Acute Confusion/Delirium Protocol

ABSTRACT
This abbreviated version of the Acute Confusion/Delirium Research-Based protocol provides clinical guidelines for the assessment and management of acute confusion/delirium in the elderly individual. A screening and ongoing surveillance program that is based on identified risk factors is recommended to prevent or minimize episodes of acute confusion in this age group. This protocol is part of a series of protocols developed to help clinicians use the best evidence available in the care of older adults.

As we begin a new millennium, new challenges in health care for the growing elderly population are anticipated. Individuals are living longer in a frail state of health and in a variety of care settings, which predisposes them to many of the geriatric syndromes that limit the quality of their life. One such syndrome is acute confusion (AC).

As noted by Foreman (1993), AC is a time-limited, acute onset brain dysfunction that primarily affects the ability to attend to meaningful stimuli and secondarily affects cognition, levels of consciousness, and behavior. Elderly individuals are at increased risk for developing AC because of reduced physical reserves, comorbid conditions, greater prevalence of dementia, and complex medication regimens. This risk is manifested in increased prevalence and incidence among older adults in a variety of care settings ranging from 15% in newly admitted medical inpatients (Foreman, 1993) to 40% to 60% in nursing home residents (Culp, Tripp-Reimer, Wadle, Wakefield, & Akins, 1997; Sandberg, Gustafson, Branson, & Bucht, 1998). Further, AC is associated with poor health outcomes (Francis & Kapoor, 1992) such as functional and cognitive decline, making it imperative for prompt diagnosis and treatment.

In the following abstracted protocol, comprehensive guidelines are provided for assessment and early intervention for elderly individuals at risk for or experiencing an AC episode. A surveillance/assessment form and a clinical algorithm outlining the use of this protocol, and a comprehensive reference list, are also included. A copy of this complete protocol and others is available from Marita Titler, RN, PhD, FAAN, Department of Nursing-RDDC, 4118 Westlawn, Iowa City, Iowa 52242-1100.

PURPOSE
The purpose of this research-based protocol is to provide guidelines for assessment and management of AC, also known as delirium, in elderly patients. Some of the intervention activities require physician order, while others are independent nursing actions. Outcomes of effective management of AC or delirium in elderly patients include:

- Episodes of AC are resolved within 48 hours of onset.
- Episodes of AC are managed with minimal use of physical or chemical restraints.
- The patient remains safe from physical harm during episodes of AC.

DEFINITION OF ACUTE CONFUSION/DELIRIUM
The term acute confusional state (ACS), AC, and delirium are used
interchangeably by most health care professionals in describing a specific type of cognitive impairment. Definitions will be provided for these terms to help clarify similarities and differences in conceptualizing the three labels. No matter how this phenomenon is defined, it is vital to differentiate AC/delirium (acute, reversible) from dementia (chronic) as well as from depression—another common condition which may impair cognition. Following the definition of these labels, the remainder of this protocol will refer to this phenomenon as AC.

Some discrepancies exist in the literature regarding the definitions of AC, ACS, and delirium. One of the easiest ways to characterize the differences is: (1) nurses tend to view this cognitive phenomenon more broadly and call it AC or ACS, whereas physicians view the phenomenon as delirium, and (2) delirium is the most strictly defined of the three labels, usually based on the currently accepted definition from the American Psychological Association Diagnostic and Statistical Manual of Mental Disorders (DSM) (1994).

DEFINITION OF ACUTE CONFUSION AND ACUTE CONFUSIONAL STATE

Acute confusion is defined as:

- a spectrum of nonadaptive psychophysiologic responses characterized by disordered cognition (which includes alterations in perception, thinking, and memory); dysfunction of the reticular activating system (which influences both patient attention and wakefulness); and dysfunction of the autonomic nervous system (which influences both psychomotor and regulatory functions) (Neelon & Champagne, 1992, p. 242).

Three patterns are proposed:
- **Cognitively restricted.** Observed in individuals with low cognitive reserve, and those who are easily affected by sensory-environmental changes. People with low cognitive reserve are people who have had or do have some impairment in cognition (e.g., brain trauma, stroke, dementia, some claim that normal aging decreases cognitive reserve).
- **Physiologic instability.** Results from pathophysiologic changes.
- **Metabolic instability.** Result of toxicities or are pharmacologically or metabolically induced, all of which alter biochemical functioning (Foreman, 1993; Neelon & Champagne, 1992).

Both AC and ACS are labels that can be applied to a patient before he or she meets the specified criteria for a DSM-IV label of delirium.

DEFINITION OF DELIRIUM

Delirium is best characterized by the following criteria:

- Elderly individuals are at increased risk for developing acute confusion because of reduced physical reserves, concomitant diseases, greater prevalence of dementia, and complex medication regimens.

- Disturbance of consciousness (e.g., reduced clarity of awareness of the environment) with reduced ability to focus, sustain, or shift attention.
- A change in cognition (e.g., memory deficit, disorientation, language disturbance) or the development of a perceptual disturbance that is not better accounted for by a preexisting, established, or evolving dementia.
- The observed cognitive disturbance develops over a short period of time (usually hours to days) and tends to fluctuate during the course of the day (American Psychiatric Association [APA], 1994, p. 129).

Delirium also has associated features such as sleep-wake cycle disturbances and altered psychomotor behavior. Behavioral manifestations of individuals with delirium may also include:
- • Attempts to escape one's environment (often resulting in falls).
- • Removal of medical equipment (e.g., intravenous lines, catheters).
- • Disturbances in vocalizations (e.g., screaming, calling out, complaining, cursing, muttering, moaning).
- • A predilection to attack others.

Those with severe physical illnesses or comorbid frailties, especially older adults, seem less likely to display any of the behavioral manifestations.

The definition of delirium has also been associated with the following taxonomy that delineates the different types of delirium.
- **Hyperactive Delirium.** Characterized by an agitated state, constant motion, usually displaying non-purposeful, repetitive movement, and most often involving verbal behaviors.
- **Hypoactive Delirium.** Characterized by an inactive, withdrawn and sluggish state, with limited, slow, and waverling verbalizations.
- **Mixed.** Characterized by the patient fluctuating unpredictably between hypo- and hyperactivity (APA, 1994; Lipowski, 1984, 1989).

Historically, delirium has been the medical/psychological label used to describe this acute, confusional type of cognitive impairment. At times, delirium has also been categorized as:
- • Postoperative: seen especially in patients with cardiac problems or hip fractures (Bowman, 1992; Gustafson et al., 1991; Gustafson, Brannstrom, Norberg, Bucht, & Winblad, 1991).
TABLE 1
CHARACTERISTIC OF DELIRIUM, DEPRESSION AND DEMENTIA

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>DELIRIUM</th>
<th>DEPRESSION</th>
<th>DEMENTIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>Sudden, abrupt</td>
<td>Recent, may correspond with life change</td>
<td>Insidious, slow and often unrecognized</td>
</tr>
<tr>
<td>Course over 24 hours</td>
<td>Fluctuating, usually with nighttime exacerbations</td>
<td>Fairly stable, may be worse in the morning</td>
<td>Fairly stable, may see changes due to stresses</td>
</tr>
<tr>
<td>Consciousness</td>
<td>Reduced</td>
<td>Clear</td>
<td>Clear</td>
</tr>
<tr>
<td>Alertness</td>
<td>Increased, decreased or variable</td>
<td>Normal</td>
<td>Generally normal</td>
</tr>
<tr>
<td>Psychomotor activity</td>
<td>Increased, decreased, mixed (presents both increased and decreased at the same time), variable (sometime increased, other times decreased)</td>
<td>Variable, agitation or retardation</td>
<td>Normal, but may have apraxia</td>
</tr>
<tr>
<td>Duration</td>
<td>Hours to weeks (rarely over a month)</td>
<td>Variable (at least 6 weeks per DSM-IV), may be months to years</td>
<td>Months to years</td>
</tr>
<tr>
<td>Attention</td>
<td>Globally disordered, fluctuates</td>
<td>Little impairment, very distractible</td>
<td>Generally normal</td>
</tr>
<tr>
<td>Orientation</td>
<td>Usually impaired, variable, fluctuates</td>
<td>Usually normal, may answer “don’t know”</td>
<td>Often impaired (answer may be close to right)</td>
</tr>
<tr>
<td>Speech</td>
<td>Often incoherent, slow or rapid</td>
<td>May be slow</td>
<td>Difficulty word finding, preservation</td>
</tr>
<tr>
<td>Affect</td>
<td>Variable</td>
<td>Flat</td>
<td>Labile</td>
</tr>
</tbody>
</table>

* Based on Foreman & Zane, 1996; Lipowski, 1989.

- Nocturnal: Also known as sundown syndrome, where confusion is seen primarily or exclusively after dark (Beel-Bates & Rogers, 1990; Blinow, Lee, Carroll, & Dement, 1989; Evans, 1987).

Table 1 serves to illustrate the differences in basic cognitive characteristics between delirium, depression, and dementia. Nurses should be aware that these conditions have different pathophysiological bases as well. Therefore, the particular basis should be considered when planning interventions for a specific condition. Additionally, literature suggests that a serious consequence of long episodes of unresolved delirium is the development of permanent cognitive and functional impairment. The focus of this research-based protocol is on AC/delirium and not on the problems related to depression or dementia.

To obtain information regarding care for geriatric patients suffering from depression or dementia, please contact Marita Titler, RN, PhD, FAAN, Department of Nursing-RDCC, 4118 Westlawn, Iowa City, Iowa 52242-1100 for ordering information.

INDIVIDUALS AT RISK FOR DEVELOPMENT OF ACUTE CONFUSION

Research reviews indicate that several factors place patients at risk for developing AC, and that other factors are present which make subsequent episodes more likely to occur.

Epidemiological parameters (primarily acute care settings):
- Incidence and prevalence rates generally range between 20% to 50% among individuals 60 years of age or older.
- 14-day period prevalence in long-term care was 40.5%.
- The majority of cases develop within the first 2 days of hospitalization, and only occasionally after Day 6.
- Length of AC episodes range from less than 1 day, 7 days, or as many as 60 days.
- Recurs during hospital stay in less than one third of patients who had an initial episode.
| TABLE 2 |
| RISK FACTORS FOR THE DEVELOPMENT OF ACUTE CONFUSIONAL STATE |

**Body fluids and kidney function, including:**
- Fluid/electrolyte disturbances
- Dehydration or volume depletion
- Hypocalcemia
- Hypokalemia
- Abnormal sodium level
- Low serum albumin
- High blood urea nitrogen (BUN)
- Elevated creatinine
- Azotemia
- Proteinuria
- Chronic renal disease

**Sensory and neurological function, including:**
- Sensory disturbances
- Pain (unmanaged or poorly managed)
- Neurological disease
- Cognitive impairment, brain damage, and dementia (one of the most commonly identified risk factors, especially in older adults)

**Circulation and oxygenation, including:**
- Low blood pressures
- Cardiovascular disease
- Congestive heart disease
- Aortic aneurysm surgery
- Elevated prothrombin time (PT)
- Low hematocrit
- Abnormal arterial blood gases
- Respiratory insufficiency/hypoxia
- Noncardiac thoracic surgery

**Metabolism and body temperature, including:**
- Metabolic disturbances
- Nutritional deficiencies
- Abnormal blood glucose
- Elevated anion gap
- Elevated aspartate aminotransferase (AST)/serum glutamic oxaloacetic transaminase (SGOT)
- Abnormal body temperature

- Among patients suffering from AC/delirium, length of stay is approximately 1½ times longer and hospital charges are accordingly larger as compared to non-AC/delirium patients.
- Patients with AC have higher mortality rates and are more likely to be discharged from the hospital to a long-term institution (Culp, Tripp-Reimer, Wadde, Wakefield, & Akins, 1997; Foreman, 1989, 1991; Francis, Martin, & Kapoor, 1990; Kuroda et al., 1990; Levkoff, Sofram, Cleary, Gallop, & Phillip, 1988; Lipowski, 1984; Rockwood, 1989; Schor et al., 1992; Seymour, Henschke, Cape, & Campbell, 1980; Williams et al., 1985).

A variety of circumstances have been identified as risk factors or predictors for the development of ACS. These factors can be grouped into eight major areas (Table 2). Any or some combination of these factors may lead to the development of AC. An alternative method of conceptualizing risk factors as baseline vulnerability/predisposing versus precipitating factors can be found in Inouye and Charpentier's work (1996).

**ASSESSMENT FOR ACUTE CONFUSION**

A number of instruments have been developed to assess the presence and severity of AC. The Mini-Mental State Examination (MMSE) (Folstein, Folstein, & McHugh, 1975) is a general cognitive status test that helps identify individuals with mental status impairment, but when used alone is not accurate in assessing AC. A review of research on this instrument and its potential modification for use in specific populations can be found in Tombaugh and McIntyre (1992).

Several AC/delirium-specific tools are also available. The most often used of these include:
- Confusion Assessment Method (CAM) (Inouye et al., 1990).
Clinical Assessment of Confusion (CAC-A) (Vermeersch, 1992).

Based on the experience of the Iowa Veterans Affairs (VA) Nursing Research Consortium (1996) and the nurses at the Iowa VA facilities, the author recommends institutions employ an assessment plan using a combination of three instruments (i.e., MMSE, CAM, NEECHAM) to fully assess patients risk for AC. This assessment plan will be outlined in further detail later in the article.

Some authors have created prediction rules that use available data on risk factors to help predict risk of developing AC/delirium. Unfortunately, the rules developed by researchers have notable differences and no rule seems appropriate as a single guide (Fisher & Flowerdew, 1995; Foreman, 1989; Francis, Martin, & Kapoor, 1990; Kuroda et al., 1990; Levkoff, Sofram, Cleary, Gallop, & Phillip, 1988; Marcantonio et al., 1994; Rockwood, 1989; Schor et al., 1992; Seymour, Henschke, Cape, & Campbell, 1980; Williams, Campbell, Raynor, Mlynarczyk, & Ward, 1985; Williams et al., 1985). The protocol for assessment and management of AC as described herein, will attempt to take into account all possible risk factors, and will combine this information with results from the above mentioned assessment plan, which uses formal instrument testing.

### DESCRIPTION OF INTERVENTION

**Assessment**

Assessment of the patient for AC is the first step. The assessment for AC involves both a screening and ongoing surveillance program based on the identified risk factors. An outline of important risk factors and when to assess them follows.

On admission, the following aspects of the patient's history should be determined to evaluate level of risk for developing AC:

**TABLE 2 (Continued)**

### RISK FACTORS FOR THE DEVELOPMENT OF ACUTE CONFUSIONAL STATE

**Age, gender, and living arrangement, including:**
- Age 65 and older (higher incidence at age 80 or older)
- Male gender (suggested, non-significant relationship)
- Limited social contact (suggested, non-significant relationship)
- Admission from an institution

**Infection and trauma, including:**
- Symptomatic infection
- Urinary tract infection
- Respiratory infection
- Elevated white blood cell count at admission
- Emergency admission
- Fracture
- Falls
- Orthopedic surgery
- Physical illnesses (usually two or more in conjunction)
- Severity of illness

**Effects of pharmaceuticals, including:**
- Large numbers of medications (usually four or more in conjunction)
- Drugs with anticholinergic or central nervous system (CNS) effects
- Drug toxicity
- Psychoactive drug use
- Narcotic use
- Drug or alcohol abuse
- Drug withdrawal

**Impaired physical or functional ability, including:**
- Activity of daily living (ADL) impairment
- Urinary problems/incontinence
- Altered mobility/low level of activity

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Fisher & Flowerdew, 1995; Foreman, 1989; Francis, Martin, & Kapoor, 1990; Kuroda et al., 1990; Levkoff, Sofram, Cleary, Gallop, & Phillip, 1988; Marcantonio et al., 1994; Mentes et al., 1998; Mentes, Culp, Maas, & Rantz, 1999; V. Neelon, personal communication, November 2, 1997; Rockwood, 1989; Schor et al., 1992; Seymour, Henschke, Cape, & Campbell, 1980; Williams et al., 1985.

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Assess for the presence (or history) of the following risk factors

- Emergency admission
- Admission from an institution
- Age 65 and older
- Age 80 and older
- Male gender
- Cognitive impairment/brain damage/dementia
- Limited social contacts
- Physical illnesses (2 or more, see list below)
  - Specific diseases:
    - Neurological
    - Cardiovascular
    - Congestive heart disease
    - Chronic renal
    - Urinary problems/incontinence
    - Fracture
    - Falls
    - Respiratory insufficiency/hypoxia
    - Severity of illness(es)
  - Surgery:
    - Aortic aneurysm
    - Noncardiac thoracic
    - Orthopedic
    - ADL impairment(s)
  - Altered mobility/low level of activity
  - Large numbers of medications (4 or greater)
  - Anticholinergic medication
  - Medication with central nervous system effects
  - Narcotic use
  - Psychoactive drug use
  - Drug toxicity
- Drug or alcohol abuse
- Drug withdrawal
- Abnormal body temperature
  - Symptomatic infection
    - Urinary tract infection
    - Respiratory infection
- Low blood pressure
- Sensory disturbance
- Pain (untreated)
- Nutritional deficiencies
- Metabolic disturbances
- Dehydration/volume depletion
- Fluid and electrolyte disturbances (see lab values below)

Abnormal laboratory values:

- Proteinuria
- Azotemia
- Abnormal arterial blood gases
- Abnormal serum level
- Abnormal blood glucose
- Elevated creatinine
- Elevated white blood cell count
- Elevated BUN
- Elevated anion gap
- Elevated aspartate aminotransferase (AST)
- Elevated PT
- Low serum albumin
- Low hematocrit
- Hypokalemia
- Hypocalcemia
- Development of new or increasing severity of any of the above risk factors.

Figure 1. Risk factors which are marked with an asterisk (*) have been identified as important in the etiology of AC/delirium. Patients who have 1 or more of the above risk factors are at risk for development of AC/delirium. Patients with 3 or more risk factors, especially those marked with an asterisk, are at even higher risk. Individual care providers will need to make judgments about the severity of risk for each patient, as the majority of hospitalized or institutionalized older patients will be at some level risk for AC.

1. Emergency admission or admission from an institution.
2. Age 65 and older (higher incidence at age 80 or older) and male gender (suggested, not statistically significant relationship).
3. Cognitive impairment, brain damage, dementia, or delirium; respiratory insufficiency, or hypoxia; neurological, cardiovascular, congestive heart, and chronic renal disease; urinary problems or incontinence; fracture; physical illnesses (two or more); and severity of illness.
4. Impairment of activities of daily living (ADL) and altered mobility or low level of activity.
5. Large numbers of medications (four or more), drugs with anticholinergic or central nervous system (CNS) effects, drug or alcohol abuse, narcotic use, psychoactive drug use, drug toxicity, and drug withdrawal.

6. Abnormal body temperature, symptomatic infection, urinary tract infection, and respiratory infection.

7. Low blood pressure(s).

8. Sensory impairment(s).


11. History of limited social contact (suggested, non-significant relationship).

12. Dehydration or volume depletion; fluid or electrolyte and metabolic disturbances; nutritional deficiencies; and other abnormal laboratory values: proteinuria and azotemia; abnormal arterial blood gases and sodium level; elevated creatinine, white blood cell count, blood glucose, blood urea nitrogen (BUN), anion gap, aspartate aminotransferase (AST), and prothrombin time (PT); and low blood potassium, calcium, serum albumin, and hematocrit.

An ongoing surveillance of patients determined to be at high risk for experiencing AC, should include assessment for the following risk factors, many of which are also noted on admission:

1. Development of new or increasing severity of physical illness. Cognitive impairment, brain damage, dementia or delirium; respiratory insufficiency or hypoxia; neurological, cardiovascular, congestive heart, and chronic renal disease; urinary problems or incontinence; and fracture.

2. Development of ADL impairment and altered mobility or low level of activity.

3. Large numbers of medications (four or more), drugs with anticholinergic or CNS effects, drug or alcohol abuse, narcotic use, psychoactive drug use, drug toxicity, and drug withdrawal.

4. Abnormal body temperature, symptomatic infection, urinary tract infection, and respiratory infection.

5. Low blood pressure(s).

6. Development of sensory impairment(s).

7. Falls.


9. Limited social contact (suggested, non-significant relationship).

10. Dehydration or volume depletion; fluid or electrolyte and metabolic disturbances; nutritional deficiencies; other abnormal labora-
ADDITIONAL QUESTIONS FOR ACUTE CONFUSION (AC) ASSESSMENT

Health care professionals ask patients the following questions when testing for AC and mental status. The answers to these questions are used to gain data needed to score the NEECHAM and Confusion Assessment Method instruments.

A. Have you noticed any changes in your thinking or memory since you’ve been here in the hospital?
B. Sometimes when people are in the hospital they will experience strange thoughts or strange things seem to happen to them. These may, or may not, bother them. Since you have been here, have you seen or heard things that others don’t, felt that people were out to get you, or mistaken things for other objects or people (such as seeing a shadow and thinking it was a person)?
C. Many people experience changes in their sleep when they come to the hospital. Since you have been here, have you noticed having trouble falling asleep, waking up and not being able to fall back to sleep, waking up early, being excessively sleepy during the day, or having nightmares or dreams that bother you?

Biology values: proteinuria and azotemia; abnormal arterial blood gases and sodium level; elevated creatinine, white blood cell count, blood glucose, BUN, anion gap, AST, and PT; and low blood potassium, calcium, serum albumin, and hematocrit.

Nurses can use the admission and surveillance assessment form in Figure 1 to begin the process of assessment for AC. This assessment form should be filled out on admission, and the surveillance form completed on Day 3 for all patients identified as high risk for AC. If a high-risk patient has surgery or any procedure requiring anesthesia, experiences a new or an increase in severity of physical illness, or has a noticeable change in physical or functional ability, the surveillance assessment should be completed. The surveillance assessment may also be completed at any time that a reassessment is desired.

If risk factors are identified using the surveillance form and behaviors are exhibited suggesting AC, mental status and AC testing should be undertaken (Figure 2). The author suggests the MMSE be given, three additional questions be asked (see Sidebar on this page), and then physiologic data be obtained. Based on this data the MMSE, NEECHAM, and CAM can be completed. The process and instrumentation for this testing is available in the full protocol.

Management

Some interventions for AC have been suggested by the research, whereas other interventions are simply “good nursing care.” Other interventions are commonly suggested but no research has been found to support their use. Many interventions suggested by authors have been investigated for use in chronic confusion, which caregivers simply have applied when working with acutely confused/delirious patients. The interventions provided herein include those supported by research (indicated by an R) as well as those commonly cited by authors, despite a lack of research support (indicated by an L). Because disruptive behaviors (e.g., agitation, aggression, wandering) are seen in the hyperactive presentation of AC, interventions to address these behaviors will be included as well.

Prompt and appropriate assessment of AC is the cornerstone of intervention (Brannstrom, Gustafson, Norberg, & Winblad, 1991; Champagne & Wiese, 1992; Gustafson, Brannstrom, Norberg, Bucht, & Winblad, 1991; Kroeger, 1991; Miller et al., 1997; Williams, Ward, & Campbell, 1988). Once AC has been identified, it is vital to recognize and treat the associated or underlying causes, as well as provide appropriate nursing care (Champagne & Wiese, 1992). The appropriate interventions are described below.

Physiological Support:
1. Establish and maintain normal fluid and electrolyte balance. R
2. Establish and maintain normal nutrition. L
3. Establish and maintain normal body temperature. L
4. Establish and maintain normal sleep/wake patterns (treat with bright light for 2 hours in the early evening). L
5. Establish and maintain normal elimination patterns. R
6. Establish and maintain normal oxygenation (if patients experience low oxygen saturation treat with supplemental oxygen). R
7. Establish and maintain normal blood glucose levels. L
8. Establish and maintain normal blood pressure. R
9. Minimize fatigue by planning care that allows for separate rest and activity periods. L
10. Increase activity and limit immobility. R
11. Provide exercise to combat the effects of immobility and to “burn off” excess energy. R
12. Decrease caffeine intake to help reduce agitation and restlessness. L
13. Manage patient’s discomfort and pain. R
14. Promptly identify and treat infections. L
Communication.
1. Use short, simple sentences. L
2. Speak slowly and clearly, pitching voice low to increase likelihood of being heard. Do not act rushed and do not shout. L
3. Identify self by name at each contact. Call patient by preferred name. L
4. Repeat questions if needed, allowing adequate time for response. L
5. Point to objects or demonstrate desired actions. L
6. Tell patients what you want done, not what not to do. L
7. Listen to what the patient says. Observe behaviors and try to identify the message, emotion, or need being communicated. L
8. Use Validation Therapy (based on the idea that all behavior has a logical basis; technique to find the reason behind the expressed feeling). L
9. Use Resolution Therapy (to understand and acknowledge the confused patient's feeling and assist in coping without trying to psychoanalyze). L
10. Use nonverbal communication alone or in combination with verbal messages (e.g., use of touch, eye contact, facial expression, tone of voice, posture). L
11. Talk to the patient (when not confused) and family, so they understand AC and the resultant behaviors and they know what the plan of care is. L
12. Provide reassurance to patients both during and after AC/delirious episodes. L

Environment.
1. Use Reality Orientation (RO) (offer orienting information as a normal part of daily care and activities). R
2. Repeat information as necessary for the confused person. L
3. Provide orienting information and explain the situation, unfamiliar equipment (e.g., monitors, intravenous lines, oxygen delivery devices, drainage tubes, catheters), rules and regulations, plan for care, and the need for safety measures. R
4. Remove unfamiliar equipment and devices as soon as possible. L
5. If a call light is available, be sure it is within reach, and the patient understands its purpose and can use it. L
6. Use calendars and clocks to help orient patient. R
7. Limit possible misinterpretations or altered perceptions which may occur from pictures, alarms, decorations, costumed figures, television, radio, and call system. Work with patient to correctly interpret the environment. R
8. Establish a consistent, structured routine. Use primary nursing and consistency in caregivers. R
9. Bring in items from the patient's home. Allow patients to wear their own clothes. L
10. Avoid room changes, especially at night. Put delirious, disruptive patients in a private room if at all possible. Do not put two delirious patients in a room together. L
11. Create an environment that is as hazard-free as possible. L
12. Provide adequate supervision of acutely confused/delirious patients. L
13. Avoid physical restraint whenever possible, use a sitter or have a family member stay with the patient if safety is a concern. If restraints must be used, use the least restrictive. (Contact Marita Titer, RN, PhD, FAAN, Department of Nursing-RDCC, 4118 Westlawn, Iowa City, Iowa 52242-1100 for ordering information to obtain the Restraints Research-Based Protocol). R
14. Consider moving the patient closer to the nurse's station to increase a feeling of safety and to improve staff monitoring of the patient. L
15. Environmental manipulations may be appropriate if many clients wander (e.g., wandering alarms, exit doors, alarms, painting lines on floor in front of exits or rooms the patient should not enter). Wandering can also be managed through collusion (e.g., walking with resident, “inviting” the patient to return to the ward). L
16. Have a plan to deal with disruptive behavior; keep hands in sight; avoid threatening gestures or movements; remove potentially harmful objects from patient, room, and the caregiver. Patients may not remember these episodes. If they are remembered, often they are the cause of embarrassment. L

Sound and Light.
1. Keep the environment calm and quiet with adequate, but soft, indirect light and limit noise levels. R
2. Provide glasses and hearing aides to maximize sensory perception. R
3. Consider the use of night lights to combat nighttime confusion. R
4. Use music that has an individual significance to the confused and agitated patient to prevent the increase in, or decrease of, agitated behaviors. (Contact Marita Titer, RN, PhD, FAAN, Department of Nursing-RDCC, 4118 Westlawn, Iowa City, Iowa 52242-1100, for ordering information to obtain the Individualized Music Research-Based Protocol). R
Psychosocial.
1. Encourage patients to be involved in, and control, as much of their care as possible. Allow them to set their own limits and do not force patients to do things they do not want to, as this is likely to cause disruptive behaviors. R
2. Reminiscing can also help increase self-esteem. L
3. Acknowledge patient's feelings and fears. R
4. Avoid demanding abstract thinking for delirious patients, keep tasks concrete. L
5. Limit choices. Offer decision-making only when patients are capable of making these judgments. L

Social Interaction.
1. Encourage family and friends to visit, but visits work best when scheduled, and numbers of visitors and lengths of visits should be limited so as not to overwhelm the patient. R
2. Consider involving the patient in programming so as to decrease social isolation. Physical and occupational therapy may be potential options. L
3. Allow patients to engage in activities that limit anxiety. R

Consultation.
1. Consult with a psychiatric nursing specialist or psychiatry personnel for severe disruptive behaviors, psychosis, or if symptoms do not resolve in 48 hours. L
2. Establish an AC resource network, where interested staff nurses are instructed to assess for AC and serve as consultants for their practice settings. R

Behavioral Management Interventions (for disruptive behaviors seen as a part of AC).
1. Change staffing patterns or alter care routine (including amount or type of touching). L
2. Use one-to-one supervision. L
3. Pay attention to patients. L
4. Talk with or counsel patients. Give verbal reprimands. L

5. Ignore. L
6. Remove patient from the situation using time out, seclusion, or isolation. L
7. Reposition. L
8. Reinforce desired behaviors, remove reinforcer of undesired behavior. L
9. Restrict activities. L
10. Use physical or chemical restraint as a last resort. R

Cognitive and Attentional Limitation Interventions (for disruptive behaviors seen as a part of AC).
1. Use diversion to distract patients from the disruptive behaviors in which they are currently engaging. L
2. Divide activities into small steps to simplify them and decrease likelihood of causing disruptive behaviors. L

Regularly evaluate each medication used and consider discontinuing. If this is not possible, use the minimal number of medications in the lowest effective doses. L

3. Determine what triggered or caused the disruptive behavior and try to prevent its occurrence. L

Pharmaceutical Interventions.
1. In general, limit use of medications (to the extent possible) in patients with AC and disruptive behaviors. L
2. Regularly evaluate each medication used and consider discontinuing. If this is not possible, use the minimal number of medications in the lowest effective doses. L
3. Monitor for intended and adverse effects of medications R
4. Treat pain in the delirious patient; however, be alert for narcotic-induced confusion and disruptive behaviors. R
5. Avoid medicating patients to control wandering, as medications are likely to make them drowsy and light-headed, increasing the risk for falls. L
6. If medication is necessary to control disruptive behavior, use: L
   - Haloperidol (Haldol): 0.5 to 5 mg bid to q6h by mouth or intramuscularly.
   - Lorazepam (Ativan): 0.5 to 1 mg bid to q6h PO or IV.
   - Oxazepam (Serax): 10 mg bid or tid PO.
   - Temazepam (Restoril) 15 to 30 mg qhs PO.
   - Thioridazine HCl (Mellaril) 10 to 20 mg bid or tid PO or IM.
7. Be sure to monitor for side, untoward or paradoxical effects. L


EVALUATION OF PATIENT OUTCOMES

To evaluate the use of this protocol among patients at risk for AC, outcome factors should be evaluated. The consistent use of this protocol should result in an organized surveillance system for the preventive/early detection of AC which results in the following patient/resident outcomes.

OUTCOME FACTORS

Only a portion of the interventions included in this protocol are research-based. Therefore, only a portion of the outcomes of intervention use are research-based. Each of the following outcomes have been discussed in the AC literature as being important factors related to the proper management of patients identified as at risk for AC.

- Lower incidence of AC.
- Fewer complications.
- Shorter hospitalization (length of stay).
- Shortened length of AC episodes.
- Decreased severity of the AC.
- Decreased mortality.
- Decreased discharge to institutions.
- Significantly reduced incidence of AC.
- Prevent recurrence of AC.
- Decreased hospitalization costs.
- Improved functional ability.
- Increased independence.


The assessment strategy outlined in this protocol can be used to obtain the data necessary to detect AC. A variety of interventions are also available to help the nurse manage AC. Through early detection of and intervention for AC, nurses can minimize the negative outcomes associated with this condition, and help to improve the quality of life of adults experiencing this acute and potentially reversible cognition impairing condition.

REFERENCES

Key: (R) = Research (L) = Literature (N) = National

Guidelines


delirium in older patients undergoing elective orthopedic surgery. Journal of the American Geriatrics Society, 43(2), 175-178. (R)


Iowa Veterans Affairs Nursing Research Consortium. (1996). Acute confusion unitized resource aids (2nd ed.). Iowa City, IA: University of Iowa College of Nursing. (L)


Miller, J. (1996). A clinical project to reduce confusion in hospitalized, older adults. MDSURG Nursing, 5(6), 436-444. (R)


delirium in cardiac surgical patients. *Nursing Research*, 31, 60-62. (R)


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This work has been supported by grant P30 NR03979 from the National Institute for Nursing Research [PI: Toni Tripp-Reimer, The University of Iowa College of Nursing], the Iowa-Veteran's Affairs Nursing Research Consortium. The University of Iowa Gerontological Nursing Interventions Research Center Research Development and Dissemination Core wishes to acknowledge Marquis D. Foreman, PhD, RN, FAAN, Associate Professor Dept. of Medical-Surgical Nursing, College of Nursing, University of Illinois at Chicago and Clinical Scientist at the University of Illinois at Chicago Medical Center, and Virginia J. Neelon, PhD, RN, Associate Professor and Director of the Biobehavioral Laboratory at the College of Nursing, University of North Carolina at Chapel Hill for their contribution as content experts.

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