Session 1: Introduction to Mobility in the Intensive Care Unit

Vicki Spuhler, RN, MS
Kelly McCutcheon Adams, LICSW
November 15, 2012

These presenters have nothing to disclose

Expedition Coordinator

Kayla DeVincentis, Project Coordinator, has worked at IHI since 2009, starting as an intern in the Event Planning department. Since then, Kayla has contributed to the STAAR Initiative, the IHI Summer Immersion Program, and the IHI Expeditions. Kayla obtained her Bachelor’s in Health Science from Northeastern University and brings her interest in health and wellness to IHI’s Health and Fitness team.
WebEx Quick Reference

- Welcome to today’s session!
- Please use Chat to “All Participants” for questions
- For technology issues only, please Chat to “Host”
- WebEx Technical Support: 866-569-3239
- Dial-in Info: Communicate / Join Teleconference (in menu)

When Chatting…

Please send your message to All Participants
Chat Time!

What is your goal for participating in this Expedition?

Join Passport to:

- Get unlimited access to Expeditions, two- to four-month, interactive, web-based programs designed to help front-line teams make rapid improvements.
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What is an Expedition?

**ex•pe•di•tion (noun)**
1. an excursion, journey, or voyage made for some specific purpose
2. the group of persons engaged in such an activity
3. promptness or speed in accomplishing something

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Expedition Support

- All sessions are recorded
- Materials are sent one day in advance
- Listserv address for session communications: MobilityExpedition@ls.ihi.org
  — To add colleagues, please email us at info@ihi.org
User Group

• Online forum for discussion, tool & resource sharing

Where are you joining from?
Expedition Director

Kelly McCutcheon Adams has been a Director at the Institute for Healthcare Improvement since 2004. Her primary areas of work with IHI have been in Critical Care and End of Life Care. She is an experienced medical social worker with experience in emergency department, ICU, nursing home, sub-acute rehabilitation, and hospice settings. Ms. McCutcheon Adams served on the faculty of the U.S. Department of Health and Human Services Organ Donation and Transplantation Collaboratives and serves on the faculty of the Gift of Life Institute in Philadelphia. She has a B.A. in Political Science from Wellesley College and an MSW from Boston College.

Expedition Faculty

Vicki J. Spuhler, RN, MS, has recently retired as a Nurse Manager, Intermountain Healthcare, Intermountain Medical Center, where she specialized in trauma and respiratory critical care. She is on the nursing faculty at the University of Utah. She has been a faculty member for IHI since 1994 and participated in the Adult Critical Care Breakthrough Series Collaborative, as well as the IMPACT network’s ICU innovation work. She is an active member of the Society for Critical Care Medicine and is a past chair of their patient/family support committee. Ms. Spuhler has received awards from Intermountain Health Care, the American Association of Critical Care Nurses, and the Honor Society for Nursing, Sima Theta Tau, for her accomplishments in management and clinical process improvement.
Today’s Agenda

- Ground Rules & Introductions – Kayla and Kelly
- Introduction to Mobility in the ICU - Vicki
- IHI’s Model for Improvement - Kelly
- Homework for next session – Kelly and Vicki

Ground Rules

- We learn from one another – “All teach, all learn”
- Why reinvent the wheel? - Steal shamelessly
- This is a transparent learning environment
- All ideas/feedback are welcome and encouraged!
Expedition Objectives

At the conclusion of the Expedition, participants will be able to:

• Describe the impact of immobility on the long term outcomes of critically ill patients.
• Define the elements necessary for the development of a mobility protocol.
• Create process measures and outcome measures for a successful early mobility program.
• Identify strategies for overcoming cultural barriers to early mobility.

Schedule of Calls

**Session 1:** Introduction to Mobility in the ICU  
**Date:** Thursday, Nov 15, 3:00-4:30 PM ET

**Session 2:** Science of Mobility in the ICU  
**Date:** Thursday, Nov 29, 3:00-4:00 PM ET

**Session 3:** The Role of Physical Therapy  
**Date:** Thursday, Dec 20, 3:00-4:00 PM ET

**Session 4:** Protocol Development  
**Date:** Thursday, Jan 10, 3:00-4:00 PM ET

**Session 5:** Case Examples of Improved Mobility in the ICU  
**Date:** Thursday, Jan 24, 3:00-4:00 PM ET
How this Work Came Together

• ICU Collaboratives through 2005
• Critical Care Learning Community 2005-2009
• Live Case Visit in Salt Lake City, March 2011
• Rethinking Critical Care Seminar, Washington DC, November 2011
• Rethinking Critical Care Seminar, San Diego, May 2012
• AND GOING FORWARD…
  Rethinking Critical Care Seminar, Chicago, February 5-6, 2013

Vt = 450 mL, PEEP = 16, Fio2 = 0.6

Figure 1. A patient with exacerbation of chronic obstructive pulmonary disease and pneumonia on assist-control ventilation ambulating with the aid of the respiratory therapist on the right, physical therapist on the left, and a critical care technician following with a wheelchair in the background. The patient’s nurse is outside of the photograph. Printed with permission.
Impacting the Outcome for ICU Patients

- All four legs of the stool are important for stability - the stool may be able to stand without one of the legs but not assume stability.
- All four aspects of care for respiratory failure patients: mobility, sedation, delirium, sleep are important to improve outcomes. Improvements can be made without all four, but cannot assume stability…
References for Affinity Diagram

Dubois et al. Intensive Care Med 2001; 27:1297-1304
Pandharipande et al. Anesthesiology 2006; 104: 21-26
Pandharipande et al. J of Trauma 2008; 65: 34-41
Schweickert et al. Am J Respir Crit Care Med 2008; 177:A817
Cooper et al. Chest 2000; 117:809-818
Freedman et al. Am J RespirCrit Care Med 1999; 159:1155-1162
Ely et al. JAMA 2001; 286:2703-2710
Ely et al. JAMA 2003; 289:2983-2991
Ely et al. JAMA 2004; 291:1753-1762
Girard et al. Lancet 2008; 371:126-134

The ABCDE’s: Back End of Critical Care

- Awakening
- Breathing
- Coordination, Choice
- Delirium monitoring/management
- Early mobility and Exercise

Vasilevskis E, Chest 2010;138;1224-33
Vasilevskis E, CCM 2010;38:S683-91
In this Expedition

- We will be focusing on the “E” of the ABCDE’s.

- Our Expedition in the late summer/early fall on sedation and delirium focused on the “A”, the “C”, and the “D” elements.

- Our February 5-6, 2013 seminar in Chicago brings all the pieces together if you are interested in going deeper.
“To be conscious that you are ignorant of the facts is a great step to knowledge.”

Benjamin Disraeli

Our Journey Begins

• Personal experiences
• Literature in 1998-1999
  – chronically critically ill
    ➢ 5% of patients
    ➢ 30% of resources
    ➢ Account for 50% of deaths in ICU
• Opening of the Respiratory Special Care Unit at LDS Hospital- June 1999
What are the facts?

“Studies suggest that ARDS survivors may indeed have reduced quality of life. There are also data suggesting survivors may be at increased risk of death for many months after hospital discharge...this in the face of improved provision of advanced technologic support in the modern day ICU.”

Derek Angus et.al Quality-adjusted survival in the first year after ARDS Am J Respiratory Crit. Care Med. 2001

Quality of Life Outcomes

- As providers of critical care we must realize that survival is no longer the Gold Standard outcome we should focus our energy on.
- Those things we choose to do, or choose not to do, have long term effects on the lives of the patients we serve.
- Because we don’t see those effects doesn’t mean they aren’t real nor does it mean they are not our responsibility.
What are the Questions?

- What is the effect of immobilization on functional outcomes of patients who spent time in the ICU?
- What is the long term effect of immobilization beyond discharge?
- Is early activity safe?
- Can early mobility be done in the ICU?
- WE WILL EXPLORE THESE THROUGH THE EXPEDITION
Mobility Goals

• Walk 100 ft. prior to extubation (patients can be walked with vasopressors at moderate to low doses).
• Walk 200 ft. prior to discharge from ICU.
• Transfers independently or with minimal assistance.
• Suspension of activity should be limited to 24 hours and re-evaluated each day during rounds until activity is restarted.
• WE WILL BUILD THROUGH THE EXPEDITION ABOUT HOW TO BRING THIS ABOUT

Questions?

Raise your hand

Use the Chat
What are we trying to accomplish?
How will we know that a change is an improvement?
What change can we make that will result in improvement?

Model for Improvement

Aim of Improvement
Measurement of Improvement
Developing a Change
Testing a Change

Act
Plan
Study
Do

Plan
• Compose aim
• Pose questions/predictions
• Create action plan to carry out cycle (who, what, when, where)
• Plan for data collection

Act
• Decide changes to make
• Arrange next cycle

Study
• Complete data analysis
• Compare to predictions
• Summarize learning

Do
• Carry out the test and collect data
• Document what occurred
• Begin analysis of data

Principles & Guidelines for Testing

- A test of change should answer a specific question
- A test of change requires a theory and prediction
- Test on a small scale
- Collect data over time
- Build knowledge sequentially with multiple PDSA cycles for each change idea
- Include a wide range of conditions in the sequence of tests

Repeated Use of the PDSA Cycle

Sequential building of knowledge under a wide range of conditions

Changes That Result in Improvement

Spread

Implementation of Change

Wide-Scale Tests of Change

Follow-up Tests

Very Small Scale Test

Hunches Theories Ideas

DATA
Aim: Implement Rapid Response Team on non-ICU unit

Cycle 1: ICU nurse responds to rapid response team calls on one unit, one shift for one day
Cycle 2: Repeat cycle 1 for three days
Cycle 3: Have Respiratory Therapist attend rapid response calls with ICU Nurse
Cycle 4: Expand coverage of RRT on unit to one unit for one shift for five days
Cycle 5: Have Nurse Practitioner respond to calls in addition to RT and RN
Cycle 6: Expand rounds to one unit for one shift seven days a week

Questions?

Raise your hand
Use the Chat
Homework for Next Call

- Complete the Mobility Data Collection Tool (will be sent via listserv) on three days for ten patients each time.
- Respond to the discussion question on the user group by Tuesday, November 27th at 5:00 PM ET.

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User Group

- Online forum for discussion, tool & resource sharing
Expedition Communications

• Listserv for session communications: MobilityExpedition@ls.ihi.org
• To add colleagues, email us at info@ihi.org
• Pose questions, share resources, discuss barriers or successes

Next Session

Date: Thursday, Nov 29, 3:00-4:00 PM ET

Session 2: Science of Mobility in the ICU