US011389370B2

(12) **United States Patent**
Warlick

(10) **Patent No.: US 11,389,370 B2**
(45) **Date of Patent: Jul. 19, 2022**

(54) **TREATMENTS FOR BLOOD SUGAR LEVELS AND MUSCLE TISSUE OPTIMIZATION USING EXTRACORPOREAL ACOUSTIC SHOCK WAVES**

(71) Applicant: **SoftWave Tissue Regeneration Technologies, LLC**, Woodstock, GA (US)

(72) Inventor: **John Warlick**, Woodstock, GA (US)

(73) Assignee: **Softwave Tissue Regeneration Technologies, LLC**, Woodstock, GA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 654 days.

(21) Appl. No.: **15/131,303**

(22) Filed: **Apr. 18, 2016**

(65) **Prior Publication Data**

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G10K 15/04	(2006.01)
A61H 19/00	(2006.01)
A61F 5/41	(2006.01)

(52) **U.S. Cl.**

CPC ***A61H 23/008*** (2013.01); ***A61F 5/41*** (2013.01); ***A61H 19/30*** (2013.01); ***G10K 15/043*** (2013.01); *A61H 2203/0468* (2013.01)

(58) **Field of Classification Search**

CPC A61H 23/00; A61H 23/008; A61H 2205/087; A61B 17/22004; A61B 8/085; A61B 8/13; A61B 2090/378

See application file for complete search history.

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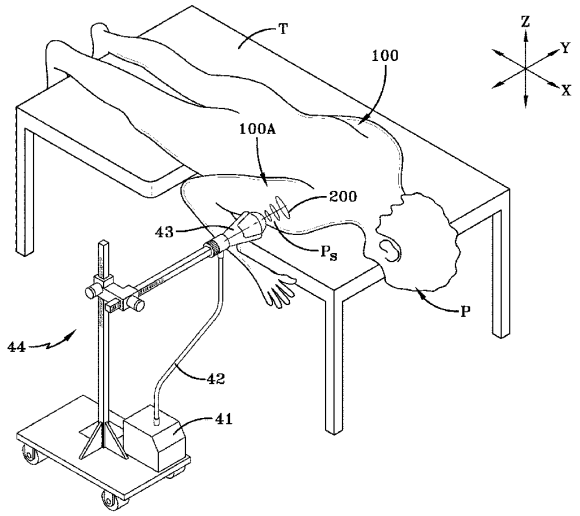
Primary Examiner — Tu A Vo

(74) *Attorney, Agent, or Firm* — David L. King

(57) **ABSTRACT**

A method of treating red blood cells of a human patient has the steps of activating an acoustic shock wave generator or source to emit acoustic shock waves and subjecting a vascular system containing red blood cells and surrounding muscle tissue peripherally through an extremity of a patient to the acoustic shock waves by stimulating the extremity wherein the extremity is positioned within a path of the emitted shock waves and away from a geometric focal volume or point of the emitted shock waves. The methods also treat muscle tissue of aging patients, from muscle regeneration or athletes for legal performance enhancement without drugs.

8 Claims, 11 Drawing Sheets



US011389371B2

(12) **United States Patent**
Warlick

(10) **Patent No.: US 11,389,371 B2**
(45) **Date of Patent: Jul. 19, 2022**

(54) **ACOUSTIC SHOCK WAVE THERAPEUTIC METHODS**

(71) Applicant: **John F. Warlick**, Woodstock, GA (US)

(72) Inventor: **John F. Warlick**, Woodstock, GA (US)

(73) Assignee: **Softwave Tissue Regeneration Technologies, LLC**, Woodstock, GA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 606 days.

(21) Appl. No.: **15/984,505**

(22) Filed: **May 21, 2018**

(65) **Prior Publication Data**

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(51) **Int. Cl.**
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A61B 8/00 (2006.01)
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(52) **U.S. Cl.**
CPC ***A61H 23/008*** (2013.01); ***A61B 8/085*** (2013.01); ***A61B 8/13*** (2013.01); ***G10K 15/043*** (2013.01); *A61B 2090/378* (2016.02); *A61H 2201/0153* (2013.01); *A61H 2201/1654* (2013.01); *A61H 2201/50* (2013.01); *A61H 2205/087* (2013.01)

(58) **Field of Classification Search**
CPC A61H 23/00; A61H 23/008; A61H 2205/087; A61B 17/22004; A61B 8/085; A61B 8/13; A61B 2090/378; G10K 15/043
See application file for complete search history.

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Primary Examiner — Tu A Vo
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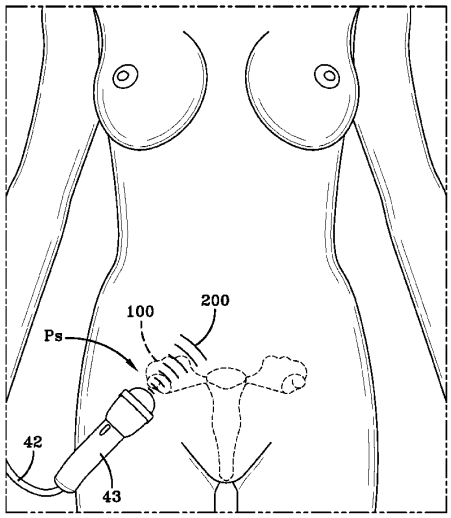
(57) **ABSTRACT**

A method of modulating glandular secretions by administering acoustic shock waves to a gland, includes the steps of activating acoustic shock waves of an acoustic shock wave generator to emit acoustic shock waves and subjecting the gland to acoustic shock waves stimulating the gland to have a modulated response. The modulated response is one of an adjustment in hormonal release which increases low level output, decreases high level output or stabilizes erratic output. The emitted acoustic shock waves are focused or unfocused low energy acoustic shock waves. The gland underlies the patient's skin. The shock wave generator is acoustically coupled to the patient's skin using a coupling gel or liquid. The gland is one of a testicle, ovary, pituitary gland, adrenal gland, thyroid gland, thymus, pineal gland, parathyroid, or hypothalamus. The method can be repeated one or more times.

14 Claims, 12 Drawing Sheets



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

(10) **Patent No.: US 11,389,372 B2**
(45) **Date of Patent: *Jul. 19, 2022**

(54) **ACOUSTIC SHOCK WAVE THERAPEUTIC METHODS**

(71) Applicant: **Softwave Tissue Regeneration Technologies, LLC**, Woodstock, GA (US)

(72) Inventors: **John F. Warlick**, Woodstock, GA (US); **John Patrick Finney**, Hagerhill, KY (US); **Janey Lynn Watts**, Staffordsville, KY (US)

(73) Assignee: **Softwave Tissue Regeneration Technologies, LLC**, Woodstock, GA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 330 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **16/009,807**

(22) Filed: **Jun. 15, 2018**

(65) **Prior Publication Data**

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Related U.S. Application Data

(63) Continuation-in-part of application No. 15/984,505, filed on May 21, 2018, and a continuation-in-part of application No. 15/131,303, filed on Apr. 18, 2016.

(51) **Int. Cl.**
A61H 23/00 (2006.01)
A61N 7/02 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***A61H 23/008*** (2013.01); ***A61H 39/00*** (2013.01); ***A61N 7/00*** (2013.01); ***A61N 7/02*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC A61H 23/00; A61H 23/008; A61H 23/02; A61H 23/0218; A61H 23/0236–0263;
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Primary Examiner — Tu A Vo
(74) *Attorney, Agent, or Firm* — David L. King

(57) **ABSTRACT**

A method of modulating glandular secretions by administering acoustic shock waves to a reflexology zone has been discovered. In one preferred embodiment, a treatment method achieves one or more of a) modulating blood sugar levels, b) stimulating insulin production levels or c) normalizing A1C levels by administering acoustic shock waves to a reflexology zone or region of a patient. The treatment method further has the steps of: activating acoustic shock waves of an acoustic shock wave generator to emit acoustic shock waves; subjecting the reflexology zone to acoustic shock waves stimulating the pancreas to have a modulated response wherein the modulated response is one of an adjustment in blood sugar levels or insulin production and release or normalizing A1C levels which increases low level output, decreases high level output or stabilizes erratic
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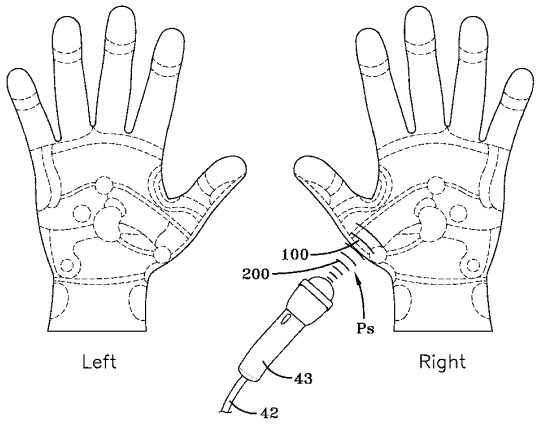

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(12) **United States Patent**
Warlick et al.

(10) **Patent No.: US 11,389,373 B2**
(45) **Date of Patent: Jul. 19, 2022**

(54) **ACOUSTIC SHOCK WAVE THERAPEUTIC METHODS TO PREVENT OR TREAT OPIOID ADDICTION**

(71) Applicant: **SoftWave Tissue Regeneration Technologies, LLC**, Woodstock, GA (US)

(72) Inventors: **John F. Warlick**, Woodstock, GA (US); **John Patrick Finney**, Hagerhill, KY (US)

(73) Assignee: **Softwave Tissue Regeneration Technologies, LLC**, Woodstock, GA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 706 days.

(21) Appl. No.: **16/353,278**

(22) Filed: **Mar. 14, 2019**

(65) **Prior Publication Data**

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Related U.S. Application Data

(63) Continuation-in-part of application No. 16/009,807, filed on Jun. 15, 2018, which is a continuation-in-part
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(51) **Int. Cl.**
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A61M 19/00 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***A61H 23/008*** (2013.01); ***A61H 39/00*** (2013.01); ***A61M 19/00*** (2013.01); ***G10K 15/043*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC A61H 23/008; A61H 39/00; A61H 23/02; A61H 2201/0153; A61H 2201/1635;
(Continued)

(56) **References Cited**

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Primary Examiner — Tu A Vo
(74) *Attorney, Agent, or Firm* — David L. King

(57) **ABSTRACT**

The method of treating a patient addicted to pain medication or opioids has the step administering acoustic shock waves or pressure pulses to the patient. A second embodiment includes a treatment to reduce a patient's pain caused by a medical condition and/or medical procedure to reduce or eliminate the taking of addictive pain medication. The treatment has the step of administering acoustic shock waves or pressure pulses directed to an area near a source of the pain or to one or more reflexology zones or to one or more reflexology zones and to an area near the source of the pain or both to treat the medical condition or prior to the medical procedure or during the medical procedure or after the medical procedure or any combination thereof.

10 Claims, 13 Drawing Sheets