

# Practical Management of the Delirious Patient with Mental Retardation by the Nurse Anesthetist

## 1. Basic Facts on Delirium

The nurse anesthetist plays an important role in prevention of delirium among surgical patients. Delirium is temporary confusion produced by medical problems or inappropriate medications. Persons with pre-existing cognitive impairment such as those with dementia or mental retardation may manifest worsening of confusion following surgery or a general anesthetic. Clinical manifestations include neurological, autonomic, and psychiatric symptoms (See Table 1). Several groups of individuals are at high risks for severe post-operative confusion including frail elders, brain damaged persons, e.g., traumatic brain injury, stroke, and individuals with mental retardation.

The nurse anesthetist often performs the pre-operative evaluation during which they can screen for delirium and assess risk factors for developing post-operative delirium. The nurse anesthetist should be familiar with the manifestations of post-operative delirium and communicate these issues

with the recovery room or the post-operative care team. Patients with pre-operative delirium are at high risk for worsening of delirium in the post-anesthetic phase. Individuals with multiple risk factors require careful post-operative monitoring. Little data is available on the frequency of delirium in the person with mental retardation; however, anecdotal information suggests that this group is at high risk. Patients with acute surgical problems or trauma become confused by the stress of the injury, pain medications, pain, environmental stressors, and many other destabilizing events.

Frail elders share many clinical features and risk factors with persons who have moderate or severe mental retardation (1). Most elderly patients admitted to the hospital with delirium go unrecognized

**Table 1**

### **Don't Get Caught "NAP'N" with Delirium**

- **N** – neurological changes (drowsy, hypervigilant)
- **A** – autonomic instability ( $\downarrow$ BP,  $\uparrow$ RR,  $\uparrow$ HR)
- **P** – psychiatric symptoms (hallucinations, delusions)

by the emergency room doctor (95%). Unrecognized delirium produces difficulties with the pre-operative stabilization of the patient because the individuals may not comply with clinical staff. The mortality rate for hospitalized delirious elders is 15% and the presence of pre-operative delirium probably worsens the prognosis for the patient with MR/DD. The anesthesia team should accomplish four tasks with at-risk patients for delirium: 1) screen for and identify delirious patients or individuals with high risks for post-operative delirium, 2) minimize interventions that worsen pre- or post-operative delirium, 3) alert the family to potential risks associated with delirium, and 4) alert the post-operative nursing team about the potential for post-operative confusion.

2. **Assessing the Risk for Delirium**

The pre-operative evaluation can assess the relative risk for delirium through the identification of risk factors. A past clinical history of confusion or previous delirium, as well as the presence of neurological disease, such as stroke, may increase the risk for post-operative delirium. The pre-operative assessment should establish baseline function and ideally include a basic assessment key of cognitive or sensory functions, such as language ability, hearing, sight, etc. Patients with mild mental retardation may have unrecognized substance abuse that contributes to confusion.

A recent drop in functional ability suggests delirium. For instance, the delirious patient with an acute abdomen may stop dressing and develop new incontinence in the two days prior to admission.

Hospital staff can avoid the mess of delirium using the acronym “**MESS**” which stands for *Medical, Environmental, Sensory, and Scripts* (See Table 2). Medical problems commonly produce

delirium in persons with MR/DD. Pain, infection, hypoxia, hypoglycemia, electrolyte imbalance and other metabolic problems can produce confusion in normal elders or those with brain damage. Environmental factors can produce severe confusion in brain damaged individuals. The ICU environment with

<p><b>Table 2</b></p> <p><b>Don't “MESS” With Delirium</b></p> <ul style="list-style-type: none"> <li>• <b>M – Medical Problem</b></li> <li>• <b>E – Environmental Stressors</b></li> <li>• <b>S – Sensory Impairment or Overload</b></li> <li>• <b>S - Scripts</b></li> </ul>
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frequent awakening and abnormal circadian rhythms will produce confusion in persons with MR/DD. Sensory impairment can cause confusion in patients with MR/DD when hearing aids, glasses, and other sensory assistive devices are removed. Scripts, i.e., medication, are the final major cause of

delirium. Benzodiazepines, narcotics, anticholinergic agents, and antihistamines are common causes of confusion in brain damaged people. The prescription of long-half life benzodiazepines and Demerol produce significant risks for confusion (3), (4). Many patients with delirium have multiple causes for their confusion. Some individuals begin with one cause, e.g., drug-induced delirium, and develop other causes of confusion, e.g., dehydration, rectal impaction, as a consequence of the first disorder. The best policy for the anesthesia is “don’t mess with delirium”. Medical problems are commonly missed in persons with MR/DD and these health problems can produce significant behavioral abnormalities (5), (6).

**3. Management of Delirious Post-Operative Patients**

The clinical acronym “**DUMPSTER**” covers most of the major assessment and management issues (See Table 3). Patients at high risk for delirium should receive the minimum doses of

benzodiazepines and clinicians should avoid long half-life sedating medications, e.g., Librium, Phenobarbital, etc. Most sedative hypnotics may cause delirium and clinicians should avoid all antihistamines, e.g., diphenhydramine, Vistaril, etc., (See DDMED 13 and 41). Narcotics with high potential for confusion, e.g., Demerol, Talwin, should be

<p>Table 3</p> <p><b>Avoid the Delirium “DUMPSTER”</b></p> <ul style="list-style-type: none"> <li>• <b>D</b> - dehydration</li> <li>• <b>U</b> – UTI</li> <li>• <b>M</b> – metabolic abnormality (↓↑ BS, Ca, O<sub>2</sub>)</li> <li>• <b>P</b> – pneumonia</li> <li>• <b>S</b> – substance abuse</li> <li>• <b>T</b> – toxicity from prescribed medications</li> <li>• <b>E</b> – epilepsy</li> <li>• <b>R</b> – rectal impaction</li> </ul>
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avoided in high risk patients. Anticholinergic medications can produce symptoms that resemble dementia, e.g., Elavil. Nursing staff should re-orient the patient when possible and sensory assistive devices, e.g., hearing aids, eye glasses, should be made available when appropriate. Patients with MR/DD can develop a range of silent medical problems including infections, electrolyte abnormalities or worsening of seizures due to change in levels of antiepileptic medications. All antiepileptic levels should be monitored to avoid changes in serum levels produced by medical problems or drug-drug interactions. Reduction of levels can produce confusion by increasing the frequency of seizures with post-ictal confusion, while increased levels can produce somulence or other behavior changes (7). Prolonged restraint in the post-operative period may increase risk for

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other complications, such as pneumonia or decubiti. Sitters should be used to monitor patients and reduce the need for chemical or physical restraints. Family may be able to assist with this care. Severe agitation can be managed with injectable antipsychotic medications of appropriate doses for the patient (See **DDMED 18 and 34**).

### 4. Working with the Family

Family should be advised when an individual has significant risk for post-operative confusion. The treatment team can outline specific measures taken to reduce this serious complication and family should be informed that this complication may be unavoidable in a person with brain damage. The duration of anesthesia and type of surgical procedure may affect the relative risk for post-operative delirium.

### 5. Working with the Post-Operative Team

The post-operative treatment team should be alerted to the possibility of post-operative confusion. Some persons with mild mental retardation may have temporary confusion and some retrograde amnesia following a general anesthetic; however, persistent or severe confusion in the post-operative period may signal prolonged confusion, i.e., delirium. The post-operative team should take necessary steps to limit drug-induced delirium as well as monitor complications produced by this brain disorder, e.g., aspiration, deep venous thrombosis, secondary to immobilization, etc. Brain damaged people who develop post-operative confusion or delirium may experience symptoms up to six months following the anesthetic. Families should be advised to be patient and continue supporting the patient. For further information, please see the handout, entitled “**Physicians Guide For Delirium (DDMED 71, DETA 201 and DETA 203).**”

### 6. Conclusion

Delirium is a common complication of health problems in hospitalized persons with MR/DD. Unrecognized or poorly treated delirium will worsen post-operative complications and outcomes (For additional information about neuropsychiatric management of persons with MR/DD, See **DDMED 43**).

### References:

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## Fact Sheet

### For Nurse Anesthetists On Managing Persons with MR/DD

1. Patients with mild MR/DD may under-report symptoms of confusion.
2. Always obtain pre-operative history from both patient and caregiver.
3. Patients with MR/DD may be at higher risk for pre- or post-operative malnutrition and dehydration.
4. Always confirm medication compliance for patients with MR/DD.
5. Patients with MR/DD may be at high risk for post-operative delirium.
6. Most pre-operative delirium is missed by ER physicians.
7. Patients with MR/DD require careful post-operative monitoring to reduce risk factors for delirium.
8. Patients with MR/DD may not comply with post-operative wound care or pulmonary toiletry.
9. Avoid benzodiazepines, antihistamines, Demerol, and anticholinergic medications in the post-operative care of patients with MR/DD.
10. Patients with MR/DD may manifest pain through agitation and fail to request analgesics.

## Fact Sheet

### For Doctors On Delirium in Patients with MR/DD

1. Delirium is a common problem in all hospitalized patients with mental retardation, brain damage or neurological diseases.
2. Delirium is usually unrecognized in the emergency room.
3. Delirium increases one-month mortality and six months disability in older patients with normal cognition.
4. Patients with MR/DD are at high risk for delirium.
5. Most (92%) demented patients who undergo hip replacement develop post-operative delirium.
6. Most ICU psychosis is actually delirium.
7. Surgeons can minimize risks of delirium for patients with MR/DD by careful use of sedatives and coordination of the nursing care.
8. Mildly retarded patients may become severely impaired in the post-operative period.
9. Careful medical and nursing care for patients with MR/DD in the post-operative period may substantially improve outcome and increase family satisfaction.
10. Patients with MR/DD may require sitters in the hospital to reduce the use of sedatives or restraints.