Propofol administered in conjunction with an opioid such as remifentanil is used to provide total intravenous anesthesia for children. Drugs can be given as infusion controlled manually by the physician or as automated target-controlled infusion that targets plasma or effect site” Anderson and Bagshaw (2019).

Abstract:

Propofol administered in conjunction with an opioid such as remifentanil is used to provide total intravenous anesthesia for children. Drugs can be given as infusion controlled manually by the physician or as automated target-controlled infusion that targets plasma or effect site. Smart pumps programmed with pharmacokinetic parameter estimates administer drugs to a preset plasma concentration. A linking rate constant parameter (keo) allows estimation of effect site concentration. There are two parameter sets, named after the first author describing them, that are commonly used in pediatric target-controlled infusion for propofol (Absalom and Kataria) and one for remifentanil (Minto). Propofol validation studies suggest that these parameter estimates are satisfactory for the majority of children. Recommended target concentrations for both propofol and remifentanil depend on the type of surgery, the degree of surgical stimulation, the use of local anesthetic blocks, and the ventilatory status of the patient. The use of processed electroencephalographic monitoring is helpful in pediatric total intravenous anesthesia and target-controlled infusion anesthesia, particularly in the presence of neuromuscular blockade.

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