Evidence Based Evaluation and Treatment of Psychiatric Patient in the Emergency Setting

Leslie S Zun, MD, MBA, FAAEM
President, American Association for Emergency Psychiatry
Chairman and Professor
Department of Emergency Medicine and Psychiatry
RFUMS/Chicago Medical School
Chicago, Illinois
Disclosure

- PI for two research grants sponsored by Teva Pharmaceuticals to Sinai Health System
- EMF Grant for agitation research
Learning Objectives

- To understand the medical clearance process
- To use protocols in the evaluation of the psychiatric patients
- To understand the role of verbal de-escalation in the treatment of psychiatric patients
- To improve the choice of treatment modalities for psychiatric patients in the emergency setting
Case #1

- 64 year old female is brought to the hospital for manic behavior. Patient has multiple medical problems but no prior psychiatric history.
- What further information is needed?
- What to look for in the physical exam?
- What testing is indicated?
36 year old male with schizophrenia was brought in by the family because he stopped taking his medication and is getting violent at home.

What further information is needed?
What to look for in the physical exam?
What testing is indicated?
Medical Clearance

Purpose

- **Primary Purpose** - To determine whether a medical illness is causing or exacerbating the psychiatric condition.

- **Secondary Purpose** - To identify medical or surgical conditions incidental to the psychiatric problem that may need treatment.
Primary Purpose

Etiology

- Drug and alcohol intoxication or withdrawal
- Medical
  - Hypoglycemia
  - Hyperthyroidism
  - Delirium
  - Head Trauma
  - Temporal Lobe Epilepsy
- Psychiatric
Mortality Rate of Delirium

- ED incidence 7-20%
- Frequently missed
  - 24% maximum detection rate
  - Due to lack of screening
- High rate of mortality
  - 36% vs. 10%
- High rate of morbidity
  - High rate of incontinence, decubitus, malnutrition
Concurrent Medical Problems

- Retrospective review of 300 patients
- 178 had medical problems and 122 did not
- Most common hypertension, asthma and diabetes
Concurrent Substance Use

- 44% current substance users
- 29% history of substance use
- 27% had little or no substance use history
Primary Purpose - Differentiate Medical from Psychiatric Etiology

- History
- Physical exam
- Mental status examination
- Cognitive assessment
- Laboratory testing?
What part of the evaluation is useful?


- Retrospective, observation study of psychiatric patients over 2 month period
- 352 patients with 19% having medical problems
- Sensitivity
  - History: 94%
  - Physical exam: 51%
  - Vital signs: 17%
  - Laboratory testing: 20%
History

Is the patient reliable?

- Patients asked about drug and alcohol use
- Patients had alcohol and toxicological screening
- Reliability of patients self-reported history

<table>
<thead>
<tr>
<th></th>
<th>Sensitivity</th>
<th>Specificity</th>
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</thead>
<tbody>
<tr>
<td>Drugs</td>
<td>92%</td>
<td>91%</td>
</tr>
<tr>
<td>ETOH</td>
<td>96%</td>
<td>87%</td>
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Evaluation Concerns
Who Does the Psychiatric Evaluation

- ED MD
- In-house psychiatry
- ED mental health worker
- Telepsychiatry
- Community mental health
- Outside contracted mental health worker

The bottom line is ED physician’s or psychiatrist’s responsibility to ensure correct disposition.
Formal Mental Status Examination

**Elements routinely assessed while interviewing pt**
- Appearance, behavior and attitude
- Mood and affect

**Not routinely assessed while interviewing pt**
- Disorders of thought-Suicidal & homicidal ideation, ?admit
- Insight and judgment-Knowledge about illness
- Disorder of perception-Hallucinations & delusions
- Sensorium and intelligence-Cognitive impairment, ?delirium
Clock Drawing Test

- Preferred as a screening test
- Self-administered and takes a short time to complete.
- The Clock test is scored on a six point scale from no errors to no reasonable representation of a clock.
- Patients with a score of one or two are considered without impairment and those with three or great have cognitive impairment.
Who Needs Testing and What Tests?

- **What labs are done?**
  - CBC, lytes, UDS, ETOH, UCG
  - Evidence that routine labs rarely change clinical management
  - Drug screen, alcohol level
    - One indication - Altered mental status without etiology

- **When is more advanced testing indicated?**
  - EEG, EKG, CT Scan Head, Chest radiograph

- **Which patients?**
  - All comers
  - Chronically mental illness with same presentation
  - New onset
Are Routine Labs Indicated?


APA Practice Guidelines on Psychiatric Evaluation of Adults

- **ACEP Guidelines**
  - Routine testing laboratory testing of all patients is of very low yield and need not be performed.
  - In adult ED patients with primary psychiatric complaints, diagnostic evaluation should be clinically directed by the history and physical examination.

- **APA Guidelines**
  - Psychiatrist may need to request or initiate further general medical evaluation to address diagnostic concerns that emerge from the psychiatric evaluation.
  - “Psychiatrists and emergency physicians sometimes have different viewpoints on the utility of laboratory screening.”
Are drug and alcohol testing indicated?

- “Routine urine toxicologic screens for drugs in alert, awake, cooperative patients do not affect ED management and need not be performed...” (ACEP Guideline)

- “The patient’s cognitive abilities, rather than a specific blood alcohol level, should be the basis on when the clinicians begin the psychiatric assessment.” (ACEP Guideline)

Intoxication is a clinical diagnosis; not a lab diagnosis

- Level of consciousness
- Cognitive function
- Neurologic function
  - Coordination
  - Gait
  - Nystagmus
Which patients?

Psych history vs. new onset


100 consecutive patients aged 16-65 with new psychiatric symptoms.

- Patients with fever received CT and LP
- 63 of 100 had organic etiology for their symptoms
  - History in 27
  - PE in 6
  - CBC in 5
  - SMA-7 in 10
  - CPK in 6
  - ETOH and drug screen in 28
  - CT scan in 8
  - LP in 3.

- Patients need extensive laboratory and radiographic evaluations including CT and LP.
Is There a Difference Between Routine and Clinically Indicated Testing?

- Studies demonstrated that most people will have one or more tests out of the normal range in routine testing.
- Studies have revealed that routine testing in psych patients do not change management.
- Clinically indicated testing may be of value for such as patients with a physical complaint, blood levels of medications or medical illnesses.
When is Testing Indicated?

- Red flags of medical etiology
  - Age >45 years old
  - Exposure to toxins or drugs
  - Substance intoxication or withdrawal
  - No prior psychiatric/medical history
  - Abnormal vital signs
  - Cognitive deficits
  - Focal neurologic findings
  - Slurred speech
  - Seizures
- New onset of psychiatric symptoms
- Accommodating psychiatric facility

**Medical Clearance Checklist**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>1. Does the patient have new psychiatric condition?</td>
<td></td>
<td></td>
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<tr>
<td>2. Any history of active medical illness needing evaluation?</td>
<td></td>
<td></td>
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<tr>
<td>3. Any abnormal vital signs prior to transfer?</td>
<td></td>
<td></td>
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<tr>
<td>4. Any abnormal physical exam (unclothed)?</td>
<td></td>
<td></td>
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<tr>
<td>5. Any abnormal mental status indicating medical illness?</td>
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If no to all of the above questions, no further evaluation is necessary.
The Term “Medically Clear”

- Poor documentation of medical examination of psychiatric patients
  - 298 charts reviewed in 1991 at one hospital
  - Physician deficiencies was mental status in 20%
  - Term “medically clear” documented in 80%

- Tintinalli states the term “Medically Clear” should be replaced by a discharge note
  - History and physical examination
  - Mental status and neurologic exam
  - Laboratory results
  - Discharge instructions
  - Follow up plans

- Other use the term “medically stable”
Case #1 64 year old female is brought to the hospital for manic behavior. Patient has multiple medical problems but no prior psychiatric history.

- **What information is needed?**
  - Prior psychiatric history - none
  - History of medical problems – DM, HTN, CVAs
  - Use of drugs and alcohol - Denies

- **What to look for in the physical exam?**
  - Vital signs – tachycardia & hypertensive
  - Focal deficits – right sided weakness
  - Signs of intoxication – Heightened consciousness

- **What testing is indicated?**
  - CBC, electrolytes, thyroid, UDS, alcohol level
  - EKG, CT scan head, CXR
Case #2  36 year old male with schizophrenia was brought in by the family because he stopped taking his medication and is getting violent at home.

- **What information is needed?**
  - Prior psychiatric history - Yes
  - History of medical problems – noncontributory
  - Drug and alcohol use – admits to alcohol

- **What to look for in the physical exam?**
  - Vital signs – normal
  - Mental status exam – auditory hallucinations
  - Physical exam – unremarkable
  - Signs of intoxication – none

- **What is testing is indicated?** None

- **He now becomes more agitated**
  - What is the treatment of choice?
Agitation Assessment
How is Agitation Assessed and Graded?

“I know it when I see it”

Tools

- Agitated Behavior Scale
  - 14 item observation of behavior from absent to present to an extreme degree

- Overt Aggression Scale
  - Assesses verbal aggression, physical aggression against objects, self, other people and interventions

- Richardson Agitation Sedation Scale
  - Scored from combative to unarousable based on observation

- PANSS (Positive and Negative Syndrome Scale)
  - Hostility, uncooperative, impulsivity, tension & excitable
  - Used in clinical trials
Level of Agitation of Patients Presenting to an Emergency Department

- Of that total, 53 had no restraints, 47 had restraints.
- The agitation scales decreased over time in both groups.
- Two of the 47 restrained patients on the ABS were rated severely agitated.

![Agitated Behavior Scale](image)
Reason to treat agitated patients

- Patient distress
- Prevent progression and violence
  - Up to 50% ED staff victims of violence
- Better able to assess the patient
  - 17 of 20 medical directors stated that the patients are so agitated that it is difficult to get vital signs.
  - 14 of 20 said the protocol was to physically restrain patients and medicate them prior to a medical work-up
- Begin therapeutic process
  - Collaborative interactions
  - Elicit information
  - Patients say all they want
  - Include patients in planning
  - Empathize
Treatment

- Verbal de-escalation
- Physical restraints
- Seclusion
- Chemical treatment
- Combination
10 Domains of De-Escalation


- Respect personal space
- Do not be provocative
- Establish verbal contact
- Be concise
- Identify wants and feelings
- Listen closely to what the patient is saying
- Agree or agree to disagree
- Lay down the law and set clear limitations
- Other choices and optimism
Physical Restraints
Alternatives to Restraint Use

Surveyed a random sample of ED and all Psychiatric EDs in the country.

Almost all EDs (90%) and Psych EDs use alternatives (98%)

Alternatives used

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Frequency</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal</td>
<td>84%</td>
<td>36%</td>
</tr>
<tr>
<td>One to one</td>
<td>79%</td>
<td>48%</td>
</tr>
<tr>
<td>Decrease in stimulation</td>
<td>74%</td>
<td>15%</td>
</tr>
<tr>
<td>Food or drink</td>
<td>69%</td>
<td>18%</td>
</tr>
</tbody>
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The purpose of the study was to determine the type and rate of complications of patients restrained in the ED over 1 year. 221 patients were restrained in the ED. Mean of 4.78 hours - Range .2-24 hrs. Position - Supine position (87.1%). Chemical restraints were added (28.6%). Complication rate 5.4%. No major complications such as death or disability.
Seclusion Use in Emergency Medicine


- Defined as involuntary confinement of a patient alone in a room
- Survey study of a random sample of 1067 US EDs medical directors
- 27.8% use seclusion
- Reasons not to use seclusion
  - Problems with physical plant 50.2%
  - Concern over safety 36.5%
  - Too many regulations 19.7%
Medication Recommendations

First Generation Anti-Psychotics

- General
  - Use non-pharmacologic approaches first
  - Use medication tailored to diagnosis
  - Adjust medication to level of agitation

- First generation antipsychotics - Haloperidol and Droperidol
  - Minimal effect on vital signs, anticholinergic and interaction with other antipsychotic meds
  - Prolongs QT interval
  - EPS/acute dystonic reactions in 6-20%
  - Avoid IV use
Medication Recommendations
Second Generation Antipsychotics

Administration options
- Olanzepine, Ziprosidone, Aripiprazole – IM & oral
- Risperidone and Quetiapine – oral

Recommendations
- No head to head trials
- Risperidone = haloperidol + lorazepam - IM
- Risperidone = haloperidol = Olanzepine - oral
- Aripiprazole, Quetiapine and Clozapine – not recommended
Ketamine Use in Agitated Patients

**Use in EMS**
  - Given to 40 agitated patients
  - Recommend use even in head trauma patients
  - 1-5 mg/kg IV or IM with no adverse events

**Use in the ED**
  - Compared ketamine to benzo, haloperidol, and haldol+benzo
  - Ketamine 4 mg/kg IM or 1mg/kg IV
  - Ketamine group were no longer agitated than other other medication
  - 2 ketamine, 1 each of the other groups were intubated
Use of Antihistamines

- Questionable use as solo agent
  - For use with typical anti-psychotics
  - To prevent acute dystonic reactions
    - Studies done on daily use on adverse events
    - More frequent in initiation of treatment
    - More frequent in young males
- Increases sedation
- Can cause paradoxical agitation
- No good evidence for its routine use in ED
Need for Benzos in Combination

Reviewed 11 studies of 648 patients

- Comparison of benzos alone
  - Sedation equally prevalent
  - Fewer people remained excited after 24 hours with benzos
  - Similar incidence of adverse events

- Comparison of benzos to antipsychotics
  - Higher incidence of extrapyramidal symptoms in antipsychotic group

- Combination treatment thought to have higher incidence of over sedation
Structured literature review

11 articles were used with ED time course

Oral medications are as effective as IM in rapid reduction of psychotic agitation

Consider risperidone 2mg with or without lorazepam 2 mg or olanzapine 10mg

Did not include extreme agitation
QT Prolongation


Prolongation of QT (msec)

- Ziprasidone 20.3
- Quetiapine 14.5
- Droperidol 15-59
- Risperidone 11.6
- Olanzapine 6.8
- Thioridazine 35.6
- Haloperidol 4.6

Findings

- Thioridazine is most marked associated with Torsade
- Haloperidol can cause Torsade and sudden death
- Olanzapine, Risperidone and Quetiapine does not cause Torsade

Concerns

- Young patients who have family history of prolonged QT
- Older patients with known heart disease or drugs that prolong QT need a pretreatment EKG
- Hypokalemia may predispose to QT prolongation
Increased violent behavior


- 16 male schizophrenic patients resistant to previous neuroleptic treatment
- Comparison of Haloperidol to Clozapine or Chlorpromazine
- Significantly more violent episodes occurred with haloperidol than other meds or placebo
- Could this be from akathisia or drug-induced behavioral toxicity
Medication Recommendations Due to Intoxication


- Drugs
  - Most recreation drugs-Benzodiazepines
  - Chronic amphetamine use with psychotic symptoms-2nd generation antipsychotic + benzo

- Alcohol
  - Acute intoxication
    - Avoid benzodiazepine
    - Consider haloperidol, olanzepine or risperidone

- Withdrawal-Benzodiazepine
Special populations

- Pregnant
  - High-potency conventional antipsychotics (lack of known teratogenicity)

- Children
  - Benzodiazepines or butyrophenones
  - Atypical Antipsychotics - risperidone or olanzapine
Agitation Treatment in Demented Elderly

D.P. Devanand, M.D.

Agitation in the Elderly with Dementia

Psychosis, Agitation, and Antipsychotic Treatment in Dementia.

Black boxed warning increased mortality risk was based on a meta-analysis of placebo-controlled short-term trials of antipsychotics.

- Haloperidol has a higher rate of mortality than atypical antipsychotics.
- Risperidone is approved in Germany for the treatment of behavioral dementia.
- Completely avoiding the use of antipsychotics is not feasible.
- Start the medication at a low dosage and to raise the dosage slowly.
Chemical Treatment

Patient presents to the ER with a psychiatric complaint

Decrease stimulation, offer food, phone call or family comfort as alternative to restraints. If failed calculate SAT score

Obtain Sedation Assessment Tool/SAT score

Physical Restraints (SAT> +2)
Physically restraint patient. If patient continues to have a SAT> +2 after restraints go to chemical restraints

SAT (+1 & +2)

Chemical Treatment

SAT (> +3)

Refuses PO
Olanzapine 5-10 mg IM or Lorazepam 1-2 mg IM +/- Haloperidol 5-10 mg IM (Place on Pulse oximetry and monitor for sedation)

Will take PO
Lorazepam 1 mg po +/- Haloperidol 5 mg po or Olanzapine ODT 5 mg

Repeat SAT score 40-60 min
Goal score: 0 & -1
May repeat if SAT> +1

Repeat SAT score 40-60 min
Goal score: 0 & -1
May repeat if SAT> +1

Table:

<table>
<thead>
<tr>
<th>score</th>
<th>Responsiveness</th>
<th>Speech</th>
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<tbody>
<tr>
<td>+3</td>
<td>combative, violent, out of control</td>
<td>continual loud outbursts</td>
</tr>
<tr>
<td>+2</td>
<td>very anxious and agitated</td>
<td>loud outbursts</td>
</tr>
<tr>
<td>+1</td>
<td>anxious/responsive</td>
<td>normal / talkative</td>
</tr>
<tr>
<td>0</td>
<td>awake and calm/cooperative</td>
<td>normal</td>
</tr>
<tr>
<td>-1</td>
<td>asleep but answers if name called</td>
<td>slurring or prominent slowing</td>
</tr>
<tr>
<td>-2</td>
<td>responds to physical stimulation</td>
<td>few recognizable words</td>
</tr>
<tr>
<td>-3</td>
<td>no response to stimulation</td>
<td>nil</td>
</tr>
</tbody>
</table>
Case #2  36 year old male with schizophrenia was brought in by the family because he stopped taking his medication and is getting violent at home.

- He now becomes more agitated

- What is the treatment of choice?
  - De-Escalation was unsuccessful
  - SAT score of +3
  - Patient given Haloperidol and Lorazepam

- Agitation re-evaluated in one hour
  - Patient had score of 0
Take Home Point

Testing

- Test indicated for patients with new onset of psychiatric illness
- Testing rarely indicated for patients with known psychiatric illness
- The use of a protocol is useful for the medical clearance process
- Assess level of agitation
- Use de-escalation, if possible
- Determine treatment based on underlying condition and level of agitation
Contact Information

Leslie Zun, MD
leszun@gmail.com
773-426-3763

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