

The Royal College of Emergency Medicine

Best Practice Guideline

**Acute Behavioural
Disturbance in
Emergency
Departments**

Summary of Recommendations

1. All practitioners of Emergency Medicine should be familiar with the term Acute Behavioural Disturbance (ABD) and the recognition of potential cases.
2. The care of a patient presenting with ABD should be provided by a senior Emergency Medicine practitioner.
3. All EDs should have a locally agreed strategy for the management of cases of ABD.
4. All EDs should have an identified area suitable to provide verbal and environmental de-escalation of ABD cases when required.
5. All EDs should have 24/7 access to sufficient security staff to provide support. These staff should be appropriately trained to provide additional de-escalation and where appropriate, restraint of patients to support clinical care. Where this is not provided, the Trust should clearly describe any alternative provision and how this fulfils the requirements of the Health and Safety at Work Act 1974.
6. Early sedation should be considered in severe cases of ABD, including where prolonged activity or restraint has taken place.
7. In most cases of ABD requiring parenteral sedation, intramuscular ketamine or droperidol are recommended agents.

Scope

Acute behavioural disturbance (also previously called excited delirium, acute behavioural disorder, or agitated delirium) is an umbrella term used to describe a presentation which may include abnormal physiology and/or behaviour.

It is important to recognise that ABD should not be considered a diagnosis or syndrome, but rather a clinical picture with a variety of presenting features and potential causes. The term ABD is widely recognised by both in-hospital and pre-hospital emergency care providers, and by the police in the UK.¹⁻⁴

The process of creating this guideline has included contemporaneous literature reviews for high-level evidence in the medical literature on all aspects of acute behavioural disturbance, as well as searches for consensus agreement publications where they exist. The guideline group have formed consensus on areas lacking clear answers.

Reason for Development

ABD patients pose a significant management challenge in the ED when their behavioural disturbance may put them and/or those around them at risk of physical injury, particularly when they have potentially life-threatening pathophysiology, such as a hyperadrenergic reaction, metabolic acidosis, or cardiotoxicity. This guideline has been written to support the emergency care of a patient with ABD whose presentation may affect the clinician's ability to ensure that the patient, staff and others are safe, and to achieve appropriate clinical investigations and management.

1. Recognition of possible ABD

Presenting features of possible ABD

Adapted from Gonin et al.⁵

The below represent signs which may be present in ABD and can potentially be identified prior to clinical monitoring. One or more features may be present in ABD.

- Agitation
- Constant physical activity
- Bizarre behaviour (incl. paranoia, hypervigilance)
- Fear, panic
- Unusual or unexpected strength
- Sustained non-compliance with police or ambulance staff
- Pain tolerance, impervious to pain
- Hot to touch, sweating
- Rapid breathing
- Tachycardia

NB:

1. These features have their origin in literature on Excited Delirium (a contested diagnosis, which is not recognised in the UK). Unfortunately, there is a lack of evidence studying ABD in a UK context, and this literature therefore represents the best available information to identify patients at risk who are presenting with ABD.
2. As these features may not be present if a patient has received pre-hospital rapid tranquilisation or anaesthesia, progressed to a stage of exhaustion, or is peri-arrest or in cardiac arrest in the ED, obtaining a pre-hospital history which is as detailed as possible is important.
3. As most cases of ABD are toxicological in origin, consideration should be given to prolonged resuscitation efforts in cases of cardiac arrest.

The pre-hospital history obtained would ideally include:

1. observed behaviours leading to identification of ABD
2. attempts to achieve verbal/environmental de-escalation
3. assessments of mental capacity
4. restraint applied, duration and indication
5. security or police involvement, including use of force, controlled energy device use, etc.
6. sedative strategy and any adverse events.

It is also important to recognise that ABD can be a distracting presentation. Patients may have co-existing toxicological problems, or traumatic injuries which may not be immediately obvious.

Importantly, as additional information becomes available to the team treating a patient with a presentation of ABD, a diagnosis may become clear. In these cases, management of the patient's behavioural disturbance using treatment guidelines specific to that diagnosis may be more appropriate.

Potential management by the emergency services

ABD is a term which is now recognised across police, ambulance services, and emergency control room staff. It is a presentation which usually involves the attendance of both police and ambulance services. Both JRCALC (for NHS ambulance services) and the College of Policing have issued specific guidance on ABD.

Police training on ABD aims to ensure that there are attempts to de-escalate where practicable, avoid any restrictions in breathing, minimise restraint time and any physical activity including exertion under restraint and to call for a 999 ambulance. The guidance for police, unless directed otherwise by healthcare professionals is to take the person to an ED and not to police custody (if the person is already detained in police custody, there is guidance from the Faculty of Forensic and Legal Medicine for custody healthcare staff).⁶ Police are also expected to share all available information from family, members of the public or Police National Computer system, with any attending healthcare staff (such as medications, drugs and/or alcohol use, medical and/or psychiatric history). Always ask police officers or ambulance clinicians for this information if it is not offered.

Patients may have been subject to control with a Controlled Energy Device (e.g., TASER), PAVA spray, or remain in restraints. The RCEM Best Practice Guidance on Controlled Energy Device Attendances may be relevant.

Pre-hospital rapid tranquilisation may be provided by some ambulance services or prehospital critical care teams. Details of the medications used will be handed over on arrival in the ED.

Custody healthcare staff (CHS) may have administered oral benzodiazepines. There is variation in clinical skills and prescribing ability amongst CHS. CHS are expected to obtain physical or visual observations where possible, such as temperature, oxygen saturations, pulse, blood pressure etc. and to share this and relevant history with attending ambulance clinicians/hospital staff.

Potential factors leading to ABD presentation

- | | |
|-----------------------------|----------------------------------|
| • Substance intoxication* | • Sepsis |
| • Mental health conditions* | • Head injury |
| • Substance withdrawal | • Anticholinergic syndrome |
| • Serotonin syndrome | • Neuroleptic malignant syndrome |
| • Hypoxia | • Thyroid storm |
| • Hypoglycaemia | • Heat stroke |
| • Electrolyte disturbance | • Seizures |

* The most common factors in ABD presentations.

2. Assess and manage the risk

Managing risk to the patient

Patients experiencing ABD may lose their ability to interact with their environment safely, and their perception of risk may appear non-existent. Patients who are agitated or fearful may or may not react with aggression to others. However, they are likely to react in such a way as to put themselves at risk, especially while attempting to escape a perceived risk, the perception of which may be increased if restraint is applied.

Patients presenting with severe ABD are likely to lack mental capacity (which should be formally assessed and documented) to make treatment decisions and may require emergency treatment under the appropriate legislation.⁷⁻⁹ This may include restraint to allow treatment. Any interventions must be using the least restrictive intervention possible and should be applied for the shortest duration possible.¹⁰

Verbal de-escalation should always be attempted. If safe and available, friends and family may be able to assist. Advice on verbal de-escalation is found in Section 3.

Ensure the patient's environment is safe, quiet, and with a minimum of distractions. If they are to be contained within an area of the department (e.g., to minimise risk to other patients), ensure that this is minimally restrictive.

Physical observations and investigations should take place at the earliest safe opportunity. Often this may only be after verbal/environmental de-escalation or sedation.

Managing risks to staff

Staff who have not had approved training should not be asked to restrain patients. Early escalation to on-site security services is recommended. Hospitals should have sufficient trained security staff available to be able to safely restrain a patient, to keep them from harm and to protect others.¹⁰⁻¹² Do not attempt to restrain patients with insufficient numbers of staff. There are significant risks to staff when attempting to restrain patients, and these are compounded by insufficient team numbers.

Request police assistance if indicated. The police have a duty to prevent immediate risks to life or limb, or where there is an immediate risk of serious harm to persons or property. Patients with significant agitation are likely to fall within this remit.¹³

If possible, assign a 'safety person' who is not involved in the restraint or other interventions to monitor the patient's condition.

Caution should be exercised when attempting to cannulate a patient who is being actively restrained due to the risk of injury to staff. It may be safer to administer intramuscular sedation, and then attempt cannulation.

Restraint

Attempts should be made to remove any ongoing restraint at the earliest opportunity. There is concern that in ABD, continued exertion under restraint can contribute to poor outcomes (likely due to increasing catecholamine levels, worsening hyperthermia, and metabolic acidosis). While the link between restraint and death is debated in the literature, there is no high-quality data to suggest that there are risk-free methods to restrain an undifferentiated, potentially co-morbid patient with ABD.¹⁴ Prolonged restraint should prompt consideration of rapid tranquilisation.

De-escalation should be attempted at the earliest practicable opportunity (see section 3). Scenarios exist in which it is not safe to remove restraint due to immediate risk, or the failure of verbal/environmental de-escalation. In these cases, efforts should be made to ensure that the duration of restraint, and the degree to which it is applied, are for the shortest possible time necessary to aid an intervention.

It has previously been suggested that restraint in the prone position contributed to deaths.¹⁵ Although this theory has not been supported by recent research, it would be prudent to ensure that there is no obstruction to ventilation and to minimise the risk of asphyxiation.¹⁴

While the police should not normally be called to undertake restrictive practices in healthcare settings solely to facilitate clinical interventions, it has been established that there are scenarios in which police support should be requested:

- if healthcare staff have been injured
- if appropriate support is not available from healthcare colleagues in a sufficiently timely manner to ensure the safety of all those affected
- where there is a risk of serious injury or damage, and safety is compromised.¹³

It is recommended that all EDs clearly establish their local security service provision, and the scenarios likely to require a police presence. In situations in which ED staff are expected to provide restraint, they should be appropriately trained, and sufficient staff should be available to provide this restraint.

- [*The Mental Capacity Act in Emergency Medicine Practice*](#) (Feb 2017)
- [*Security and Restraint in the ED*](#) (March 2021)
- [*NICE guidance on violence and aggression.*](#)

3. De-escalation

Verbal and environmental de-escalation

Verbal de-escalation is a valuable tool with which to facilitate patient care and potentially avoid any requirement for restraint. Staff should make attempts to verbally de-escalate the situation. This may feel futile if a patient will not, or is unable to engage, but is an important step in ensuring that the use of restraint and rapid tranquilisation are justified. A clear record of de-escalation will also provide reassurance to family and the public in cases where an adverse outcome leads to a review.

De-escalation is a continuous process and repeat attempts may be appropriate at any point in the patient's care.

Domains of De-escalation	
Respect personal space	<ul style="list-style-type: none"> ○ Identify exits ○ Stay out of arm's reach
Do not be provocative	<ul style="list-style-type: none"> ○ Ensure body language is non-confrontational ○ Keep hands visible ○ Do not challenge, insult, or engage in argument
Establish verbal contact	<ul style="list-style-type: none"> ○ Avoid multiple staff talking to the patient ○ Introduce yourself, explain why you are there, reassure the patient you are aiming to keep them safe
Be concise	<ul style="list-style-type: none"> ○ Short sentences, give time to respond ○ Repetition may be needed
Identify wants and feelings	<ul style="list-style-type: none"> ○ Identify expectations, empathise
Listen closely	<ul style="list-style-type: none"> ○ Use clarifying statements
Agree, or agree to disagree	<ul style="list-style-type: none"> ○ Consider fogging techniques (Agree with the truth, agree in principle, or agree with the odds)
Set clear limits	<ul style="list-style-type: none"> ○ Clearly inform patient as 'matter-of-fact' not as a threat
Offer choices and optimism	<ul style="list-style-type: none"> ○ Offer acts of kindness ○ Offer oral sedative medications
Debrief patient and staff	<ul style="list-style-type: none"> ○ Explain why intervention was necessary. ○ Restore therapeutic relationship. ○ Identify potential improvements.

Table 1. A suggested model for de-escalation. Adapted from Richmond et al.¹⁶

If sedation or general anaesthesia is likely to be required, do not offer food or drink.

EDs should identify a suitable environment in which to manage patients presenting with ABD to minimise the need for restraint, this may be the mental health room. A suitable environment can also reduce the impact of the presentation on the patient, other patients, and staff. This environment may not be suitable for delivering parenteral rapid tranquilisation but can help to control the situation while a response is planned.

Features of ideal environment for verbal and environmental de-escalation:

- Dedicated to management of patients with severe agitation (or if not possible, a space that can be created or adapted quickly)
- Adequate and appropriately located exits so that staff can exit without being trapped by the patient
- Doors which open outwards
- Quiet, low stimulus
- Not too warm
- Absence of equipment/furniture and moveable objects that could be a potential weapon or used to barricade an exit
- Absence of potential ligature points
- Constantly observable
- Staff able to signal need for additional support easily

Rapid tranquilisation / Sedation

The terminology regarding how to describe the use of sedative medications for ABD is debated. We have opted to use 'rapid tranquilisation' as the intent is to counteract excessive psychomotor stimulation at the earliest opportunity, and the scenario typically lacks the pre-optimisation of procedural sedation.¹⁷

Rapid tranquilisation in ABD is important to prevent further sympathetic over-stimulation and excessive muscular activity from causing a metabolic storm and subsequent cardiovascular collapse.¹⁸ Rapid tranquilisation can also prevent the patient from causing physical harm to themselves or others and facilitate investigations and treatments. The use of rapid tranquilisation for more severe ABD presentations is associated with reduced mortality.¹⁹

The use of agitation scales to guide the initial decision to use rapid tranquilisation within the ED may be helpful where practicable (appendix 1). The need for rapid tranquilisation in ABD is defined by the inability to provide the patient with a safe assessment or essential treatment.

Parenteral rapid tranquilisation is more likely to be required if patients:

1. lack capacity to refuse treatment and are non-compliant, *and*
2. pose a danger to themselves or others, *or* have a clear need for further treatment/investigation

In severely agitated patients (such as those requiring continuous restraint or containment), initial delivery of parenteral medications in ABD is rarely achievable intravenously, nor is the full application of standard monitoring/pre-oxygenation. Moving to a standardised intramuscular ABD rapid tranquilisation protocol is associated with reduced time to ABD control, fewer adverse reactions, and fewer injuries to staff.²⁰

Consider a Safety Brief prior to parenteral rapid tranquilisation if practicable:

- Roles
- Intended plan
- Anticipated problems
- Restraint considerations
- Intravenous access plan
- Plan for moving to resuscitation environment
- Responsibility for decision to relax restraint

In the ED environment, the requirement to definitively investigate/manage the patient's presentation, combined with the availability of staffing expertise and equipment, means that more potent sedatives (or higher sedative doses) than are typically used in other scenarios may be used in the management of ABD.

It must be recognised that most sedative agents for ABD have been associated with apnoea, airway obstruction, or a requirement for subsequent intubation (while haloperidol has fewer cases of adverse drug events, it is also associated with fewer cases of successful rapid tranquilisation, and post-haloperidol apnoea has been documented).²¹⁻²⁸ The practitioner delivering rapid tranquilisation must be capable of managing these complications if they arise. Care of the patient presenting with ABD should be provided by a senior Emergency Medicine practitioner, and early critical care support should be considered.

Sedative agents

Oral agents:

Offer oral sedative agents in line with your local protocols as part of a verbal and environmental de-escalation strategy. This is an important step in establishing that you are using the least restrictive practice in a patient who lacks capacity.

Parenteral agents for circumstances requiring rapid early control:

When deciding which parenteral agent to use, clinicians should be mindful not only of its speed of onset, potential side-effects, and volume of administration in the case of IM route but also their own experience of using a particular drug; in an emergency the safest drug to use may be the one the clinician is most familiar with. The guidance below recommends ketamine or droperidol as first-line agents, which in certain circumstances might be thought to be contrary to advice found in the BNF (e.g. hypertension, hypovolaemia, hallucinations). However, there is now extensive evidence to support ketamine or droperidol as first-line agents for rapid tranquilisation in patients presenting with ABD, including where there may be co-existing drug ingestions and/or head injuries.

There is a spectrum of severity in presentations of ABD. Unfortunately, the literature is insufficient to make recommendations about what treatment strategies are appropriate based on presentation severity, or when specific pharmaceutical agents are most appropriate. We suggest that the most potent parenteral strategies discussed below

(ketamine and droperidol) should be reserved for cases of severe agitation (a Sedation Assessment Tool score of 2 or 3).

These recommendations are made anticipating that in patients presenting with ABD it may not be possible to establish clinical monitoring, undertake blood tests or venous access, and collateral history is often limited. These recommendations have come from a focus on achieving adequate rapid tranquilisation as quickly and safely as possible, while avoiding precipitating physiological collapse.

Ketamine

In an Emergency Department setting, the use of ketamine as a first-line agent for rapid tranquilisation in ABD is recommended. Ketamine is associated with shorter times to adequate sedation than benzodiazepines or antipsychotics.^{29,30} This should be delivered intramuscularly if intravenous access cannot be obtained safely. This should, if at all practicable, be delivered in a resuscitation environment, by staff capable of managing the complications of ketamine rapid tranquilisation. If administration in a resuscitation environment is not achievable, resuscitation equipment should be immediately available.

In the clinical context of severe ABD, the dissociative effects of ketamine appear to reduce adrenergic features, and the sympathomimetic effects of ketamine are unlikely to cause significant adverse consequences. The speed of onset, cardiovascular stability, and preservation of respiratory drive/airway reflexes with ketamine administration are potentially beneficial compared to other agents in the context of rapid tranquilisation for ABD. High rates of intubation after ketamine administration are predominantly seen in pre-hospital rather than ED settings and are likely related to facilitating safe transport to hospital.⁵ Following ketamine therapy, if a patient demonstrates worsening tachycardia or hypertension, this may increase cardiac risk due to synergistic sympathomimetic effects. Additional treatment with benzodiazepines should be considered in these circumstances.

Droperidol

Droperidol appears to be associated with fewer adverse events than lorazepam or midazolam, and fewer cases requiring additional sedatives compared to haloperidol or midazolam.^{31,32} Historic concerns regarding droperidol-related QT interval prolongation have not been replicated in subsequent studies.³³ It may be a less-suitable option if a patient is known to take antipsychotic medications, or if there is a suspicion of a presentation linked to antipsychotic use (e.g. anticholinergic syndrome or akathisia).

Midazolam

Midazolam is associated with a higher number of adverse events than droperidol but could be considered in patients whose history suggests a risk from sympathomimetic features, when transient increases in tachycardia or hypertension may be particularly relevant (e.g., ischaemic heart disease or possible cocaine-induced psychosis).³⁴ Respiratory adverse events appear to be more common in patients sedated with benzodiazepines than antipsychotics.³⁵

Haloperidol and Lorazepam

Haloperidol and lorazepam have been demonstrated to have a longer time to successful rapid tranquilisation than midazolam.³⁶ When used in combination (as haloperidol 5mg IM + lorazepam 2mg IM) they appear to achieve better sedation (with no increase in adverse effects) compared to using haloperidol or lorazepam alone.^{37,38}

Suggested dosing of agents for rapid early control:

- Ketamine 4mg/kg IM (or titrate to effect IV) *OR*
- Droperidol 5-10mg IM

Higher concentrations than typically stocked may be required for IM injection.

If these agents are unavailable, midazolam (5-10mg IM), lorazepam (4mg IM) or haloperidol (5mg IM +/- 2mg lorazepam IM) could be considered.

Intravenous doses may need to be reduced if delivered after an intramuscular dose.

Large volume injections may need to be administered at multiple sites.

Intravenous sedation is easier to titrate but may not be practicable.

Strongly consider critical care support if full first doses in the box above have not been effective.

Consideration of anaesthesia and intubation:

Some patients should be considered for induction of anaesthesia and intubation. Early referral to critical care should be made if this appears likely. Indications include:

- Requirement to secure the airway
- Inadequate spontaneous ventilation to maintain oxygenation and prevent hypercapnia
- Severe agitation despite maximal safe sedative doses
- Persistent metabolic derangement
- Requirement to manage hyperthermia
- Requirement to support other interventions or investigations

In this scenario, anaesthetic considerations are:

- Ketamine induction to minimise haemodynamic instability on induction, as these patients are likely to be dehydrated, and are physiologically fragile. Be aware that the patient may have already received prior sedatives.
- Avoid suxamethonium – hyperkalaemia is likely.

- Avoid opioids – morphine may worsen hypotension through histamine release. Fentanyl is a particular concern if there is a possible serotonin syndrome as it produces an efflux of serotonin.
- Ventilation throughout Rapid Sequence Induction to maintain respiratory compensation for severe metabolic acidosis.

Maintenance of control of agitation:

Patients who are likely to require critical care admission should have early critical care review.

Patients not requiring critical care may also need sedation for prolonged periods, e.g., patients who have ingested large quantities of stimulant or serotonergic drugs. Use a standardised hospital agitation protocol if one is available but be aware that patients presenting with ABD may require higher sedative doses than anticipated. Liaison with the speciality providing the patient's ongoing care is encouraged. Further treatment depends upon the cause of ABD.

Refer to local policies on the maintenance of sedation. The ongoing provision of sedation should be agreed with the admitting speciality.

Potential options for maintaining sedation in non-critical care environments without anaesthetic support include:

- Diazepam 0.3 mg/kg titrated dose IV (or oral), repeated as needed
- Lorazepam 0.03 mg/kg titrated dose IV (or oral), repeated as needed
- Haloperidol 2.5mg IM (1.25mg in elderly) or 2mg oral (1mg in elderly), repeated as needed
- Olanzapine 5-10mg IM or oral (2.5-5mg in elderly), repeated up to twice in 24hrs

In cases of suspected stimulant/serotonergic toxicity

- Chlorpromazine 25–50 mg IV or IM (for serotonin toxicity with severe psychosis or hyperthermia; use in addition to benzodiazepines)

Benzodiazepines are effective in withdrawal from alcohol or sedative drugs.

Baclofen should be added in GHB/GBL withdrawal – see TOXBASE®.

Benzodiazepines may worsen delirium and cause prolonged and excessive sedation in elderly patients.

Haloperidol and olanzapine may cause QT prolongation or arrhythmias. Haloperidol / droperidol are contraindicated in Parkinson's Disease and Lewy-Body dementia.

4. Resuscitation, investigation and documentation

Common resuscitation needs

1. Physiological observations, routine ED sedation monitoring (as per RCEM Procedural Sedation guidance including ETCO₂)
2. Rehydration
3. Correction of electrolyte / glucose / acid-base abnormalities
4. Correction of hyperthermia if required
5. Prevention of or management of potential sequelae (e.g., rhabdomyolysis, disseminated intravascular coagulation)
6. Attempts should also be made at the earliest opportunity to obtain a collateral history (where available).

Investigation

1. Blood tests
 - a. Blood gas (to include blood glucose)
 - b. FBC, U&E, LFT, troponin, CK, coagulation profile
 - c. Other tests as clinically indicated; e.g., blood cultures, trauma bloods, overdose bloods, toxicology screen, appropriate metabolic screen
2. Electrocardiogram (ECG)
3. Imaging if clinically indicated

De-escalation from repeated rapid tranquilisation

At the earliest opportunity, aim to achieve de-escalation from a resuscitation area into the department's best environment for managing ABD.

If repeat doses of intramuscular sedatives are to be used for a patient with a suspected mental health presentation, this should ideally be in liaison with mental health services pending mental health practitioner review.

If a non-psychiatric presentation is suspected, and sedative requirements for admission would be beyond the scope of ward level care, critical care input is required. Consider seeking advice from NPIS (TOXBASE®).

Documentation

In ABD cases, appropriate documentation to support review is helpful. In addition to your standard notes, consider recording:

- relevant features from the collateral history
- features supporting the decision to manage as ABD
- attempts to achieve verbal/environmental de-escalation
- assessments of mental capacity
- restraint applied, duration and indication
- security or police involvement, including use of force, controlled energy device use, etc.
- sedative strategy and any adverse events
- involvement of other specialties

5. Special Populations

Frail or older patients

The differential diagnosis in this group is less likely to feature stimulant drugs, and more likely to feature hyperactive delirium. Sedative dose requirements are likely to be lower, and a 'start low, go slow' strategy may reduce risk. Other guidelines (such as guidance on delirium) are likely to be more appropriate in this patient group.

Paediatric patients

Adolescent paediatric patients are likely to have a similar differential diagnosis to adults and pose similar management challenges. While severe agitation is not necessarily a presentation of ABD, in potentially life-threatening situations sedative strategies are likely to be similar to those in adult ABD presentations.

Pre-adolescent paediatric patients are unlikely to have a similar differential diagnosis, and brief restraint interventions are more likely to be successful if verbal / environmental de-escalation fails.

Patients with learning difficulties

The differential diagnosis in a patient with learning difficulties is less likely to feature stimulant drugs. Care plans should be consulted if available. Efforts should be made to have someone known to the patient communicate with them.

Presentations with a possible co-existing serious infectious disease

Local consideration should be given as to where and how the ED would manage a case of ABD where the patient is suspected or confirmed to have a co-existing infectious disease (e.g., COVID-19, active tuberculosis, etc.).

Glossary

<i>ABD</i>	– Acute Behavioural Disturbance
<i>Custody</i>	– a facility where detained persons are held by the police
<i>CHS</i>	– custody healthcare staff
<i>ECG</i>	– electrocardiogram
<i>ED</i>	– Emergency Department
<i>ETCO₂</i>	– End-Tidal Carbon Dioxide (capnography)
<i>FFLM</i>	– The Faculty of Forensic and Legal Medicine of the Royal College of Physicians
<i>IM</i>	– intramuscular
<i>IV</i>	– intravenous
<i>JRCALC</i>	– Joint Royal Colleges Ambulance Liaison Committee, the national committee who produce the UK Clinical Practice Guidelines for NHS paramedics
<i>MCA</i>	– Mental Capacity Act 2005. For the purposes of UK use, the Adults with Incapacity (Scotland) Act 2000, and The Mental Capacity Act (NI) 2016 may be the key legislation but feature similar guiding principles.
<i>NICE</i>	– The National Institute for Health and Care Excellence
<i>NPIS</i>	– National Poisons Information Service
<i>Rapid tranquilisation</i>	– the use of medication with the primary intent of calming a patient exhibiting acutely disturbed or severely agitated behaviour
<i>Sedation</i>	– the delivery of sedative medications to facilitate investigation or procedures
<i>TOXBASE®</i>	– the online poisons information database providing clinical toxicology advice to healthcare professionals managing poisoned patients

Authors

Christopher Humphries, Meng Aw-Yong, Philip Cowburn, Charles Deakin, Johann Grundlingh, Keith Rix, Richard Stevenson, Aravindan Veiraiah, Alison Walker.

Acknowledgements

John and Christine Oak, family representatives and loving parents, in memory of their son Douglas. RCEM Quality in Emergency Care Committee and PHEMPAG

Review

February 2022 extensive review and update of the 2016 RCEM Guidelines for the Management of Excited Delirium / Acute Behavioural Disturbance (ABD).

September 2022 minor revisions only

Further review usually within three years or sooner if important information becomes available.

Declaration of Interest

Dr Alison Walker Harrogate and District NHS FT. Chair of JRCALC and lead for the JRCALC ABD Guideline. Contributor to the College of Policing Guidance on ABD. Executive Medical Director, West Midlands Ambulance Service University NHS FT

Professor Charles Deakin Consultant Anaesthetist, University Hospital Southampton. Divisional Medical Director, South Central Ambulance Service. Representative work on behalf of the Royal College of Anaesthetists. Resus Council UK Treasurer, Trustee and member of Executive Committee. ALS working Group, European Resuscitation Council. Resuscitation lead, JRCALC. Police National Clinical Panel member. Deakin Associates Ltd (Medicolegal consultancy).

Christopher Humphries Dept. of Health and Social Care Drug Harms Assessment and Response Team.

Johann Grundlingh, Director of Streamlined Forensic Reporting Limited, Charity Trusteeship with BAFS.

Keith Rix Mental Health and Intellectual Disability Lead of the FFLM involved in revising its ABD guidelines. Member of the RCPsych ABD Expert Reference Group.

Dr Meng Aw-Yong Associate Specialist Hillingdon Hospital Advisor to National Police Chief Council-custody Metropolitan Police. Business partner/ proprietor of Dr Y M Aw-Yong Ltd. Trustee of Health Practice Associates Council. MDDUS, BAFS. Worshipful Society of Apothecaries. Past co-author of AHD document in 2016.

Richard Stevenson Consultant Emergency Medicine, NHS Greater Glasgow and Clyde, Special Constable with British Transport Police. Clinical Governance Advisor, Police Scotland

Disclaimers

The College recognises that patients, their situations, Emergency Departments and staff all vary. This guideline cannot cover all possible scenarios. The ultimate responsibility for the interpretation and application of this guideline, the use of current information and a patient's overall care and wellbeing resides with the treating clinician.

Research Recommendations

None

Audit standards

Agreed local written policy for managing patients with ABD.

Agreed local policy includes storage and access to relevant sedation agents and measures to ensure high concentrations drugs (eg. for IM use) are safely differentiated from lower strengths of the same agent.

Internal audit / reporting measures to ensure cases of ABD are managed by senior ED doctors and that the necessary and appropriate documentation is in place.

Key words for search

Acute behavioural disturbance, Excited delirium, Agitated patient, Agitated delirium, Rapid tranquilisation, Sedation.

References

1. Stevenson R, Tracy DK. Acute behavioural disturbance: a physical emergency psychiatrists need to understand. *BJPsych Advances*. 2020;27(5):333-342.
2. Acute Behavioural Disturbance Position Statement. College of Paramedics. 2018. [Accessed Sep 2021]. Available from: https://www.collegeofparamedics.co.uk/COP/News/Statements%20and%20Consultations/COP/News/Statements_and_consultations.aspx?hkey=58e66fcf-4996-4b0a-b599-b3d52fc19348
3. Acute Behavioural Disturbance Guideline. JRCALC. 2019.
4. Authorised Professional Practice: Detention and custody, Risk Assessment. College of Policing. [Accessed Sep 2021]. Available from: <https://www.app.college.police.uk/app-content/detention-and-custody-2/risk-assessment/#acute-behavioural-disturbance>
5. Gonin et al. Excited delirium: a systematic review. *Acad Emerg Med*. 2018;25(5):552-565.
6. Gorton A, et al. Acute behavioural disturbance (ABD): guidelines on management in police custody. Faculty of Forensic and Legal Medicine. Apr 2019.
7. Mental Capacity Act 2005.
8. Adults with Incapacity (Scotland) Act 2000.
9. Mental Capacity Act (NI) 2016.
10. RCEM BP Guideline: Consent, capacity, and restraint of adults, adolescents and children in Emergency Departments.
11. Health and Safety at Work Act 1974.
12. RCEM National Survey on Security and Restraint in the Emergency Dept (Dec 2020).
13. Lord Carlile. Memorandum of Understanding – The Police Use of Restraint in Mental Health & Learning Disability Settings (2017).
14. Vilke GM. Restraint physiology: A review of the literature. *J Forensic Leg Med*. 2020;75:102056. doi:10.1016/j.jflm.2020.102056
15. Positional asphyxia during law enforcement transport Reay DT, Fligner CL, Stilwell AD, Arnold J. *Am J Forensic Med Pathol*. 1992;13:90–97.
16. Richmond et al. Verbal de-escalation of the agitated patient: consensus statement of the American association for emergency psychiatry project BETA de-escalation workgroup. *West J Emerg Med*. 2012;13(1):17-25.
17. NICE Guideline 10: Violence and aggression: short-term management in mental health, health and community settings. (2015).
18. Kupas et al. Clinical care and restraint of agitated or combative patients by emergency medical services practitioners. *Prehosp Emerg Care*. 2021;25(5):721-723.
19. Strommer et al. The role of restraint in fatal excited delirium: a research synthesis and pooled analysis. *Forensic Sci Med Pathol*. 2020;16:680-692.
20. Calver et al. The impact of a standardised intramuscular sedation protocol for acute behavioural disturbance in the emergency department. *BMC Emerg Med*. 2010;10. <https://doi.org/10.1186/1471-227X-10-14>
21. Mankowitz et al. Ketamine for rapid sedation of agitated patients in the prehospital and emergency department settings: a systematic review and proportional meta-analysis. *J Emerg Med*. 2018;55(5):670-681.
22. Linder et al. Ketamine for the acute management of excited delirium and agitation in the prehospital setting. *Pharmacotherapy*. 2018;38(1):139-151.

23. O'Connor et al. Outcomes of prehospital chemical sedation with ketamine versus haloperidol and benzodiazepine or physical restraint only. *Prehosp Emerg Care*. 2019;23(2):201-209.
24. Scheppke et al. Prehospital use of IM ketamine for sedation of violent and agitated patients. *West J Emerg Med*. 2014;15(7):736-741.
25. Isbister et al. Randomised controlled trial of intramuscular droperidol versus midazolam for violence and acute behavioural disturbance: the DORM study. *Ann Emerg Med*. 2010;56(4):392-401.
26. Gangathimmaiah et al. Ketamine sedation for patients with acute behavioural disturbance during aeromedical retrieval: a retrospective chart review. *Air Med J*. 2017;36(6):311-314.
27. Kim et al. Safety and efficacy of pharmacologic agents used for rapid tranquilisation of emergency department patients with acute agitation or excited delirium. *Expert Opin Drug Saf*. 2021;20(2):123-138.
28. Nobay et al. A prospective, double-blind randomized trial of midazolam versus haloperidol versus lorazepam in the chemical restraint of violent and severely agitated patients. *Acad Emerg Med*. 2004;11(7):744-749.
29. Riddell et al. Ketamine as a first-line treatment for severely agitated emergency department patients. *Am J Emerg Med*. 2017;35(7):1000-1004.
30. Barbic et al. Rapid Agitation Control With Ketamine in the Emergency Department: A Blinded, Randomized Controlled Trial. *Ann Emerg Med*. 2021; S0196-0644(21)00433-9. doi: 10.1016/j.annemergmed.2021.05.023.
31. Calver et al. The safety and effectiveness of droperidol for sedation of acute behavioural disturbance in the emergency department. *Ann Emerg Med*. 2015;66(3):230-238.
32. Khokhar MA, Rathbone J. Droperidol for psychosis-induced aggression or agitation. *Cochrane Database Syst Rev*. 2016 Dec 15;12(12):CD002830.
33. Gaw et al. Effectiveness and safety of droperidol in a United States emergency department. *Am J Emerg Med*. 2020;38(7):1310-1314.
34. Lin et al. Efficacy of ketamine for initial control of acute agitation in the emergency department: a randomized study. *Am J Emerg Med*. 2021;44:306-311.
35. Korczak et al. Chemical agents for the sedation of agitated patients in the ED: a systematic review. *Am J Emerg Med*. 2016;34(12):2426-2431.
36. Nobay et al. A prospective, double-blind randomized trial of midazolam versus haloperidol versus lorazepam in the chemical restraint of violent and severely agitated patients. *Acad Emerg Med*. 2004;11(7):744-749.
37. Battaglia et al. Haloperidol, lorazepam, or both for psychotic agitation? A multicenter, prospective, double-blind emergency department study. *Am J Emerg Med*. 1997;15(4):335-340.
38. Bieniek et al. A double-blind study of lorazepam versus the combination of haloperidol and lorazepam in managing agitation. *Pharmacotherapy*. 1998;18(1):57-62.
39. Page et al. Prospective study of the safety and effectiveness of droperidol in elderly patients for pre-hospital acute behavioural disturbance. *Emerg Med Australas*. 2020;32(5):731-736.

Appendix 1

Example of a tool for quantifying the level of agitation in the emergency department – The Sedation Assessment Tool

Score	Responsiveness	Speech
3	Combative, violent, out of control	Continual loud outbursts
2	Very anxious and agitated	Loud outbursts
1	Anxious/restless	Normal/talkative
0	Awake and calm/cooperative	Speaks normally
-1	Asleep but rouses if name is called	Slurring or prominent slowing
-2	Responds to physical stimulation	Few recognizable words
-3	No response to stimulation	None

Reference:

Calver L, Stokes B, Isbister G. Sedation assessment tool to score acute behavioural disturbance in the emergency department. EMA 2011, 23; 732-740

Appendix 2- an example of a Rapid Tranquillisation protocol in Acute Behavioural Disturbance

Assessment by senior doctor:

- Patient lacks capacity.
- Patient represents a significant danger to him/herself or others.
- Patient requires emergency treatment / investigation.
- Patient is severely agitated.
- Doctor considers patient may have potentially life-threatening ABD.



De-escalation measures undertaken if possible:

- De-escalation techniques / exclusion
- Oral medication – lorazepam 1-2mg (max 4mg per day).



Preparation to ensure RT as safe as possible:

- Senior Doctor with critical care experience.
- Drug drawn up and prepared correctly (Antidotes available if applicable).
- Oxygen and high flow reservoir mask on patient/immediately ready.
- Monitoring equipment (ECG, pulse oximeter, BP, ETCO₂).
- Equipment in case of complications (airways, suction, BMV).
- Short Safety Brief.
- Adequate number of personnel.



Choice of drug(s):

Either **Ketamine 4mg/kg IM** (or titrate to effect IV)
 Or **Droperidol 5-10mg IM**

If these agents are unavailable, midazolam (5-10mg IM), lorazepam (4mg IM) or haloperidol (5mg IM +/- 2mg lorazepam IM) could be considered. Higher concentrations than typically stocked may be required for IM injection. Large volume injections may need to be administered at multiple sites.



Once sedative taken effect:

- Establish and secure intravenous access.
- Monitor in a high dependency area (Resus Room).
- Maintain sedation with **IV** bolus medication until definitive management plan arranged.
- Correct electrolyte / glucose / acid-base abnormalities, correct hyperthermia, look for evidence of DIC or rhabdomyolysis.
- Institute other emergency treatments and investigations as necessary.



Document clearly in the clinical notes:

- Indication(s) for RT & any attempts at de-escalation.
- Mental capacity assessment.
- Restraint, Collateral history, Features consistent with ABD, Police involvement.

NOTES

- In general, dosages described are for 'average' sized adults, the dosage may need to be varied according to body habits, age (reduce dose by half in the over 65yrs) and according to other medication which may have recently been taken.

- **Flumazenil** should be available as a precaution if using parenteral benzodiazepines. Initial dose 200mcg slowly.

Flumazenil can be hazardous, particularly in mixed overdoses involving tricyclic antidepressants or in benzodiazepine-dependent patients.

• Maintenance of Sedation

Diazepam
0.3mg/kg IV

Lorazepam
0.03mg/kg IV

Consider Chlorpromazine 25-50mg IV in-addition to benzodiazepines for cases of **suspected serotonin toxicity** with severe psychosis or hyperthermia.



Royal College of Emergency Medicine

Octavia House

54 Ayres Street

London

SE1 1EU

Tel: +44 (0)20 7400 1999

Fax: +44 (0)20 7067 1267

www.rcem.ac.uk

Incorporated by Royal Charter, 2008

Registered Charity number 1122689

Excellence in Emergency Care