

Preface

Sedation and Sleep in Critical Care



Jan Foster, PhD, RN, CNS, CCRN, CCN
Guest Editor

Sedation is a necessary component of care for critically ill and injured individuals. Sedatives assist in coping with mechanical ventilation and other invasive devices, and help patients tolerate procedures and noxious stimuli in the intensive care unit. Sedatives are also useful in the control of agitation and delirium. In addition to fundamental humane reasons, calming patients with sedatives provides physiologic benefits, such as reducing oxygen consumption expended during restlessness, and prevents dislodgement of life-preserving tubes and catheters. When administering sedatives to manage critically ill patients, clinicians must be cognizant of the many complex issues surrounding their use.

In this issue, Zapantis describes the problems of tolerance and withdrawal of sedatives in critical care. Nurses are frequently challenged with weaning patients from sedation, which necessitates a balance between providing adequate sedation to control agitation, often confounded by withdrawal symptoms. Titrating doses to achieve a state of calm while discontinuing sedatives requires vigilance and knowledge of drug properties. Hepatic and renal function can influence patient responses, dosing requirements, and further challenge the weaning process. Yogaratnam provides an in-depth look at the effects of liver and renal dysfunction on the pharmacokinetics of sedatives and analgesics and the impact on critically ill patients.

Assessment of patients' level of sedation assists in determining progress toward the achievement of the goals of sedation, particularly when sedatives are given primarily for agitation and restlessness. Numerous subjective instruments have been developed for this purpose with varying degrees of proved validity and reliability. None have been perfected for all patient needs, however, and are especially problematic when evaluating neurologic response in brain-injured individuals. Olson describes the use of bispectral analysis, an objective instrument, in evaluating neurologic status in patients receiving sedation. Although particularly problematic in neurologically impaired patients, difficulty gauging appropriate sedation level in all patients may contribute to oversedation. Patients are at risk for prolonged immobility and numerous related complications as a result of the illness or injury, which are compounded by oversedation. Foster discusses the synergistic effect of critical illness and sedation-related problems faced in the acute period and interference with long-term recovery following critical illness.

Sheldon and Day provide a look at sedation issues unique to transportation of critically ill and injured patients, both from crash site to hospital and interhospital transport. They address the various sedation needs of this patient population and challenges for caregivers. Another population with sedation needs is patients experiencing alcohol withdrawal,

which can be life-threatening. Puz describes an instrument for use in assessment of alcohol withdrawal to treat patients timely and adequately to prevent serious complications.

Safety is a topic of great concern in hospitals all across the nation. In Simmons' article, she describes a model used for a system-wide approach to problem identification and solutions. Using this model, health care organizations are able to change from a punitive to a safety enhanced culture.

Sleep disruption in critically ill patients is highly underreported, arises from numerous sources, and can interfere with the therapeutic regimen. Critically ill cancer patients report sleep disorders caused by the effects of chemotherapy, bioimmune responses, disturbance in circadian rhythms, and pain, for example. In this issue, Kaplow synthesizes a comprehensive

review of the literature on sleep deprivation unique to acutely and critically ill cancer patients and psychosocial impacts. Critically ill children have special growth and development needs affected by illness and potentially further neglected by disorganized sleep patterns. Carno reports numerous sleep and sedation issues experienced by children in the pediatric intensive care unit. Finally, in Reishtein's article, she describes patients' reports of sleep disturbances while receiving mechanical ventilation support.

Jan Foster, PhD, RN, CNS, CCRN, CCN
Texas Woman's University
College of Nursing
1130 John Freeman Boulevard
Houston, TX 77030, USA
E-mail address: jfoster@twu.edu