

25. Shockwaves in hand & foot surgery - retrospective analysis of results with different devices

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Introduction: Superficial localization of bone-fractures and problems of patient positioning present treatment difficulties with clinical Shockwave Therapy devices that have radiological target detection in combination with computer-assisted target bearing. We present the results of Shockwave Therapy with devices with and without integrated imaging.

Methods: Delayed and non-union fractures and arthrodesis of the hands and feet were treated with or/and without electronic navigation aids; clinical and radiological follow-ups were performed to assess treatment success rates.

Results: In 100 cases of delayed unions and non-unions of the hand and tarsal, metacarpal and metatarsal bones, 75% healed. In delayed and non-healing ankle arthrodesis and both the carpometacarpal and tarsometatarsal regions, 60% healed.

Discussion: In bone healing disorders shockwaves should be administered under direct imaging and using computer-assisted navigation. Specific locations however, require manual target localization and navigation via bio-feedback. Because both treatments seem to produce similar results, ESWT guidelines should allow for flexibility in treatment methods.

Conclusion: Delayed and non-union fractures in superficial localized bones can be treated with appropriate Shockwave Therapy equipment as successfully as with hospital lithotripters.