

eAppendix 1: Papers that were reviewed and excluded

	Study 1st Author	Name	Year	Journal	Reason for Exclusion
1.	Bellgardt M	Survival after long-term isoflurane sedation as opposed to intravenous sedation in critically ill patients	2015	Eur J Anesth	Retrospective Cohort Study
2.	Guerrero Orriach JL	Prolonged sevoflurane administration in the off-pump coronary artery bypass graft surgery: Beneficial effects.	2013	J Crit Care	No postoperative sedation or extubation information. Pure cardiac outcome study
3.	Gallego-Ligorit L	Current state of critically ill patients sedation with volatile anesthetics. Its role in renal and hepatic toxicity.	2013	Trends Anesth Crit Care	Review article
4.	Sockup J	Efficiency and safety of inhalative sedation with sevoflurane in comparison to an intravenous sedation concept with propofol in intensive care patients: study protocol for a randomized controlled trial.	2012	Trials	Protocol only. Manuscript of final study not found.
5.	Bosel J	Volatile isoflurane sedation in cerebrovascular intensive care patients using AnaConDa: effects on cerebral oxygenation, circulation, and pressure.	2012	Inten care med	Not a RCT (prospective cohort study) with no extubation, sedation information
6.	Villa F	Inhalation versus endovenous sedation in subarachnoid hemorrhage patients	2012	Crit Care Med	Not a RCT (prospective cohort study) with no extubation, sedation information
7.	Landoni G	Sevoflurane vs propofol in high risk cardiac surgery: design of the randomized trial "Sevo-Aifa".	2011	Signa Vitae	Trial design only

8.	Bracco D	Volatile agents for ICU sedation?	2011	Intens Care Med	Review article
9.	Ferrando C	Cardioprotective effect of sevoflurane versus propofol during anesthesia and postoperative period in coronary bypass surgery.	2010	Crit Care Med	Abstract. Full paper by this author group was likely to be Soro et al 2012
10.	Ferrando C	Sevoflurane maintained better oxygenation and improves lung damage in a model of severe ards compared to propofol.	2010	Crit Care Med	Abstract. Likely full paper published 2012, animal model
11.	Migliari M	Short-term evaluation of sedation with sevoflurane administered by the anesthetic conserving device in critically ill patients	2009	Int Care Med	Crossover study (inadequate wash-out period)
12.	Landoni G	Halogenated anaesthetics and cardiac protection in cardiac and non-cardiac anaesthesia	2009	Ann card Anesth	Review article
13.	Tritapepe L	Cardiac protection by volatile anaesthetics: a multicentre randomized controlled study in patients undergoing coronary artery bypass grafting with cardiopulmonary bypass	2007	Eur J Anaesth	Non- ICU volatile sedation study
14.	Guarracino F	Myocardial Damage Prevented by Volatile Anesthetics: A Multicenter Randomized Controlled Study.	2006	J Cardiothorac Vasc Anesth	No ICU volatile sedation arm
15.	Sackey P	Ambient isoflurane pollution and isoflurane consumption during intensive care unit sedation with the Anesthetic Conserving Device.	2005	Crit Care Med	Scavenging assessment study
16.	Meiser A	Theory and practice of inhalational sedation in the ICU, economics, risk-benefit. Best Practice and Research:	2005	Clin Anaesth	Review article
17.	Hanafy M	Clinical evaluation of inhalational sedation following	2005	Egy J Anesth	Unable to find full article.

		coronary artery bybass grafting			
18.	But AK	Hemodynamic, hepatorenal, and postoperative effects of desflurane-fentanyl and midazolam-fentanyl anesthesia in coronary artery bypass surgery.	2005	J Cardiothorac Vasc Anesth	No ICU volatile sedation arm
19.	Parker FC	Time to tracheal extubation after coronary artery surgery with isoflurane, sevoflurane, or target-controlled propofol anesthesia: a prospective, randomized, controlled trial.	2004	J Cardiothorac Vasc Anesth	No ICU volatile sedation arm
20.	De Hert SG	Choice of primary anesthetic regimen can influence intensive care unit length of stay after coronary surgery with cardiopulmonary bypass	2004	Anesthesiology	No ICU volatile sedation arm
21.	De Hert SG	Cardioprotective properties of sevoflurane in patients undergoing coronary surgery with cardiopulmonary bypass are related to the modalities of its administration.	2004	Anesthesiology	No ICU volatile sedation arm
22.	Ostermann ME	Sedation in the intensive care unit: a systematic review	2000	JAMA	Systematic review article
23.	Tanigami H	Long-term sedation with isoflurane in postoperative intensive care in cardiac surgery.	1997	Artificial Organs	Prospective cohort study (not RCT)
24.	Kong KL	Inhalational anesthetics in the intensive care unit.	1995	Crit Care Clin	Review article
25.	Willatts S	Sedation for ventilation in the critically ill. A role for isoflurane?	1994	Anaesthesia	Review article
26.	Appleyard TN	Isoflurane sedation - A multi-centre study of 55 patients. Clinical Intensive Care.	1994	Clin Inten Care	Prospective cohort study (not RCT)

27.	Millane TA	Isoflurane and propofol for long-term sedation in the intensive care unit. A crossover study	1992	Anaesthesia	Crossover study (inadequate wash-out period)
28.	Howie AF	Aspartate aminotransferase, alanine aminotransferase, and glutathione transferase in plasma during and after sedation by low-dose isoflurane or midazolam.	1992	Clin Chem	No ICU sedation study
29.	Kong KL	Plasma catecholamine concentration during sedation in ventilated patients requiring intensive therapy	1990	Int Care Med	No ICU extubation, sedation information

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