



Sedation of Acutely Agitated Adult Patients Prior to Transportation

a guide for medical practitioners

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Aim of treatment

The aim of pharmacological management for acutely agitated patients during transportation is:

- To control severe behavioural disturbance for the safety of patient, healthcare staff and/or flight crew
- To support safe and efficient transportation
- To allow comprehensive diagnostic assessment and management on arrival

Benzodiazepines achieve this most effectively with minimal side effects. However, it may be necessary to use a combination of a benzodiazepine with an antipsychotic in some cases.

It is preferable to transport acutely agitated patients during daylight hours. This may necessitate overnight sedation in a hospital. Whenever possible, patients requiring overnight sedation should be transported to the closest regional hospital, and should not be managed in a nursing post environment.

Key practice points

- Doses of sedative drugs have an additive effect and the maximum dose should be considered in terms of the total of all doses in a given (24 hour) period.
- Benzodiazepines are the preferred drugs for sedation but the dose required is highly variable between individual patients.
- Dosing for sedation should be performed according to clinical effect rather than total drug administered.
- The aim of sedation is to minimise agitation and threatening or hazardous behaviour while maintaining a respiration rate greater than 10 breaths per minute, avoid any significant drop in O₂ saturation, and avoid aspiration.
- Continuous observation of the patient is required to avoid the above adverse events.

Monitoring

- Sedation should be the minimum consistent for patient safety and RFDS/CASA flight safety requirements (refer RFDS guidelines).
- Constant supervision, resuscitation equipment and a capacity to attend to respiratory depression or obstruction during transportation must be assured.
- Regular monitoring of vital signs is mandatory during and immediately after the sedation period (EPSE) should be monitored for up to 48 hours post dose.

Further information

Good hospital management should be aimed at reducing patient arousal to a level that is acceptable for safe transfer. This should be achieved well before transportation. It is important to avoid oversedating the patient to minimise harm. Effective management of sedation before transportation limits the need for further medication and other interventions during transportation. Medical and emergency information and advice about RFDS requirements can be obtained by contacting RFDS on 1800 625 800 (toll free).

Medications

- Benzodiazepines are generally the medications of first choice as they are more sedating and have fewer side effects than antipsychotic drugs.
- Intramuscular (IM) diazepam is NOT recommended as its absorption is erratic.
- IM zuclopenthixol acetate is NOT recommended for sedation because it is a long-acting drug (duration of action is 48 to 72 hours) and this is problematic in the event of an adverse drug reaction. For the same reason, IM zuclopenthixol acetate should NEVER be used in antipsychotic-naïve patients.
- Benztropine 2mg IV or IM should be used to manage dystonia caused by antipsychotic drugs. Prophyllactic benztropine should not be used routinely especially in the elderly.
- When using midazolam, particularly IV, experienced staff and resuscitation equipment are required. Flumazenil should be available for reversal of respiratory depression if required, but only under medical supervision and only in a hospital environment.
- Droperidol is no longer recommended by the WATAG because of cardiac adverse effects.
- Parenteral chlorpromazine is NOT recommended for sedation of acute arousal. It has resulted in precipitous hypotension, including sudden death when given IV, and may lead to abscess formation after IM use.

Dose and route

- Oral administration of sedative medications should be used before parenteral administration, wherever possible.
- Syrups or wafers may be used in preference to tablets to aid compliance.
- Care should be taken with antipsychotic-naïve patients who may respond to smaller doses of drugs, be more sensitive to side-effects, and require more monitoring and observation.
- Use lower doses in those who are dehydrated, intoxicated with drugs or alcohol, medically compromised or elderly.
- Use therapeutic doses that quickly achieve a level of sedation. Repeated sub-therapeutic doses may lead to greater total doses of medication.
- Prescribers should be aware that a sudden unexpected sedative effect sometimes occurs as a result of non-linear pharmacokinetics. This effect occurs more often in patients who are frail, have low body fat, or have renal disease.
- Use a cannula for intravenous administration.
- Consult with a psychiatrist if a patient is not adequately sedated after receiving a maximum dose.

Other considerations

- In patients who may be intoxicated with drugs or alcohol these guidelines should be followed.
- Some psychostimulant drugs may cause life-threatening hyperthermia. Temperature should be monitored and standard measures for reducing body temperature initiated if necessary.
- The co administration of an antipsychotic drug may be useful in opposing sympathomimetic effects of stimulants.

Guidelines for sedation of acutely agitated adult patients prior to transportation

ORAL SEDATION		Repeat dose * (if required)	Max daily dose	Caution / Notes
Option 1	diazepam 5 to 20 mg	every 60 minutes	120 mg/24 hrs	Respiratory depression. Benzodiazepines may take 30 to 40 minutes for desired effect. If ineffective, consider Options 2A or 2B or 3. Sudden hypotension.
	OR lorazepam 1 to 2.5 mg	every 60 minutes	10 mg/24 hrs	
	OR clonazepam 500 micrograms to 2 mg #	every 60 minutes	6 mg/24 hrs	
Option 2A	chlorpromazine 50 to 200 mg	every 2 to 4 hours	600 mg/24 hrs	
Option 2B	haloperidol 1 to 5 mg	every 2 to 4 hours	20 mg/24 hrs	Acute dystonias. Use lower dose for antipsychotic-naïve, elderly or medically compromised.
	use either alone or in combination with oral Option 1			
Option 3	Either olanzapine 5 to 10 mg	every 2 to 4 hours	30 mg/24 hrs	Use of quetiapine is “off label” but may provide a more sedative effect.
	OR quetiapine 25 to 100 mg	every 2 to 4 hours	800 mg/24 hrs	
	OR risperidone 1 to 2 mg	every 2 to 4 hours	8 mg/24 hrs	
use either alone or in combination with oral Option 1				Avoid using antipsychotic drugs in first episode patients. Possible hypotension.
INTRAMUSCULAR SEDATION		Repeat dose * (if required)	Max daily dose	Caution / Notes
Option 1	midazolam 5 to 10 mg	every 30 minutes	20 mg/24hrs	Respiratory depression. Maintain RR >10 bpm, and O ₂ saturation.
	OR clonazepam 1 to 2 mg #	every 30 minutes	8 mg/24hrs	
Option 2	haloperidol 2.5 to 5 mg	every 30 minutes	20 mg/24hrs	Acute dystonias.
INTRAVENOUS SEDATION		Repeat dose * (if required)	Max daily dose	Caution / Notes
Option 1	haloperidol 2.5 to 5 mg	Repeat only if midazolam titration is ineffective.	20 mg/24hrs	Acute dystonias. Avoid in neuroleptic naïve.
	PLUS midazolam 2.5 to 10 mg	2.5mg every 5 to 10 minutes until adequate sedation is achieved.	20 mg/24hrs	Respiratory depression. Consult if higher max dose is required. Administer using a cannula, NOT a butterfly needle.
Option 2	midazolam 2.5 to 10 mg	2.5mg every 5 to 10 minutes until adequate sedation is achieved.	20 mg/24hrs	Respiratory depression. Consult if higher max dose is required. Administer using a cannula, NOT a butterfly needle.
Option 3	diazepam 2.5 to 10 mg	2.5mg every 5 to 10 minutes until adequate sedation is achieved.	60 mg/episode or 120 mg/24hrs	IV diazepam can be very painful

Note: A decision on the order of options should be made based on clinical situation.

- * Where additional doses are required, administer at the frequency indicated until desired effect or maximum daily dosage is achieved. Consult with a psychiatrist if not adequately sedated at maximum doses recommended.
- # Use of clonazepam is not an approved indication, but represents accepted clinical practice in WA. These guidelines present recommended treatments based on current evidence and best practice, however the treating clinician is responsible for patient management in each case. Guidelines prepared by the Western Australian Psychotropic Drugs Committee of WATAG