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TI: Propofol-Anästhesie mittels Target-Controlled-Infusion (TCI). Ein Vergleich der Verfahren: Optimated-Target-Controlled Infusion (OTCI) und Manually-Controlled-Infusion (MCI).
Comparison of a propofol-based anesthesia regimen using optimated-target-controlled-infusion (OTCI) and manually-controlled infusion (MCI) technique

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AB: **BACKGROUND:** Propofol anesthesia based on target-controlled-infusion (TCI) has been shown to be superior to a manually-controlled-infusion (MCI) technique. A new optimal-target-controlled-infusion (OTCI) technique enables an individual plasma-targeted adjustment by including the concentration in the effect-compartment. This study compared practicability and costs of the new system with a conventional MCI-based propofol anesthesia regimen. **METHODS:** In a prospective study, 50 patients scheduled for elective surgery of nose or nasal sinuses were randomly enrolled to receive BIS-controlled anaesthesia (level: 40-55) using either OTCI (n = 25) or MCI (n = 25). Hemodynamics, extubation times and time of awaking, rate and quality of propofol adjustment, total drug requirements, costs, postanesthetic care unit (PACU) stay, Aldrete and pain scores, and adverse effects (postoperative nausea and vomiting (PONV), shivering) were recorded. **RESULTS:** Demographics, hemodynamics, and perioperative data including extubation times were comparable for both study groups. Propofol consumption was similar within the first 60 min for both groups, thereafter, significantly less propofol in the OTCI group (5.03 mg/kg/h) than the MCI group (5.79 mg/kg/h) was used. Costs for propofol was significantly reduced with OTCI (0.2 vs. 0.23 Cent/anaesthesia minute/kg), the administration of other anaesthetics (fentanyl, remifentanyl, cis-atracurium) did not differ between the groups. The number of infusion adjustments to BIS values were not significantly different. **CONCLUSION:** The new OTCI-system is a safe and easily controllable technique. The obvious advantage of this infusion system appears to be a reduction in propofol consumption and direct drug costs for anaesthesia lasting longer than 60 min.