CLAIMS

1. An electrosurgical instrument for delivering energy to resurface biological tissue in a patient's gastrointestinal tract, the instrument comprising:

a flexible coaxial cable (206) for conveying microwave energy from a generator located externally to the patient to a treatment site located inside the patient's gastrointestinal tract; and

an applicator (320) located at a distal end of the flexible coaxial cable, the applicator having an energy delivery structure connected to receive microwave energy from the coaxial cable and to deliver the received microwave energy into biological tissue at the treatment site,

wherein the applicator comprises a rotatable radiating structure (324) that is rollable along biological tissue at the treatment site, and

CHARACTERISED IN THAT the applicator comprises a probe housing (322) that encloses the coaxial cable, wherein the radiating structure is rotatably mounted at a distal end of the probe housing.

2. An electrosurgical instrument according to claim 1, wherein the radiating structure is in the shape of a cylinder having a laterally oriented rotation axis.

3. An electrosurgical instrument according to claim 2, wherein the radiating structure comprises:

an inner conductive ring (330) electrically connected to an inner conductor (212) of the coaxial cable,

a dielectric annular element (332) mounted to cover the inner conducive ring around the circumference of the radiating structure, and

a plurality of grounded conductive patches (334) formed on an outer surface of the annular element.

4. An electrosurgical instrument according to any preceding claim, further comprising a sleeve (202), and wherein the probe housing is slidable with the sleeve such that the radiating structure can be extended outside the sleeve and retracted inside the sleeve.