

**HEALTH CARE USE & POLICY STUDIES—  
Prescribing Behavior & Treatment Guidelines**

PHP55

**CHIRALTY AND HOSPITAL FORMULARY: A SECOND LIFE FOR  
A BLOCKBUSTER**Vernaz-Hegi N<sup>1</sup>, Girardin F<sup>1</sup>, Musciconico D<sup>2</sup>, Salomon JL<sup>2</sup>,  
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**OBJECTIVES:** Chirality has emerged as a key issue in drug design, discovery and development. We evaluated the prescribing patterns of the blockbuster drug omeprazole (OME) and its active enantiomer esomeprazole (ESO) in all prescriptions provided by the Geneva University Hospitals (HUG) to discharged patients and to outpatients. **METHODS:** Prescribing patterns were studied from January 2000 to March 2007. All prescriptions were systematically recorded by a unique pharmacist's organisation (OFAC invoice office), which represents 92% of all prescriptions filled in the canton Geneva and 80% of insurants (around 445,000 inhabitants). The WHO daily defined dose (DDD) classification was used as reference normalized per 1000 inhabitants. Using time series analysis, we modelled aggregated data on ESO use. ESO was marketed in April 2001, i.e. two years before the introduction of OME generics in July 2003. In October 2002, the HUG switched from OME to ESO into the restrictive drug formulary for economical reason only. ESO is considered as a new chemical entity, so that the prescriptions of ESO cannot be substituted by a generic. **RESULTS:** Since the HUG changed the prescriptions from OME to ESO in 2002, there is an influence of the hospitals on the ambulatory practice from December 2002 with a significant statistical trend of 0.0592 DDD every month per 1000 inhabitants (p value = 0.0000). Considering all prescriptions per DDD, ESO is €0.51 more expensive than generic OME, which lead to an additional cost of €394,000 in Geneva for 2006. **CONCLUSIONS:** Hospital's drug formulary modified the ambulatory prescription patterns significantly. This leverage is known as the spillover effect. Moreover, pseudo-innovations as selective drug's chirality are a powerful strategy in extending the life of blockbusters but are a significant financial cost in the health care system. Hospitals should switch patients to generic omeprazole at discharge.

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**IMPACT OF ICU SEDATION PRACTICE ON PATIENT  
MORBIDITY, COST AND HOSPITAL RESOURCE USE:  
A SYSTEMATIC REVIEW**Jackson D<sup>1</sup>, Proudfoot CW<sup>2</sup>, Knight CJ<sup>3</sup>, Cann K<sup>4</sup>, Lock K<sup>2</sup><sup>1</sup>GE Healthcare, Bucks, UK, <sup>2</sup>Heron Evidence Development Ltd,  
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**OBJECTIVES:** Patients in intensive care units (ICUs) are generally sedated for prolonged periods. The level of sedation has an important bearing on outcomes. Sedation management guidelines and protocols seek to improve the management of sedation to keep it within appropriate levels. We sought to further establish the impact of improvements or changes in sedation practice, such as the introduction of guidelines, reinforcement of protocols, or practices such as daily interruption of sedation, on outcomes including mortality, morbidity and hospital costs and resource use. **METHODS:** We conducted a systematic review of the literature. We searched Medline, Embase and Cinahl databases, and hand-searched ASA, ESA and ISPOR conferences for observational and economic studies and clinical trials which

examined the impact of different sedation practices on outcomes. All studies were downloaded into an electronic database. Abstracts were reviewed and data were extracted twice by independent reviewers, with any discrepancies resolved by a third person. We extracted and analysed data from studies showing the impact of improvements or changes in sedation practice on outcomes, including cost, resource use, mortality and morbidity. **RESULTS:** Improvements in sedation practice generally included more regular monitoring of sedation level, with guidelines for staff as to the optimal sedation level. Such improvements were associated with improvements in safety, including mortality, incidence of nosocomial infections, and recall after sedation, and with a lower length of stay, lower duration of mechanical ventilation, and lower use of anaesthetics. **CONCLUSIONS:** Improvements in sedation practice are associated with better outcomes in terms of patient morbidity and hospital resource use. In general these improvements involve more regular monitoring of sedation, and more strenuous efforts to keep the level of sedation within optimal levels, demonstrating the importance of effective monitoring of sedation level.

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**INAPPROPRIATE SEDATION IN ICUS: EVIDENCE FROM  
THE LITERATURE**Jackson D<sup>1</sup>, Proudfoot CW<sup>2</sup>, Knight CJ<sup>3</sup>, Cann K<sup>4</sup>, Lock K<sup>2</sup><sup>1</sup>GE Healthcare, Bucks, UK, <sup>2</sup>Heron Evidence Development Ltd,  
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**OBJECTIVES:** Patients in intensive care units (ICUs) are often sedated for prolonged periods. The level of sedation has a direct influence on outcomes. Undersedation can lead to problems such as patient removal of the ventilator tube, or unpleasant recall after sedation, while oversedation is associated with prolonged stay in hospital. Recently, there has been increasing interest in the adequacy of sedation, with the introduction of sedation management protocols in ICUs and the development of devices to monitor sedation levels. We sought to establish the extent to which inappropriate sedation (both over and under) is reported as a problem in ICUs through a systematic review of the literature. **METHODS:** We conducted a systematic search of the Medline, Embase and Cinahl databases, and hand-searched ASA and ESA conferences for all studies reporting the incidence of inappropriate anaesthesia. All studies were downloaded into an electronic database. Abstracts were reviewed and data were extracted twice by independent reviewers, with any discrepancies resolved by a third person. The incidence of inappropriate sedation, including both under and oversedation, was extracted together with any information on the effects of inappropriate sedation. **RESULTS:** Literature searches identified 2098 citations of potential relevance to the study question. Of these, a limited number of studies reported the incidence and prevalence of inappropriate sedation, and there was variation in measurement of sedation level. **CONCLUSIONS:** Few studies address the incidence of inappropriate sedation within the ICU; however they indicate that inappropriate sedation does occur. Improved monitoring of sedation may have a beneficial effect on the occurrence of inappropriate sedation, with important implications for outcomes such as adverse events in patients, and length of stay and resource use in hospitals.