

FERNE: Clinical Guidelines

Andy Jagoda, MD, FACEP

Clinical Guidelines: Improving Management of Patients with Behavioral Emergencies



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What is your background?

1. Psychiatrist
2. Internist
3. Emergency physician
4. Nurse
5. Non-physician

How many years have you been providing patient care?

1. In training
2. < 3 years
3. 3 – 5 years
4. 6-10 years
5. > 10 years

Emergency physicians should be able to competently evaluate their patients for depression, psychosis, and capacity:

1. True
2. False

Psychiatrists should be able to medically evaluate their own patients by performing a complete history and physical examination?

1. True
2. False

Background

- 110 million ED visits a year in the USA 2005
 - 2 – 5% growth per year
- 2% to 12% of patients presenting to the ED have a psychiatric complaint
- 25% to 50% of patients with psychiatric illness also have a medical disorder that can contribute to acute disturbances in thought, behavior, mood, or social relationships
- 4% to 12% of psych inpatients have a medical condition identified as precipitating the admission

Tintinalli et al. Ann Emerg Med 1994; 23:859
Dolan et al. Arch Intern Med 1985; 145: 2085

Clinical Policies / Practice Guidelines / Practice Parameters
www.guideline.gov

“Systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances”

“Represent an attempt to distill a large body of medical knowledge into a convenient, readily usable format”

INSTITUTE OF MEDICINE 1990
HAYWARD ET AL. JAMA 1995

Why are clinical policies being written?

- Differentiate “evidence based” practice from “opinion based”
 - Clinical decision making
 - Education
 - Reducing the risk of legal liability for negligence
- Improve quality of health care
 - Assist in diagnostic and therapeutic management
- Improve resource utilization
 - May decrease or increase costs
- Identify areas in need of research

Clinical Policies / Practice Guidelines

- Thousands in existence
- ACEP: 15
 - Chest Pain 1990
- Multi-disciplinary initiatives
- National Guideline Clearinghouse:
 - www.guideline.gov
 - Over 1700 guidelines registered

Guideline Development: Time and Cost

- Time: 1 - 5 YEARS
- Cost:
 - ACEP: \$10,000
 - AANS: \$100,000
 - AHCPR: \$1,000,000
 - WHO: \$2,000,000

Interpreting the literature

- Terminology
 - Exacerbation of psychotic dx vs acute agitation
- Patient population
 - Adult vs children
 - ED patients vs hospitalized patients
- Interventions / outcomes
 - Abnormal test vs test result that changes management

Critically Appraising Clinical Policies

- Why was the topic chosen
- What are the authors' credentials
 - Were emergency physicians included
- What methodology was used
 - Consensus vs evidence based
- How as it reviewed
- When was it written / updated

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Cabana et al. Why don't physicians follow clinical practice guidelines. JAMA 1999; 282:1458-1465

- Review of 76 articles dealing with adherence
- Barriers to physician adherence identified:
 - Lack of familiarity (more common than lack awareness)
 - Lack of agreement
 - Lack of self-efficacy (lack of access to intervention, lack of resources / support / social systems)
 - Lack of outcome expectancy (lack of confidence that an intervention will change the outcome)
 - Patient related barriers (inability to overcome patient expectation)

Guideline Development

- Consensus
- Evidence based

Consensus

- Group of experts assemble
- "Global subjective judgement"
- Recommendations not necessarily supported by scientific evidence
- Limited by bias

Consensus: Examples

- Hyperventilation in severe TBI
- Narcotics in migraine headache therapy
- Thiamine before glucose
- Benzodiazepines in agitated elderly

Evidence Based Guidelines

- Define the clinical question
 - Focused question better than global question
 - Outcome measure must be determined
- Grade the strength of evidence
- Incorporate practice patterns, available expertise, resources and risk benefit ratios

Description of the Process

- Medical literature search
- Secondary search of references
- Articles graded
- Recommendations based on strength of evidence
- Multi-specialty and peer review

Description of the Process

Strength of evidence (Class of evidence)

- **I:** Randomized, double blind interventional studies for therapeutic effectiveness; prospective cohort for diagnostic testing or prognosis
- **II:** Retrospective cohorts, case control studies, cross-sectional studies
- **III:** Observational reports; consensus reports

Strength of evidence can be downgraded based on methodological flaws

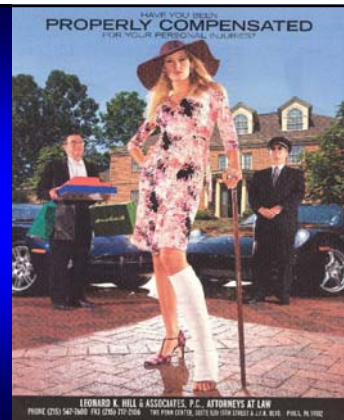
Description of the process:

Strength of recommendations:

- **A / Standard:** Reflects a high degree of certainty based on Class I studies
- **B / Guideline:** Moderate clinical certainty based on Class II studies
- **C / Option:** Inconclusive certainty based on Class III evidence

Evidence Based Guidelines: Limitations

- Different groups can read the same evidence and come up with different recommendations
- Outcome measure can be major factor
 - MTBI
 - t-PA in stroke



Medical Legal Implications

- Clinical policies can set standards for care and have been used in malpractice litigation
- May protect against “expert” testimony
 - Regional practice vs national “standards”
 - Steroids in spinal trauma
- Clinical policies developed using flawed methodology may be challenged
 - Consensus / Policy statements

Clinical Policies and Behavioral Emergencies

- APA Practice Guideline: Treatment of Patients with Delirium 1999
- AAEP Consensus: 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

APA Practice Guideline: Treatment of Patients with Delirium

- Evidence based document but poorly defined methodology
 - In essence, a consensus document
- Three levels of recommendations:
 - I – Recommended with substantial clinical confidence
 - II – Recommended with moderate clinical confidence
 - III – May be recommended on the basis of individual circumstances

AAP. Practice guideline for the treatment of patients with delirium. Am J Psychiatry 1999; 156 (suppl):1-20

- Psychiatric management is an essential feature of treatment for delirium and should be implemented for all patients with delirium (I)
- Environmental and supportive interventions are recommended to reduce or eliminate environmental factors that exacerbate delirium (I)
- Choice of somatic interventions for delirium will depend on the specific features of a patient's clinical condition and underlying etiology (I)

AAP. Practice guideline for the treatment of patients with delirium. Am J Psychiatry 1999; 156 (suppl):1-20

- Monotherapy with a typical antipsychotic: haloperidol or droperidol (I)
 - Droperidol has a faster onset and less frequent need for a second dose
 - Need to monitor ECG (I)
- Benzodiazepines as a monotherapy is reserved for delirium from drug withdrawal (I)
 - Generally avoided as monotherapy in the elderly
 - Lorazepam possibly preferred in patients with liver disease
- Combined therapy of a antipsychotic plus a benzodiazepine may have faster onset of action with fewer side effects (III)

AAEP: Treatment of Behavioral Emergencies
www.psychiatricpractice.com

- 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

- Medical assessment in the agitated patient:
 - Consensus supported a physical exam including head trauma, respiration, heart rhythm, color, smell of alcohol, pupils, lacerations, nuchal rigidity, and fractures
 - Laboratory testing: blood sugar, urine for toxicology

AAEP: Treatment of Behavioral Emergencies
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

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AAEP: Treatment of Behavioral Emergencies 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

- 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.

Clinical Policy: Critical Issues in the Diagnosis and Management of the Adult Psychiatric Patient in the Emergency Department. Ann Emerg Med 2006; 47: 79-99

- Evidence based guideline jointly developed with the American Association of Emergency Psychiatrists
- All literature reviewed and graded by at least 2 members of the Committee
- Evidentiary tables constructed
- 4 critical issues addressed:
 - 0 Level A recommendations
 - 5 Level B recommendations
 - 5 Level C recommendations

Clinical Policy: Critical Issues in the Diagnosis and Management of the Adult Psychiatric Patient in the Emergency Department. Ann Emerg Med 2006; 47: 79-99

- Reasons for creating the Clinical Policy:
 - Emergency physicians and psychiatrists work together in treating patients with behavioral complaints
 - “Medical clearance” vs “focused medical assessment”

ACEP Clinical Policy

1. What testing is necessary in order to determine medical stability in alert, cooperative patients with normal vital signs, a noncontributory history and physical exam, and psychiatric symptoms?
2. Do the results of a urine drug screen for drugs of abuse affect management in alert, cooperative patients with normal vital signs, a noncontributory history and physical exam, and a psychiatric complaint?
3. Does an elevated alcohol level preclude the initiation of a psychiatric evaluation in alert, cooperative patients with normal vital signs and a noncontributory history and physical examination?
4. What is the most effective pharmacologic treatment for the acutely agitated patient in the ED?

What testing is necessary in order to determine medical stability in alert, cooperative patients with normal vital signs, a noncontributory history and physical exam, and psychiatric complaints?

- Excludes delirium
- Emphasizes the need for a history and physical examination
- No well designed prospective studies
 - Olshaker et al: Retrospective review of 352 patients
- Level B Recommendation: In adult ED patients with primary psychiatric complaints, diagnostic evaluation should be directed by the history and physical exam. Routine lab testing of all patients is of very low yield and need not be performed as part of the ED assessment.

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Do the results of a urine drug screen for drugs of abuse affect management in alert, cooperative patients with normal vital signs, a noncontributory history and physical exam, and a psychiatric complaint?

- Not definitive (false negatives); Rarely changes management
 - May impact psychotherapeutic interventions
- No Class I or II studies
- Shiller et al: prospective study, 392 patients randomized to mandatory urine tox screen vs "usual care" – no difference in inpatient or outpatient disposition
- Level C Recommendation: Routine urine tox screen need not be performed as part of the ED assessment; when obtained, results should not delay patient psychiatric evaluation or transfer.

Psychiatr Serv 2000; 51:474

Does an elevated alcohol level preclude the initiation of a psychiatric evaluation in alert, cooperative patients with normal vital signs and a noncontributory history and physical examination?

- Alcohol is a CNS depressant, can cause emotional lability, and may uncover underlying psychopathology
- There is no good data to support a specific alcohol blood level that correlates with accurate decision-making
- Level C Recommendation: The patient's cognitive abilities, rather than a specific blood alcohol level should be the basis on which clinicians begin the psychiatric assessment. Consider using a period of observation to determine if psychiatric symptoms resolve as the episode of intoxication resolves.

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

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

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

- Conventional antipsychotics:
 - Most experience with haloperidol
- Droperidol, a butyrophenone, has rapid onset but became controversial due to ECG concerns
 - Richards et al: Class II study comparing droperidol to lorazepam showed faster onset and less agitation and less sedation

J Emerg Med 1998; 16:567-573

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

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

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

- **Level B Recommendation:**
 - Use a combination of oral risperidone and lorazepam for agitated but cooperative patients.
 - Use an antipsychotic, typical or atypical, as effective monotherapy for both management of agitation and initial drug therapy for the patient with known psychiatric illness for which antipsychotic are indicated
- **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

Addendum: Pharmacotherapy

- Randomized double blind clinical trial comparing IV midazolam and droperidol for sedation of the acutely agitated patient in the ED. Ann Emerg Med 2006; 47:61-67
 - 74 patients midazolam 5 mg / 79 patient droperidol 5 mg
 - 35% drug related / 65% mental illness related
 - No difference in sedation at 10 min
 - 3 patients receiving droperidol had dystonic reaction
 - 3 patients receiving midazolam needed airway support
- Midazolam had a slightly faster onset of action but more need for rescue med within one hour; droperidol lasted longer but risk of dystonic reaction

Addendum: Pharmacotherapy

- Management of acute undifferentiated agitation in the ED: A randomized double blind trial of droperidol 5 mg, ziprasidone 20 mg, and midazolam 5 mg
- Convenience sample of 144 patients (primarily drug / alcohol intoxication, head trauma)
 - Midazolam fastest sedation but more frequent rescue meds
 - Midazolam had more respiratory depression / no intubations
 - Ziprasidone slowest onset but equal to droperidol at 30 min; more reported akathisia; deeper sedation
- Study does not demonstrate a benefit of ziprasidone in any category

Clinical Guidelines: Conclusions

- Guideline development lends itself to a multi-disciplinary approach and helps to identify best practice patterns
- Evidence based clinical policies are useful tools in clinical decision making
- Clinical policy development must be rigorous
- Clinical policies do not create a "standard of care" and do not necessarily override clinical acumen
- Clinical policy dissemination continues to be a challenge

