



(12) **United States Patent**  
**Fedewa et al.**

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(54) **METHOD AND APPARATUS FOR THE TREATMENT OF TISSUE**

(56) **References Cited**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1752 days.

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**Related U.S. Application Data**

**ABSTRACT**

(63) Continuation of application No. 11/177,827, filed on Jul. 8, 2005, now abandoned.

(57) A method and apparatus is disclosed for determining the success of a proposed HIFU Treatment, of an ongoing HIFU Treatment, and/or of a completed HIFU Treatment. An energy density of a given HIFU Treatment may be used as a comparison factor between the given HIFU Treatment and other HIFU Treatments and as a predictor of the success of the given HIFU Treatment. One exemplary energy density is the amount of energy deposited in the treatment region divided by the volume of the treatment region. Another exemplary energy density is the amount of energy deposited in the treatment region divided by the pre-treatment mass of the treatment region. A method and apparatus is disclosed to detect the presence of focal hyperechoic features and non-focal hyperechoic features. A method and apparatus is disclosed to detect the presence of an acoustic obstruction.

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(52) **U.S. Cl.**  
CPC ..... *A61N 7/02* (2013.01); *A61B 2019/5276* (2013.01)

(58) **Field of Classification Search**  
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USPC ..... 128/898; 606/27  
See application file for complete search history.

**18 Claims, 20 Drawing Sheets**

