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Success story of extracorporeal shockwave therapy (ESWT):

Successfully used in urology for over 40 years to disintegrate kidney stones, with high efficiency and hardly any significant side effects.

➢ Beginning of development: in the treatment of deep-seated stones in the ureter and urinary bladder, the pelvic bone located between the two (and subsequently an inadvertent recipient of the shockwaves) was stimulated to grow.

➢ This developed into applications for bone and tendon injuries and diseases, as well as findings on the mode of action of ESWT =>

➢ Mechanotransduction: interactions between shockwaves and (possibly) all tissues cause a biological response (release of growth factors, formation of new blood vessels, modulation of inflammation, attraction of stem cells, and many others) which enables and accelerates healing.

➢ These effects are essential for a variety of diseases in a wide range of medical specialties =>

➢ New research and application areas: Injuries and diseases of practically all tendons, bones, and muscles; wound healing disorders (bedsores, ulcers); erectile dysfunction; aesthetic medicine; cardiac muscle; nervous tissue; etc.

How do shockwaves work?

Shockwaves, without causing mechanical damage, trigger a biological response in the treated tissue through their compressive, tensile and shear forces (mechanotransduction). Genes are activated in the cell nucleus and begin to produce proteins (including growth factors) responsible for the healing processes. These proteins cause increased ingrowth of newly formed blood vessels, improving local metabolism. Additional modulation of inflammation, which is necessary for healing, enables restoration and regeneration of pathological tissue.

Recent studies prove:

Shockwaves cause the production of messenger substances in the cell nucleus, mobilizing the body's own stem cells from the bone marrow which then migrate to the treated tissue, settle there and develop into the required cells (e.g. heart muscle cells). Thus, in contrast to conventional stem cell transplantation, it is possible to initiate the body's own regeneration without having to fear complications.

For more information, go to [www.ISMST.com](http://www.ISMST.com) and [www.softwavetrt.com](http://www.softwavetrt.com). Contact SoftWave Tissue Regeneration Technologies at [info@softwavetrt.com](mailto:info@softwavetrt.com) or via phone at (888) 862-6162.

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