Possibilities and limits of modern high-frequency surgery

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Abstract

In modern medical technology in the 21st century, people are striving to increase quality and productivity within the operating room by using newer technology. In order to optimize the workflow during an operation on a patient accordingly, special attention should be paid to high-frequency surgery, as a special application of surgery. This paper explains the mode of operation of high-frequency surgery and the two techniques, the unipolar electrode technique and the bipolar technique. Some possible applications of these techniques like, cutting, devitalization, coagulation and thermofusion are described.

Special focus is paid to the problems arising when high-frequency surgery needs to be applied in a simultaneous manner. Possible solutions to the problem are proposed. Risks for the patient, such as the length of anesthesia, the skin suturing times and the overall surgical load, as well as respective safety precautions, like sufficient electrical grounding, are discussed. Also, the risks for the user are considered. Differences in risks of the unipolar electrode technique and the bipolar technique are addressed.