

Title (en)

APPARATUS AND METHOD FOR AN ULTRASONIC MEDICAL DEVICE OPERATING IN A TORSIONAL MODE

Title (de)

GERÄT UND VERFAHREN FÜR EINE IN EINEM TORSIONSMODUS ARBEITENDE MEDIZINISCHE ULTRASCHALLVORRICHTUNG

Title (fr)

APPAREIL ET PROCEDE POUR DISPOSITIF MEDICAL A ULTRASONS FONCTIONNANT EN MODE DE TORSION

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2005084553A1] The present invention provides an apparatus and a method for an ultrasonic medical device (11) operating in a torsional mode and a transverse mode. An ultrasonic probe (15) of the ultrasonic medical device (11) is placed in communication with a biological material. An ultrasonic energy source (99) is activated to produce an electrical signal that drives a transducer to produce a torsional vibration of the ultrasonic probe (15). The torsional vibration produces a component of force in a transverse direction relative to a longitudinal axis of the ultrasonic probe (15), thereby exciting a transverse vibration along the longitudinal axis causing the ultrasonic probe (15) to undergo both a torsional vibration and a transverse vibration. The torsional vibration and the transverse vibration cause cavitation in a medium surrounding the ultrasonic probe (15) to ablate the biological material.

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