WHAT IS CLAIMED IS:

1. A method for determining an amount of energy to be delivered to cause an end effect on a target volume, the method comprising:

determining the type of end effect;

defining a target treatment volume of the target volume;

estimating the sensitivity of target volume components to a particular energy-based therapy;

estimating, based on the estimated sensitivity, a waveband-specific dose required to result in 10% remaining target invasive entity that is a 1 log reduction as a $D_{10}$ value;

defining radiation safety as a maximal permissible dose per fraction resulting in no more than a cellular D90 to result in a 10% reduction of human or animal cells;

determining a percent depth dose or depth dose characterizations to identify the isodose distribution of the particular energy based therapy in a particular treatment volume density;

optimizing the volume of the defined target volume to receive 100% of the maximal permissible dose per fraction; and

prescribing a dose based on the determining the maximal permissible dose per fraction , the determining the maximal permissible cumulative dose, the determining the percent depth dose, and the optimizing.

2. The method of claim 1, further comprising delivering the prescribed dose as energy to the target volume.

3. The method of claim 1, wherein the particular target volume density used, is based on the effect parameters of the energy delivered .

4. The method of claim 1, wherein the target volume comprises one of a solid, gas, or fluid.

5. The method of claim 1, wherein the end effect comprises one of a temperature change, chemical change, biochemical change, physical change or biophysical change.

6. The method of claim 1, wherein the particular energy based therapy comprises sound and/or radio waves.

7. The method of claim 1, wherein the particular energy based therapy comprises any waveband of electromagnetic radiation.

8. The method of claim 1, wherein the particular energy based therapy comprises magnetic energy.

9. A method of using a smart device to design a therapy, the method comprising:

determining, using the smart device, an amount of light energy available for exposure to the target;

determining, using the smart device, a quantity of the target;

determining, using the smart device, a sensitivity of the target to the determined amount of light energy;

for target invasive entity of the target, determining, using the smart device, a dose for end effect calculation based on the determined amount of light energy and based on the determined quantity of the target and based on the determined sensitivity of the target; and

presenting, using the smart device, a length of time for exposing the target to the determined amount of light energy based on the determined dose for end effect calculation in order to cause an end effect on the target invasive entity of the target.

10. A method for monitoring a patient with a device, the method comprising:

performing a folate hydrolase1 ("FOLH1") positron emission tomography–computed tomography ("PET/CT") on the patient to detect any FOLH1avid neoendothelial cells; and

performing a diagnostic or confirmatory biopsy of tissue associated with the detected FOLH1avid neoendothelial cells to determine if the tissue is cancerous.

11. A method for adaptively modifying a target volume with electromagnetic irradiation, the method comprising:

delivering a chemical nuclei to a target volume;

waiting for a period of time after the administering to allow equilibration to occur; and

exposing the target volume to electromagnetic irradiation for modifying the chemical nuclei within the target volume.

12. The method of claim 11, wherein the target volume is a solid, gas or fluid.

13. The method of claim 11, wherein the target volume is plant or inanimate.

14. The method of claim 11, wherein the chemical nuclei is an atomic element.

15. A method for measuring the absorbed dose of energy delivered via a target within a volume of cells, the method comprising:

measuring a specific activity and initial activity of a chemical nuclei that is attached to an agent with target binding capacity;

quantifying target molecule(s) (FOLH1) for the volume of cells;

inputting the measured value and the quantified value into a mathematical simulation to estimate the possible outcomes of an uncertain event.

16. A method for enabling target upregulation, the method comprising:

removing androgens and/or applying energy to a volume of cells;

waiting for a period of time after the energy application for a receptor target to upregulate or to appear de novo; and

after the waiting, exposing the volume of cells to an embodiment with target binding capacity.

17. The method of claim 16, wherein the embodiment comprises monoclonal antibodies, small molecules or antibody fragments.

18. A method for optimizing the absorbed dose of electromagnetic irradiation delivered via a target within in a volume of cells, the method comprising:

identifying the initial activity of a chemical nuclei that is attached to an agent with target binding capacity;

identifying a dose rate or absorption rate of the chemical nuclei into cells within the volume;

identifying the absorbed dose;

identifying the time required for target replenishment after complete or partial target depletion;

identifying the time required for target replenishment so that 50-100% of the initial dose of chemical nuclei can be absorbed as a subsequent dose; and

waiting for a period of time between doses.

19. A therapy system for an appendage comprising:

a hollow body comprising:

an interior surface defining at least a portion of a hollow space that is operative to receive at least a portion of the appendage;

a plurality of suction passageway openings provided through the interior surface;

a plurality of light passageway openings provided through the interior surface; and

a plurality of energy passageway openings provided through the interior surface;

a light apparatus operative to provide light through the plurality of light passageway openings;

a suction apparatus operative to suck fluid from the hollow space through the plurality of suction passageway openings; and

an energy-generating apparatus operative to provide energy through the plurality of energy passageway openings.

20. A therapy system for a cavity comprising:

a body comprising:

an exterior surface that is operative to be inserted into at least a portion of the cavity;

a plurality of suction passageway openings provided through the exterior surface;

a plurality of light passageway openings provided through the exterior surface; and

a plurality of energy passageway openings provided through the exterior surface;

a light apparatus operative to provide light through the plurality of light passageway openings;

a suction apparatus operative to suck fluid from an environment through the plurality of suction passageway openings; and

an energy-generating apparatus operative to provide energy through the plurality of energy passageway openings.