Delirium at the End of Life Impact on Patients and Caregivers

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Why Care about Delirium?

Clinical Questions Raised
1. How is a diagnosis of delirium be made?
2. Why do a structured delirium assessment?
3. What is the experience of the patient?
4. What is the experience of the caregivers – both the family members and professional caregivers?
5. What is the best approach for treatment?
Making a Diagnosis of Delirium

Pablo Picasso

DSM-IV Definition

- Disturbance of consciousness with reduced ability to focus, sustain, or shift attention
- Change in cognition or development of a perceptual disturbance
- Develops over a short period of time and tends to fluctuate during the course of a day
- Typically has an underlying medical cause

Validated Tools to Measure Delirium

- CAM (Confusion Assessment Method)
- CAM-ICU
- DSI (Delirium Symptom Interview)
- ICDSC (Intensive Care Delirium Screeneing Checklist)
- NuDESC (Nursing Delirium Screeneing Scale)
- NEECHAM
- MDAS (Memorial Delirium Assessment Scale)
- DOS (Delirium Observation Scale)
Tools to Detect Delirium

https://www.hospitalelderlifeprogram.org/delirium-instruments/

- Confusion Assessment Method (CAM): widely used scale. Rater performs structured mental status examination to detect 4 items. Training of rater will improve sensitivity. Takes ≥ 5 minutes.
- CAM-Short
- 3D-CAM:
- CAM – S (Severity)


Instruments to Detect Delirium

- Confusion Assessment Method (CAM) Most widely used scale. Rater performs structured mental status examination to detect 4 items. Training of rater will improve sensitivity. Takes ≥ 5 minutes.
- Neelon and Champagne (NEECHAM) Confusion Scale. Consists of 3 scales (cognitive function, behavior, and physiologic control). Rated by bedside nurse who has provided 10 minutes of routine nursing care.
- Nursing Delirium Screening Scale (Nu-DESC)
  - 5 items (orientation, behavior, communication, illusions/hallucinations & psychomotor retardation). Rated by bedside nurse during 8-hour shift. Takes 1–2 minutes. Sensitivity, 86%; specificity, 87%.

Instruments to Detect Delirium

- Confusion Assessment Method–Intensive Care Unit (CAM–ICU)
  - Most widely used scale in ICU. Four items rated by bedside nurse in 2 minutes. Patient must be able to hear.
- Intensive Care Delirium Screening Checklist (ICDSC)
  - Bedside checklist for doctor or bedside nurse to rate 8 items present over past shift. Sensitivity, 99%; specificity, 64.
Instruments to Rate Severity of Delirium

Delirium Rating Scale-Revised-98 (DRS-R-98)
- Can be used to diagnose, as it has a 3-item diagnostic section. Thirteen-item symptom scale can be repeated to detect change in severity.

Memorial Delirium Assessment Scale (MDAS)
- Consists of a 10-item scale to quantify severity of delirium and detect change in symptoms. Takes 10 minutes.
**NURSING DELIRIUM SCREENING SCALE**

<table>
<thead>
<tr>
<th>Delirium Assessment Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disorientation</td>
<td>Inappropriate Behavior</td>
</tr>
<tr>
<td></td>
<td>Inappropriate Communication</td>
</tr>
<tr>
<td></td>
<td>Illusions-Hallucinations</td>
</tr>
<tr>
<td></td>
<td>Psychomotor Retardation</td>
</tr>
</tbody>
</table>

**Score > = 2 → DELIRIUM**

**DELIURIM INTERVENTIONS**

Interventions if NuDESC score greater than or equal to 2:

- Select Multiple Options (FM)
  - Patient complaint: patient in pain, has denture, etc.
  - Client is current reality: if does not increase agitation modify script.
  - Consult with the physician/CNS/MPR/AR to discuss analgesia.
  - Pain management: consistent analgesic or as appropriate.
  - Encourage mobilization.
  - Appropriate use of glasses and hearing aids.
  - Sleep promotion.
  - Monitor intake.
  - Consider bladder scan to check for urinary retention.
  - If the BID in past 48 hours check for fecal impaction.
  - Any medications started or dose adjusted or stopped in past 24 hr.
  - Assess: Vital signs and pulse oxygen.
  - Assess: Blood glucose.
  - Assess: MO signs of dehydration.

**Table 3**

<table>
<thead>
<tr>
<th>Items From the Memorial Delirium Assessment Scale (MDAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reduced level of consciousness (awareness)</td>
</tr>
<tr>
<td>2. Disorientation</td>
</tr>
<tr>
<td>3. Short-term memory impairment</td>
</tr>
<tr>
<td>4. Impaired sleep</td>
</tr>
<tr>
<td>5. Reduced ability to maintain and shift attention</td>
</tr>
<tr>
<td>6. Disorganized thinking</td>
</tr>
<tr>
<td>7. Perceptual disturbances</td>
</tr>
<tr>
<td>8. Delusions</td>
</tr>
<tr>
<td>9. Decreased or increased psychomotor activity</td>
</tr>
<tr>
<td>10. Sleep-wake cycle disturbance (disorder of arousal)</td>
</tr>
</tbody>
</table>

MDAS: Features

- 10-item, 4-point clinician-rated scale (range: 0 to 30)
- Diagnostic screening tool
- Quantify the severity of delirium
- Validated among hospitalized patients with advanced cancer and AIDS.
- Cutoff score of 13 is diagnostic of delirium
- Can be administered repeatedly within the same day

CAM-ICU

- Developed to assess for delirium quickly in ICU patients
- Takes less than 2 minutes
- Sensitive and specific (even with dementia)
- Used with the RASS (Richmond Agitation and Sedation Scale)

Richmond Agitation-Sedation Scale (RASS)

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
<th>Eye Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>+4</td>
<td>Combative</td>
<td>10 sec</td>
</tr>
<tr>
<td>+3</td>
<td>Very agitated</td>
<td>10 sec</td>
</tr>
<tr>
<td>+2</td>
<td>Agitated</td>
<td>None</td>
</tr>
<tr>
<td>+1</td>
<td>Restless</td>
<td>None</td>
</tr>
<tr>
<td>0</td>
<td>Alert/calm</td>
<td>None</td>
</tr>
<tr>
<td>-1</td>
<td>Drowsy</td>
<td>&gt;10 sec</td>
</tr>
<tr>
<td>-2</td>
<td>Light Sedation</td>
<td>&gt;10 sec</td>
</tr>
<tr>
<td>-3</td>
<td>Moderate</td>
<td>None</td>
</tr>
<tr>
<td>-4</td>
<td>Deep</td>
<td>None</td>
</tr>
<tr>
<td>-5</td>
<td>Unarousable</td>
<td>None</td>
</tr>
</tbody>
</table>

Sessler, et al AJRCCM 2002
CAM-ICU

- Feature 1:
  - Measures acute onset or fluctuating course
- Feature 2:
  - Measures inattention
- Feature 3:
  - Measures disorganized thinking
- Feature 4:
  - Measures altered level of consciousness (current)

Confusion Assessment Method for the ICU (CAM-ICU)

1. Acute onset of mental status changes or a fluctuating course

2. Inattention

3. Disorganized Thinking

4. Altered level of consciousness

= Delirium

Overview of the 3D-CAM assessment.

Why do a structured delirium assessment?

from The Last Year “September 88” by Deidre Scherer

Reasons to do a Structured Assessment

• Morbidity
• Prevalence
• Reversibility
• Detection
Patient Outcomes – Mortality and Morbidity

- Increased risk of death when adjusting for other prognostic factors
- Increased LOS
- Increased ICU days
- Increased risk of discharge to long-term care facility
- Increased falls
- Increased costs

Prevalence of Delirium

- Hospitalized Elderly
  - Pompei, JAGS 1994; Inouye, 5 NEM 2006
  - Fann, JR. Cancer 2005; Breitbart, W. J Pain Sx Mgt. 1995
- Hospitalized cancer patients
- Palliative care unit
  - McNicol, L. JAGS 2003
- ICU
- Prior to death

- 15-50%
- 25-50%
- 28-42%
- Up to 80%
- Up to 88%

Reversibility of Delirium

- 33-67% of delirium in terminally cancer patients is reversible (Bruera, E. J Pain Symptom Manage 1992)
- Significant symptom improvement in 50% of terminally ill cancer patients with delirium (Gagnon, P. J Pain Sx Mgt. June 2000)
Detecting Delirium

Un-recognized
- 32-66%
- In Assisted living
- By physicians
- By nurses

Is palliative care better at detecting? Maybe!
Reason for consult 10%; detected 56%

Types of Delirium

• Hyper-active
  - Agitation
  - Concerns for safety
• Hypo-active
  - Psychomotor retardation
  - Mistaken for depression
• Mixed
  - Combination of above

Hypo-active Delirium

Prevalence

Outcomes
  - May be better. Marcantonio E. JAGS 2005;50(5):850-7
  - Equally disturbing per patients.

Recognition may be worse
What is the experience of the patient?

from The Last Year “September 88” by Deidre Scherer

Delirium – the pt’s perspective


• “Of those surviving patients who remember anything at all, many report harrowing psychotic episodes. These are usually ‘nightmares often of a bizarre and extremely terrifying nature,’ hallucinations, and paranoid delusions – typically of a nurse or doctor trying to rape, murder or otherwise harm the patient.”

Delirium – pt’s perspective (the literature)

Breitbart, W. Psychosomatics 2002;43(3):183-94

• 101 cancer pts who recovered from delirium based on daily MDAS scores
• 54% recalled their delirium
• Average distress: 3.2 (out of 0-4 scale)
• Level of distress inversely proportional to severity of delirium
• Delusions – most strongly predictive of patient distress
Impact of Delirium on Patients

In ICU patients, delusional memories associated with (after ICU discharge):

- Higher risk of PTSD (not all studies support association)

In advanced cancer patients, caregiver-reported delirium associated with:
- Worse QOL on McGill Buss, MK. Unpublished data.

Deliurn at the EOL - Pt Perspective

Recurring Themes for Patients at the EOL
- Comfort (pain/symptom relief)
- Relief of burden on loved one
- Strengthening relationship with loved ones

QUESTION: Can patients with delirium pursue their purported goals at end of life?

Patient Outcomes – Pain and Symptom Management

- Caregiver-reported delirium 7.8 times more common in patients with pain (p = 0.005).
  - Buss, MK J Pall Med 2007
- Pain in post-op patients associated with higher rates of delirium
- Indirect data
  - Common reason to request palliative sedation
    - Fainsinger J Palliat Care 1994(2): 2004
What is the experience of caregivers – both family and professional?

“At Night” by Deidre Scherer

Case:
Experience of the Caregivers

• **Wife:** “Doctor, each day when I come in, I wonder if I will see my husband or that other person. I know he wants to live, but he wouldn’t want to live as that other person.”

• **Resident MD:** “The patient was usually articulate, educated, interested and informed. I didn’t recognize him later. He was confused and disoriented and unable to follow conversation”

Impact of Delirium:
Caregiver Outcomes

• Medical Decision-making
• Caregiver burden
• Caregiver quality of life/mental health
• Bereavement
Caregivers: Medical Decision-making

- Patients lose capacity, so caregivers become decision-makers by proxy
- Surrogates do not always make same choices as patients
- “Burden” of decision-making for family

Caregiver Burden

- Indirect Evidence
  - Need for additional staff in hospital (sitter)
  - More likely to be discharged to a facility
- Caregivers who reported observing delirium in patients
  - Buss, MK. J Pall Med 2007
  - Higher burden on Caregiver Burden Scale
  - OR = 1.13 [CI: 1.04,1.23]; p = 0.006

Caregiver “Quality of Life”

- 101 cancer patients who recovered from delirium
- Severe distress reported by:
  - 76% spouse/caregivers
  - 73% of nurses
- Average distress (on 0-4 Likert Scale)
  - 3.75 for spouses/caregivers
  - 3.09 for nurses
- Worse patient KPS → higher caregiver distress

Limits:
- Single item measuring caregiver and nurse distress
- No information on duration or nature of distress
Caregiver QoL/Mental health

QUALITY OF LIFE
Caregivers who reported observing delirium in patients:
- Worse overall QoL on SF-36* Buss, unpublished
- More role limitations
- Higher pain
- Less energy

MENTAL HEALTH
Caregivers who reported observing delirium in patients:
- 10 times more likely to meet criteria for anxiety disorder*

*Above are preliminary findings and require confirmation in better studies.

Bereaved Caregivers Experience of Delirium

- Most distressing symptoms
  - 96% Communication difficulty (72%)
  - 89% Mood lability (62%)
  - 87% Physical restlessness (74%)
  - 83% Inappropriate behavior (36%)
  - 76% Memory disturbance (63%)

- Most common symptoms
  - 92% Somnolence (33%)
  - 74% Physical restlessness (87%)
  - 72% Communication difficulty (85%)

Caregiver Bereavement

54% bereaved family members distressed by delirium that occurred in last 2 weeks of life (n=402)
Morita T. J Pain Symptom Manage 2007

CONCLUSION:
Delirium is a common source of distress for bereaved caregivers.
Strategies for Managing Delirium at the End of Life

Treating Delirium

- Non-pharmacologic measures
- Pharmacologic Measures
- Including the family
- Self-care

Treating Reversible Causes of Delirium at the EOL (appropriate to goals of care)
1. Check vital signs and O₂ sat for temperature indicative of infection and hypoxia.
2. Treat metabolic derangements.
3. Discontinue any unnecessary medications that may be contributing. (e.g., benzo)
4. If opioids are in use, consider opioid rotation.
5. Consider CNS imaging to r/o new pathologies.
**Hospital Elder Life Program (HELP)**

- Cognitive
  - Orientation (calendar, caregiver names)
  - Activities (cognitively stimulating)
- Sleep
  - Regular routine
  - Sleep aids (relaxing music, massage)
  - Environmental (eliminate noise, nighttime meds)
- Mobility (range of motion, limit IV's, etc)
- Visual Aids (glasses, large dial phones, etc)
- Hearing Aids (check ear wax)
- Volume repletion for dehydration

**HELP (cont)**

Trial of 852 hospitalized older patients

- Interventions (see previous slide)
- Incidence of delirium
  - Study group: 9.9%
  - Usual care: 15%
  - OR = 0.60

Adherence to Non-pharmacological Interventions

- 9882 patient days, complete adherence 57%, partial adherence 87%
- Delirium rate decreased as adherence increased
  - Risk of delirium 89% lower with complete adherence

**Other Non-pharmacological Studies**

- **Multi-disciplinary/processes of care**
  - Largest Ns; best design; most positive
    - Inouye, SK studies;
    - Caplan. _Age Aging_. 2006.
- **Geriatrics consultation**
  - positive (post-op hip fracture)
  - negative
Pharmacologic Treatment

- No medication is FDA approved for the treatment of delirium
- Emerging literature:
  - Few double-blind, randomized, placebo controlled trials
  - Different agents used
  - Small numbers
  - Various patient populations
    - post-op, ICU, cancer, AIDS, hip fractures

Common Medication Doses

**Neuroleptics**
- Haloperidol 0.5-1mg Q30min
  - PO has ½ life of 24 hr
  - IV has ½ life of 12 hrs
- Chlorpromazine 25-50 mg PO/PR TID-QID
- Olanzapine 2-5 mg PO/SL QD
- Risperidone 0.5 mg PO/SL BID
- Quetiapine 50-100 mg PO BID
- Ziprasidone 20mg-80mg PO bid

**Sedatives**
- Lorazepam 0.5-1mg PO/IV/SQ q4hr
- Propofol 10mg IV bolus (then 10mg/hr)
- Midazolam 1-2mg IV q1hr

Haldol v. Lorazepam

- Double-blind RCT
- 244 AIDS patients consented
- 30 (12%) patients developed delirium(DRS)
- Haloperidol (n =11)
- Chlorpromazine (n = 13)
- Lorazepam (n = 6)

*Haloperidol = chlorpromazine > lorazepam*
Atypical Anti-psychotic Studies

- Risperidone
  - 3 studies
  - n=10-64
- Quetiapine
  - 2 studies
  - n=12
- Olanzapine
  - n=79
  - Open-label study

• All showed reduction in severity or resolution of delirium
• Small trials
• No comparison arm

Comparison trials - Olanzapine v. Haldol

Skrobik, YK. ICU Med 30(7) 2004
- ICU patients
- Haloperidol n=45; mean 6.5mg/d PO (range 1-28)
- Olanzapine n=28; mean 4.54 mg/d PO (range 2.5-13.5)
- Delirium severity and benzodiazepine use decreased at 5 days
  > Haloperidol = Olanzapine

Sipahimalani, A. Psychosomatics 39 1998
- Psych consult pts at VA
- 22 pts in each group based on clinician preference
- Haloperidol mean dose 5.1 mg/d PO
- Olanzapine mean dose 8.2 mg/d PO
- Reduced DRS scores
  > Haloperidol = Olanzapine

Comparison trials - Haldol v Risperidone

- Han, Psychosomatics 45(5)2004
  - Oncology and ICU patients (n=28) for 7 days
  - Haloperidol mean 1.71mg po bid (range 1.0-3.0)
  - Risperidone mean 1.02 mg po bid (range 0.5-2.0)
  - Measured MDAS, both groups improved
  > Haloperidol = Risperidone
Efficacy and safety of quetiapine in critically ill patients with delirium: A prospective, multicenter, randomized, double-blind, placebo-controlled pilot study


Devlin, John W. PharmD; Roberts, Russel J. PharmD; Fong, Jeffrey J. PharmD; Skrobik, Yoanna MD; Riker, Richard R. MD; Hill, Nicholas S. MD; Robbins, Tracey RN; Garpestad, Erik MD

Figure 1. Patient screening, enrollment, and randomization.

ICDSC, Intensive Care Delirium Screening Checklist; NG, nasogastric.

Figure 2. Proportion of patients with first resolution of delirium over time between quetiapine (n = 18) and placebo (n = 18) groups.
Effect of intravenous haloperidol on the duration of delirium and coma in critically ill patients (Hope-ICU): a randomised, double-blind, placebo-controlled trial

Dr Valerie J Page, MBBCh, Prof E Wesley Ely, MD, Prof Simon Gates, PhD, Xiao Bei Zhao, RN, Timothy Aks, PhD, Ayumi Shintani, PhD, Jim Jackson, PsyD, Prof Gavin D Perkins, MD, Prof Daniel F McAuley, MD

The Lancet Respiratory Medicine
Volume 1, Issue 7, Pages 515-523 (September 2013)
DOI: 10.1016/S2213-2600(13)70166-8
Efficacy of Oral Risperidone, Haloperidol, or Placebo for Symptoms of Delirium Among Patients in Palliative Care: A Randomized Clinical Trial


Figure Legend:
Numbers of Participants Assessed and Enrolled in the Trial and Indicates Intention-to-Treat.
Secondary Multivariable Mixed-Model Analysis of Delirium

The dependent variable was delirium score on each day. The independent variables comprised the covariates in Table 2, group, time, and 2 interaction terms, time × risperidone and time × haloperidol. The relative difference in improvement between groups at 72 hours was determined using the lincom function in Stata. Placebo vs risperidone: P < .001; placebo vs haloperidol: P = .002. Error bars indicate 95% CIs.

Table 3. Variables Associated With Delirium Symptoms at 72 Hours Using Multivariable Random Effects Mixed-Model Analysisa

<table>
<thead>
<tr>
<th>Variable</th>
<th>Univariable</th>
<th>Multivariable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delirium score</td>
<td>0.06 (0.01 to 0.10)</td>
<td>0.06 (0.01 to 0.10)</td>
</tr>
<tr>
<td>Time</td>
<td>0.06 (0.04 to 0.08)</td>
<td>0.06 (0.04 to 0.08)</td>
</tr>
<tr>
<td>Time × risperidone</td>
<td>0.06 (0.04 to 0.08)</td>
<td>0.06 (0.04 to 0.08)</td>
</tr>
<tr>
<td>Time × haloperidol</td>
<td>0.06 (0.04 to 0.08)</td>
<td>0.06 (0.04 to 0.08)</td>
</tr>
</tbody>
</table>

What about pharmacologic prevention?
Haloperidol prophylaxis- 1

- 450 hip surgery patients >70
- Geriatrics consultation for all pts
- Haldol 1.5mg/day versus placebo
- Outcomes:
  - Same incidence of delirium: 15 v 16.5%
  - Severity reduced
  - Shorter duration (6 days)
  - LOS reduced (5 days)

Kalisvaart KJ. JAGS 2005.

Haloperidol prophylaxis- 2

- Randomized, placebo control
- 450 ICU post-op patients
- Haldol 0.5mg IV bolus, 0.1mg/h for 12h
- Outcomes
  - Lower incidence (15.3 v 23.2%)
  - Longer time to onset (6.2 v 5.7 days)
  - Shorter ICU stay (21.3 v 23 hrs)
- No side effects of haloperidol


Olanzapine prophylaxis

- Post-op joint (hip and knee) patients
- Olanzapine 5mg PO pre and post-op
- Outcomes:
  - Lower incidence: 14% v. 40%
  - More severe and longer delirium
  - More discharged home: 40.8% v. 29.9%

Larsen KA. Psychosomatics. 2010 Sep-Oct;51(5):409-18
**Risperdone as prophylaxis**
- 101 on-pump cardiac surgery pts with sub-syndromal delirium
- Risperdone 0.5mg bid v. placebo
- **Outcomes:**
  - Lower incidence: 13.7% v 34% delirium
  - Same EPS side effects (3.9 v 2%)

_Hakim. Anesthesiology. 2012 May;116(5):987-97._

**Melatonin as prophylaxis**
- Randomized, placebo-controlled trial
- 145 patients > 65 admitted through ER
- Melatonin 0.5mg v placebo (14 days)
- **Outcomes:**
  - Lower incidence: 12% v. 31%


**Melatonin - prevention of Delirium**
- Double-blind RCT
- 3 sites; n = 452 (378 final analysis)
- >=65 post-op hip fracture
- Melatonin 3mg (or placebo) qhs x 5days
- Mean age:84; 56% cognitive impairment
- **RESULTS:** delirium 29.6% v. 25.5%
- **TAKE HOME:** Melatonin no effect on incidence of delirium.

_De Jonghe A et al. CMAJ 2014. Oct 7;186(14) _
Ramelteon

- Melatonin agonist
- Sleep agents that selectively binds to the MT<sub>1</sub> and MT<sub>2</sub> receptors in the suprachiasmatic nucleus (SCN)

Remelteon as prevention?

- Randomized controlled trial
- ICU and wards in 5 hospitals
- 65-89 years old
- 67 patient randomized
- Ramelteon 8mg/d qhs x 7 nights or placebo
- Delirium: 3% vs 32%; p = 0.003); OR: 0.07
- Caveat: 1126 screened; 1059 excluded


Ramelteon for Prevention?

- Double-blind RCT
- N = 67 pts admitted to ICU
- Ages: 65-89
- Intervention: Ramelteon 8mg qhs v placebo
- Results:
  - lower risk of delirium (3% vs 32%; P = .003),
  - relative risk of 0.09 (95% CI, 0.01-0.69)
  - time to delirium 6.94 v 5.74 days

Complex Relationship of Pain and Delirium

↑ Pain → ↑ Distress → ↑ Analgesic medications → ↑ Pain and ↑ Delirium → ↑ Distress → ↑ Delirium → ↑ Pain or delirium

Treating Underlying Cause - Pain

- PCA for post-op pain control
  - reduced delirium
  - Tokita, Anesthesiology 2001 92(2)
  - = delirium; better mental status day 4-5
  - Mann, Anesth 2000
Opioid Rotation

Morphine → Fentanyl
- N = 20
- 9 got IV; 11 got patch
- MDAS and pain
- 65% by day 3; 85% by day 7

Morphine → Oxycodone
- N = 13
- Mental state improved
- No significant change in pain (ie not worse)
- Oxycodone given SQ

Morita. J Pain & Sx. Mgt 2005
M addocks I. J Pain & Sx. Mgt. 12(3) 1996

Methylphenidate

- All with hypo-active delirium, no underlying cause
- N = 14
- MMSE; sleep-wake disturbance
- Improved MMSE (>28) and improved psycho-motor activities

Gagnon, B. J Psyh & N-sci. 30(2) 2005

Pharmacologic Recommendations

NCCN Guidelines 2007
1. Look for underlying cause (meds, constipation)
2. Med: Haloperidol 0.5 –1mg PO/SL/SQ/IV q 1h prn
3. Alternate Meds:
   • Risperidone 0.5 -1mg PO/SL bid
   • Olanzapine 2.5 –15mg PO/SL daily
   • Quetiapine 50 – 100mg PO bid
4. Add 0.5 –2mg lorazepam q 4-6 h PO/SL/SQ/IV prn refractory agitation
5. Titrate dose of effective medication
6. Support caregiver
Pharmacological Recommendations
APA Practice Guidelines 2004

• Ensure safety and assess for possible etiology
• Address environmental and behavioral situations
• Treat with first generation anti-psychotics
  – Consider cholinesterase inhibitors for drug-induced delirium
  – Avoid benzodiazepines

Pharmacological Recommendations
Cochrane database

• Haloperidol is drug of choice, may substitute Chlorpromazine (2004)
• Haloperidol (<3.5mg/d PO) = Risperidone = Olanzapine
  – Haloperidol dose >4.5mg/d PO slightly higher incidence of EPS
  – Pre-operative Haloperidol may decrease severity and duration of post-surgery delirium

Summary

• Delirium at the EOL is a common source of distress for:
  – Patients
  – Caregivers
  – Health care providers

• Better recognition essential to improve management
  • More research needed
Useful Web References

Inouye site on delirium (CAM how to; bibliography)

Ely website on ICU delirum (CAM-ICU how to)

NCCN guidelines (look under palliative care)
- http://www.nccn.org/
  - http://www.mrw.interscience.wiley.com/cochrane