Inside this issue:

From the Editor 1
Protocol Update 2
Cert & CME info 3
FDNY contacts 4
OLMC physicians 4
CME Article/Quiz 5
Citywide CME
Exam Calendar

Dear Readers,

For your newest CME Journal, FDNY EMS Lt. Joan Hillgardner has submitted an article concerning the topic of “Excited Delirium.” These patients bring potential risks and challenges that can be described as unique to say the least. As medical professionals, we need to frame these encounters from a medical point of view with a constant focus on patient care. Equally important is personal safety. Hopefully, you can all take some useful information from the article that will be of benefit to both yourselves and your patients.

Stay Safe,
Lt. Samuel Jimenez, REMAC Liaison

** On September 1, 2016 Protocol revisions took effect **

REMEMBER: The protocols on the street are the protocols on the exam!

Always see nycemsco.org for the current approved protocols

** All candidates must now meet CME requirements **

- All REMAC paramedics and candidates should review Certification & CME Information on page 3 journal and plan accordingly.
- All upcoming exam candidates, see registration instructions at the bottom of the last page of this journal.
- Candidates who will not have a CME letter at the time of their REMAC exam must email Samuel.Jimenez@fdny.nyc.gov ASAP.
**September 1, 2016 REMAC Protocol revisions went into effect for the field and exams**

**REMEMBER:** the protocols on the street are the protocols on the exam!

Always see [nycremsco.org](http://nycremsco.org) for the current approved protocols

For updates, see REMAC Advisory 2016-02 & 03 at nycremsco.org

**General Operating Procedures**

- No changes

**BLS Protocols**

- 407 – Wheezing
  - Removed age limit for epinephrine

- 410 – Anaphylaxis
  - Removed age limit for epinephrine

- 421 – Head and Spine Injuries
  - Added statement: hyperventilation not to be performed

**ALS Protocols**

- 506 – APE
  - Removed morphine sulfate

- 511 – AMS
  - Added IN route for glucagon

- 513 – Seizures
  - Added IN route for glucagon

- 528 – Burns
  - Changed fentanyl to Standing Order

- 529 – Pain Management
  - Changed fentanyl to Standing Order

- 550 – Peds Respiratory Arrest
  - Changed naloxone increments

- 556 – Peds AMS
  - Added IN route for glucagon

- 557 – Peds Seizures
  - Added IN route for glucagon
  - Removed rectal diazepam

- New protocol – Hyperglycemia

**Appendices**

- No changes
REMAC Exam Study Tips

REMAC candidates have difficulty with: REMAC Written exams are approximately:
* 12-lead EKG interpretation  10% BLS  15% Adult Trauma
* Ventilation rates for peds & neonates  10% Adult Arrest  15% Pediatrics

Certification & CME Information

- By the day of their exam, all REMAC paramedics and candidates must present a letter from their Medical Director verifying fulfillment of CME requirements.

- Upcoming candidates without a CME letter must email Samuel.Jimenez@fdny.nyc.gov ASAP

- FDNY paramedics, see your ALS coordinator or Division Medical Director for your CME letter.

- CME letters must indicate the proper number of hours, per REMAC Advisory # 2007-11:
  - 36 hours - Physician Directed Call Review
  -  ACR Review
  -  QA/I Session
  -  Emergency Department Teaching Rounds - Maximum of 18 hours
  - 36 hours - Alternative Source CME - Maximum of 12 hours per venue
  -  Online CME (see examples below) - Clinical rotations
  -  Lectures / Symposiums / Conferences - Associated Certifications – 4 hours each:
  -  Journal CME                         BCLS / ACLS / PALS / NALS / PHTLS

- Failure to maintain a valid NYS EMT-P card will suspend your NYC REMAC certification until NYS is recertified.

REMAC certification exams are held monthly for new and expired candidates, and for currently certified paramedics who may attend up to 6 months before their expiration date.

REMAC CME and Protocol information is available and suggestions or questions about the newsletter are welcome. Call 718-999-2671 or email Samuel.Jimenez@fdny.nyc.gov

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Hew, Phillip 80267
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Jacobowitz, Susan 80297
Kopolovich, Harry 80320
Kaufman, Bradley 80289
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Lobel, David 80322
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Menaik, Richard 80329
Munjal, Kevin 80308
Reisman, Nathan 80326
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Introduction

Excited Delirium is a relatively new term used to describe patients in an extremely agitated state. Although the syndrome dates back to the 1840s, it was first officially documented in a published research paper during the South Florida cocaine epidemic of the 1980s. It is often fueled by cocaine or mental illness, and can result in violent, physical rages. Many of the deaths linked to the syndrome involve police officers using physical restraint or Tasers. Because of few scientific studies, the use of the term has been controversial. Two groups that have embraced it are the National Association of Medical Examiners and the American College of Emergency Physicians. In October 2009, a task force of the American College of Emergency Physicians released a report that estimated at least 250 people die from the syndrome every year.

A common description of excited delirium can be found in a 2009 case from Appleton, Wisconsin. This story fortunately had a good ending. It began with a dinner-hour 911 call from a mother calling about the strange behavior of her son. Soon after arriving home from work, the woman had discovered her 29-year-old son, who had an old history of marijuana use. She described him to the 911 operator as:

- “Acting very strange...talking and talking...like he’s on something...saying, ‘I’m dying, Mom, I’m dying, Mom’...”
- “He’s sitting there naked. He certainly doesn’t do that in front of his mother!”
- In the background, you can hear a male voice yelling unintelligibly and spewing guttural noises.

Upon arrival, police officers found the young man yelling, making repetitious statements, breathing heavily, and standing naked in his living room. Fortunately, Lt. David Nickels of Appleton Police Department, who was interested in excited delirium even before he knew what it was called, was first on the scene.
About two weeks before the 911 call, Nickels had put together a brief PowerPoint presentation for his Department about Excited Delirium. He also developed a two-hour training program for his Department and other nearby agencies, in hopes of educating dispatchers, cops, and EMS on its symptoms and handling, and “getting us all operating on the same page.”

In an interview with PoliceOne.com, he emphasized that by the time police are called in these cases, these individuals typically “are a long way into the crisis.” His concern is that without training, arriving officers are likely to view them and their threatening behavior as a criminal problem. “Handling them as strictly a criminal matter instead of a possible medical emergency,” Nickels says, “only increases the likelihood that the encounter will end badly.” On the 911 tape, you can hear him advising the dispatcher to get an ambulance rolling and “give them the behavior signs we have at this point.” He was signaling everyone with a warning flag.

Nickels arrived first at the location, waited for another officer to join him, and requested additional backup. He turned on the pager-size departmental video camera attached to the front of his shirt, and headed up the front steps. As he stepped into the living room, he realized that his tentative reading of the call had been correct. As he emphasized in the training piece, he followed certain key principles:

- As the sole officer addressing the subject, he kept his voice calm and cordial, called the man by his first name, and showed him open palms. No confrontational, threatening language. No commands. No attempt to outshout the shouter. “You don’t want to feed these people adrenalin,” Nickels says. “They’re already thinking you’re going to hurt them. To the extent that’s possible and safe, you want to model calmness for them.”
- He did not crowd in on the subject immediately. “Avoid confronting them, if you can,” Nickels says. “Ideally, try to isolate and contain them until the resources you need are there.” Nickels got the mother to back away, giving the subject more space. When the man said something about lying down on the floor, Nickels gently encouraged him to do so — and he did, ending up on his back.
- Nickels formulated a plan, and when sufficient officers had arrived, along with EMS personnel, he activated it.

The call for a naked man, raving and delirious was managed successfully following chemical restraint with Haldol by the Appleton paramedics. In the words of Lt. David Nickels, of Appleton PD, there were no heavy-handed control tactics, no damage to people or property, no threatened lawsuits from angry relatives. Thanks to an onscene video of the event available online, you can see exactly how the events unfolded, what he and other first responders found, and how they successfully handled it with commendable professionalism. Their success was largely due to the coordinated teamwork and clear communication between police and EMS. After follow up, it was discovered that the patient had ingested some hallucinogenic mushrooms (Psilocybin) he ordered over the Internet, and has since resumed his usual daily activities as a college student, apparently with no lingering after effects.

The descriptions of excited delirium above are not unlike individuals having a psychotic episode. A psychotic episode causes a loss of contact with reality and can occur in medical and psychiatric patients.
It is most commonly seen with schizophrenia and mood disorders, such as bipolar disorder. Patients whose symptoms are normally controlled by medication, and abruptly discontinue the medication, show signs of decompensation with changes in their ability to control their thoughts. This produces bizarre behaviors, delusions, and hallucinations (auditory and visual).

The EMS dispatch call type, EDP, originally taken from the police complaint, “Emotionally Disturbed Person,” is a broad category for any condition requiring police for someone in need of emergency psychiatric care under the Mental Hygiene Law. While many patients with a history of mental illness are able to choose voluntarily to get medical help, for those who are unable to know they are in crisis or are presenting a "danger to themselves or others," a police (or peace officer) is authorized under the NY State Mental Hygiene Law to carry out the removal of the patient to a hospital.

The major concern for EMS in caring for the excited delirium patient is the likelihood that an underlying medical condition is the cause of the altered mental status. It is important to keep in mind that patients with mental illness get sick, and sick patients can develop symptoms of mental illness. A patient with schizophrenia, for example, can have a heart attack, hypoglycemia, pulmonary embolism, or other conditions that mimic a behavioral crisis. Patients in intensive care settings have been known to exhibit "ICU psychosis" from lack of normal sleep patterns and its effect. Since a psychiatric diagnosis, even in the Emergency Department, is a diagnosis of exclusion, each patient should receive the same level of assessment and a thorough history.

**Increase in Drug Use**

In early spring of 2015, New York State Department of Health issued an advisory concerning a recent increase in synthetic cannabinoid-related adverse events and emergency department visits due to a spike in the number of cases. Reported cases of “K2” or “Spice,” and powdered alcohol, “Palcohol” were found mostly in New York City and Syracuse. This category of drug is of special concern due to its tendency to produce violent behavior. Other signs and symptoms include agitation, anxiety, nausea, vomiting, high blood pressure, tremor, seizures, hallucinations, and paranoia. These effects can be similar to those of phencyclidine (PCP) and other hallucinogenic substances, such as alpha-PVP (“Flakka”/“Gravel”), 2C-N, 25N-NBOMe (“N-bomb”), and Psilocybin, or 'shrooms (as in the case above). The class of amphetamines can also produce hallucinations and paranoia. If a combative patient is encountered, members are reminded to maintain a safe distance and request law enforcement to respond.

**Excited Delirium Defined**

Excited delirium syndrome (ExDS), has been described in the literature, as a serious medical condition involving psychotic behavior, elevated temperature, and an extreme fight-or-flight response by the nervous system. Fatality rates of up to 10 percent have been reported. These patients often die within one hour of the 911 call. One study showed 75 percent of sudden death occurred at the scene or during transport to a hospital.

The mechanism in which ExDS occurs is not fully understood. There has been a connection with recreational drugs, sudden discontinuation of antipsychotic medication, and psychiatric disorders such as acute mania. One theory being explored involves increased levels of dopamine. Dopamine plays a role in the brain’s perception of reward and temperature regulation. Cocaine and methamphetamine increase the level of dopamine in the brain. Schizophrenia also results in elevated levels of dopamine in the brain, and antipsychotics work to treat hallucinations by blocking dopamine on a cellular level.
The elevated dopamine levels help explain some of the similarities between ExDS and schizophrenia (e.g., hallucinations, paranoia), but they do not account for the high rates of sudden cardiac arrest.

**Clinical Presentation**

ExDS patients typically are males around the age of 30, and most have a history of psychostimulant use or mental illness. The initial call to 911 describes public disturbances, agitation, or bizarre behaviors. Patients are usually violent and combative with hallucinations, paranoia, or fear. They may demonstrate profound levels of strength, resist painful stimuli or physical restraint, and seem impervious to self-inflicted injuries. During initial assessment, patients often have elevated body temperatures, tachycardia, tachypnea, elevated blood pressures, and diaphoresis. Methamphetamine, cocaine, PCP, and bath salt intoxication are associated with ExDS, but not every intoxicated individual develops it.

<table>
<thead>
<tr>
<th>Risk Factors Associated with Excited Delirium Syndrome</th>
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<tbody>
<tr>
<td>Males (average age 36)</td>
</tr>
<tr>
<td>Stimulant drug use</td>
</tr>
<tr>
<td>Cocaine and to a lesser extent methamphetamine, PCP, and LSD</td>
</tr>
<tr>
<td>Chronic users after an acute binge</td>
</tr>
<tr>
<td>Preexisting psychiatric disorder</td>
</tr>
<tr>
<td>Schizophrenia, bipolar disorder</td>
</tr>
<tr>
<td>Struggle with law enforcement involving physical, chemical, or electrical restraint</td>
</tr>
</tbody>
</table>

**ExDS Indicators**

- Extremely aggressive or violent behavior
- Constant physical activity
- Does not respond to police presence
- Attracted to glass, reflective lights, sounds
- Naked/partially clothed
- Hot to touch
- Rapid breathing
- Profuse sweating
- Unintelligible animal-like noises
- Does not feel pain
- Super-human strength/does not tire easily
- Paranoia/Hallucinations
- Sudden calm
West Palm Beach Case Reviewed

Excited Delirium-Associated Death after Handcuffing/Hog-tying: In October 2005, a West Palm Beach, Florida, police officer found a shirtless and distraught man stumbling on the road and attempting to stop vehicles. Told to relax, the man kept gesticulating wildly with vehicles stopping to avoid him. After a struggle, the officer placed the man in a prone position and handcuffed him. Other officers arrived, helped move the man out of the street, and further restrained him by hog-tying his legs and hands. The man later became unconscious. The chief medical examiner for Palm Beach County determined the cause of death was “sudden respiratory arrest following physical struggling restraint due to cocaine-induced ExDS.” An onscene video of this event is also available online. It shows a prolonged attempt to restrain, with direct pressure applied to the back and neck.

If we contrast the 2005 West Palm Beach approach to the one from Appleton, there are clear differences. In the Appleton case, all “team” members move in together to reduce risk for prolonged struggle. In the West Palm Beach incident, because the patient was found on the highway, he was not as easily contained initially. However, the major difference is the significant delay to getting EMS resources, especially advanced life support with the capability to provide sedation. This caused the conditions that escalated the restraining process with the goal to get the victim to stop struggling.

Treatment

Patients exhibiting signs of excited delirium need early assessment and treatment. Attempts at physical control by police are often countered by the patient’s extreme levels of strength and resistance to painful stimuli. Ongoing physical struggle increases stress hormones (epinephrine, norepinephrine, etc.), which can raise a patient’s body temperature, cause changes in the body’s acid-base balance, rhabdomyolysis, hyperkalemia, and increase the risk of sudden death.

EMTs dispatched to the EDP call type, or any patient who presents as “excited delirium,” shall be guided by REMAC BLS Protocol 430 Excited Delirium. Request ALS backup immediately. If they are on their stomach, position supine IMMEDIATELY! Secure the patient to a scoop or stretcher. Have the AED ready. Begin supportive measures such as supplemental oxygen, nasal airway, and ventilatory assistance with bag-valve-mask, if the patient has stopped struggling.

Chemical restraint can be life-saving as an early intervention. Sedation of the agitated patient, along with close monitoring of vital signs, will prevent the cascade of events that lead to cardiac arrest in many of these patients. With this in mind, the NYC REMAC has implemented changes to ALS Protocol 530 (Excited Delirium) specific to Prehospital Chemical Restraint Procedures. In order to protect the patient, administration of Midazolam, 10 mg, IM or IN is now a Standing Order. The preferred route of administration for an agitated, struggling patient is IM. Once the patient is sedated, IV access should be established in the event additional sedation is necessary. The IM method is preferred due to the potential loss of the drug in an agitated patient (spit or sneeze out the drug), and more access points for administration.
Advanced life support EMS personnel should initiate cardiac and pulse oximetry monitoring, and anticipate the need for suctioning, airway adjuncts and ventilatory support. Once sedated, begin treatment of the underlying medical problem, following standard protocols.

- Give patient space, minimize lights/stimuli
- Encourage patient to lie down/disrobe
- Administer midazolam 10 mg IM
- Restrain to scoop or stretcher
- Keep patient compartment dark if possible
- Large bore IV Normal Saline (14-18 ga), up to 1 Liter
- Check glucose level (9% of violent patients have hypoglycemia)
- Cardiac / Pulse Oximetry Monitoring

If the patient continues to struggle, contact Medical Control:

<table>
<thead>
<tr>
<th>Medical Control Options</th>
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<tbody>
<tr>
<td>A: Ketamine 2-4 mg/kg IM or 1-2 mg/kg IN</td>
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<tr>
<td>B: Midazolam 10 mg IM</td>
</tr>
<tr>
<td>Lorazepam 4 mg IM</td>
</tr>
<tr>
<td>C: Diazepam 5-10 mg IV</td>
</tr>
<tr>
<td>Midazolam 5 mg IN</td>
</tr>
<tr>
<td>Lorazepam 2 mg IN</td>
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</tbody>
</table>

There are several classes of medications commonly used for the excited delirium patient, as well as different routes of administration, including intranasal, intramuscular, and intravenous/intraosseous. Common medications include benzodiazepines (e.g., lorazepam, midazolam, and diazepam), antipsychotics, and the dissociative agent, ketamine. A dissociative agent produces detachment (dissociation) between the mind, body and environment, preventing the higher centers of the brain from perceiving visual, auditory or painful stimuli. Ketamine is commonly used in the Emergency Department for procedural sedation (to decrease or block sensation) and for rapid sequence intubation. Benzodiazepines are very safe but are limited by varying dose requirements from patient to patient, as well as variable time until adequate sedation (within 30 minutes). Antipsychotics, used in some EMS systems, are more useful with acute exacerbations of psychiatric illness, but are plagued by warnings about potential cardiac side effects and prolonged time until onset.
Ketamine has been part of the NY State EMS Drug Formulary since 2009 and it is a remarkably safe drug for use. It has a rapid onset of action (less than 5 minutes), stable effects on blood pressure, and consistent ability to provide adequate sedation without respiratory depression. Potential side effects include hallucinations and confusion (emergence reaction [7]) as the medication wears off (10 to 20 percent of adults in 30 to 120 minutes after administration), vocal cord spasm, and increased salivation.

<table>
<thead>
<tr>
<th>KETAMINE</th>
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<tbody>
<tr>
<td>Risk of psychosis, particularly when given IM</td>
</tr>
<tr>
<td>Pretreatment with benzodiazepine may help</td>
</tr>
<tr>
<td>Absolute contraindication in known or suspected schizophrenia, even if stable on meds (ACEP)</td>
</tr>
<tr>
<td>Risk of laryngospasm</td>
</tr>
<tr>
<td>(Caution in COPD/asthma/pulmonary edema/EtOH intox)</td>
</tr>
<tr>
<td>Increased intracranial pressure</td>
</tr>
<tr>
<td>(Caution if suspected head trauma)</td>
</tr>
<tr>
<td>Sympathomimetic</td>
</tr>
<tr>
<td>Increases blood pressure, heart rate, cardiac oxygen demand (Caution with suspected MI)</td>
</tr>
</tbody>
</table>

**Use of Restraints**

Restraints are often necessary to prevent patients from harming themselves or others. Failure to use restraints could result in injury to the provider, the patient, or others. Anticipating the need for restraints before it becomes necessary improves patient safety. However, there are inherent dangers to patients when restraints are used and the patient is not properly positioned.

As with any scene, the safety of you and your partner is the most important consideration. Until adequate police and EMS resources are on hand, avoid initiating physical contact. Suddenly advancing toward an individual may cause fear or anxiety and escalate conflict. Once the decision to restrain the patient is made, it should be done quickly, decisively and in a coordinated manner. For the safety of the patient and others alike, good clear communication is critical. Ensure that enough help is available to insure patient and provider safety during the restraint process. Optimally, **five people** should be available to apply full body restraint (one for each limb and one for restraint application).

*Restraint asphyxia* is used to describe a type of traumatic asphyxia that occurs because of the patient’s body position during restraint, especially when in the prone position (*positional asphyxia*). Factors that contribute to asphyxia may include:

- Obesity
- Prolonged physical exertion (i.e. flight from custody, struggling against restraints, seizure activity)
- Use or history of use of stimulants, in particular cocaine and methamphetamines
- Pre-existing cardiovascular disease, especially hypertrophic cardiomyopathy (enlarged heart)
- Exposure to mace or pepper spray
- Excited delirium
The mechanism of death from restraint asphyxia begins with the patient’s own weight interfering with effective respirations, producing hypoxia and severe acidosis. The process starts when weight is applied to an individual who is usually in the prone position, while being controlled or restrained, or his/her own weight (or abdomen) compresses the chest cavity. This is followed by progressive fatigue of the accessory muscles of respiration. The patient’s natural response to increasing difficulty in breathing is to struggle more violently, which may be met with still more restraining force, resulting in greater oxygen deficiency and, in some cases, rapid death.

Exhaustion and muscle fatigue contribute to respiratory failure. Restraining a patient, specifically one who is prone, poses further mechanical challenges to already over-taxed respiratory muscles. Struggling during the restraint process, and while restrained, can produce extreme exhaustion and metabolic acidosis, exacerbating many underlying medical conditions.Combined with the additional exertion of struggling while being restrained, and against the restraints, increased stress is placed on the heart (fight or flight response), causing increased oxygen demands, leading to sudden death. Make every effort to assure an open airway and unrestricted chest movement when treating a restrained patient. Continuous patient assessment and airway and respiratory monitoring is critical. Anticipate the need for suctioning and have it ready.

The ambulance stretcher provides places to tie off a bandage to secure a limb. Notice in the patient below that one arm is in a raised position next to the head and the other alongside the hip. This strategy requires the struggling patient to use different muscle groups, making it harder to raise the upper body. Use of this technique is both a safe and effective way to secure each of the limbs. Tie a restraint strap to an anchor point just above the patient’s KNEE area on one side. Controlling the shoulder joint, hip and thigh will effectively control the patient. Needless struggles with knees and ankles are a waste of effort.
At no time is a restrained patient to be transported in the prone position, or in any position that compresses the chest. If a patient is restrained, with hands behind the back (including by handcuffs), the patient should be transported preferably left lateral recumbent or upright semi-fowlers. If the patient continues to struggle against restraints, make every effort to provide oxygen to the patient via non-rebreather mask. If the patient starts to fatigue and you observe the respirations slowing, have the handcuffs removed by police so you can support respirations via BVM. An EMS Officer can be an asset in making the mission of EMS clear to law enforcement when it comes time to remove the handcuffs. Advocate for your patient and emphasize the medical necessity for handcuff removal. Do not delay transport to await ALS or an EMS Officer.

The New York Penal Law, Article 35 allows for the use of physical force when a person, acting under the direction of a licensed physician, administers treatment for a physical or mental health problem. In the out-of-hospital setting, this happens primarily with patients who are suffering from an altered mental state and are treated under implied consent. EMS can initiate restraint procedures for purely medically agitated patients in order to perform ongoing medical care. This may be a patient in respiratory failure who is in need of critical respiratory support, a diabetic patient requiring glucagon, or a head injury patient who is postictal and requires suctioning. Simply using a triangular bandage to secure a wrist to the stretcher will allow the crew to focus on care priorities. In addition to the use of a restraint, consider adjusting the environment by reducing noise and bright lights. Help the agitated patient focus by engaging him in conversation. A calm, respectful and confident rapport has a deescalating effect. Effective use of good communication skills will reduce injuries to both providers and patients.

**Documentation**

Proper documentation is especially important when dealing with the excited delirium patient. Include in your narrative a detailed description of the situation and what steps were taken prior to the use of physical restraint (verbal de-escalation). Include how the patient was restrained and all assessments done after the restraint was completed. Document the following items:

- Events leading up to the current crisis
- Observed behaviors
- Statements by witnesses
- How restrained and by whom (PD or EMS)
- Reassessment following restraint and response to treatment

**Summary**

Excited delirium is becoming increasingly recognized as an important medical emergency encountered in the prehospital environment. Knowledge of safe and appropriate use of both physical and chemical restraint is essential to maintain scene safety when verbal de-escalation techniques are no longer effective. An early dialogue with law enforcement as to our medical role and patient care objectives should be part of a standard approach. This important communication can raise awareness for law enforcement of the medical priorities and our established protocols for treating these patients. While EMS is often outnumbered on many interagency calls, our duty to the patient becomes our responsibility once we arrive on scene. Using teamwork to safely and effectively control these patients will lead to improved outcomes. The success of medications like midazolam and ketamine will demonstrate the efficacy of these medications and improve the ability to care for these patients.
This month marks the 50th anniversary of the groundbreaking National Academy of Sciences White Paper, published in 1966, entitled *Accidental Death and Disability: the Neglected Disease of Modern Society*, which gave birth to the EMS system we have in place today. White papers are a way the government can present important and often controversial issues. At the time, Ralph Nader’s best-selling book “Unsafe at Any Speed” exposed automakers’ reluctance to implement potentially life-saving features, such as seat belts, at a time when there were no federal safety requirements for U.S. automobiles. Death and disability from automobile accidents were a huge and costly problem. In 1965, there were 49,000 fatal motor vehicle crashes, more deaths than in the entire Korean War. The Paper also identified that most people did not have basic first aid training, and even police departments, fire departments and many ambulance services had little or no training. A severely injured patient had a higher survival rate on the battlefield than on a US highway. Most ambulances were based on a passenger vehicle (or a hearse) and were converted into a vehicle that could transport a patient.

Among the recommendations were specifications for ambulance construction, EMS data collection and research, dedicated emergency rooms for hospitals, designation of emergency radio channels, and centralized emergency dispatching. It also identified a need for a nationally recognized and easy to remember phone number for civilians to call for services (9-1-1). In response to inadequate first aid training, the first EMT curriculum was developed. This explains why the "home" of EMS has been the U.S. Department of Transportation and National Highway Traffic Safety Administration (NHTSA), who designed and funded early curriculum development. The National Traffic and Motor Vehicle Safety Act, signed into law by President Johnson in 1966, set mandatory federal safety standards for vehicles and drivers, and established the National Highway Traffic Safety Administration (NHTSA).

The 1966 white paper brought to light the lack of a system approach to dealing with this enormous problem. It illustrated the significant gaps in prehospital trauma care and laid a road map to helping communities strengthen their local EMS systems. It served as the outline for the NHTSA 1996 *EMS Agenda for the Future* (20th Anniversary, Aug. 2016), a series of recommendations, objectives, and suggestions as to how to achieve the vision for EMS in America. Copies of the white paper [12] and other important EMS documents [14] should be in every EMT and Paramedic’s library.

Know the history. Perfect the present. Design the future. Be part of the vision.
References:

OGP 106-03  Movement of Patients from the Scene of Assignments, Appendix 1 – Restraint Asphyxia
MAD 2014-06 Pharmacologic Update: Ketamine
MAD 2015-10 Synthetic Cannabinoid
MAD 2015-03 REMAC ALS Protocol 530 Revision

Allentown Video Hyperlink: https://www.youtube.com/watch?v=3hDTehBskf
West Palm Beach Video Hyperlink: https://www.youtube.com/watch?v=9GdpoS8pTks

5. Aehlert, Barbara, Paramedic Practice Today: Above and Beyond. Mosby, Inc. 2010
6. Lex Denysenko MD, FAPM, “Excited Delirium: New Protocols, New Drugs, and a New Model for EMS/PD EDP Ops” (A Continuing Medical Education Presentation-June 29, 2015), Associate Medical Director, Central Park Medical Unit, New York, NY, Attending Physician, Department of Psychiatry, Thomas Jefferson University Hospital, Philadelphia, PA.
7. Emergence reactions (also known as recovery reactions or emergence delirium) are a well-documented side effect of ketamine procedural sedation. Emergence reactions typically include increased agitation or restlessness, dysphoria or euphoria, active dreaming or nightmares, and overt hallucinations.
13. 50 Years of Modern EMS. https://www.ems.gov/

Submitted by: LT. JOAN HILLGARDNER, EMT-P
Office of Medical Affairs
All 10 questions for ALS and BLS Providers

1. **ALL OF THE FOLLOWING ARE DESCRIPTIONS OF EXCITED DELIRIUM EXCEPT:**
   a. MAKING REPETITIOUS STATEMENTS
   b. COLD BODY TEMPERATURE
   c. paranoid hallucinations
   d. naked or partially clothed

2. **A TECHNIQUE THAT MAY REDUCE PATIENT AGITATION AND POTENTIAL INJURIES TO EMTS AND PARAMEDICS MAY INCLUDE:**
   a. ADJUSTING THE ENVIRONMENT BY REDUCING NOISE AND BRIGHT LIGHTS
   b. refocusing the patient using conversation and active listening
   c. a calm, respectful and confident rapport
   d. all of the above

3. **SUCCESS IN HANDLING THE EXCITED DELIRIUM PATIENT REQUIRES:**
   a. administration of naloxone
   b. clear communication between police and EMS
   c. the application of more restraining force to counter resistance
   d. hog-tying the patient

4. **NEW YORK CITY HAS SEEN A RECENT DECREASE IN SYNTHETIC CANNABINOID-RELATED ADVERSE EVENTS AND EMERGENCY DEPARTMENT VISITS.**
   a. True
   b. False

5. **THE MECHANISM OF DEATH FROM RESTRAINT ASPHYXIA RESULTS FROM:**
   a. continued struggling against applied resistance
   b. sustained compression applied to the back while positioned face down
   c. progressive fatigue of the accessory muscles of respiration
   d. all of the above
6. A police (or peace officer) is authorized to carry out involuntary removal of the patient to a hospital under the:

   a. NY State Mental Hygiene Law
   b. NY State Penal Law
   c. NY State Public Health Law
   d. NY City Criminal Procedures Law

7. Decompensated schizophrenia and bipolar disorder have similar behavioral changes as excited delirium.

   a. True
   b. False

8. Midazolam is the first line drug for treating excited delirium. The dosage and preferred route is:

   a. 10 mg IM
   b. 5 mg IM
   c. 10 mg IV
   d. 10 mg IN

9. Ketamine is a dissociative agent for use as a medical control option for excited delirium. The dosage for administration is:

   a. 1-2 mg/kg IM
   b. 2-4 mg/kg IM
   c. 4-6 mg/kg IM
   d. 10 mg IM

10. Twelve percent of patients following ketamine administration experience an unpleasant side effect called an emergence reaction. The following class of drugs is used to treat this side effect:

    a. Anticholinergics
    b. Antipsychotics
    c. Benzodiazepines
    d. Dissociative agents
Based on the CME article, place your answers to the quiz on this answer sheet. Respondents with a minimum grade of 80% will receive 1 hour of Online/Journal CME.

Please submit this page **only once**, by one of the following methods:
- FAX to 718-999-0119 or
- MAIL to FDNY OMA, 9 MetroTech Center 4th flr, Brooklyn, NY 11201

**Contact the Journal CME Coordinator at 718-999-2790:**
- three months before REMAC expiration for a report of your CME hours.
- for all other inquiries.

_Monthly receipts are not issued. You are strongly advised to keep a copy for your records._

Note: if your information is illegible, incorrect or omitted you **will not** receive CME credit.

_checked one:_ EMT  Paramedic  ____________ _other_

Name

NY State / REMAC # or “n/a” (not applicable)

Work Location

Phone number

Email address

Submit answer sheet by the last day of July 2016

<table>
<thead>
<tr>
<th>May - June 2016</th>
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<tbody>
<tr>
<td>1.</td>
<td>Questions 1-10 for all providers</td>
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Regional CME – Sessions are subject to change. Please confirm through the listed contact.

See other opportunities at www.nyceremsco.org under News & Announcements

Note: A potential source of Call Review is E.D. Teaching Rounds (maximum of 18 hours)
See any hospital E.D. Administrator for availability (especially HHC hospitals)

<table>
<thead>
<tr>
<th>Boro</th>
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<tr>
<td>BK</td>
<td>Kingsbrook</td>
<td>contact to inquire →</td>
<td>ED Conference Room</td>
<td>Aaron Scharf 718-363-6644</td>
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<tr>
<td></td>
<td>Lutheran</td>
<td>contact to inquire →</td>
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<td>Dale Garcia 718-630-7230</td>
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<td><a href="mailto:dgarcia@lmcmc.com">dgarcia@lmcmc.com</a></td>
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<td>MN</td>
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<tr>
<td></td>
<td>NYU School of Medicine</td>
<td>contact to inquire →</td>
<td>Inquire →</td>
<td><a href="mailto:danielle.milbauer@nyumc.org">danielle.milbauer@nyumc.org</a></td>
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<td>Call Review, Lecture</td>
<td>25-10 30 Ave, conf room last Tuesdays, 1800-2100</td>
<td>Donna Smith-Jordon 718-267-4390</td>
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<tr>
<td></td>
<td>NYH Queens</td>
<td>contact to inquire →</td>
<td>East bldg, courtyard flr</td>
<td>Mary Ellen Zimmermann RN 718-670-2929</td>
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<td>Queens Hosp</td>
<td>Call Review</td>
<td>Emergency Dept 2nd &amp; 4th Thurs 1615-1815</td>
<td>Maria Jones or Julia Fuzailov 718-883-3070</td>
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<td>175-05 Horace Harding Expwy 718-990-8436</td>
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<td>Michelle Scarlett</td>
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<td>RUMC</td>
<td>contact to inquire →</td>
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<td>Tony McKay NRP <a href="mailto:amckay@rumcsi.org">amckay@rumcsi.org</a></td>
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<td>SIUH North &amp; South</td>
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<td>Holly Acierno RN <a href="mailto:hacierno@SIUH.edu">hacierno@SIUH.edu</a></td>
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# 2016 NYC REMAC Examination Schedule

<table>
<thead>
<tr>
<th>Month</th>
<th>Registration Deadline</th>
<th>Refresher exams(^1) – no fee for exam</th>
<th>Basic exams(^2)</th>
<th>NYS/DOH Written(^3)</th>
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<td>10:00 exams</td>
<td>18:00 exams</td>
<td>all at 18:00</td>
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<tr>
<td>January</td>
<td>1/1/16</td>
<td>1/20/16</td>
<td>1/15/16</td>
<td>1/20/16</td>
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<td>February</td>
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<td>2/15/16</td>
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<td>6/15/16</td>
<td>6/15/16</td>
<td>6/17/16</td>
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<td>7/1/16</td>
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<td>7/18/16</td>
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<td>August</td>
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<td>9/19/16</td>
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<td>December</td>
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<td>12/11/16</td>
<td>12/14/16</td>
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\(^1\) REMAC Refresher examination is offered for paramedics who meet CME requirements and whose REMAC certifications are either current or expired less than 30 days. To enroll, go to the REGISTER link under “News & Announcements” at [nycremsco.org](http://nycremsco.org) before the registration deadline above. Candidates may attend an exam no more than 6 months prior to expiration.

\(^2\) REMAC Basic examination is for initial certification, or inadequate CME, or certifications expired more than 30 days. Seating is limited. Registrations must be postmarked by the deadline above. Exam fee by $100 money order to NYC REMSCO is required.

**All Basic candidates must meet new education requirements.** Email [Samuel.Jimenez@fdny.nyc.gov](mailto:Samuel.Jimenez@fdny.nyc.gov) for instructions.

\(^3\) NYS/DOH exam dates are listed for information purposes only. Scheduling is through your paramedic program or contact NYS DOH for more information.