OP-Textiles - comparison of reusable and single-use op-textiles

[Authors: Harald Lepuschitz, Clemens Gneist]

1. Abstract

This paper deals with op-textiles and the two different types, reusable op-textiles and single-use op-textiles. To compare these different op-textiles a systematic literature review was conducted, both high performance and standard performance op-textiles were considered. Op-textiles are medical products and must correspond to the high requirements defined in the EN13795. They are also subject to the medical product law. The requirements as well as how they are tested and certified is described in this paper. Both variations of op-textiles have to fulfil the same requirements. The main differences concerns the texture. Reusable op-textiles are manufactured with higher quality materials than single-use textiles because they have to withstand the reprocessing. On the average reusable op-textiles turned out to be superior to single-use textiles. Surgeons also often prefer the reusable version, because of the better physiological properties. In terms of the acquisition process, ecological, economical, physiological aspects and aspects of hygiene have to be considered. The literature review revealed that in many cases, not all of these aspects are valued equally.

In addition to the literature review, the connection between frequencies of post-surgery infections and the type of op-textile used was investigated. There was no correlation between the frequencies of post-surgery infections and the used type of op-textiles. The results of the comparison showed, that the utilization of reusable op-textiles is to be preferred to single-use materials. In general, single-use textiles should primarily be used in extraordinary circumstances, such as the interruption of the logistic supply chain of reusable op-textiles or in cases of a disaster.