sterile barrier sheath may be secured to and sterilisable with the electrosurgical instrument.

Thus, in one aspect the present invention provides an electrosurgical apparatus comprising: an electrosurgical instrument for delivering RF energy and/or microwave frequency energy into biological tissue; and an interface cable for conveying radiofrequency (RF) and/or microwave frequency energy between an electrosurgical generator and the electrosurgical instrument, wherein there is an electrical connection between the interface cable and the electrosurgical instrument; wherein the electrosurgical instrument comprises: a connection interface that is cooperable with a terminal connector of the interface cable, and a sterile barrier sheath surrounding the connection interface, the sterile barrier sheath being extendable over a portion of the interface cable to surround a connection between the connection interface and terminal connector, and an electrically insulating tubular body secured around the circumference of the terminal connector of the interface cable, the tubular body having a passage therethrough which is open at a first end to expose an end of the terminal connector and through which the interface cable extends.

This aspect of the invention can also provide an electrosurgical instrument for delivering RF energy and/or microwave frequency energy into biological tissue, the electrosurgical instrument comprising: a connection interface that is cooperable with a terminal connector of an interface cable for conveying radiofrequency (RF) and/or microwave frequency energy between an electrosurgical generator and the electrosurgical instrument, a sterile barrier sheath mounted around the connection interface, the sterile barrier sheath being extendable away from the connection interface to surround a connection between the connection interface and the interface cable, and an electrically insulating tubular body secured around the circumference of the terminal connector of the interface cable, the tubular body having a passage therethrough which is open at a first end to expose an end of the terminal connector and through which the interface cable extends.

In this arrangement, the sterilization burden is reduced because the electrosurgical instrument is provided with a

sterile barrier, e.g. a flexible sheath or cover, that can isolate the interface cable in use. Further optional features are set out below.

The sterile sheath may have a first end secured to the electrosurgical instrument, e.g. permanently via adhesive or detachably via a suitable mechanical engagement, e.g. push fit or the like.

The sterile barrier sheath may be movable from a compressed configuration, in which it defines an access opening for the connection interface, to an extended configuration, in which it extends to cover a length of the interface cable. The sterile barrier sheath may comprise a

CLAIMS

1. An electrosurgical apparatus comprising:

an electrosurgical instrument for delivering RF energy and/or microwave frequency energy into biological tissue; and

an interface cable for conveying radiofrequency (RF) and/or microwave frequency energy between an electrosurgical generator and the electrosurgical instrument,

wherein there is an electrical connection between the interface cable and the electrosurgical instrument;

wherein the electrosurgical instrument comprises:

a connection interface that is cooperable with a terminal connector of the interface cable,

a sterile barrier sheath surrounding the connection interface, the sterile barrier sheath being extendable over a portion of the interface cable to surround a connection between the connection interface and terminal connector, and

an electrically insulating tubular body secured around the circumference of the terminal connector of the interface cable, the tubular body having a passage therethrough which is open at a first end to expose an end of the terminal connector and through which the interface cable extends.

2. An electrosurgical apparatus according to claim 1, wherein the sterile sheath has a first end secured to the electrosurgical instrument.

3. An electrosurgical apparatus according to claim 2, wherein the first end is secured to a collar that is detachably mounted on the electrosurgical instrument.

4. An electrosurgical apparatus according to any preceding claim, wherein the sterile barrier sheath is movable from a compressed configuration, in which it defines an access opening for the connection interface, to an extended configuration, in which it extends to cover a length of the interface cable.

5. An electrosurgical apparatus according to claim 4, wherein the sterile barrier sheath comprises a length of

tubing that is concertina folded when in the compressed configuration.

6. An electrosurgical apparatus according to claim 4 or 5, wherein the sterile barrier sheath has a first end secured to the electrosurgical instrument and a second end opposite to the first end, whereby the second end is movable relative to the first end to transfer the sterile barrier sheath between the compressed configuration and the extended configuration.

7. An electrosurgical apparatus according to claim 6, wherein the second end has a grippable pull tab attached thereto.

8. An electrosurgical apparatus according to claim 6 or 7, wherein the second end is securable to the electrosurgical generator.

9. An electrosurgical apparatus according to any preceding claim, wherein the electrosurgical instrument and sterile barrier sheath are sterilisable.

10. An electrosurgical apparatus according to claim 1, wherein the tubular body is overmoulded on the connector.

11. An electrosurgical apparatus according to claim 1 or 10, wherein the tubular body has an inwardly projecting rib in the passage, the inwardly projecting rib being arranged to abut the terminal connector to seal the passage.

12. An electrosurgical apparatus according to any one of claims 1, 10 and 11, wherein the tubular body is made of biocompatible material.

13. An electrosurgical apparatus according to any preceding claim, wherein the interface cable comprises:

a coaxial cable for conveying the RF and/or microwave frequency energy;

a proximal connector at a first end of the coaxial cable, the proximal connector being arranged to form an electrical

connection with a cooperating connection interface on the electrosurgical generator; and

an insulating housing mounted over the proximal connector, the insulating housing comprising a proximal tubular body secured around the circumference of the proximal connector,

wherein the terminal connector is at a second end of the coaxial cable.

14. An electrosurgical apparatus according to claim 13, wherein the proximal tubular body is overmoulded on the proximal connector.

15. An electrosurgical apparatus according to claim 14, wherein the sterile barrier sheath is extendable to the proximal connector.

16. An electrosurgical instrument for delivering RF energy and/or microwave frequency energy into biological tissue, the electrosurgical instrument comprising:

a connection interface that is cooperable with a terminal connector of an interface cable for conveying radiofrequency (RF) and/or microwave frequency energy between an electrosurgical generator and the electrosurgical instrument,

a sterile barrier sheath mounted around the connection interface, the sterile barrier sheath being extendable away from the connection interface to surround a connection between the connection interface and the interface cable, and

an electrically insulating tubular body secured around the circumference of the terminal connector of the interface cable, the tubular body having a passage therethrough which is open at a first end to expose an end of the terminal connector and through which the interface cable extends.