How to prevent delirium in the Emergency Room

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K. Singler and St. Schlee have no potential conflict of interest to report.
OUTLINE

- General considerations
- Screening for Delirium & Patients at risk
- Non-pharmacological possibilities for prevention
- Haloperidol prophylaxis in the ED?
HOW TO PREVENT DELIRIUM?
IN THE EMERGENCY ROOM

1 General considerations
Geriatric ED patients represent 43% of admissions.

On average, the geriatric patient has an ED length of stay that is 20% longer.

Geriatric patients use 50% more lab/imaging services than younger patients.

Geriatric ED patients are 400% more likely to require social services.

Emergency departments are not made for elderly people:

- Bright lights
- Bright floors
- High noise level
- Uncomfortable stretchers
- Lack of easily accessible bathrooms
- Quick evaluation
- Symptom oriented treatment

7 to 24% of elderly patients presenting to the emergency department (ED) will have delirium.

13% of EMS patients had cognitive impairment compared to 8% arriving via other modes of transport.

Up to 80% of critically ill intensive care patients will have delirium.

Overall costs in 2011 $182 billion in 18 European countries.

World Health Organization Regional Office for Europe. European hospital morbidity database (2012)
Screening for Delirium and Patients at risk

HOW TO PREVENT DELIRIUM?
IN THE EMERGENCY ROOM
A high rate of emergency clinicians do not screen or document their findings of delirium.

Missed diagnosis rate ranges from 54% to 89%.

**Studies that have evaluated the psychomotor subtypes of delirium.**

<table>
<thead>
<tr>
<th>Author</th>
<th>Age Inclusion</th>
<th>Setting</th>
<th>Psychomotor Subtype</th>
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<tbody>
<tr>
<td>Han 2009</td>
<td>≥ 65</td>
<td>ED</td>
<td>Hypo 92% Hyper 4% Mixed 4%</td>
</tr>
<tr>
<td>Liptzkin 1992</td>
<td>≥65</td>
<td>Inpatient, medical</td>
<td>19% 15% 52%</td>
</tr>
<tr>
<td>O’keefe 1999</td>
<td>Not reported</td>
<td>Inpatient, geriatrics</td>
<td>29% 21% 43%</td>
</tr>
<tr>
<td>Marcanontio 2002</td>
<td>≥ 65</td>
<td>Inpatient, hip fracture repair</td>
<td>71% - 29%</td>
</tr>
<tr>
<td>Kelly 2001</td>
<td>Nursing Home</td>
<td>Inpatient, geriatrics</td>
<td>56% 3% 41%</td>
</tr>
<tr>
<td>Peterson et al. 2006</td>
<td>None</td>
<td>Inpatient, Medical ICU</td>
<td>44% 2% 55%</td>
</tr>
<tr>
<td>Pandharipande et al. 2009</td>
<td>Non</td>
<td>Inpatient, Surgical ICU 64% 9% 0%</td>
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<tr>
<td></td>
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<td>Inpatient, ICU           60% 6% 1%</td>
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Hypo, hypoactive; hyper, hyperactive; ICU, intensive care unit; ED, emergency department.

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EXISTING GUIDELINES

GERIATRIC EMERGENCY DEPARTMENT GUIDELINES

Delirium: prevention, diagnosis and management
Clinical guideline
Published: 28 July 2010

HOW TO PREVENT DELIRIUM IN THE EMERGENCY ROOM?
EXISTING GUIDELINES – SCREENING

ED Screening

Step 1: Delirium Triage Screen
Rule-out Screen: Highly Sensitive

- Altered Level of Consciousness
  RASS

- Inattention
  “Can you spell the Word "LUNCH" backwards?”

DTS Positive
Confirm with bCAM

0 or 1 error

ED-DTS Negative
No Delirium

> 1 errors
INITIAL EVALUATION OF CONSCIOUSNESS

Richmond Agitation-Sedation Scale

Spectrum of Acute Brain Dysfunction

Coma
Stupor
Delirium

RASS
-5
-4
-3
-2
-1
0
+1
+2
+3
+4

Unarousable: No response to voice or physical stimulation
Deep sedation: No response to voice, but responds to physical stimulation
Moderate Sedation: Responds to voice, but does not make eye contact
Light Sedation: Responds to voice, but can only make eye contact for < 10 seconds
Drowsy: Responds to voice and can make eye contact for > 10 seconds
Alert and calm
Restless: Anxious, but movements not aggressive
Agitated: Frequent, non-purposeful movement
Very Agitated: Pulls or removes tubes or catheters, aggressive
Combative: Overly combative, violent, danger to staff

Han JH, Vasilevskis EE, Schnelle JF. *Acad Emerg Med.* (2015)
EXISTING GUIDELINES – SCREENING

- No specific ED Screening
- Risk factor assessment and indicators of delirium

### Risk factor assessment

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<tr>
<td>Age 65 years or older</td>
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<tr>
<td>Cognitive impairment (past or present) and/or dementia</td>
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<tr>
<td>Current hip fracture</td>
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<tr>
<td>Severe illness (a clinical condition that is deteriorating or is at risk of deterioration)</td>
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### Indicators of delirium

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<td>Cognitive function: e.g. worsened concentration*, slow responses*, confusion</td>
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<tr>
<td>Perception: e.g. visual or auditory hallucinations</td>
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<td>Physical function: e.g. reduced mobility*, reduced movement*, restlessness, agitation, changes in appetite*, sleep disturbance.</td>
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<tr>
<td>Social behaviour: e.g. lack of cooperation with reasonable requests, withdrawal*, or alterations in communication, mood and/or attitude</td>
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If any of these behaviour changes are present, a clinical assessment should be carried out to confirm the diagnosis.
3 Prevention and management of delirium

HOW TO PREVENT DELIRIUM?
IN THE EMERGENCY ROOM
POSSIBILITIES TO PREVENT DELIRIUM IN THE ED

- ED length of stay is associated with greater risk of delirium.
- > 10 hours double the risk of delirium onset within 72 hours.
- 1 older adult out of 5 became delirious after a 12 hour ED stay.

Prioritization of elderly, cognitive impaired patients

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Infrastructure that is completely modified for the older adult

- Appropriate lightning to optimize visual acuity while minimizing nocturnal delirium or other confusional states.

- Handrails in hallways and bathrooms.

- Protocols for pain and agitation management.

- Multidisciplinary care services

- Geriatric expertise

NON-PHARMACOLOGICAL MANAGEMENT

DELIRIUM

Multicomponent

Non – Pharmacological Intervention

- Early mobilization
- Reorientation, Team Communication
- One-to-one observation
- Decreased environmental stimulation
- Limiting tethering/Medical procedures
- Hydration + Nutrition
- Verbal Reorienting + cognitive stimulation = Family members
- Providing visual and Hearing assistive devices
- Avoidance of critical medications

1 Cole MG. *Focus* (Madison). (2005)
FOCUSED INTERVENTIONS

- Local application of anesthetics (e.g. fascia iliaca blocks) are an alternative to systemic opioid medication

- Promoting sleep (e.g. delirium free protocol DFP)

- Earplugs during the night

- Medication-specific education and interventions

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3 Rompaey B van et al. *Critical Care.* (2012)
ONE-TO-ONE OBSERVATION

- Existing studies not carried out in the ED setting
- may reduce the incidence rates and duration in general medical service.
- Currently no guidance available regarding the indications, qualification and assessment
- may reduce restraint use, the impact on patient fall rates is not clinically significant
- reduces incidence along with costs for intermediate risk patients, but no significant benefit seen high risk patients (incidence of delirium, cost saving).

1 Carr, FM. Can Geriatr J. (2013)
‘Delirium room’ concept evolved from the Acute Care of the Elderly (ACE) unit

Key components: 24-h nursing care, emphasizing nonpharmacological approaches, minimal use of psychotropic medications and no physical restraints.

Evolving Questions for the ED:
- Is a DR suitable for prevention of delirium?
- Is it ethical to protect patients at risk in a special unit?
- Is it cost effective?
- Would a DR utilized appropriately?

HOW TO PREVENT DELIRIUM IN THE EMERGENCY ROOM?

MULTICOMPONENT INTERVENTIONS

T-A-DA APPROACH

Tolerate
- Try re-orientation once, if not effective, do not continue
- Allow patient to act naturally under close observation
- Observe behavior to get clues about patient`s needs

Anticipate
- Discontinue unnecessary „attachments“; hide necessary attachments

Don`t Agitate
- Avoid short-term memory questions
- Affirm disorientation instead of reorienting

**ANTICIPATE**

- Patient is pulling on anything that is not normally present
  - “Hiding“ these unnatural attachments can help

- When an “attachment“ is needed
  - Try to use it briefly

- When attachments are necessary, staying flexible in their use can help
  - Use intermittent monitoring instead of continuous monitoring

- Wanting to get out of bed is natural
  - This action is anticipated and encouraged

4 Haloperidol prophylaxis in the ED?

HOW TO PREVENT DELIRIUM?
IN THE EMERGENCY ROOM
Non-pharmacological multicomponent interventions do not seem to affect post-discharge outcomes like cognitive decline or functional stats, and nursing home placement.

Low-dose haloperidol prophylaxis has been shown to lower delirium incidence in older postoperative intensive care unit patients.

The current use of haloperidol for in-hospital delirium prophylaxis is not based on robust and generalizable evidence.

A study is on the way on early pharmacological intervention to prevent delirium: haloperidol prophylaxis in older emergency department patients (The HARPOON study)

TAKE HOME MESSAGE

■ 7 to 24% of geriatric patients presenting to the ED will have delirium

■ The missed diagnosis rate ranges from 54 to 89%

■ An ED Screening tool followed by an assessment should be applied

■ As length of stay is associated with a greater risk prioritization is a key factor

■ Multicomponent interventions have been demonstrated to be effective

■ Until now there is not enough evidence to favor the use of Haldol in terms of prevention
THANK YOU FOR YOUR ATTENTION!

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