

CLAIMS

WE CLAIM:

1. ~~A microwave ablation probe, comprising:
a microwave emission section, a rigid section, and a flexible section,
wherein the microwave emission section is positioned distal to the rigid section,
wherein the rigid section is positioned distal to the flexible section,
wherein the rigid section comprises one or more protrusions configured to engage with a grasping portion of a laparoscopic instrument,
wherein the microwave emission section is configured to emit microwave energy.~~
2. ~~The microwave ablation probe of Claim 1,
wherein the microwave emission section is a microwave antenna.~~
3. ~~The microwave ablation probe of Claim 2,
wherein the microwave antenna comprises a co-axial transmission line.~~
4. ~~The microwave ablation probe of Claim 2,
wherein the microwave antenna comprises a tri-axial transmission line.~~
5. ~~The microwave ablation probe of Claim 1,
wherein the rigid section comprises is between approximately 2 to 10 cm in length.~~
6. ~~The microwave ablation probe of Claim 1, wherein the rigid section has five or more protrusions configured to engage with a grasping portion of a laparoscopic instrument.~~
7. ~~The microwave ablation probe of Claim 1, wherein the one or more protrusions configured to engage with a grasping portion of a laparoscopic instrument are metal protrusions.~~
8. ~~The microwave ablation probe of Claim 1, wherein the grasping portion of a laparoscopic instrument is a slotted jaw.~~

9. ~~— A system comprising a microwave ablation probe of Claim 1, and a laparoscopic instrument.~~
10. ~~— The system of Claim 9, wherein the laparoscopic instrument is manually operated.~~
11. ~~— The system of Claim 9, wherein the laparoscopic instrument is robotically operated.~~
12. ~~— The system of Claim 10, further comprising a power supply electrically connected to the microwave ablation probe.~~
13. ~~— A method of ablating a tissue region, comprising:~~
- ~~a) — providing a laparoscopic instrument having a grasping portion and a microwave ablation probe as described in Claim 1,~~
 - ~~b) — grasping the one or more protrusions of the microwave ablation probe with the grasping portion of the laparoscopic instrument,~~
 - ~~c) — positioning the microwave emission section of the microwave ablation probe at a desired tissue location, and~~
 - ~~d) — delivering microwave energy to the desired tissue location with the microwave ablation probe under conditions such that the desired tissue region is ablated.~~
14. ~~— The method of Claim 13, wherein the tissue region is within a subject.~~
15. ~~— The method of Claim 14, wherein the subject is a human subject.~~

1. A method of ablating a tissue region within a human subject comprising:
- a) providing a laparoscopic instrument having a grasping portion and a microwave ablation probe comprising:
 - a microwave emission section, a rigid section, and a flexible section,
 - wherein the microwave emission section is positioned distal to the rigid section,
 - wherein the rigid section is positioned distal to the flexible section,
 - wherein the rigid section comprises one or more protrusions configured to engage with a grasping portion of a laparoscopic instrument,
 - wherein the microwave emission section is configured to emit microwave energy,

- b) grasping the one or more protrusions of the microwave ablation probe with the grasping portion of the laparoscopic instrument,
- c) positioning the microwave emission section of the microwave ablation probe at a desired tissue location, and
- d) delivering microwave energy to the desired tissue location with the microwave ablation probe under conditions such that the desired tissue region is ablated.