
PHARMACY PRACTICE



Guidelines for Midazolam Infusions in an Intensive Care Setting

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In many areas of practice, drug development has outpaced the ability to both assess and determine the most appropriate uses for these new agents. This is particularly true in the care of the critically ill patient because of the complexity and scope of the problems encountered in these patients and, hence, the difficulty in determining the contribution of single interventions or events. Shortly after being released, midazolam was made available to several areas in our hospital and a potential problem, in terms of lack of consensus as to how it should be administered in intensive care settings in our institution, was identified. In response to that, a drug utilization evaluation was undertaken and completed in the Critical Care Trauma Centre (CCTC) and our results are published in this issue.¹ In response to these results, guidelines for administration were developed and prepared by the CCTC pharmacist, CCTC attending physician, and a clinical co-ordinator of pharmacy services. These guidelines follow:

Midazolam is a short acting benzodiazepine which is useful for managing agitation and

anxiety in ventilator dependent patients. While useful in this setting, there is a lack of information on its use as an infusion, and guidelines have been prepared to aid CCTC staff responsible for ordering and monitoring midazolam therapy.

1. The need for midazolam therapy should be assessed on an individual basis. Patients who would be suitable candidates for midazolam infusions would include those whose level of anxiety and agitation interfere with the provision of care. These patients should be also considered to be candidates for early weaning. Patients who are to receive intermittent anxiolytic therapy should receive diazepam.
2. A loading dose of 0.05-0.1 mg/kg to achieve sedation followed by an infusion of 0.05 mg/kg/hr should be used initially.
3. Midazolam maintenance rate varies considerably, the usual average rate approximating 0.1 mg/kg/hr. Because of the considerable variation in response, individual titration to

response is advised. Elderly patients may require lower doses.

4. Tolerance to midazolam may develop necessitating higher doses. In patients who receive higher dose (ie > 0.25 mg/kg/hr) or those who receive midazolam for longer periods of time (ie > 6 days) abrupt discontinuation may cause withdrawal reactions and/or anxiety and, hence, gradual weaning should take place.
5. The use of midazolam infusions should be assessed regularly and reordered every two days.

Drug utilization evaluations of established drug therapies have the potential to favourably affect prescribing practices. While ideally, evidence-based literature should determine the utilization of new drug therapies, this may not always occur. In the absence of this, drug utilization evaluations may be helpful in developing guidelines for drug use as shown above. ☒

REFERENCE

1. Macak I, Bayliff C, Block G. Surveillance of midazolam infusions in an intensive care setting. *Can J Hosp Pharm* 1995; 48: 218-23.

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