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(54) Title: SELF-LIMITING ELECTROSURGICAL RETURN ELECTRODE

(57) Abstract: A removable semi-insulating sheet for use in self-limiting electrosurgical return semi-insulating sheet for use with electrosurgery. Through the selection of impedance characteristics for the electrode materials of the principal body of the semi-insulating sheet, and through tailoring of semi-insulating sheet geometries, the return electrode of the present invention is self-regulating and self-limiting as to current density and temperature rise so as to prevent patient trauma. The semi-insulating sheet has an effective bulk impedance equal to or greater than about 4,000 Ω cm. The effective bulk impedance of the sheet may arise from resistive components, capacitive components, inductive components, or combinations thereof. The configuration of the presently described return electrode allows the electrode to self-limit the electrode's current densities, thereby preventing burning of a patient during surgery.



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