Can Delirium be Prevented in the ED?

Jacques S. Lee MD, MSc, FRCPC
Learning Objectives

At the end of the session, better understand:

• Why preventing delirium, in the ED, is important
• That delirium is acute brain failure
• Evidence supporting the effectiveness of delirium prevention
• Implementing delirium prevention in YOUR ED
What are my qualifications?

1) Knows how to read

2) Knows where the library is

Where facts are few, experts are many.”

Donald R. Gannon
Executive Summary

• Can Delirium be Prevented in the ED?

• Yes
Why was New Years 2011 special?

• Hint: VE Day May 9\textsuperscript{th}, 1945

• First Baby Boomer born Jan 1\textsuperscript{st}, 1946

\[1946 + 65 = ?\]
Why is Preventing ED Delirium Important?
Why is Preventing Delirium Important?
Compression of Morbidity

Need to keep the population healthier, longer

• Jared Timmerman, Masters Class Swimmer at 100
• Sets new world records
Doctors: Older people do better if we don’t make them worse

New York -

According to Scientists Bob Loblaw, Bob Loblaw, & Bob Loblaw, by avoiding things known to make you worse, you can prevent becoming worse. This remarkable finding was recently published in the reputed to be reputable Medical Journal, *NEJM* (New Estonian Journal of Maladies).

Furthermore, Bob Loblaw, Bob Loblaw, & Bob Loblaw added, by saying the same thing over and over again, eventually it becomes accepted as a proven fact. By saying the same thing over and over again, eventually it becomes accepted as a proven fact. By saying the same thing over and over again, eventually it becomes accepted as a proven fact. By saying the same thing over and over again, eventually it becomes accepted as a proven fact.

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This stunning revelation was added to a litany of similar findings coming to light on a similar theme: running with scissors is indeed dangerous, drinking extremely hot coffee can cause intra-oral burns, and public-private partnerships have not saved money in any country they have been tried, because they to make a profit somehow.

Furthermore, Bob Loblaw, Bob Loblaw, & Bob Loblaw added, by saying the same thing over and over again, eventually it becomes accepted as a proven fact.
What is Delirium?

= Acute Brain Failure
Why is ED Delirium Important?

• Delirium is **COMMON**
  - 1% in community
  - 10-25% in ED - up to 60% at Discharge
• Delirium is **LETHAL**
  1 year Mortality - 35-40%
• Delirium is **NOT ALWAYS REVERSIBLE**
  (6 -12 months to return to baseline)
• ED LOS > 12h= Delirium risk increased 2x!
Why Focus on Delirium in the ED?

• Little evidence that once delirium happens that you can shorten or reverse it...

• Longer ED stays = More opportunity for delirium

• Many cases of ward or post-op delirium may have started in ED
Why Focus on Delirium in the ED?

• Because delirium is PREVENTABLE

Inouye et al.
Hospital Elder Life Program (HELP) ⁹
A MULTICOMPONENT INTERVENTION TO PREVENT DELIRIUM IN HOSPITALIZED OLDER PATIENTS

SHARON K. INOUYE, M.D., M.P.H., SIDNEY T. BOGARDUS, JR., M.D., PETER A. CHARPENTIER, M.P.H., LINDA LEO-SUMMERS, M.P.H., DENISE ACAMPORA, M.P.H., THEODORE R. HOLFORD, PH.D., AND LEO M. COONEY, JR., M.D.
Why Prevent Delirium in the ED?

- 852 patients 70 years of age or older
- Randomized to Tx. ward vs. usual care
- Delirium in Treatment Group: 9.9%
- Delirium in Control Group: 15%

50% Relative Reduction

- Streptokinase 1% 10% RR
- TPA 0.9%
Why Prevent Delirium in the ED?

- Duration Delirium Control: 161 Days
- Duration Intervention Group: 105 Days
- = 56 days ( >2 months) per patient!!

(have we got your attention now?)

Executive Summary Details

• Can Delirium be Prevented in the ED?

• It worked in other settings, so it should work in the ED
HELP Components

- Staff Education
- Hospital Elder Life Clinical Specialist (0.75 – 1.0 FTE)
- Volunteer Coordinator
- Volunteers – 25 to 40
- Extensive Documentation requirement
- Now public domain, before $10k fee…
HELP Program Practice Change:

Target Low-Hanging Fruit

1) Immobility
2) Communication / Orientation
3) Restraints & Catheter use
4) Medications
5) Dehydration
IPPOD: What we did

• Developed Interactive workshops
• Sought feedback from staff on how to adapt HELP for use in ED
• Educated staff on why preventing delirium is important
• Created buy-in, allowed users input
• Focused on what **WE** control
Approach to Changing Practice

Based on Kirkpatrick Pyramid:

- Impact learners Reaction / Attitude
- Transfer Knowledge
- Change Behaviour
- Improve patient outcomes!
IPPOD Components

• Staff Educational Resources
  - IPPOD Manual
  - IPPOD Videos
  - e-Learning Module
• Mandatory part of orientation for new staff
• Increased Meals / Access to fluids
• VIP - Volunteer IPPOD Program
• Next Session: Nov 30th
Volunteer IPPOD Program: VIP

- VIP Components:
- Training Package
- Coordinating VIP volunteers assumed by existing acute-care coordinator
- Replaced Clinical Specialist with information system & interaction with the clinical team to identify patients
- Data tracking
Why Focus on MOBILITY?

Mobility is an essential life-skill, but it can be easily compromised by even brief periods of immobilization.

It is estimated that every day of immobility results in a 5% loss of muscle mass.
VIP Components

VIP

IPPOD Staff Training

Delirium Prevention
## Results: Staff Education

<table>
<thead>
<tr>
<th></th>
<th>Post Test Mean</th>
<th>Pre Test Mean</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognize Delirium</td>
<td>3.7</td>
<td>2.9</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Assess Delirium</td>
<td>3.5</td>
<td>2.6</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Identify Cause</td>
<td>3.8</td>
<td>2.8</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Use Interventions</td>
<td>3.8</td>
<td>2.6</td>
<td>&lt; 0.001</td>
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Results: VIP Impact on Practice

- Oct - April, 2011 screened over 1416 ptnts.
- 760 Eligible for Volunteer IPPOD Program
- Volunteers provided water or just had a chat with over 95% of subjects
- 353 Patients ambulated with Volunteers (46%)
Results: Impact on Delirium

![Graph showing delirium rate over time with IPPOD 1.0 and IPPOD 2.0 interventions.]

- **IPPOD 1.0**
  - Delirium rate significantly reduced.

- **IPPOD 2.0**
  - Further significant reduction in delirium rate compared to IPPOD 1.0.
Next Steps

• Participate in PSI Grant Application? (June 1st!)
• Measure Baseline delirium rate at NYG
• Develop role-out model
• Customize educational package
• Introduce trained volunteers?
www.stopdelirium.com

Working Together
To Prevent
Delirium

Click Anywhere To Learn More
References


References


Additional Reading


Additional Reading

Additional Reading

Preventing Delirium

• Compliance matters!


• Delirium Rate by Adherence

<table>
<thead>
<tr>
<th>Adherence</th>
<th>Orientation</th>
<th>Mobility</th>
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<tbody>
<tr>
<td>Low (&lt; 75%)</td>
<td>12/51 (24%)</td>
<td>19/135 (14%)</td>
</tr>
<tr>
<td>Medium (75 – 90%)</td>
<td>9/68 (13%)</td>
<td>20/197 (10%)</td>
</tr>
<tr>
<td>High (&gt; 90%)</td>
<td>21/303 (7%)</td>
<td>3/90 (3%)</td>
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IPPOD Components:

- Standardized Order sets
  - NPO requires an order plus IV replacement fluids
- Patient & Family Brochure