



CLINICAL GUIDELINE

Clinical Guideline for sedation, management and safe transfer of acutely disturbed patients in the Acute Hospital

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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Important Note:

The Intranet version of this document is the only version that is maintained.

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QUICK REFERENCE FLOW CHART

MANAGEMENT OF AGITATION

Drugs
Hypoglycaemia

Assess Cause

Delirium
Mental Health

for alcohol withdrawal
follow GMAWS

refer [GGC Prescribing](#)

DE-ESCALATION TECHNIQUES

Refer V&A Reduction on [Staffnet](#)

- inform other staff.
- do not encroach personal space - keep at arms length.
- ensure clear exit from the situation
- avoid cornering the patient.
- do NOT block patient's exit path.
- observe for potential weapons.
- maintain an open demeanour.
- move slowly, showing empty hands.
- engage in distracting activities or conversation, talk quietly.
- continually assess patient's body language, speech, level of distress or agitation.

ORAL OLANZAPINE 10mg

Consider oral benzodiazepines if agitation not severe

im if necessary
Max 20mg/24hrs

ORAL PROMETHAZINE 25mg

Consider [in addition](#) to Olanzapine
im if necessary
dosing 25mg/hr to a maximum of 150mg

KETAMINE 4mg/kg *im*

Requires a full monitoring environment

AIM/OBJECTIVE OF GUIDELINE

This guideline is intended to provide a rapid treatment strategy for clinicians faced with an acutely disturbed individual in an acute hospital ward or emergency department setting. It covers the common scenarios that may be encountered and an approach from verbal de-escalation through to safe rapid tranquillisation. In addition, a strategy for onward management and inter-hospital transfer, if required, is provided.

INTRODUCTION

Managing patients who have become agitated or physically aggressive can be a distressing experience for all concerned. This guide is divided into 2 parts; part 1 describes interventions that may be readily initiated on wards and the Emergency Department, using **oral promethazine and/or oral olanzapine**; and where verbal de-escalation and oral medication have failed to control the situation, the use of **intramuscular (IM) promethazine and/or oral or IM olanzapine**.

Part 2 provides the treatment pathway for the use of **IM ketamine** when managing life-threatening agitation requiring resuscitation facilities.

Until recently, favored drugs for sedation were haloperidol and lorazepam, however the absorption and therapeutic efficacy of IM benzodiazepines is unpredictable. Benzodiazepines appear to be relatively ineffective at reducing severe agitation or only result in a short-term effect necessitating frequent re-dosing.

Within the acute hospital rapid and effective sedation is often necessary to enable therapeutic interventions or to reduce the risk of injury to staff or the patient; the ability to monitor vital signs, and respond quickly to changes in physiology are more appropriately managed in an acute setting.

SCOPE

This guideline is intended for clinicians looking after adults under the age of 65 with acute agitation or aggression. It is intended for staff in an acute hospital setting with resuscitation facilities and higher dependency wards.

ROLES/RESPONSIBILITIES

The majority of situations can be managed by practitioners authorised to prescribe sedation. In part 2 of the guideline, use of IM ketamine is described and this should only be used by experienced clinicians capable of managing the unconscious patient with facilities to monitor and manage airway problems.

CAUSES OF DISTURBANCE IN BEHAVIOUR WITHIN MEDICAL UNITS

Patients may have many causes for a change in a behavior. Hypoglycaemia is a common and readily identifiable precipitant that must always be considered; other acute changes in behavior may be related to the consumption of psychoactive drugs (including prescription compounds), or disorientation from usual care setting.

The causes of agitation with the Emergency Department and Acute Receiving Units are numerous; any *acute* change in behaviour merits a thorough assessment and appropriate investigation. The commonest presentation is substance intoxication, followed by delirium and its precipitants (particularly in the elderly). Alcohol withdrawal is classically associated with agitation and when severe, violence. Head trauma (in the acute and rehabilitation period) may be challenging to manage. Presentations due to a non-organic (psychiatric) cause are relatively infrequent; however, agitation and aggression may be a component feature of personality disorders. Finally, violence and aggression may simply be a feature of an individual's conduct and inappropriate diagnostic labelling (and drug treatment) should be avoided

PART 1: MILD – SEVERE AGITATION

Early recognition and intervention of agitation is key; timely administration of medication may prevent the cyclical state of agitation and distress and ultimately lead to lower doses and/or frequency of sedation. Whilst the literature suggests that a response to olanzapine may be within 15 minutes, clinical experience shows that this is variable. The combination of promethazine and olanzapine has been selected for pharmacological safety, whilst providing a recognised sedative effect.

The recommended approach is:

Oral or IM Olanzapine 10mg (max 20mg in 24 hours)

Optional addition of oral or IM promethazine 25mg (up to 25mg/hour to a maximum of 150mg in 24 hours)

It is recognised that rapid tranquillisation and the pharmacological agents employed is associated with adverse events. Over-sedation, whilst considered problematic in the mental health environment, is easier to manage within medical units; hypotension, ECG abnormalities, and reduced respiratory

function are more readily identified and addressed within the acute hospital setting. That said, the incidence of such complications is relatively uncommon with olanzapine and promethazine and most adverse event reporting is consistent with the drug's expected profile; importantly, injection site reactions for either drug appears to be extremely rare.

The prescribing of olanzapine and promethazine should be on an 'as required basis' rather than regularly; it is recognised that several doses over several days may be necessary until the underlying trigger for the altered behaviour has been addressed.

Verbal De-escalation

Verbal de-escalation strategies are employed for the first line management of the agitated patient; other interventions include relocation to a side-room, speaking to relatives, and appeasement of simple requests. Addressing the causes and symptoms of agitation can prevent escalation and the need for more intrusive actions.

Rapid tranquillisation

Indications

The use of medication to effectively reduce the risk of violence or agitation and calm a distressed patient must be appropriate; 'bad' behaviour, intentional violence and vandalism of hospital property is not an indication for the use of rapid tranquillisation.

Legal Standing

From a legal viewpoint, the use of rapid tranquillisation must be in the patient's best interest; voluntary compliance with medications should be sought, otherwise administration under the Adults with Incapacity Act (Scotland) 2000 is necessary. Detention under the Mental Health (Scotland) Act 2015 grants the legal authority to prevent a patient from leaving (or permit returning a patient to), a medical facility, however it does not cover the administration of treatment in an emergency.

Staffing

An assessment of the requirement for one-to-one nursing observations is necessary prior to and following rapid tranquillisation; discussion with the nurse in charge of the unit is mandatory.

Recommendation

The recommended approach is

Oral or IM Olanzapine 10mg (max 20mg in 24 hours)

Optional addition of oral or IM promethazine 25mg (up to 25mg/hour to a maximum of 150mg in 24 hours)

The combination of the antipsychotic olanzapine with the antihistamine promethazine (Phenergan) is suggested; both agents possess decades of clinical experience and safety records. The use of benzodiazepines out with the treatment of alcohol withdrawal lack evidential benefit (unless there are contraindications to olanzapine or promethazine). Olanzapine has an oro-dispersible formulation to aid administration.

Contra-indications

There are no real contra-indications to either olanzapine or promethazine when used for the management of acute agitation. In contrast to haloperidol, neither of these medications have an appreciable effect on the QTc or significant drug interactions.

Post Sedation Management of Patients

Considerations for transfer across sites within GG&C after any form of sedation must be balanced with the risk of not transferring. If medication has been administered a medical/nursing escort is essential; should intramuscular preparations have been administered transfer via ambulance is essential. A patient who has been sedated and is obtunded (eyes not spontaneously open, not obeying commands, with or without confusion), should not be transferred and if in ED should be admitted to the acute medical receiving area. At no point should a patient be transferred in private or police vehicle after intramuscular medication.

PART 2: EXTREME AGITATION

Acute Behavioural Disturbance

Acute behavioural disturbance (ABD) is defined by a combination of:

- Acute confusional state (delirium)
- Extreme agitation/aggression
- Autonomic hyper-stimulation

The incidence of ABD within the UK is unknown at this time; anecdotally the mortality rate is reported to be roughly 10%, however given the spectrum of the condition and diagnostic uncertainty, this may not be reflective of the true life-threatening presentations to the Emergency Department (ED).

Aetiology

The overwhelming majority of cases are secondary to substance consumption - predominantly cocaine. A history of mental illness may contribute to a small number of incidences often with a background of substance use. A trigger for an acute confusional state leads to an intense paranoia associated with hallucinations and an overwhelming fear of death; verbal de-escalation measures are ineffective. Continued physical agitation/resistance to restraint leads to hyperthermia with subsequent acidosis, acute kidney injury and rhabdomyolysis; high circulating levels of catecholamines results in a marked lactic acidosis. Sudden death may ensue as a result of profound acidosis and catecholamine 'stunning' of the myocardium in combination. Successful resuscitation for individuals who suffer cardiac arrest is rare, due to gross physiological abnormalities prior to cardiac arrest. Most are pulseless electrical activity/asystole.

Those patients who do not arrest suddenly may subsequently develop features related to prolonged hyperthermia, namely acute kidney injury, disseminated intravascular coagulation and electrolyte abnormalities.

Treatment

The recommended treatment is

ketamine 4 mg/kg IM

The Royal College of Emergency Medicine and the American College of Emergency Physicians have published additional guidance, summarizing management as:

- Rapid chemical sedation
- Cooling of hyperthermia
- Rehydration
- Monitoring of acid-base status
- Diagnosis of underlying cause

Rationale for Ketamine and dosage regimen

To reduce the risk of sudden death the choice of agent used should have a rapid onset and be given intramuscularly; trying to establish IV access in an individual who is combative will lead to injury to both staff and the patient. Doses of 5mg/kg or higher of ketamine appear to result in greater need for intubation Doses of 200mg of IM ketamine are associated with treatment failure.

Rapid sequence induction of anaesthesia

Should rapid tranquilisation with ketamine fail to provide effective sedation, rapid sequence induction of anaesthesia should be considered; it should be noted that this is an extremely high-risk procedure for both staff injury and patient outcome. Suitably qualified individuals with appropriate experience should perform the task and awareness of the associated hazards highlighted.

From a legal perspective, the patient will require treatment under the Adults with Incapacity (Scotland) Act 2000 and consideration of detention under the Mental Health Care and Treatment (Scotland). As with any such event, appropriate documentation and completion of a Datix is mandatory as per Trust guidelines.

Fluid Bolus

The choice of fluid used (Hartmanns or 0.9% sodium chloride) has not been investigated; either solution would be suitable with the purpose of restoring circulatory volume. Preferably cooled fluids should be administered to counter the core temperature rise associated with ABD. One to two liters of fluid should be sufficient to rehydrate the patient.

Sodium Bicarbonate

The use of sodium bicarbonate is contentious: for cases of ABD the disturbance in acid-base physiology should correct rapidly with simple rehydration, reduction of agitation and control of hyperthermia. 1.26% sodium bicarbonate solution 500ml preferably, or 50mls of 8.4% sodium bicarbonate should be considered for those patients with a severe acidosis and ECG abnormalities such as widening of the QRS, p-wave flattening or life-threatening arrhythmias such as polymorphic ventricular tachycardia. The goal of administration of bicarbonate is reduced myocardial sensitivity to supra-therapeutic levels of circulating catecholamines. At this stage clinical judgement, rather than specific venous gas results should be used to guide therapy.

Ongoing Care and Management

Depending on the response to sedation, the patient may require ongoing therapeutic intervention to reduce agitation levels (see part 1 of this guide). Maintenance fluids for those whose intake is compromised should be prescribed, with close attention to electrolyte abnormalities. Monitoring of kidney function in cases of rhabdomyolysis is mandatory.

CLINICAL SCENARIOS

A 43-year old intoxicated male presents with a head injury; clinical examination is unremarkable, and a CT scan is not indicated. He is belligerent, climbing off the trolley and falls repeatedly.

The safety of the patient and staff are at risk; attempts at verbal reasoning often fail and due to the disruptive environment of the ED he will not settle. In such cases 25mg promethazine would be suitable to help manage his behaviour and facilitate admission to the ward for observation.

A 26-year old female is brought to the ED by the police. She has no prior history but has been behaving strangely, offering to buy the entire pub drinks, talking in a loud voice and refusing to stay. A first presentation of hypomania is diagnosed; she refuses to believe staff and constantly tries to leave; the police have to use restraint to prevent this and she becomes increasingly agitated. She is detained under the mental health act. There is a delay in obtaining a bed in psychiatry and her screams are upsetting other patients and her parents who believe she is very distressed.

Ideally this patient would be assessed by mental health without any sedative medications, however delays of several hours are often encountered. In this case olanzapine 10mg would be of benefit in reducing her symptoms; promethazine may be added to provide additional sedation and relief of her distress.

A 33-year old male inpatient with an acquired head injury is trying to leave at 2am; he does not possess capacity to make an informed decision and is becoming increasingly agitated.

Once efforts with verbal de-escalation methods have failed, medication is indicated. A single dose of promethazine should be sufficient to promote drowsiness and assist in helping the patient sleep.

A 62-year old female with a urinary tract infection and altered behaviour is admitted; she is scratching nursing staff and it is impossible to cannulate her without injury. She has a history of reduced renal function and her eGFR is reduced by 70%.

A common presentation, such patients are often distressed being in hospital and necessitate a lot of staff intervention. 5mg oral olanzapine may be required to settle the delirium symptoms; additional promethazine may be used, with consideration to the time of day to avoid excessive daytime drowsiness. Repeated doses are often indicated until the cause of the delirium is treated.

A 16-year old male is brought to the ED by police after taking an unknown substance. He is handcuffed, his legs are strapped, he is actively spitting, and screaming abuse at everyone present. Verbal communication is impossible, and his wrists are bleeding from trying to break out of the handcuffs.

This management of this patient is highly dependent upon the clinician's assessment and skill set; he may necessitate emergency sedation with ketamine, however he may settle with olanzapine and promethazine IM albeit with a slower time to onset.

FREQUENTLY ASKED QUESTIONS

Why choose olanzapine over haloperidol?

Olanzapine has a faster onset of action (within 15 minutes, compared to 45 minutes with haloperidol). QTc prolongation is a greater risk factor with increasing doses of haloperidol, whereas olanzapine has minimal effect on the QTc.

Can I use haloperidol in addition to olanzapine and promethazine?

The recommended maximum daily dose of olanzapine is 20mg; there is usually no benefit to the addition of further antipsychotic drugs but the risk of harm (extra-pyramidal side effects, ECG abnormalities) is demonstrable. There is no published evidence for multiple antipsychotics in the management of acute disturbances of behaviour.

Why use promethazine (an antihistamine) instead of benzodiazepines?

Benzodiazepines have not shown a reliable therapeutic effect in studies; locally benzodiazepine tolerance and drug use has effectively rendered the use of lorazepam unhelpful. Midazolam has been shown to be effective intramuscularly however it is short acting and doses required for sedation lead to a marked depression of respiratory function.

Can these medications be used for alcohol withdrawal/DTs?

The management of alcohol withdrawal is described in the GMAWs treatment pathway; failure to respond to the GMAWs treatment requires senior review.

What about the over 65s?

For those 65 and older, please refer to the D.O.M.E. guidance

I prefer to use medications I am familiar with; can I still use them?

Yes, this is only a guideline – clinical judgement rests with the clinician

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