



Complete Summary

GUIDELINE TITLE

Delirium: strategies for assessing and treating.

BIBLIOGRAPHIC SOURCE(S)

Foreman MD, Mion LC, Trygstad L, Fletcher K. Delirium: strategies for assessing and treating. In: Mezey M, Fulmer T, Abraham I, Zwicker DA, editor(s). Geriatric nursing protocols for best practice. 2nd ed. New York (NY): Springer Publishing Company, Inc.; 2003. p. 116-40. [20 references]

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Delirium

GUIDELINE CATEGORY

Evaluation
Management
Prevention
Risk Assessment
Treatment

CLINICAL SPECIALTY

Geriatrics
Nursing

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Nurses
Physician Assistants
Physicians
Social Workers

GUIDELINE OBJECTIVE(S)

- To guide nursing care of individuals at risk of or experiencing delirium
- To list the most common causes of delirium
- To describe characteristics of the etiologic basis of delirium
- To identify patients at risk for an episode of delirium
- To provide a plan of care for a delirious patient

TARGET POPULATION

Hospitalized older adults

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation/Risk Assessment/Prognosis

1. Direct questioning
 - Family/caregiver regarding pre-morbid cognitive functioning
 - Patient regarding changes in thinking/memory
2. Assessment for features of delirium including alertness, attention, orientation, memory, thinking, perception, and psychomotor behavior through:
 - Observation of behavior
 - Naturally occurring conversation including questioning about recent and remote events, recognition of objects and persons
 - Formal testing, including:
 - Digit span, forward and backward
 - Serial subtraction
 - Spelling backwards
 - Clock Drawing Test
3. Review of current laboratory values and medications and monitoring of vital signs and fluid intake and output to identify potential etiologic factors

Prevention

1. Administer medications judiciously
2. Prevent infection
3. Maintain fluid volume
4. Promote electrolyte balance
5. Encourage early mobilization
6. Provide cognitively stimulating activities

Treatment/Management

1. Treat underlying pathology and contributing factors
2. Provide therapeutic environment, including appropriate stimulation, reassurance and reorientation, consistent caregivers, family visits, appropriate sensory aids, and minimal relocation
3. Provide general supportive nursing care, including comfort measures, early mobilization, meeting of basic needs (e.g., toileting, feeding, hydration, pain management), clear communication, reassurance and patient/family education, and minimal invasive interventions
4. Provide care interventions by etiology, including:
 - Medication
 - Review, evaluate, and monitor effects of medication use
 - Provide analgesic and alternative nonpharmacologic therapies as indicated
 - Infection
 - Provide adequate fluids and monitor intake and output
 - Use cooling techniques as needed
 - Monitor for flushed hot skin, tachycardia, seizures, changes in body temperature, and breath sounds
 - For respiratory infections, provide humidified air, cough, and deep breathing as indicated; provide frequent oral hygiene; use chest physiotherapy to mobilize secretions
 - Dehydration
 - Check medications
 - Check ability to swallow or for mechanical problems preventing fluid intake
 - Determine a fluid schedule
 - Use fluid replacement and additional diagnostic and therapeutic actions as indicated
 - Hyponatremia (>146 mEq/L)
 - Use fluid replacement as indicated
 - Restrict activity
 - Hyponatremia (<136 mEq/L)
 - Use electrolyte and fluid replacement as indicated
 - Restrict activity
 - Hypokalemia (<3.5 mEq/L)
 - Use electrolyte and fluid replacement as indicated
 - Hypoxia
 - Use patient positioning (e.g., high Fowler's position), as tolerated
 - Restrict/pace activity
 - Monitor blood gas results/pulse oximetry
 - Administer oxygen as indicated
 - Environmental Change
 - Provide patient education and daily orientation: clock, watch, calendar, radio, television, newspapers, and personal items from home
 - Use patient positioning (e.g., semi-Fowler's position), as tolerated
 - Limit relocations, unnecessary stimuli
 - Provide continuity of staff
 - Sensory Impairment
 - Provide appropriate sensory aids (e.g., eyeglasses or hearing aids)

- Eliminate distractions (auditory and visual)
 - Facilitate communication (e.g., use clear and simple directions, face patient, and speak into "best" ear)
 - Provide written materials with large print with lighter colored objects on darker backgrounds
 - Inactivity/Immobility
 - Begin early mobilization
 - Make minimal use of immobilizing equipment (e.g., indwelling urinary catheter)
 - Avoid use of physical restraints
 - Cognitive Impairment
 - Offer daily orientation and cognitively stimulating activities
5. Refer to appropriate advanced practitioners (e.g., geriatric resource nurse, geriatric/gerontological or psychiatric clinical nurse specialist or nurse practitioner, or consultation-liaison service) as indicated
 6. Document in hospital record

MAJOR OUTCOMES CONSIDERED

- Incidence, duration, severity, and recurrence of delirium
- Length of hospital stay
- Morbidity and mortality associated with delirium
- Overall costs

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Medline, Ovid, CINAHL and Ancestry were the databases used.

NUMBER OF SOURCE DOCUMENTS

147

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

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

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

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

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Assessment

- Obtain baseline or pre-morbid cognitive functioning from family, significant other(s), or another intimate source.
- Ask patients the following questions when assessing cognitive functioning:
 - Have you noticed any changes in your thinking or memory recently?
 - Recently, have you experienced any strange thoughts?

Affirmative responses should arouse suspicion of the risk for delirium.

- To detect and diagnose delirium, see below and refer to Table 8.2 in the original guideline document:
 - Alertness

- Level of consciousness: observation of behavior and naturally occurring conversation
 - alert (normal)
 - vigilant (hyperalert)
 - lethargic (drowsy but easily aroused)
 - stupor (difficult to arouse)
 - coma (unarousable)
- Attention
 - Ability to attend/concentrate: through naturally occurring conversation, observation of behavior, or formal testing using:
 - Digit span, forward and backward
 - Serial subtraction
 - Spelling backwards
 - Clock Drawing Test (Ben-Yehuda et al., 1995; Juby, 1999; Kirby et al., 2001)
- Orientation
Questioning about orientation to person, place, and time: through naturally occurring observation or formal testing
- Memory
Questioning about recent and remote events; day-to-day observation; Clock Drawing Test
- Thinking
Naturally occurring conversation
- Perception
Recognition of objects and persons; Clock Drawing Test
- Psychomotor Behavior
 - Observation of behavior:
 - hypo- or hyperkinetic
 - unusual or inappropriate
 - day-to-day interaction
- Review current laboratory values and medications, and monitor vital signs and fluid intake and output, to identify the following potential etiologic factors: acute illness, infection (e.g., upper respiratory infection, urinary tract infection), medication (e.g., anticholinergic, sedatives, psychotropics, narcotics, H₂ blockers), altered homeostasis (e.g., dehydration and electrolyte imbalance), hemodynamic status (e.g., hypovolemia, hypoxia), and environmental change (sensory overload or deprivation).

Care Strategies

- Treat the underlying pathology and contributing factors.
 - Administer medications judiciously.
 - Prevent/promptly and appropriately treat infections.
 - Maintain fluid balance.
 - Promote electrolyte balance.
- Provide a therapeutic environment
 - Provide appropriate sensory stimulation.
 - Reassure and reorient patient.
 - Maintain consistency of caregivers.
 - Encourage family members or familiar people to be at patient's bedside.
 - Use sensory aids as appropriate.

- Minimize abrupt relocations.
- Provide general supportive nursing care
 - Provide comfort measures.
 - Protect from hazards of immobility and mobilization.
 - Provide supportive nursing care for the meeting of basic needs (e.g., toileting, feeding, hydration, and pain management).
 - Communicate clearly; provide explanations.
 - Reassure and educate family.
 - Minimize invasive interventions.
- Refer to appropriate advanced practitioners (e.g., geriatric resource nurse, geriatric/gerontological or psychiatric clinical nurse specialist or nurse practitioner, or consultation-liaison service).

Nursing Care Strategies (By Etiology)

See below and refer to Table 8.1 in the original guideline document.

Medications

Review medications with special attention to the following:

- Anticholinergic preparations
 - Thioridazine
 - Amitriptyline
 - Neuroleptics
 - Tricyclic antidepressants
 - Atropine
 - Theophylline
 - Diphenhydramine
- Histamine-2 blocking agents
 - Cimetidine
 - Ranitidine
- Analgesics
 - Meperidine
 - Nonsteroidal anti-inflammatory agents
 - Opiates
- Sedative-hypnotics
 - Zolpidem
 - Benzodiazepines
- Cardiovascular drugs
 - Nifedipine
 - Quinidine
 - Disopyramide
 - Amiodarone
 - Beta blockers
- Corticosteroids
 - Anti-Parkinsonian agents

Nursing Actions:

- Monitor the effects (intended and adverse) of medications. Be especially vigilant for drug interactions. With the onset of any new symptom, first

consider it an adverse reaction to a medication (refer to medication protocol in this text).

- Regularly evaluate each medication; use only those medications indicated by the patient's status, thereby keeping medication to a minimum.
- Monitor for adverse effects, drug-drug, drug-disease, and drug-nutrient interactions, as well as additive effects of drugs (e.g., more than one with anticholinergic effects).
- Relieve pain through adequate and appropriate administration of analgesia and alternative nonpharmacologic therapies (see pain management protocol in this text).
- Avoid the use of meperidine.
- Use nonpharmacologic sleep enhancing protocols (see sleep protocol in this text).
- Refer to/notify appropriate advanced practice nurse or house officer and/or pharmacologist for medication review and work-up for underlying cause.
- Document actions and patient's response in hospital record.

Infection (e.g., urinary tract, respiratory, and cellulitis [most common]; mouth, feet [most overlooked])

Nursing Actions:

- Determine source and site of infection.
- Provide adequate fluids (2000 ml per day) unless otherwise contraindicated.
- Apply cooling techniques as needed and indicated (e.g., remove covers or use cooling mattress/blanket).
- Monitor for flushed hot skin, tachypnea, tachycardia, seizures, changes in body temperature, and breath sounds every 2 hours or as indicated by status of the patient.
- Monitor intake and output.
- For respiratory infections provide humidified air, cough and deep breath as indicated; provide frequent oral hygiene; beta agonist via nebulizer; chest physiotherapy to mobilize secretions.
- Administer oxygen as indicated.
- Refer to/notify appropriate advanced practice nurse or house officer for further evaluation for underlying medical problem.
- Document actions and patient response in hospital record.

Dehydration

Nursing Actions:

- Determine source of dehydration (e.g., decreased fluid intake or increased fluid output).
- Check medications as a cause for increased loss of fluids (e.g., diuretics).
- Check person's ability to swallow or for mechanical problems preventing fluid intake.
- Determine individual's daily fluid needs (Gaspar, 1998), and develop a fluid schedule (Weinberg et al., 1995).
- Make sure water is in easy reach of the individual.
- Determine if individual can independently meet fluid needs; if not, place on a fluid schedule.

- Refer to/notify appropriate advanced practice nurse or house officer.
- Prepare for fluid replacement and additional diagnostic and therapeutic actions.
- Continue surveillance of patient every 2 to 6 hours as indicated by patient status.
- Document actions and patient's response in hospital record.

Hypernatremia (>146 mEq/L)

Nursing Actions:

- Determine source of hypernatremia (e.g., increased water loss [fever, infection, vomiting, diarrhea, diaphoresis], decreased water intake [physical or cognitive limitations], or increased sodium intake).
- Evaluate for possible medication causes, e.g., osmotic cathartic (Lactulose).
- Prepare for possible fluid replacement.
- Restrict activity to maintain energy balance.
- Continue to monitor parameters every 2 hours or as indicated by status of patient.
- Refer to/notify appropriate advanced practice nurse or house officer.
- Document actions and patient's response in hospital record.

Hyponatremia (<136 mEq/L)

Nursing Actions:

- Determine source of hyponatremia (e.g., inadequate intake of sodium, renal disease, extrarenal fluid loss [e.g., vomiting, diarrhea, fluid restriction, overdiuresis, low-sodium tube feedings]).
- Prepare for electrolyte and possible fluid replacement.
- Restrict activity to maintain energy balance.
- Continue to monitor parameters every 2 hours or as indicated by status of patient.
- Drug-disease interaction, oral hypoglycemics, diuretics, antipsychotics, SSRIs (selective serotonin reuptake inhibitor) may potentiate sodium loss further.
- Refer to/notify appropriate advanced practice nurse or house officer.
- Document actions and patient's response in hospital record.

Hypokalemia (<3.5 mEq/L)

Nursing Actions:

- Determine source of hypokalemia (e.g., poor nutritional intake of potassium-rich foods or excessive depletion; nausea, vomiting, and diarrhea; or excessive loss due to the effects of medications such as non-potassium-sparing diuretics).
- Refer to/notify appropriate advanced practice nurse or house officer.
- Prepare for electrolyte and possible fluid replacement.
- Document actions and patient's response in hospital record.
- Note drug-disease interaction: if also on digoxin, monitor for digoxin toxicity.

Hypoxia

Nursing Actions:

- Determine source of hypoxia (e.g., infection, chronic obstructive pulmonary disease [COPD], pulmonary embolism [PE], bronchospasm, anemia).
- Position patient to facilitate air exchange (e.g., high Fowler's position, as tolerated by patient).
- Restrict/pace activity to reduce additional oxygen requirements.
- Monitor blood gas results or pulse oximetry.
- Refer to/notify appropriate advanced practice nurse or house officer.
- Continue to monitor parameters every 2 hours or as indicated by status of patient.
- Prepare for oxygen administration; use long tubing to maintain mobilization.
- Document actions and patient response in hospital record.

Environmental Change (e.g., sensory overload or sensory deprivation)

Nursing Actions:

- Provide explanations of nursing care and all diagnostic and therapeutic activities.
- Position patient in a semi-Fowler's position as tolerated
- Minimize abrupt relocations; otherwise, prepare patient by providing explanations of the event; send a health care provider or family member to accompany patient.
- Offer orienting information as a normal part of daily care and activities.
- Provide orienting stimuli: clock, watch, calendar, radio, television, and newspapers.
- Include personal items from home.
- Encourage social interaction with friends and family.
- Maintain continuity of care and care environment; limit relocations.
- Limit the number of staff involved in the care of the patient.
- Remove meaningless and unnecessary stimuli as soon as possible (e.g., unneeded equipment and supplies, television off when not desired, etc.).
- Communicate clearly and simply (Rapp et al., 2001).
- Refer to/notify appropriate advanced practice nurse or house officer.
- Document actions and patient's response in hospital record.

Sensory Impairment

Nursing Actions:

- Assist patient in accurately interpreting environmental stimuli by having patient use appropriate sensory aids (e.g., eyeglasses or hearing aids). Also, ensure that aids are in proper working condition.
- Eliminate sources of distraction (auditory and visual).
- Determine source of impairment (e.g., malfunctioning aids or aids not in use, earwax impaction).
- Speak clearly and slowly; do not shout; repeat key phrases as necessary.
- Speak directly into the patient's "best" ear.

- Face the patient when speaking so that lip reading can be used to facilitate understanding as necessary.
- With written materials, use large print with lighter colored objects on darker backgrounds; place them directly in front of the patient, and use indirect lighting to reduce/eliminate glare.
- Refer to/notify appropriate advanced practice nurse or house officer.
- Document actions and patient's response in hospital record.

Inactivity/Immobility

Nursing Actions:

- Begin early mobilization, ambulation, or active range-of-motion exercises three times a day as tolerated.
- Make minimal use of immobilizing equipment (e.g., indwelling urinary catheter).
- Avoid use of physical restraints.
- Refer to/notify appropriate advanced practice nurse or house officer.
- Document actions and patient's response in hospital record.

Cognitive Impairment

Nursing Actions:

- Offer orienting information as a normal part of daily care and activities.
- Work with patient to correctly interpret the environment.
- Incorporate cognitively stimulating activities as normal part of daily care (e.g., discussion of current events, structured reminiscence, reality orientation, etc.).
- Refer to/notify appropriate advanced practice nurse or house officer.
- Document actions and patient's response in hospital record.

Follow-up to Monitor Condition

- Usage of physical and pharmacologic restraints and sitters; usage to decrease
- The incidence, duration, and severity of delirium to decrease
- Patient's days with delirium to decrease
- Staff competence in recognition and treatment of delirium
- Documentation of the prompt recognition of delirium
- Documentation of a variety of interventions for delirium

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Patient Will Demonstrate:

- Improved outcomes of care (e.g., a lowered incidence, duration, severity, and recurrence of delirium; increased functional independence; and decreased mortality)
- Cognitive status returned to baseline (pre-delirious state)
- Discharge to same destination as pre-hospitalization

Health Care Provider Will Demonstrate:

- Increased detection of delirium
- Prompt implementation of appropriate interventions for delirium
- Improved satisfaction in care of hospitalized elderly

Institution Will Demonstrate:

- Decreased overall cost
- Decreased length of stays
- Decreased morbidity and mortality
- Increased referrals and consultation to above specified specialists
- Increased provision of quality care

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This practice protocol is a general approach to assessing and treating delirium that must be adapted to the specific of the health care setting (e.g., acute care, home care, or long-term care).

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Foreman MD, Mion LC, Trygstad L, Fletcher K. Delirium: strategies for assessing and treating. In: Mezey M, Fulmer T, Abraham I, Zwicker DA, editor(s). Geriatric nursing protocols for best practice. 2nd ed. New York (NY): Springer Publishing Company, Inc.; 2003. p. 116-40. [20 references]

ADAPTATION

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

DATE RELEASED

2003

GUIDELINE DEVELOPER(S)

The John A. Hartford Foundation Institute for Geriatric Nursing - Academic Institution

GUIDELINE DEVELOPER COMMENT

The guidelines were developed by a group of nursing experts from across the country as part of the Nurses Improving Care for Health System Elders (NICHE) project, under sponsorship of The John A. Hartford Foundation Institute for Geriatric Nursing.

SOURCE(S) OF FUNDING

Supported by a grant from The John A. Hartford Foundation.

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Copies of the book Geriatric Nursing Protocols for Best Practice, 2nd edition: Available from Springer Publishing Company, 536 Broadway, New York, NY 10012; Phone: (212) 431-4370; Fax: (212) 941-7842; Web: www.springerpub.com.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on February 2, 2004. The information was verified by the guideline developer on March 15, 2004.

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