



Title	Monitoring Depth of Anesthesia – A Health Technology Assessment
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Aim

To evaluate, and consider the economics of, whether the use of anesthetic depth monitors during anesthesia should be recommended to reduce the incidence of awareness and/or to shorten and improve the quality of recovery from anesthesia.

Conclusions and results

None of the monitors can predict response to painful stimulus. However, if sleep index remains stable following the start of surgery, the index may be used to titrate the depth of anesthesia during the procedure. None of the monitors indicate the true level of sleep. Hence, the results of monitoring must be compared with the clinical signs traditionally used to evaluate depth of anesthesia.

It is well documented that Bis-monitoring may reduce the incidence of awareness. It is likely, but not documented, that the other monitors will be similarly efficient in this feature. However, use of anesthesia depth monitors will not reduce recovery time or complications in the immediate postoperative period. Both the CS and AEP-II monitors are cost effective, whereas the Bis- and Entropy monitor cost approximately 80 Danish kroner (DKK) per case. Monitors based on the spontaneous EEG and evoked response seem to be similarly effective.

Recommendations

Because of the documented efficiency of these monitors, we recommend that they shall be used as a minimum for anesthesia of all high-risk cases, and that it should be considered to use them for all cases of general anesthesia. This will reduce the incidence of awareness and likely increase patient satisfaction with anesthesia.

Methods

This medical technology assessment is a systematic literature review.