Changes to NSW Ambulance Protocol:

Management of patients with Acute Severe Behavioural Disturbance

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NSW Ministry of Health
October 2015
What was the problem we wanted to address?

Improve pharmacological options available for paramedics to safely manage patients with acute severe behavioral disturbance (ASBD) requiring sedation.

Improve clinical scope of paramedics to increase the availability of an authorised clinician to manage a patient with ASBD requiring sedation within NSW Ambulance.
What was the Goal?

- Aim of sedation in the behaviorally disturbed patients is to reduce the risk of harm and to facilitate assessment, treatment and transport to hospital.

- Develop an evidence based protocol consistent with the NSW Health Guideline which addresses the management of patients with ASBD allowing for:
  - safer pharmacological options and
  - increasing availability of an authorised clinician within NSW Ambulance.
What we did
- aligned terminology and pharmacological interventions with NSW Health Policy
What we did

- Renewed our Protocol;
- Increased scope of practice of P1 paramedics including Midazolam for ASBD patient management
- Introduce the utilisation of Droperidol
- Introduce the utilisation of Ketamine in management of a head injured patient presenting with ASBD
DROPERIDOL

Type: Neuroleptic.

Action:
- Droperidol produces marked tranquilising effect and provides a state of mental calmness and state of reflex alertness.
- Droperidol potentiates other centrally acting analgesics such as fentanyl.

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
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</thead>
<tbody>
<tr>
<td>IM</td>
<td>3-10 min</td>
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</tbody>
</table>

Use:
- A7A - Management of acute severe behaviour disturbance

Adverse effects:
- Extrapyramidal reactions
- Neuroleptic malignant syndrome
- Hyperthermia
- Altered consciousness

Contraindications:
- Patients with known or suspected allergy to droperidol
- Patients with known or suspected allergy to other phenothiazines
- Patients < 14 years of age
- Patients with Parkinson's disease

Preparation:
- 10mg (2mL) ampoule (DORM™)

Dose:
- Patient Management
  - Patients ≥ 14 - < 65 years of age
    - 10mg (2mL) IM bolus,
    - Repeat once after 15 min if indicated
    - Maximum dose: 2 doses
  - Patients ≥ 65 years of age and/or with limited physiological reserves
    - 5mg (1mL) IM bolus,
    - Repeat once after 15 min if indicated
    - Maximum dose: 2 doses

Ketamine

Type: Dissociative anaesthetic agent with analgesic effects.

Action:
- Dissociates the central nervous system from painful stimuli. At low doses, ketamine causes a state of trance like state characterised by analgesia and amnesia with retention of protective airway reflexes, spontaneous respirations and cardiovascular activity.

<table>
<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
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<tbody>
<tr>
<td>IV</td>
<td>30 sec - 2 min</td>
<td>30 - 40 min</td>
<td>1 - 2 hrs</td>
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</table>

Use:
- A6 - Pain management
- A7 - Management of acute severe behaviour disturbance

Adverse effects:
- Distressing psychological reactions (e.g. agitation, hallucinations and/or dysphoria)
- Nausea and vomiting
- Muscle effects including increased tone, random, purposeless movements

Contraindications:
- Suspected or known allergy to ketamine
- Patients with known or suspected history of psychosis
- Patients < 14 years of age

Preparation:
- 200mg in 2mL vial
- 200mg (2mL) diluted to 20mL (10mg:1mL) with 16mL sodium chloride 0.9%

Dose:
- All indications
  - Patients ≥ 14 - < 65 years of age
    - 0.25mg/kg (0.025mg/mL) IV diluted bolus
    - Repeat every 3 - 5 minutes whilst indicated
    - Maximum total dose: 200mg (20mL)
  - 2mg/kg (0.2mg/mL) (Maximum bolus 200mg (2mL)) IM undiluted bolus
    - Repeat once after 10 minutes whilst indicated
    - Maximum dose: 2 doses

Patients ≥ 65 years of age or with limited physiological reserves
- 0.125mg/kg (0.0125mg/mL) IV diluted bolus
- Repeat every 3 - 5 minutes whilst indicated
- Maximum total dose: 100mg (10mL)
- 1mg/kg (0.1mg/mL) (Maximum bolus 100mg (1mL)) IM undiluted bolus
- Repeat once after 10 minutes whilst indicated
- Maximum dose: 2 doses

Ketamine regime may be repeated 60 min after last administration if indicated.
How did we do it?

- Participated in collaboration with a large variety of stakeholders
- Undertook an Evidence Based Medicine approach
- Included a training component in the all paramedic's scheduled clinical training


**Randomized controlled trial of intramuscular droperidol versus midazolam for violence and acute behavioral disturbance: the DORM study.**

Isbister GK*, Calver LA, Page CB, Stokes B, Bryant JL, Downes MA.
What are the outcomes?

- Robust protocol integrated into the wider acute healthcare setting to ensure consistency of patient management.

- Improved options for sedation of an ASBD patient within the community- improving patient, paramedic, police and emergency department staff safety.
What were the challenges?

- Sourcing Droperidol in an appropriate concentration for NSW Ambulance (10mg/2ml)
- Protocol commences October 2015
New NSW Health Guideline:

Management of patients with Acute Severe Behavioural Disturbance in ED

Prepared by Sarah Hoy
Principal Policy Advisor, Emergency Access
NSW Ministry of Health]

October 2015
What was the problem we wanted to address?

- Several issues relating to consistency in caring for patients that present to Emergency Departments with Acute Severe Behavioural Disturbance (ASBD) were identified at the 5th Master Class in October 2014.
What was the Goal?

- Develop an evidence based NSW Health Guideline which addresses the management of patients with ASBD in emergency – not just a ‘sedation guideline’
What we did
Developed a Guideline!
How did we do it?

- Sent out an ‘expressions of interest’ to participate in the working group – we received 65 volunteers!

- The working group consisted of 28 Clinicians and Managers from 18 NSW hospitals; across 13 Local Health Districts, NSW Ambulance, ACI and NSW Kids & Families.

- A series of teleconference meetings to examine the evidence (many very rigorous discussions!!), develop the draft Guideline and then review the 362 individual comments received following statewide feedback. This then proceeded to the development of the final document.
What are the outcomes?

- Publication of the document and notification to ED, Mental Health and Ambulance staff of its availability.

- Development of an implementation strategy for this Guideline and others (possibly a series of road shows aimed at looking at the management of patients with ASBD at the local level).

- No formal evaluation has been commenced yet.
What were the challenges?

- Bringing together the ideas and preferences of 2 clinical groups and balancing this with evidence
- Removing one whole patient group (patients over 65 years) out of the Guideline as a result of statewide feedback and gaps with pharmacology evidence
How do the Ambulance and Hospital Guidelines work together to provide seamless patient care?

- Consistency of terminology & medication use; reducing poly-pharmacy
- Clarification of roles in the transport of ASBD patients
- Collaborative professional engagement to achieve better patient care
Physical Assessment of patients in ED with suspected MH issue or behavioural disturbance

- A second Guideline is currently being developed based on feedback from the 5th Master Class in October 2014.

- The aim of the Guideline is: To provide a standardised, evidence based approach to the physical assessment of people presenting to the Emergency Department with a suspected mental health issue or behavioural disturbance where consultation or referral to MH services is indicated.

- The document is in the final stages of review by the working group.