A17/B17: Delirium Can Be Deadly: Save Lives With a Standardized Approach to Delirium
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Session Objectives

- Understand and recognize the effects of delirium
- Know the benefits of a multi-disciplinary team approach
- Identify the key components of a comprehensive management program

Disclosures: These presenters have nothing to disclose.
Kaiser Permanente —  
Who We Are & What We Stand For

Opened to the public in 1945, Kaiser Permanente is recognized as one of America’s leading health care providers and not-for-profit health plans. We are committed to helping shape the future of health care.
Our Mission
Kaiser Permanente’s mission is to provide high-quality, affordable health care services and to improve the health of our Members and the communities we serve.

Our Numbers
- 7 regions serving 8 states and the District of Columbia
- 9.1 million members
- 16,000 physicians
  (we hire just 10% of MD applicants in California)
- 174,000 employees (including more than 48,000 nurses)
- 37 medical centers (with hospitals)
- Nearly 600 medical offices (ambulatory care buildings)
- $51 billion operating revenue (2012)
Our Markets and Membership: Year End 2012
Total Membership: 9.1 Million

- **Mid-Atlantic Region**: Washington, DC, Maryland, Virginia, 481,755 members
- **Georgia Region**: Atlanta, GA, 233,880 members
- **Colorado Region**: Denver/Boulder, CO, Colorado Springs, CO, Pueblo, CO, 540,442 members
- **Northern California Region**: 3,403,871 members
- **Southern California Region**: 3,594,848 members
- **Hawaii Region**: 224,591 members
- **Northwest Region**: Portland, OR, 484,349 members

Dramatic Reduction in Risk Adjusted Hospital Mortality

Inpatient Outcomes: Hospital Standardized Mortality Ratios

Graph showing the reduction in risk-adjusted hospital mortality ratio from 2008 to 2012, comparing KP - All Facilities, US Medicare Overall, and Kaiser Foundation Hospital.
A Snapshot of Delirium

Worth Defining: Delirium Versus Dementia

- **Delirium**
  - A sudden change in mental status with cognitive and perceptual changes
  - Often waxes and wanes
  - Many causes including infections, medications and organ dysfunction

- **Dementia**
  - Progressive condition
  - Marked by a protracted clinical decline and the development of multiple cognitive deficits
  - Various types including Alzheimer’s, Lewy Body, and vascular
Delirium Management: Why Does It Matter?

- Patients benefit when we keep them healthy enough to avoid the hospital, speed their recovery to shorten their stay in the hospital, and recover well after discharge thus avoiding readmission
- Delirium is associated with prolonged hospitalizations and more frequent readmissions
  - $2,500 more per hospitalized patient*
  - $6.9 billion annual Medicare spend*

In other words, most patients are at risk for delirium.
Delirium Touches Many Aspects

- Satisfaction
- Wellbeing
- Safety

The Story of Jim
The Story of Jim

Fall....

Code Blue...
The Story of Jim... Continued

The Story of Jim... The Silver Lining
The Story of Jim: Lessons Learned

- No tools or interventions
- No staff training
- No standardized approach
- No templates in KP HealthConnect®
- Medication choices haphazard and often worsened sedation

Our approach was reactive – *Today, we are Proactive*

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Delirium Management – Multidisciplinary Approach

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Delirium Management – Focus Areas

- Specialized teams for delirium rounds
- Multi-disciplinary approach
- Changes to hospital environment
- Education and training for RNs
- Medication Management
- Utilization of Health Connect

Delirium Management – Supporting Tools
Delirium Management – Assessing Quality

Delirium Management: Better Care
Two less hospital days equals improving patient lives

Patients benefit when we keep them healthy enough to avoid the hospital, speed their recovery to shorten their stay in the hospital, and recover well after discharge thus avoiding readmission.

2 fewer hospital days

480 discharges annually; $2,700 per day

$2.4 M savings

Clinical Nurse Specialist (.5 of FTE)

$40,000 Training Costs
Delirium Management: Program Transferability

- Low-cost model to implement with high transfer potential
- Primary components may require a simple reallocation of existing resources

**A key to success:** Empower existing staff to manage this complicated disease process consistently and effectively

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Future Improvements?

*Where do we see this program in 5, 6, or even 10 years?*
Questions?

Appendix
References:

- Post-Operative Delirium JAMA, July 4, 2012 – Vol 308, No.1
- Cognitive Trajectories after Postoperative Delirium: NEJM, 367;1
- Delirium: Continuum Lifelong Learning Neurology 2010; 16 (2)
- https://wiki.kp.org/wiki/display/CMI/Delirium

How To Treat Delirium
Delirium Management – A Few Basics

Treat the Cause

Non-pharmacologic measures

Medications

Delirium Management: Non-Pharmacologic Treatment

Orientation
- Repeated reorientation, “signposts”
- Familiar objects, family presence
- Staff consistency

Environment
- Remove unnecessary equipment
- Consistency in room, private rooms
- Bright in the daytime, dark and quiet at night

Engagement
- Correct sensory impairments
- Engage patients in their own care
- Early and frequent mobility during the day
Delirium Management: Medications

- There are many, MANY medications that can cause delirium
- Some of the most common and important to AVOID include:
  - Anticholinergics
  - Opiates
  - Benzodiazepines
  - Quinolone antibiotics
  - Antihistamines/H2 blockers
  - Steroids

Delirium Management: Medications

- All antipsychotics can prolong the QTc
  - Check an EKG on ALL hospitalized patients
  - Do NOT use antipsychotics if QTc > 500 ms

- All have increase morbidity/mortality in elderly, demented pts
- There is NO FDA approved treatment for delirium
- Haloperidone, risperidone, quetiapine, and olanzapine are all equivalently effective
Delirium Management: Medications

**Haloperidol**
- IM, IV (caution with QTc), po
- Min/mod sedation
- High potency, risk of EPS esp with IM

**Quetiapine**
- Po only
- Sedating, orthostasis; long term metabolic synd
- Low potency

**Olanzapine**
- IM, ODT (Zydis), po
- Sedating; long term metabolic synd
- Mid to high potency, mod risk of EPS

**Risperidone**
- ODT (M-tab), po
- Min/mod sedation, tachycardia
- High potency, risk of EPS

AVOID TRY

Sleep
- Ambien, Benadryl, benzos
- Melatonin, Seroquel

Agitation
- Benzos
- Antipsychotics

If QTc is prolonged
- Antipsychotics
- Depakote