (e.g. Svane et al 2021)
- **Trigger Finger** (e.g. Chen et al 2021; Shen et al 2020; Zyluk et al 2020)

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(=1/2/3 and 5 bar)
• 2.7Kg (device)
• 0.85Kg (handpiece)
• Service Life: >2,000,000 shots
• Applicators: 6/15/25mm
(minimum 150,000 shots)
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CLINICAL PROTOCOLS
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1 - 6
B
Radial and ulnar epicondylitis - Acute
Radial and ulnar epicondylitis - Chronic
Tendinitis of the shoulder - Acute
Tendinitis of the shoulder - Chronic
Calcific tendinitis of the shoulder - Chronic
C

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CLINICAL PROTOCOLS
ENDOPULS 81
F
Therapy Info: Radial and ulnar epicondylitis - Acute
Location: Elbow
Sessions: 1-3 (1-2 per week)
Power: 60-90 mJ
Frequency: 5-10 Hz
Applicator head: 15 mm, after familiarisation 6 mm

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Contraindications

Active DVT/thrombophlebitis	C Local
Active Epiphysis	Precaution
Acute injury/inflammation	Precaution
Cardiac Failure	Safe
Chronic Wound	Safe
Cold Hypersensitivity	Safe
Cold Urticaria	Safe
Current tissue bleeding	C Local
Damaged/at-risk skin	C Local
Epilepsy	Precaution
Hypertension	Safe
Impaired Circulation	Precaution
Impaired Sensation	Precaution
Impaired cognition/communication	Contra
Infection	C Local
Malignancy	C Local
Photosensitivity or SLE	Safe
Pregnancy	C Local
Recently Radiated Tissue	C Local
Skin Disease (eg eczema)	Safe
TB	C Local
Electronic Implant	C Local
Metal Implant	Precaution
Plastic/cement implant	Precaution
Anterior Neck/carotid sinus	C Local
Chest/Heart	Precaution
Eyes	C Local
Head face	Precaution
Regenerating Nerves	Precaution
Reproductive Organs	Precaution

Contra
C Local
Precaution
Safe

Focus only – Not radial