

Case Studies in Agitation:  
The Emergency Medicine / Psychiatry Interface



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The Panel

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- François-Xavier Duchateau, MD – France – EMS/Critical Care
- Silvana Riggio, MD – Italy / USA – Neurology / Psychiatry
- Leslie Zun, MD – USA – Emergency Medicine
- Marcus Ong, MD – Singapore – Emergency Medicine

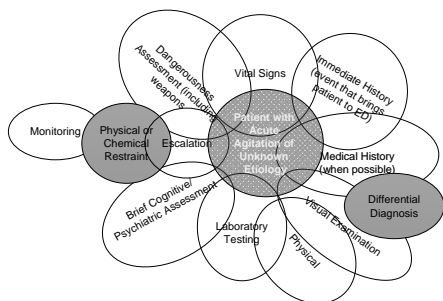
Disclosure

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Objectives

- Provide an international overview on managing patients in the ED with acute agitation
- Review practice guidelines that exist to assist clinical decision making for managing patients with agitation
- Discuss indications for physical and chemical restraint
- Discuss pharmacologic interventions for the agitated patient

Agitation in the ED



Triage Pearls: Patients who should be considered for a medical evaluation

- Abnormal vital signs
  - Presence of a “toxidrome”
- No past history of psychiatric illness
- Sudden onset
- Disorientation / Clouded consciousness
- Visual hallucinations
- Known systemic disease
- New medication

### The Cases - Risk Management

- 18 year old man flips his car and sustains blunt head trauma. GCS of 14 in the field. During transport he becomes agitated and does not cooperate with EMTs
- 32 year old man brought to ED at 2 am from nightclub for violent agitation. Witnesses say no trauma but that he has been using "a lot of cocaine and alcohol"
- 53 year old schizophrenic woman brought to ED by family for progressive agitation due to hearing voices. No drug use, no other medical problems
- 75 year old woman with mild dementia, low grade fever with UTI; waiting for bed for 10 hours in the ED; confused and uncooperative who has pulled out her IV 3 times

### Practice Guidelines and Behavioral Emergencies

- APA Practice Guideline: Treatment of Patients with Delirium 1999
- AAEP Guidelines: Treatment of Behavioral Emergencies 2005
- ACEP / AAEP Joint Guideline: Critical Issues in the Diagnosis and Management of the Adult Psychiatric Patient in the Emergency Department 2006
- Mount Sinai Pharmacologic Management of the Agitated Elderly Patient Guideline 2006

### Case 1

- 18 year old man flips his car and sustains blunt head trauma. GCS of 14 in the field. Drug and alcohol use unknown. During transport he becomes agitated and does not cooperate with EMTs
- Would your EMS system use physical restraint for this patient?
- Would your EMS system use pharmacologic restraint in this patient?

### Prehospital Management of Agitation

- Very little research
- Brain Trauma Foundation Recommendation:
  - No outcomes studies
  - Patients with altered mental status should have a rapid glucose determination
  - "Sedation, analgesia . . . Use of these adjuncts . . . Are best left to local EMS protocols

Rosen C. The efficacy of intravenous droperidol in the prehospital setting. J Emerg Med 1997; 15: 13-15

BTF Guidelines [www.braintrauma.org](http://www.braintrauma.org)

### Case 2

- 32 year old man brought to ED at 2 am from nightclub for violent agitation. Witnesses say no trauma but that he has been using "a lot of cocaine and alcohol"
- Do you use physical restraints in your institution?
- How would you gain control of this patient?

### Immediate Concerns: Assuring Safety

- An agitated patient makes the whole ED agitated
  - Interventions for the agitated patient
    - De-escalation techniques
    - Environmental factors
- If patient escalates...regardless of cause*
- Physical restraint
  - Pharmacologic intervention

Physical Restraints  
for Imminent Threat of Harm

- Preparations
- Once initiated, swift and definitive
- Monitoring
  - Documentation
    - Neurovascular
    - Cardiovascular
    - Airway
- Plan for reassessment and removal

Medical/Legal Issues: Pharmacologic Restraint

- “Chemical restraint” vs “*therapeutic medication*”
  - Preferable to physical restraint when prolonged behavioral control is necessary or when patient is severely combative
  - Injury or death can result from intense or prolonged struggle against physical restraints
  - Minimize physical restraint as soon as possible to prevent
    - Self injury
    - Circulatory injury
    - Rhabdomyolysis

Gerstein PS. Schizophrenia. *EMedicine*. 11/26/2002. www.emedicine.com/EMERG/topic520.htm. Committee on Medicare and Medicaid Services (CMS). Psychiatric Guidelines.

Medications

- Benzodiazepines
- Typical Antipsychotics
  - Haloperidol
  - Droperidol
- Antipsychotic plus Benzodiazepine
- Atypical antipsychotic

AAEP: Treatment of Behavioral Emergencies  
[www.psychiatricpractice.com](http://www.psychiatricpractice.com) 2005

- Expert consensus guideline; Multi - Industry supported
  - 45 psychiatrists / 5 emergency physicians
- Written survey, 61 questions, 50 experts: 96% return
- 9 point scale for rating appropriateness used
- Consensus defined as a non-random distribution of scores by chi-square “goodness to fit” test

AAEP: Treatment of Behavioral Emergencies  
[www.psychiatricpractice.com](http://www.psychiatricpractice.com)

- Physical restraint:
  - Last resort only when less restrictive measures have failed and unanticipated severely aggressive or destructive behavior places the patient or others in imminent danger

AAEP: Treatment of Behavioral Emergencies  
[www.psychiatricpractice.com](http://www.psychiatricpractice.com)

- **Interventions when no information is available:**
  - **Drug of choice: Benzodiazepine PO or IM**
- Agitation with psychotic features, unknown history:
  - IM haloperidol +/- benzodiazepine
- Agitation in elderly man with possible alcohol delirium
  - Monotherapy with benzodiazepine
- Agitation in patients with known mental illness
  - Second generation antipsychotics gaining in preference

ACEP Clinical Policy 2006:  
What is the most effective pharmacologic treatment for the acutely agitated patient in the ED?

- Emphasizes the importance of:
  - Assessing for violence
  - Assessing for reversible medical causes:
    - Hypoxia
    - Hypoglycemia
  - Verbal de-escalation techniques and safe setting
- Undifferentiated agitation (medical vs psychiatric) versus exacerbation of a known mental illness

ACEP Clinical Policy:  
What is the most effective pharmacologic treatment for the acutely agitated patient in the ED?

- Atypical antipsychotics
  - All studies in known psychiatric populations
  - Olanzapine, ziprasidone, quetiapine, and risperidone all prolong the QTc
- Reported to cause less EPS, less sedation
- Preval et al: reported ziprasidone 20 mg IM decreased agitation scores equally to haloperidol plus lorazepam
- Meehan et al: reported olanzapine, 10 mg, equivalent to lorazepam
  - May cause hypotension

Gen Hosp Psych 2005; 27: 140-144  
J Clin Psychopharmacol 2001; 21:389-397

ACEP Clinical Policy  
What is the most effective pharmacologic treatment for the acutely agitated patient in the ED?

- Multiple Class II studies show that benzodiazepines (lorazepam and midazolam) are at least as effective as haloperidol in controlling agitation
  - Nobay et al: IM Midazolam 5 vs lorazepam 2 vs haloperidol 5: Midazolam had faster onset and shorter duration
  - Battaglia et al: Supported the use of combined lorazepam plus haloperidol: Lower doses of each and less EPS than haloperidol alone
- Benzodiazepines promote sedation and do not necessarily address psychosis

Acad Emerg Med 2004; 11:744-749  
Am J Emerg Med 1997; 15:335-340

ACEP Clinical Policy:  
What is the most effective pharmacologic treatment for the acutely agitated patient in the ED?

- Level B Recommendations:
  - Use a benzodiazepine or a conventional antipsychotic as effective monotherapy for the initial drug treatment of the acutely agitated undifferentiated patient in the ED
  - If rapid sedation is required, consider droperidol instead of haloperidol
- Level C Recommendation:
  - The combination of a parenteral benzodiazepine and haloperidol may produce more rapid sedation than monotherapy in the acutely agitated psychiatric patients in the ED

Case 3

- 53 year old schizophrenic woman brought to ED by family for progressive agitation due to hearing voices. No drug use, no other medical problems. It is unknown what medications she has been on in the past. Patient is hypervigilant and extremely paranoid; she is hearing voices telling her that she is going to be killed.
- How would you manage this patients agitated paranoia?

AAEP: Treatment of Behavioral Emergencies  
[www.psychiatricpractice.com](http://www.psychiatricpractice.com)

- Conclusion: Within the limits of expert opinion and with the expectation that future research data will take precedence, second generation antipsychotics are now preferred for agitation in the setting of primary psychiatric illnesses but that benzodiazepines are preferred in other situations.

#### Case 4

- 75 year old woman with mild dementia, low grade fever with UTI; waiting for bed for 10 hours in the ED. 130/60, 90, 18, Pulse Ox 94%, blood sugar 140. She confused and uncooperative and has pulled out her IV 3 times
- How would you treat this patient's agitation at your institution?

#### Agitation in the elderly

- Haloperidol
  - Safe and effective
- Droperidol
  - Effective
  - Black box warning (prolongation of QTc and development of Torsades de Pointes)
- Atypical antipsychotics
  - No more effective
  - Refuted by black box warnings

#### Agitation in the elderly: Recommendations

- Haloperidol - first line agent via IV
  - Dose 0.5 mg- 1 mg IV
  - Avoid in Parkinson's patients
- Midazolam - first line agent via IM
  - Most rapidly sedating via IM route
  - Dose 1 mg-2 mg IM
- Lorazepam - alternative, but Haloperidol preferable IV and Midazolam preferable IM
  - Dose 0.5mg- 1 mg IM or IV

#### Recommendations

##### Redosing

1. Haloperidol- IV 30 minutes
2. Midazolam- IM 30 minutes
3. Lorazepam- IV 30 mins, IM 45 mins

#### Management of Agitation in the ED: Conclusions

- There is limited literature to guide the management of undifferentiated agitation in the ED
- There is limited literature to support the use of new generation antipsychotics over the first generation antipsychotics
- Benzodiazepines with or without an antipsychotic are the best first line treatment of undifferentiated agitation
- Agitation with psychotic features is best treated with a first generation antipsychotic
- Patient and staff safety always takes priority