Complete Summary

GUIDELINE TITLE

Practice guideline for the treatment of patients with delirium.

BIBLIOGRAPHIC SOURCE(S)

American Psychiatric Association. Practice guideline for the treatment of patients with delirium. American Psychiatric Association. Am J Psychiatry 1999 May;156(5 Suppl):1-20. [135 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

According to the guideline developer, this guideline is still considered to be current as of December 2004, based on a review of literature published since the original guideline publication.

In addition, a Guideline Watch, which summarizes significant developments in practice since the publication of the original guideline, was published in August 2004 and is available from the American Psychiatric Association Web site (see also the "Availability of Companion Documents" field below).

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- September 17, 2007, Haloperidol (Haldol): Johnson and Johnson and the U.S. Food and Drug Administration (FDA) informed healthcare professionals that the WARNINGS section of the prescribing information for haloperidol has been revised to include a new Cardiovascular subsection.
- May 2, 2007, Antidepressant drugs: Update to the existing black box warning on the prescribing information on all antidepressant medications to include warnings about the increased risks of suicidal thinking and behavior in young adults ages 18 to 24 years old during the first one to two months of treatment.

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Delirium

GUIDELINE CATEGORY

Treatment

CLINICAL SPECIALTY

Neurology
Psychiatry

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To assist the psychiatrist in caring for a patient with delirium.

TARGET POPULATION

Patients diagnosed with delirium according to DSM-IV criteria for the disorder.

INTERVENTIONS AND PRACTICES CONSIDERED

Psychiatric management

- Coordinating the care of the patient with other clinicians
- Identifying the underlying cause(s) of the delirium
- Initiating immediate interventions for urgent general medical conditions
- Providing treatments that address the underlying etiology of the delirium
- Assessing and ensuring the safety of the patient and others
- Assessing the patient's psychiatric status and monitoring it on an ongoing basis
- Assessing individual and family psychological and social characteristics

- Establishing and maintaining a supportive therapeutic stance with the patient, the family, and other clinicians
- Educating the patient, family, and other clinicians regarding the illness
- Providing postdelirium management to support the patient and family and providing education regarding risk factors for future episodes.

Environmental and supportive interventions:

- Providing an optimal level of environmental stimulation
- Reducing sensory impairments
- Making environments more familiar
- Providing environmental cues that facilitate orientation
- Providing patients with reorientation, reassurance, and information concerning delirium
- Informing the nursing staff, general medical physicians, and family members of the importance of supportive interventions

Somatic interventions:

- Antipsychotic medications including haloperidol (orally, intramuscularly, or intravenously); droperidol, either alone or followed by haloperidol; newer antipsychotic medications (risperidone, olanzapine, and quetiapine)
- Benzodiazepine treatment or cholinergics such as physostigmine, or multivitamin replacement, based on etiology of delirium
- Palliative treatment with opiates

MAJOR OUTCOMES CONSIDERED

Severity of delirium symptoms

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A computerized search of the relevant literature from MEDLINE, PsycINFO, and EMBASE was conducted.

The first literature search was conducted by searching MEDLINE for the period 1966 to April 1996 and used the key words "organic mental disorders," "psychotic," "delirium," "delusions," "acute organic brain syndrome," "alcohol amnestic disorder," "psychoses," "substance-induced," and "intensive care psychosis" with "haloperidol," "droperidol," "antipsychotic agents," "physostigmine," "tacrine," "cholinergic agents," "benzodiazepines," "thiamine," "folic acid," "vitamin b 12," "vitamins," "morphine," "paralysis," "electroconvulsive therapy," "risperidone," and "neuroleptic malignant syndrome." A total of 954 citations were found.

A second search in MEDLINE was completed for the period 1995 to 1998 and used the key words "delirium," "dementia," "amnestic," "cognitive disorders," and "delusions" with "haloperidol," "droperidol," "antipsychotic agents," "physostigmine," "tacrine," "cholinergic agents," "benzodiazepines," "vitamins," "morphine," "paralysis," "electroconvulsive therapy," "risperidone," and "neuroleptic malignant syndrome." A total of 1,386 citations were found.

The literature search conducted by using PsycINFO covered the period 1967 to November 1998 and used the key words "delirium" and "treatment & prevention" with "psychosocial," "behavioral," "restraint," "seclusion," "isolation," "structure," "support," "sensory deprivation," "orient$," "reorient$," and "delirium tremens." A total of 337 citations were found.

An additional literature search was conducted by using EMBASE for the period 1985 to November 1998 and used the key word "delirium" with "vitamins," "morphine," "paralysis," "electroconvulsive therapy," and "neuroleptic malignant syndrome." A total of 156 citations were found.

NUMBER OF SOURCE DOCUMENTS

- MEDLINE, 1966 to April 1996: 954 citations
- MEDLINE, 1995-1998: 1,386 citations
- PsychINFO: 337 citations
- EMBASE: 156 citations

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Once a topic is chosen for guideline development, a work group is formed to draft the guideline. By design, the work group consists of psychiatrists in active clinical practice with diverse expertise and practice experience relevant to the topic. Policies established by the Steering Committee guide the work of systematically reviewing data in the literature and forging consensus on the implications of those data, as well as describing a clinical consensus. These policies, in turn, stem from criteria formulated by the American Medical Association to promote the development of guidelines that have a strong evidence base and that make optimal use of clinical consensus.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Each recommendation is identified at falling into one of three categories of endorsement, indicated by a bracketed Roman numeral following the statement. The three categories represent varying levels of clinical confidence regarding the recommendation:

[I] Recommended with substantial clinical confidence.

[II] Recommended with moderate clinical confidence.

[III] May be recommended on the basis of individual circumstances.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guideline development process involved the production of multiple drafts with widespread review, in which 12 organizations and over 83 individuals submitted comments and approval by the American Psychiatric Association Assembly and Board of Trustees.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The following executive summary is intended to provide an overview of the organization and scope of recommendations in this practice guideline. The treatment of patients with delirium requires the consideration of many factors and cannot be adequately reviewed in a brief summary. The reader is encouraged to consult the relevant portions of the guideline when specific treatment recommendations are sought. This summary is not intended to stand on its own.

Each recommendation is identified as falling into one of three categories of endorsement, indicated by a bracketed Roman numeral following the statement. The three categories represent varying levels of clinical confidence regarding the recommendations:

[I] recommended with substantial clinical confidence.

[II] recommended with moderate clinical confidence.

[III] may be recommended on the basis of individual circumstances.

1. **Psychiatric management**
   Psychiatric management is an essential feature of treatment for delirium and should be implemented for all patients with delirium [I]. The specific tasks that constitute psychiatric management include the following: coordinating the care of the patient with other clinicians; identifying the underlying cause(s) of the delirium; initiating immediate interventions for urgent general medical conditions; providing treatments that address the underlying etiology of the delirium; assessing and ensuring the safety of the patient and others; assessing the patient's psychiatric status and monitoring it on an ongoing basis; assessing individual and family psychological and social characteristics; establishing and maintaining a supportive therapeutic stance with the patient, the family, and other clinicians; educating the patient, family, and other clinicians regarding the illness; and providing postdelirium management to support the patient and family and providing education regarding risk factors for future episodes.

2. **Environmental and supportive interventions**
   These interventions are generally recommended for all patients with delirium [I]. Environmental interventions are designed to reduce or eliminate environmental factors that exacerbate delirium. They include providing an optimal level of environmental stimulation, reducing sensory impairments, making environments more familiar, and providing environmental cues that facilitate orientation. Cognitive-emotional supportive measures include providing patients with reorientation, reassurance, and information concerning delirium that may reduce fear or demoralization. In addition to providing such supportive interventions themselves, it may be helpful for psychiatrists to inform nursing staff, general medical physicians, and family members of their importance.

3. **Somatic interventions**
   The choice of somatic interventions for delirium will depend on the specific features of a patient's clinical condition, the underlying etiology of the delirium, and any associated comorbid conditions [I]. Antipsychotic medications are often the pharmacologic treatment of choice [I]. Haloperidol is most frequently used because it has few anticholinergic side effects, few active metabolites, and a relatively small likelihood of causing sedation and hypotension. Haloperidol may be administered orally, intramuscularly, or

intravenously and may cause fewer extrapyramidal symptoms when administered intravenously. Haloperidol can be initiated in the range of 1-2 mg every 2-4 hours as needed (0.25-0.50 mg every 4 hours as needed for elderly patients), with titration to higher doses for patients who continue to be agitated. For patients who require multiple bolus doses of antipsychotic medications, continuous intravenous infusions of antipsychotic medication may be useful (e.g., haloperidol bolus, 10 mg i.v., followed by continuous intravenous infusion of 5-10 mg/hour; lower doses may be required for elderly patients). For patients who require a more rapid onset of action, droperidol, either alone or followed by haloperidol, can be considered. Recently some physicians have used the newer antipsychotic medications (risperidone, olanzapine, and quetiapine) in the treatment of patients with delirium. Patients receiving antipsychotic medications for delirium should have their ECGs monitored [I]. A QTc interval greater than 450 msec or more than 25% over baseline may warrant a cardiology consultation and reduction or discontinuation of the antipsychotic medication.

Benzodiazepine treatment as a monotherapy is generally reserved for delirium caused by withdrawal of alcohol or sedative-hypnotics [I]. Patients with delirium who can tolerate only lower doses of antipsychotic medications may benefit from the combination of a benzodiazepine and antipsychotic medication [III].

Other somatic interventions may be considered for patients with delirium who have particular clinical conditions or specific underlying etiologies. Cholinergics such as physostigmine may be useful in delirium known to be caused specifically by anticholinergic medications [II]. Paralysis, sedation, and mechanical ventilation may be required for agitated patients with delirium and hypercatabolic conditions [III]. Palliative treatment with opiates may be needed by patients with delirium for whom pain is an aggravating factor [III]. Multivitamin replacement should be given to patients with delirium for whom there is the possibility of B vitamin deficiencies (e.g., those who are alcoholic or malnourished) [II].

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

Environmental and supportive interventions: These interventions are recommended for all patients with delirium, on the basis of some formal evidence but mainly because of the value observed through clinical experience and the absence of adverse effects.

Somatic interventions: Evidence for the efficacy of antipsychotics in treating delirium has come from numerous case reports and uncontrolled trials. A series of controlled trials also showed that antipsychotic medications can be used to treat agitation and psychotic symptoms in medically ill and geriatric patient

populations. A randomized, double-blind comparison trial identified delirium by using standardized clinical measures and demonstrated the clinical superiority of antipsychotic medications over benzodiazepines in delirium treatment. Two double-blind clinical trials comparing droperidol to haloperidol suggested that a more rapid response may be obtained with droperidol. There has been very little study of the newer antipsychotic medications (risperidone, olanzapine, and quetiapine) in the treatment of delirium.

To identify the type of evidence supporting the major recommendations in the full-text practice guide, each is keyed to one or more references and each reference is followed by a letter code in brackets that indicates the nature of the supporting evidence. Minor recommendations not keyed to references may be assumed to be based on expert opinion.

The bracketed letter following each reference indicates the nature of the supporting evidence, as follows:

[A] Randomized controlled clinical trial

[B] Nonrandomized case-control study

[C] Nonrandomized cohort study

[D] Clinical report with nonrandomized historical comparison groups

[E] Case report or series

[F] Expert consensus

[G] Subject review subsuming multiple categories A-E

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Psychiatric management tasks are designed to provide immediate interventions for urgent general medical conditions, identify and treat the etiology of the delirium, ensure safety, and improve the patient's functioning.

Environmental and supportive interventions are designed to reduce factors that may exacerbate delirium, to reorient patients, and to provide them with support.

Somatic intervention with antipsychotic medications has demonstrated efficacy in the treatment of psychotic symptoms. Other somatic interventions may be of help in particular cases of delirium due to specific etiologies or with particular clinical features.

POTENTIAL HARMS

Side effects associated with somatic interventions:

Haloperidol and droperidol are considered the safest and most effective antipsychotics for delirium. Haloperidol is associated with few or no anticholinergic side effects, minimal cardiovascular side effects and no active metabolites.

Droperidol is associated with greater sedation and hypotensive effects than haloperidol, however, it is also associated with the advantages of more rapid onset of action and a shorter half-life than haloperidol.

The use of antipsychotic medications, including haloperidol, can be associated with neurological side effects, such as the development of extrapyramidal side effects, tardive dyskinesia, and neuroleptic malignant syndrome.

Haloperidol has been found in some instances to lengthen the QT interval, which can lead to torsades de pointes, a form of polymorphic ventricular tachycardia that can degenerate to ventricular fibrillation and sudden death. Estimates of the incidence of torsades de pointes among patients with delirium treated with intravenous haloperidol have ranged from four out of 1,100 patients to eight out of 223 patients. Although development of this serious event has been associated with higher intravenous doses (>35 mg/day) of haloperidol, it is important to note that torsades de pointes has also been reported with low-dose intravenous haloperidol and oral haloperidol as well. Droperidol has also been associated with lengthening of the QT interval, and it may also be associated with torsades de pointes and sudden death.

Other side effects of antipsychotic medication use can rarely include lowering of the seizure threshold, galactorrhea, elevations in liver enzyme levels, inhibition of leukopoiesis, neuroleptic malignant syndrome, and withdrawal movement disorders.

Side effects of other pharmacologic agents used in the treatment of delirium are discussed in the guideline document.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This guideline is not intended to be construed or to serve as a standard of medical care. Standards of medical care are determined on the basis of all clinical data available for an individual case and are subject to change as scientific knowledge and technology advance and patterns evolve. These parameters of practice should be considered guidelines only. Adherence to them will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care aimed at the same results. The ultimate judgment regarding a particular clinical procedure or treatment plan must be made by the psychiatrist in light of the clinical data presented by the patient and the diagnostic and treatment options available.

This practice guideline has been developed by psychiatrists who are in active clinical practice. In addition, some contributors are primarily involved in research or other academic endeavors. It is possible that through such activities some contributors have received income related to treatments discussed in this guideline. A number of mechanisms are in place to minimize the potential for producing biased recommendations due to conflicts of interest. The guideline has been extensively reviewed by members of the American Psychiatric Association (APA) as well as by representatives from related fields. Contributors and

reviewers have all been asked to base their recommendations on an objective evaluation of the available evidence. Any contributor or reviewer who has a potential conflict of interest that may bias (or appear to bias) his or her work has been asked to notify the APA Office of Research. This potential bias is then discussed with the work group chair and the chair of the Steering Committee on Practice Guidelines. Further action depends on the assessment of the potential bias.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Patient Resources
Quick Reference Guides/Physician Guides
Staff Training/Competency Material

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Patient-centeredness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1999 May (reviewed 2004 Dec)

GUIDELINE DEVELOPER(S)

American Psychiatric Association - Medical Specialty Society

SOURCE(S) OF FUNDING

American Psychiatric Association

GUIDELINE COMMITTEE

Steering Committee on Practice Guidelines

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

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GUIDELINE AVAILABILITY

Electronic copies: Available from the American Psychiatric Association Web site.

Print copies: Available from the American Psychiatric Press, Inc (APPI), 1000 Wilson Boulevard, Suite 1825, Arlington, VA 22209-3901; (703) 907-7322; (800) 368-5777; Fax (703) 907-1091.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- American Psychiatric Association practice guideline development process. In: Practice Guidelines for the Treatment of Psychiatric Disorders: Compendium 2000. Washington, DC: APA, 2000.
- Treating delirium: A quick reference guide for psychiatrists. Washington, DC: American Psychiatric Association, 1999. 14 p. Electronic copies: Available in Portable Document Format (PDF) from the American Psychiatric Association Web site.
- Cook IA. Guideline watch: practice guideline for the treatment of patients with delirium. Arlington (VA): American Psychiatric Association; 2004 Aug. 7 p. Electronic copies available in Portable Document Format (PDF) from the American Psychiatric Association Web site.

Print copies: Available from the American Psychiatric Press, Inc (APPI), 1000 Wilson Boulevard, Suite 1825, Arlington, VA 22209-3901; (703) 907-7322; (800) 368-5777; Fax (703) 907-1091.

Additionally, a continuing medical education (CME) course is available online at the American Psychiatric Association Web site.

PATIENT RESOURCES

The following is available:

- Delirium: a patient and family guide. Washington, DC: American Psychiatric Association, 1999. 11 p.

Electronic copies: Available in Portable Document Format (PDF) from the American Psychiatric Association Web site.

Print copies: Available from the American Psychiatric Press, Inc, 1400 K Street NW, Washington, DC 20005; (202) 682-6262; (800) 368-5777; fax (202) 789-2648.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This summary was completed by ECRI on February 28, 2000. The information was verified by the guideline developer on March 24, 2000. This summary was updated by ECRI Institute on October 2, 2007, following the U.S. Food and Drug Administration (FDA) advisory on Haloperidol. This summary was updated by ECRI Institute on November 2, 2007, following the U.S. Food and Drug Administration advisory on Antidepressant drugs.

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