Working Together to Prevent Delirium I

Adapted from Dr. Jacques Lee

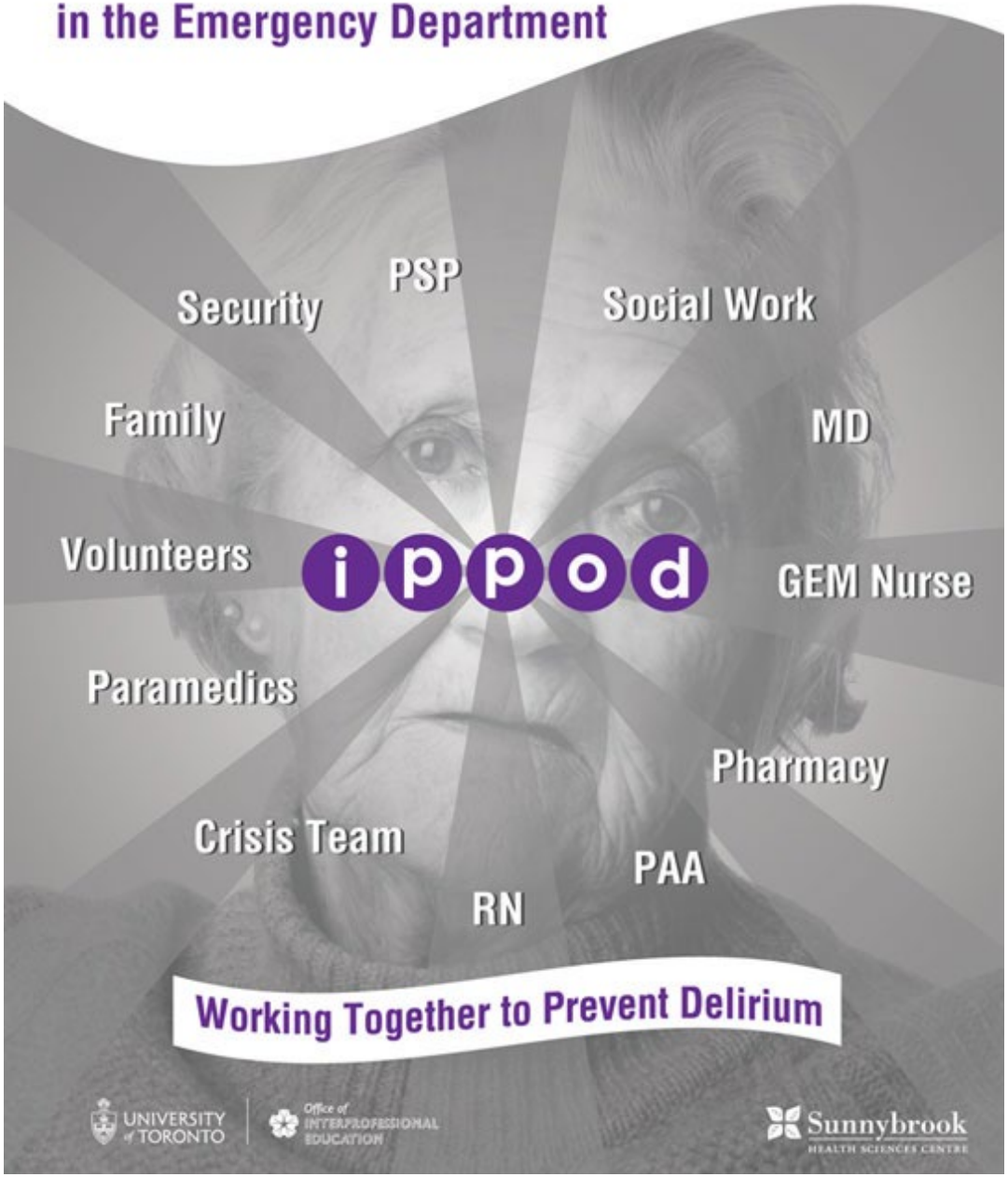
Delirium Prevention

Learning Objectives – Session I

Have a better understanding of:

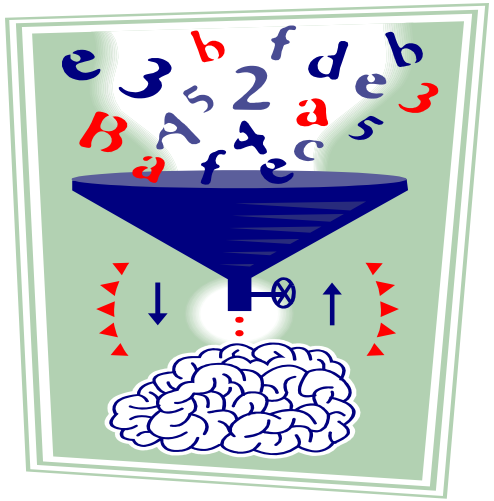
- What delirium is & what causes delirium
- Why ***preventing*** delirium is important
- Why ***recognizing*** delirium is important
- Why we miss delirium
- How to ***prevent*** delirium

Inter-Professional Prevention of Delirium in the Emergency Department



What is Delirium?

= Acute Brain Failure



What is Delirium?

- An acute state of confusion
- Must be distinguished from dementia, or progressive cognitive decline
- Depression can mimic delirium

Clinical features of delirium

- **Acute onset**
- Fluctuating confusion
- Inattention and disorganized thinking
- Psychomotor agitation or depression
- Day/Night Reversal
- Emotionally labile
- Hallucinations in 30%

What causes delirium?

D	Drugs, Dehydration, Detox, Deficiencies, Discomfort (Pain!)
E	Electrolytes, Elimination abnormalities, Environment
L	Lungs (hypoxia), Liver, Lack of sleep, Long ED stay
I	Infection, Iatrogenic events, Infarction (cardiac, cerebral)
R	Restraints, Restricted movement/mobility, Renal failure
I	Injury, Impaired sensory input, Intoxication
U	UTI, Unfamiliar environment
M	Metabolic abnormalities (glucose, thyroid), Metastasis (brain), Medications

Beers & Berkow, 2000; Inouye & Charpentier, 1996; Wise & Trzepacz, 1996

Causes of delirium: Evidence[1]

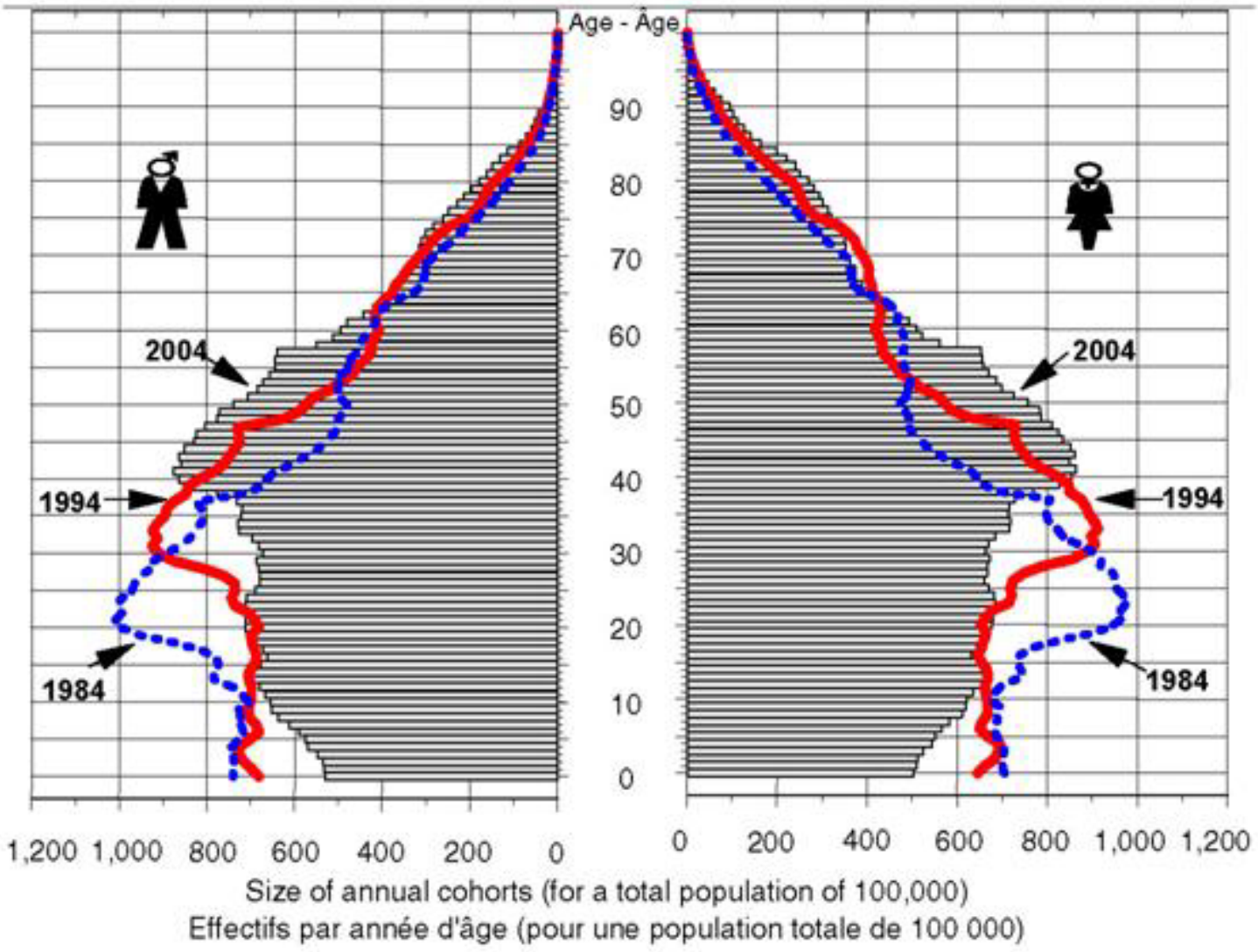
Risk Factor	Rel. Risk	95% CI
Physical Restraints	4.4	2.5 - 7.9
> 3 New Medications	2.9	1.6 - 5.4
Foley Catheter	2.4	1.2 - 4.7
Out of Bed < once a day	2.3	1.2 – 4.1
Iatrogenic, including “Long” ED Stay (>12hrs)	1.9	1.1 – 3.2

Inouye et al, 1993

Why is preventing delirium important?

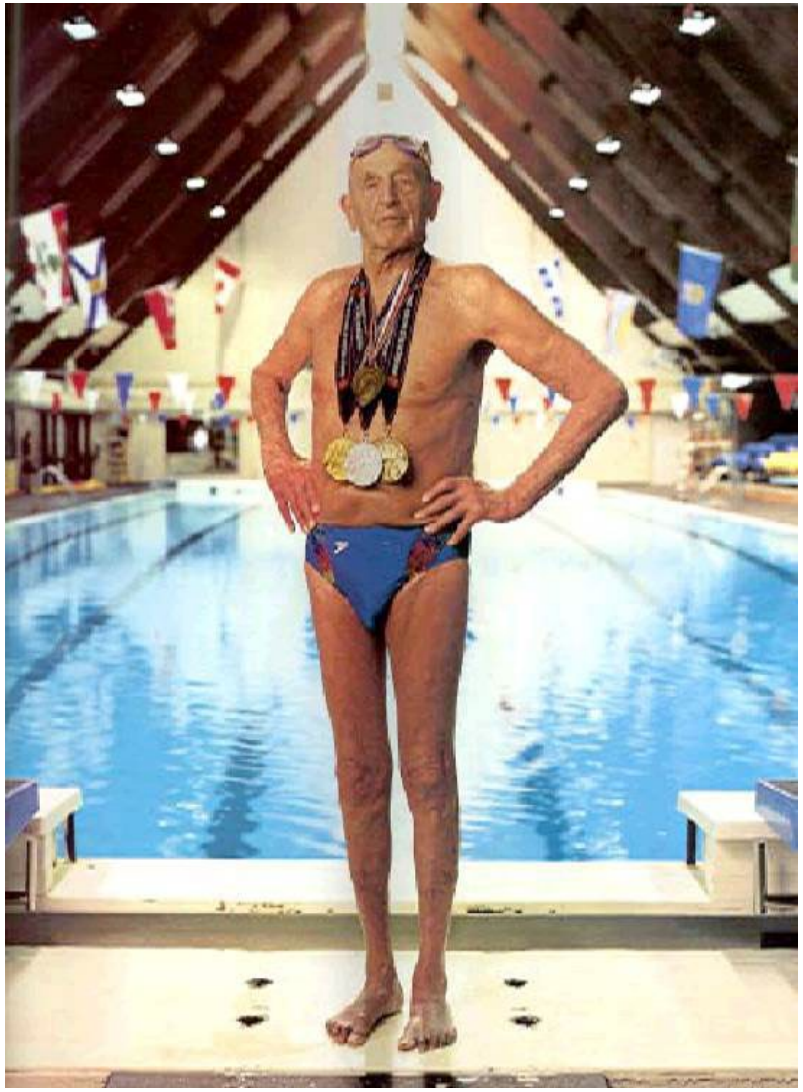
- 1st Baby-boomers turn 65 on January 1st, 2011!!
- The proportion of patients over 65 will double by 2031 [2]
- Older people = highest risk
- Societal impact ?

Why is this an ED problem? [2]



Why is this important?

Need to keep the population healthier, longer



Why is preventing delirium important?

…because delirium is COMMON:

- Community 1-2%[3]
- ED 10%[4-7]
- At hospitalization 14-30%[8]
- During hospitalization up to 56%[8,9]
- Post-Acute Nursing Homes 60%[8,9]

Why is preventing delirium important?

- **These number suggest that Delirium rates increase the more time patients stay in hospital**
- **Delirium may be iatrogenic**
- **Longer ED stays = More opportunity for delirium**

Why is preventing delirium important?

- **Delirium is independently associated with a higher risk for death[10]**
- **Delirium LETHAL (35-40% by 1 yr.) [8,9]**
- **Consider delirium a prognostic marker for the severity of illness**

Why is preventing delirium important?

BECAUSE IT WORKS [11]

The New England Journal of Medicine

VOLUME 340 MARCH 4, 1999 NUMBER 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.

Is Delirium Preventable?

- 852 patients 70 years of age or older [11]
- Randomized to prevention ward vs. usual care ward
- Delirium in Treatment Group: 9.9%
- Delirium in Control Group: 15%

50% Relative Reduction

Streptokinase	1%	10% RR
TPA	0.9%	

Why is recognizing delirium Important?

- Delirium recognized in only 17% - 24% [7,8]
- Failure to recognize patients resulted in a significant number of delirious patients being discharged home (25-35%)
- These patients do not have adequate follow-up and discharge planning

Why is recognizing delirium Important?

	Delirium	No Delirium
Mortality	20% (6/30)	3.9% (3/77)

OR 6.17 x higher in delirious group[12]

Why is Delirium missed?

Hard to see if you aren’t looking for it

Why is Delirium missed?

- **FAILURE TO ASSESS BASELINE**
- Moving target: by definition = fluctuates
- Consequences under-recognized
- Formal assessment methods (MMSE, CAM) rarely used
- Overlaps with dementia and depression
- Atypical presentations

Why is delirium missed? Atypical presentations

- Three different symptom patterns:
- Hyperactive symptoms
  - Agitation
  - Hallucinations /Delusions
- Hypoactive symptoms
  - Attention deficit
  - Hypersomnulence
- Mixed Symptoms
  - Hyperactive & Hypoactive

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