G01: Extreme Agitation and Excited Delirium

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Updated: November 05, 2023
Reviewed: November 05, 2023

Introduction

This guideline applies to patients who present with extreme agitation or aggressive and violent behaviour. It is intended to provide protection for both patients and responders in circumstances where there is a high risk of violence. Chemical sedation is to be used when the patient is a risk to themselves or others and cannot be safely managed through other means. **It should be applied judiciously and with sound clinical judgment.**

Paramedic and EMR/FR safety is paramount at all times. Ensure that sufficient and necessary assistance is available prior to administration of sedation. Clear communication with all parties involved in restraining the patient will help reduce the risk of injuries.

Sedation may allow for a safer conveyance and provide an earlier opportunity for hospital staff to evaluate the patient. In communities where they are available, Advanced Care Paramedics should be considered as a resource to assist in the safe conveyance of these patients.

In communities where advanced care is not available, do not approach a violent patient: call for police to assist in restraining and securing the patient.

Essentials

- Consider and treat underlying causes
  - Hypoxia
    - → A07: Oxygen Administration
    - → B01: Airway Management
  - Hypoglycemia
    - → E01: Hypoglycemia and Hyperglycemia
  - Head injury
    - → H03: Head Trauma
  - Drug actions or withdrawal
  - Infection (pneumonia, sepsis)
    - → K02: Sepsis
  - Electrolyte imbalances
- IM ketamine is the preferred drug in the management of severely agitated patients and in excited delirium syndrome (ExDS) because of its faster onset, shorter duration, superior efficacy, and fewer side effects compared to midazolam.
  - Administer 4-5 mg/kg IM
  - Administration may require two or more IM injections
  - Maximum volume for Adult IM injections:
    - Deltoid 2.0 mL
    - Lateral thigh 4.0-5.0 mL
    - Larger Muscles (Gluteal) 5.0 mL
  - Additional administration of midazolam is usually not indicated but may be given if maintenance of sedation is required.

Additional Treatment Information

Warning: Sudden cessation of resistance or verbalization under restrained circumstances can represent a cardiorespiratory emergency. Patient advocacy is critical in this situation and a rapid evaluation of patient vital signs is imperative. Immediate resuscitation may be required.

- Sudden death in patients presenting with ExDS have been associated with being restrained in the prone position. If it is necessary to place the patient prone to gain control, monitor the airway and vital signs closely and always

move the patient to a supine or ¾ prone position as soon as possible.

- Prolonged physical struggle, multiple deployments of conducted energy weapons, posterior pressure restraint (e.g., prone position, neck pressure, posterior chest pressure), and unremitting physical resistance are risk factors for rapid cardiovascular collapse.
- Record the Richmond Agitation Sedation Scale (RASS) score pre- and post-ketamine administration.
  - → Richmond Agitation Sedation Scale
- Hypersalivation is a known side effect of ketamine. On most occasions, suctioning will be sufficient. If hypersalivation becomes difficult to manage or the airway becomes compromised, treatment may include administration of atropine.

Referral Information

All sedated patients must be conveyed to an emergency department for observation.

General Information

- Patients presenting with ExDS often experience a collection of symptoms:
  - Require emergent sedation
  - Include a history of drug use and/or psychiatric illness☐
  - Are males with a mean age of 35 years☐
  - Experience hyperthermia☐
  - Experience severe metabolic acidosis☐
  - Display shouting and paranoia/panic
  - Show violence towards others
  - Are insensitive to pain
  - Exhibit unexpected physical strength and endurance
  - Present with bizarre and/or aggressive behaviour
  - Display constant or near constant physical activity
  - Form unintelligible words
- Delirium:
  - Rarely requires emergent sedation
  - Is characterized by an acute onset with changing severity of confusion, disturbances in attention, disorganized thinking, and/or a decreased level of consciousness☐
  - Has an onset over hours to days☐
  - Is often worse at night☐
  - Is accompanied by fluctuating emotions like sudden outbursts, anger, crying, or fear☐
  - Can co-exist with dementia☐
- Dementia:
  - Does not require emergent sedation
  - Is characterized by a gradual and progressive decline in mental processing ability that affects short-term memory, language, communication, judgment, and reasoning☐
  - Has a gradual onset over months to years☐
  - Frequently presents with depression and apathy

Interventions

First Responder

- Await police restraint if indicated
- Position the patient 3/4 prone if possible; be aware of the risks of positional asphyxia
- Ensure effective respirations
- Provide supplemental oxygen as required and if safe to do so

- → A07: Oxygen Administration

Emergency Medical Responder – All FR interventions, plus:

- Monitor vital signs closely, including temperature
- Correct hypoglycemia
  - → E01: Hypoglycemia and Hyperglycemia
    - Glucose 40% Oral Gel
- If conveyance is necessary, do not restrain patient in prone position
- Consider intercept with additional resources

Primary Care Paramedic – All FR and EMR interventions, plus:

- Correct hypoglycemia
  - Glucagon
- Consider vascular access
  - → D03: Vascular Access
    - Dextrose

Advanced Care Paramedic – All FR, EMR, and PCP interventions, plus:

- Attach cardiac monitor as soon as clinically practical
- Intervene in cases of agitation, aggression, or behavioural emergency
  - Complete RASS assessment before and after medication administration
  - If RASS +4: KetAMINE intramuscularly
  - If RASS +2-3: MIDAZOLam intramuscularly or intravenously as required
- Consider a single dose of atropine if salivation becomes unmanageable with suctioning.

Critical Care Paramedic – All FR, EMR, PCP, and ACP interventions, plus:

- Consider antipsychotics (haloperidol)
  - Call ETP prior to antipsychotic agent administration.

Evidence Based Practice

Violent-Agitated

Supportive

- Antipsychotics (Atypical)
- Antipsychotics (Typical)
- Benzodiazepines
- Ketamine
- Loxapine

Neutral

Against

- Field Restraint Devices

References

1. Alberta Health Services. AHS Medical Control Protocols. Published 2020. [Link]
2. Ambulance Victoria. Clinical Practice Guidelines: Ambulance and MICA Paramedics. 2018. [Link]