

WHAT IS CLAIMED IS:

1. A method for strengthening, toning, and firming muscle tissues, the method comprising:
 - receiving parameters for operation of a magnetic muscle stimulation device, the magnetic muscle stimulation device comprising a device applicator having a coil positioned in a housing of the device applicator, an axis of the coil substantially perpendicular to an applicator surface of the housing, wherein the parameters include:
 - a first waveform frequency of 10-50 Hz;
 - a second waveform frequency of 2-10 Hz;
 - a third waveform frequency of between 2-10 Hz;
 - a pulse duration of 300-450 microseconds; and
 - an individual pulse frequency of 2.2-3.3 kHz, the individual pulse frequency being substantially higher than the first waveform frequency;
 - causing, based on receiving the parameters, a first alternating current having one or more first pulses to flow for a first length of time through the coil according to the first waveform frequency, wherein each of the one or more first pulses has the pulse duration of 300-450 microseconds and the individual pulse frequency of 2.2-3.3 kHz;
 - causing, following the first length of time, a second alternating current having one or more second pulses to flow through the coil for a second length of time according to the second waveform frequency that is lower than the first waveform frequency, wherein each of the one or more second pulses has the pulse duration of 300-450 microseconds and the individual pulse frequency of 2.2-3.3 kHz;
 - repeating the causing of the first and second alternating currents for a plurality of iterations to provide a continuously pulsed time-varying magnetic field that alternates between the first and the second waveform frequencies, wherein the first length of time is 2 – 12 seconds, and the second length of time is 2 – 12 seconds, and the plurality of iterations is 10 – 140 iterations, thereby generating a treatment session having a length of 100 – 1000 seconds;
 - causing, based on receiving the parameters, a third alternating current having one or more third pulses to flow through the coil for a third length of time according to the third waveform frequency, thereby generating a recovery session, wherein each of the one or more third pulses has the pulse duration of 300- 450 microseconds and

the individual pulse frequency of 2.2 – 3.3 kHz, the third length of time is 30 – 80 seconds, and

generating a plurality of the treatment sessions, a pair of adjacent treatment sessions being separated by the recovery session;

wherein the first, second, and third waveform frequencies provide a continuously pulsed time-varying magnetic field that alternates between the first, second and third waveform frequencies, and wherein a magnetic flux density generated by the magnetic muscle stimulation device is between 1.2 – 2.0 tesla (T), an inductance of the coil is between 30- 50 micro Henry (mH), the coil has an inner diameter between 0-50 mm, and an outer diameter of between 50-150 mm.

2. The method of claim 1, further comprising:

causing, based on receiving the parameters, a fourth alternating current having one or more fourth pulses to flow through the coil for a fourth length of time according to a fourth waveform frequency of between 2-10 Hz, thereby generating a warm up session;

causing, based on receiving the parameters, a fifth alternating current having one or more fifth pulses to flow through the coil for a fifth length of time according to a fifth waveform frequency of between 2-10 Hz, , and

generating a warm up session prior to the treatment and recovery sessions, and a cool down session following the treatment and recovery sessions,

wherein the first, second, third, fourth, and fifth waveform frequencies provide a continuously pulsed time-varying magnetic field that alternates between the first, second, third, fourth, and fifth waveform frequencies.

3. The method of claim 1, wherein the second waveform frequency is either 10% (1/10), 25% (1/4), or 33% (1/3) or less than the first waveform frequency.

4. The method of claim 1, wherein the second waveform frequency is approximately 5 Hz or less.

5. The method of claim 1, wherein a ratio of the first length of time to the second length of time does not exceed 6:4 or fall below 4:6.

6. The method of claim 1, wherein the second length of time is longer than the first length of time, and the first waveform frequency is approximately 18 to 40 hertz (Hz).

7. The method of claim 1, wherein at least one of the first or second waveforms has a sinusoidal or biphasic waveform.

8. A magnetic muscle stimulation device for strengthening, toning, and firming muscle tissues, the magnetic muscle stimulation device comprising:

a device applicator comprising a housing having a substantially flat applicator surface, and a coil positioned in the housing with an axis of the coil substantially perpendicular to the applicator surface; and

a processor configured to:

receive parameters including:

a first waveform frequency of 10-50 Hz;

a second waveform frequency of 2-10 Hz;

a third waveform frequency of between 2-10 Hz;

a pulse duration of 300-450 microseconds; and

an individual pulse frequency of 2.2-3.3 kHz, the individual pulse frequency being substantially higher than the first waveform frequency;

cause, based on receiving the parameters, a first alternating current having the one or more first pulses to flow for a first length of time through the coil according to the first waveform frequency, wherein each of the one or more first pulses has the pulse duration of 300-450 microseconds and the individual pulse frequency of 2.2-3.3 kHz;

cause, following the first length of time, a second alternating current having one or more second pulses to flow through the coil for a second length of time according to the second waveform frequency that is lower than the first waveform frequency, wherein each of the one or more second pulses has the pulse duration of 300-450 microseconds and the individual pulse frequency of 2.2-3.3 kHz; and

repeat the causing of the first and second alternating currents for a plurality of iterations to provide a continuously pulsed time-varying magnetic field that alternates between the first and the second waveform frequencies, wherein the first length of time is 2-12 seconds, and the second length of time is 2-12 seconds, and the plurality of iterations is 10-140 iterations, thereby generating a treatment session having a length of 100 – 1000 seconds;

cause, based on receiving the parameters, a third alternating current having one or more third pulses to flow through the coil for a third length of time according to the third waveform frequency, thereby generating a recovery session, wherein each of the one or more third pulses has the pulse duration of 300-450 microseconds and the individual pulse frequency of 2.2-3.3 kHz, and the third length of time is 30-80 seconds; and

generate a plurality of the treatment sessions, a pair of adjacent treatment sessions being separated by the recovery session;

wherein the first, second, and third waveform frequencies provide a continuously pulsed time-varying magnetic field that alternates between the first, second and third waveform frequencies, and wherein a magnetic flux density generated by the magnetic muscle stimulation device is between 1.2 – 2.0 tesla (T), an inductance of the coil is between 30- 50 micro Henry (mH), the coil has an inner diameter between 0-50 mm, and an outer diameter of between 50-150 mm.

9. The magnetic muscle stimulation device of claim 8, wherein the processor is configured to further:

cause, based on receiving the parameters, a fourth alternating current having one or more fourth pulses to flow through the coil for a fourth length of time according to a fourth waveform frequency of between 2-10 Hz, thereby generating a warm up session;

cause, based on receiving the parameters, a fifth alternating current having one or more fifth pulses to flow through the coil for a fifth length of time according to a fifth waveform frequency of between 2-10 Hz, and

generate a warm up session prior to the treatment and recovery sessions, and a cool down session following the treatment and recovery sessions, wherein

the first, second, third, fourth, and fifth waveform frequencies provide a continuously pulsed time-varying magnetic field that alternates between the first, second, third, fourth, and fifth waveform frequencies..

10. The magnetic muscle stimulation device of claim 8, wherein the processor is configured to receive parameters including the second waveform frequency as either being 10% (1/10) , 25% (1/4), or 33% (1/3) or less than the first waveform frequency.

11. The magnetic muscle stimulation device of claim 8, wherein the processor is configured to receive parameters including the second waveform frequency as being approximately 5 Hz or less.

12. The magnetic muscle stimulation device of claim 8, further comprising a cover that is removably attachable to the device applicator, wherein the cover prevents contact of the device applicator with a patient's skin or clothing, while the magnetic muscle stimulation device is strengthening, toning, and firming the muscle tissues of the patient.

13. A non-transitory computer-readable medium comprising a plurality of instructions that, when read by a computing system, causes the computing system to perform a method of strengthening, toning, and firming muscle tissues, the method comprising:

receiving parameters for operation of a magnetic muscle stimulation device, the magnetic muscle stimulation device comprising a device applicator having a coil positioned in a housing of the device applicator, an axis of the coil substantially perpendicular to an applicator surface of the housing, wherein the parameters include:

a first waveform frequency of 10-50 Hz;

a second waveform frequency of 2-10 Hz;

a third waveform frequency of between 2-10 Hz;

a pulse duration of 300-450 microseconds; and

an individual pulse frequency of 2.2-3.3 kHz, the individual pulse frequency being substantially higher than the first waveform frequency;

causing, based on receiving the parameters, a first alternating current having the one or more first pulses to flow for a first length of time through the coil according to the first waveform frequency, wherein each of the one or more pulses has the pulse duration of 300-450 microseconds and the individual pulse frequency of 2.2-3.3 kHz;

causing, following the first length of time, a second alternating current having one or more second pulses to flow through the coil for a second length of time according to the second waveform frequency that is lower than the first waveform frequency, wherein each of the one or more pulses has the pulse duration of 300-450 microseconds and the individual pulse frequency of 2.2-3.3 kHz; and

repeating the causing of the first and second alternating currents for a plurality of iterations to provide a continuously pulsed time-varying magnetic field that alternates between the first and the second waveform frequencies, wherein the first length of time is 2-12 seconds, and the second length of time is 2-12 seconds, and the plurality of iterations is 10-140 iterations, thereby generating a treatment session having a length of 100 – 1000 seconds;

cause, based on receiving the parameters, a third alternating current having one or more third pulses to flow through the coil for a third length of time according to the third waveform frequency, thereby generating a recovery session, wherein each of the one or more third pulses has the pulse duration of 300-450 microseconds and

the individual pulse frequency of 2.2-3.3 kHz, and the third length of time is 30-80 seconds; and

generate a plurality of the treatment sessions, a pair of adjacent treatment sessions being separated by the recovery session;

wherein the first, second, and third waveform frequencies provide a continuously pulsed time-varying magnetic field that alternates between the first, second and third waveform frequencies, and wherein a magnetic flux density generated by the magnetic muscle stimulation device is between 1.2 – 2.0 tesla (T), an inductance of the coil is between 30- 50 micro Henry (mH), the coil has an inner diameter between 0-50 mm, and an outer diameter of between 50-150 mm.

14. A method for strengthening, toning, and firming muscle tissues, the method comprising:

providing a magnetic muscle stimulation device, the magnetic muscle stimulation device comprising an applicator having a coil positioned in a housing of the applicator, an axis of the coil substantially perpendicular to an applicator surface of the housing;

causing a first alternating current to flow through the coil for a first length of time according to a first waveform frequency;

causing, following the first alternating current, a second alternating current to flow through the coil for a second length of time according to a second waveform frequency that is non-zero and substantially lower than the first waveform frequency; and

repeating the causing of the first and second alternating currents for a plurality of iterations to provide a continuously pulsed time-varying magnetic field that alternates between the first and the second waveform frequencies, wherein one or more pulse durations is between 300- 450 microsecond, each corresponding to a pulse frequency between 2.2 – 3.3 kHz, the first waveform frequency is between 10-50 Hz, the second waveform frequency is between 2 – 10 Hz, the first length of time is between 2 – 12 seconds, and the second length of time is between 2 – 12 seconds, and the plurality of iterations is between 10 – 140 iterations, thereby generating a treatment session having a length of 100 – 1000 seconds, and wherein a magnetic flux density generated by the magnetic muscle stimulation device is between 1.2 – 2.0 tesla (T), an inductance of the coil is between 30- 50 micro Henry (mH), the coil has an inner diameter between 0-50 mm, and an outer diameter of between 50-150 mm.