Excited Delirium:
Deadly for Patients
Dangerous for Providers

Sean Kivlehan
September 2017
(example)

- https://www.youtube.com/watch?v=Ai2bVK_BGHs
Definition  
Pathophysiology  
Recognition

Complications  
Differential  
Treatment
What is ExDS?

**Delirium**: acute and temporary change in cognition and mental status

**Excited**: uncontrollable and violent behavior

**Syndrome**: a cluster of signs and symptoms commonly seen together and thought to have the same underlying cause
This wasn’t in my textbook...

White Paper Report on Excited Delirium Syndrome
ACEP Excited Delirium Task Force

September 10, 2009

“agitated delirium”
Not Without Controversy...

‘Excited delirium’ cited in dozens of deaths in police custody. Is it real or a cover for brutality?

Dying of Excitement
Police often blame suspects’ deaths on “excited delirium.” Is that a diagnosis or a cover-up?

By Dahlia Lithwick
Pathophysiology

1. Drug use: cocaine, methamphetamines, PCP, LSD, bath salts, K2

2. Psychiatric illness: schizophrenia & bipolar

3. Abrupt cessation of psych meds
Dopamine → Schizophrenia?

Schizophrenia meds block Dopamine

Sympathomimetic Toxidrome

Cocaine
Amphetamines

Anticholinergic toxidrome differs by DRY skin and DECREASED bowel sounds

Mydriasis
Diaphoresis

Hypertension
Tachycardia
Tachypnea

Increased bowel sounds

Avoid beta-blockers due to unopposed alpha receptor stimulation
Recognizing the patient

<table>
<thead>
<tr>
<th>Violent behavior</th>
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<tbody>
<tr>
<td>Agitation</td>
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<tr>
<td>Psychosis</td>
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<tr>
<td>Yelling</td>
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<tr>
<td>Destruction of inanimate objects</td>
</tr>
<tr>
<td>Superhuman strength</td>
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<tr>
<td>Extreme resistance to physical restraint</td>
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<tr>
<td>Increased tolerance to pain</td>
</tr>
<tr>
<td>Hyperthermia</td>
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<tr>
<td>Tachycardia</td>
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<td>Tachypnea</td>
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</table>
Recognizing the complications

- Metabolic Acidosis
- Rhabdomyolysis
- Sudden Death
- Secondary Trauma
• Sympathomimetic & agitated → need to blow off CO2
• Cant do this if restrained improperly
• CO2 builds → respiratory acidosis
• Lactic acidosis occurs eventually
Rhabdomyolysis

- Muscle breakdown
- Restraints & Fighting
- Acute Kidney Injury
- Hyperkalemia
- Hypovolemia
Sudden Death

Likely combination of several factors:

- Positional asphyxiation
- Cardiotoxicity from the drugs
- Long QT
- Cardiac sensitivity (acidosis & hyperK)
Secondary Trauma

• Before the encounter
• During the restraint

*Full trauma survey always*
Differential

- Hypoxia
- Hypoglycemia
- Head Trauma
- Infection
- Epilepsy
- Heat Stroke

- Anticholinergic Toxidrome
- Neuroleptic Malignant Syndrome (NMS)
- Serotonin Syndrome
- Thyroid Storm
Scene Safety is most important
  • Protect responders
  • Protect patient
  • Protect bystanders

“Dual Response”
  • train together
  • have a plan
Verbal Deescalation

• Reduce L&S if possible
• Calm patient, one provider, try to develop rapport

Prepare for plan b from beginning
Plan & prepare

- One extremity per provider,
- One to head,
- One to stretcher,
- One to help w/ restraints

Soft restraints (PIC)
Restraint NEVERS

- Hog tie
- Prone
- Chest or neck compression
A death in restraints after ‘standard procedure’

Joshua Messier was having a schizophrenic attack, then died as Bridgewater state prison guards subdued him. The medical examiner called it homicide, then changed her mind. No one has been prosecuted, or even reprimanded, for the death of a young man in state care.

Restrained Patient’s Death May End Hospital’s Medicare

Federal officials say a South Carolina hospital will lose its Medicare contract unless it makes changes in how it protects the safety of patients after a man who attacked people in the emergency room died after being strapped face down on a gurney.

March 29, 2017, at 12:45 p.m.
Sedation

• As soon as possible, with restraints is possible
• Better than restraints & safer

Pros & Cons of approach –
• IV more predictable but needle stick risk & losing IV
• IM less predictable, slower onset but safer, easier access
• IN has bite risk but is needleless
Sedation Options

**Benzos** – Midazolam, Diazepam, Lorazepam
- Slower onset, long half life (stacking risk), resp depression

**Ketamine** – dissociative anesthetic
- Multiple uses, protects airway but can cause vomiting
- Other SEs are tachycardia, hypertension, laryngospasm, hypersalivation
- Cannot use in schizophrenics
Once sedated & safe, now treat the complications

Hyperthermia → cool patient
Hypovolemia → fluid resus
Acidosis → bicarb
Rhabdomyolysis → fluids & bicarb
Full secondary survey → trauma from earlier or during restraints
Monitor airway → visible at all times, pulseox or capnography
<table>
<thead>
<tr>
<th>TABLE #: EXDS TREATMENT ALGORITHM</th>
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<tr>
<td>Scene safety: Involve law enforcement;</td>
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<tr>
<td>Apply physical restraints (avoid prone positioning and restraints that limit respiration);</td>
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<tr>
<td>Administer a sedative based on agency protocols;</td>
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<td>Carefully monitor vitals, EKG and EtCO2; obtain 12-lead EKG and check blood glucose level;</td>
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<td>Administer oxygen as needed;</td>
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<tr>
<td>Evaluate for and treat injuries;</td>
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<tr>
<td>Establish IV access and provide a fluid bolus;</td>
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<tr>
<td>Consider administering sodium bicarbonate if acidosis is suspected;</td>
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<tr>
<td>Provide cooling measures if hyperthermia is present.</td>
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