

Pharmacodynamic interaction of remifentanyl and dexmedetomidine on depth of sedation and tolerance of laryngoscopy

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Supplemental Digital Content 2 - Specifications of used devices and software

Vital signs monitor	IntelliVue MP70® Patient Monitor Philips, Amsterdam, Netherlands
Hemodynamic monitor	EV1000® Monitor with FloTrac® sensor Edwards Lifesciences, Irvine, California, USA
Respiratory monitoring and ventilator	Zeus Infinity® C500 ventilator, Dräger Medical, Lübeck, Germany
Infusion pumps	Alaris® GH (Software V2.3.6) CareFusion, Rolle, Switzerland <i>(Pumps were controlled by a computer running RUGLOOP II software with incorporated PKPD-models)</i>
Electroencephalography	BrainAmp® DC32 amplifier EasyCap® Electrode input box and cap Brain Products GmbH, Gilching, Germany SedLine® EEG, PSI-2 algorithm, Masimo, Irvine, California, USA
Pinch gauge	SAEHAN® Hydraulic Pinch Gauge Saehan Medical, Changwon-si, South Korea
Laboratory analyses	EDTA Vacutainers: BD, Franklin Lakes, NJ, United States Centrifuge: Labofuge 400R Heraeus Holding GmbH, Hanau, Germany Spectrometer: Xevo triple quadrupole mass spectrometer Waters Corporation, Milford, Massachusetts, USA <i>(in multiple reaction monitoring mode)</i>

Data Collection

Computer:
Advantech® POC-W212
Advantech, Taipei, Taiwan

Data-Logging software:
RUGLOOP II
Demed Engineering, Temse, Belgium

ADC-software
Masimo, Irvine, California, USA

BrainVision® Recorder
Brain Products GmbH, Gilching, Germany

Data analyses

Modelling:
NONMEM® (version 7.3)
Icon Development Solutions, Hanover, Maryland, USA
Perls-speaks-NONMEM® (PsN)¹ and Pirana² as back and/or front-end
to NONMEM®.

GOF and data visualization:
R®
R Foundation for Statistical Computing, Vienna, Austria
R-packages for graphics: ggplot2³ and plotly⁴

References:

1. Lindbom L, Ribbing J, Jonsson EN: Perl-speaks-NONMEM (PsN)--a Perl module for NONMEM related programming. *Comput Methods Programs Biomed* 2004; 75:85–94
2. Keizer RJ, Benten M van, Beijnen JH, Schellens JHM, Huitema ADR: Piraña and PCluster: a modeling environment and cluster infrastructure for NONMEM. *Comput Methods Programs Biomed* 2011; 101:72–9
3. Wickham H: *ggplot2: Elegant Graphics for Data Analysis*. New York, Springer-Verlag, 2016
4. Plotly Technologies Inc: *Collaborative data Science*. Montréal, Plotly Technologies Inc, 2015