

# **The Pharmacist's Role in Implementing the New Pain, Agitation, and Delirium Guidelines in the Critical Care Setting**

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Presented as a Breakfast Symposium and Live  
Webcast at the 47<sup>th</sup> ASHP Midyear Clinical  
Meeting and Exhibition

Tuesday, December 4, 2012  
Las Vegas, Nevada



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Planned and conducted by ASHP Advantage and  
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## **A G E N D A**

- 6:15 a.m. – 6:45 a.m.            **Breakfast Buffet**
- 6:45 a.m. – 6:50 a.m.           **Welcome & Introduction**  
John W. Devlin, Pharm.D., FCCP, FCCM
- 6:50 a.m. – 7:10 a.m.           **Overview of the New Pain, Agitation, and Delirium (PAD) Guidelines**  
John W. Devlin, Pharm.D., FCCP, FCCM
- 7:10 a.m. – 7:35 a.m.           **Role of the Pharmacist in Implementing the New PAD Guidelines**  
Gilles L. Fraser, Pharm.D., FCCM
- 7:35 a.m. – 7:45 a.m.           **Faculty Discussion and Audience Questions**  
All Faculty

## **F A C U L T Y**

### **John W. Devlin, Pharm.D., FCCP, FCCM**

*Activity Chair*

Associate Professor, School of Pharmacy

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Special and Scientific Staff, Division of Pulmonary, Critical Care and Sleep Medicine

Tufts Medical Center

Adjunct Associate Professor, School of Medicine

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The faculty and planners report the following relationships:

### **John W. Devlin, Pharm.D., FCCP, FCCM**

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Dr. Devlin declares that he has received research grant support from Hospira.

### **Gilles L. Fraser, Pharm.D., FCCM**

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Dr. Fraser declares that he has no relationships pertinent to this activity.

### **Susan R. Dombrowski, M.S., B.S.Pharm.**

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Ms. Dombrowski declares that she has no relationships pertinent to this activity.

### **Kristi N. Hofer, Pharm.D.**

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Dr. Hofer declares that she has no relationships pertinent to this activity.

ASHP staff has no relevant financial relationships to disclose.

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## **A C T I V I T Y   O V E R V I E W**

This educational activity will begin with a review of key changes to the Society of Critical Care Medicine's pain, agitation, and delirium guidelines. Identification, prevention, and treatment of pain, agitation, and delirium in the critically ill patient will also be explained. The activity will conclude by demonstrating strategies that pharmacists can use to implement the new recommendations in the critical care setting.

## **A C T I V I T Y   O B J E C T I V E S**

After attending this application-based educational activity, participants should be able to

- Differentiate between the 2002 and the soon-to-be released pain, agitation, and delirium (PAD) guidelines from the Society of Critical Care Medicine.
- Adapt the PAD guidelines into prevention and treatment plans for pain, agitation, and delirium in the critically ill patient.
- Define the pharmacist's role in implementing the revised PAD guidelines in the critical care setting.

**Available soon at  
[www.ashpadvantage.com/IV/guidelines](http://www.ashpadvantage.com/IV/guidelines)**

A web-based activity based on today's live symposium is being developed. Encourage your pharmacist colleagues who were unable to attend today to look for this free on-demand educational activity in March 2013.

(Please note that individuals who claim CPE credit for the live symposium or webcast are ineligible to claim credit for the web-based activity)

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The American Society of Health-System Pharmacists is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. This activity provides 1.0 hour (0.1 CEU) of continuing pharmacy education credit (ACPE activity #0204-0000-12-435-L01-P).

Attendees must complete a Continuing Pharmacy Education Request online and may immediately print their official statements of continuing pharmacy education credit at the ASHP CE Center at <http://ce.ashp.org> following the activity.

Complete instructions for receiving your statement of continuing pharmacy education online are on the next page. Be sure to record the session code beginning with "A" announced during the activity.



### **New! PRACTICE REMINDER EMAIL**

During this educational activity, we encourage you to jot down points about what YOU want to remember to do as a result of what you are learning.

- Use your smart device to link directly to the reminder tool and type in your ideas.
- Next month, we will send you an email as a reminder from YOURSELF about what YOU want to do after attending this activity.
- Do it more than once...multiple entries for this activity from the same email address will be combined into one email.
- If you do not have a smart device, go to the reminder tool on the activity website. <http://www.ashpadvantage.com/iv/guidelines/?remindme=1>



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1. Log in to the ASHP CE Center using your e-mail address and password.  
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2. Once logged in to the site, click on **Process Meeting CE**.
3. **If you are a registered attendee at the ASHP Midyear Clinical Meeting**, click on the **start** button to the right of ASHP Midyear Clinical Meeting 2012.  
**If you are not registered to attend the ASHP Midyear Clinical Meeting**, click on the **start** link to the right of the activity title. If this activity title does not appear in your meeting list, enter the 5-digit activity code in the box above the list and click **submit**. The activity code is noted below. Click **submit** when prompted and then click on the **start** link to the right of the activity title. Do not click on "remove" next to an activity title unless you did not attend that activity.
4. Click on the **click here** link to view sessions associated with the day of the activity.
5. Enter the session code announced during the activity (e.g., A12XXX and note that the letter is case sensitive) and select the number of hours equal to your participation in the activity.
6. Click **submit** to receive the attestation page.
7. Confirm your participation and click **submit**.
8. Complete the evaluation and click the **finish** button. You will then be able to view and print your transcript.

Date of Activity	Activity Code	Session Code (announced during the live activity)	CPE credit hours
December 4, 2012	12435	A12_____	1

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## **John W. Devlin, Pharm.D., FCCP, FCCM**

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John W. Devlin, Pharm.D., FCCM, FCCP, is Associate Professor of Pharmacy at Northeastern University and Adjunct Associate Professor of Medicine at Tufts University in Boston. At Tufts Medical Center, Dr. Devlin is a member of the special and scientific staff in the Division of Pulmonary, Critical Care and Sleep Medicine, and he serves four months annually as a critical care pharmacist in the medical intensive care unit. Dr. Devlin directs a two-year critical care pharmacy fellowship program that is currently training its fourth candidate, and he frequently involves Northeastern University pharmacy students in his research.

Dr. Devlin earned his Bachelor of Science in Pharmacy and Doctor of Pharmacy degrees at the University of Toronto in Ontario, Canada. He completed a pharmacy practice residency at London Health Sciences Centre in London, Ontario, Canada and a critical care pharmacy fellowship at Henry Ford Hospital in Detroit, Michigan.

Dr. Devlin is a fellow of the American College of Critical Care Medicine and the American College of Clinical Pharmacy. He has published more than 50 peer-reviewed original research articles and more than 40 review papers and editorials, authored 20 textbook chapters, and presented more than 80 research abstracts at national and international pharmacy and critical care scientific meetings, primarily in the field of critical care pharmacotherapy. He is a member of the editorial boards of both *Critical Care Medicine* and *Pharmacotherapy*. Dr. Devlin's federally-funded research program is primarily focused on the detection, prevention, and treatment of delirium in the intensive care unit and the use and assessment of sedation in the critically ill. He is frequently invited to lecture on his research at national and international critical care and pharmacy meetings.

## Overview of the New Pain, Agitation, and Delirium Guidelines

**John W. Devlin, Pharm.D., FCCP, FCCM**  
Associate Professor  
Northeastern University School of Pharmacy  
Adjunct Associate Professor  
Tufts University School of Medicine  
Boston, Massachusetts

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## Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the Intensive Care Unit

Juliana Barr, MD, FCCM; Gilles L. Fraser, PharmD, FCCM; Kathleen Puntillo, RN, DNSc, FAAN; E. Wesley Ely, MD, MPH, FACP, FCCM; Céline Gélinas, RN, PhD; Joseph F. Dasta, MSc; Judy E. Davidson, DNP, RN; John W. Devlin, PharmD, FCCM; John P. Kress, MD; Aaron M. Joffe, DO; Douglas B. Coursin, MD; Daniel L. Herr, MD, MS, FCCM; Avery Tung, MD; Bryce RH Robinson, MD, FACS; Dorrie K. Fontaine, PhD, RN, FAAN; Michael A. Ramsay, MD; Richard R. Riker, MD, FCCM; Curtis N. Sessler, MD, FCCP, FCCM; Brenda Pun, RN, MSN, ACNP; Yoanna Skrobik, MD, FRCP; Roman Jaeschke, MD, MSc

**Supporting Organizations:**  
American College of Critical Care Medicine (ACCM) in conjunction with Society of Critical Care Medicine (SCCM) and American Society of Health-System Pharmacists (ASHP)

Barr J et al. *Crit Care Med*. In press.

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## What's Different about this Version of the PAD Guidelines? *Methods*

- Grade methodology  
– [www.gradeworkinggroup.org](http://www.gradeworkinggroup.org)
- More rigorous, transparent process for developing statements and recommendations
- Strength of recommendation based on BOTH strength of evidence and the relative risks & benefits of interventions
- Expert opinion NOT used as a substitute for making recommendations in the absence of evidence

Barr J et al. *Crit Care Med*. In press.

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Level of Evidence	Quality of Evidence	Type of Evidence	Definition
A	High	High Quality Randomized Controlled Trial (RCT)	Further research is unlikely to change our confidence in the estimate of effect.
B	Moderate	RCT with significant limitations (downgraded), or high quality Observational Study (OS) (upgraded).	Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate
C	Low	Observational study	Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Adapted from Guyatt GH et al. *BMJ*. 2008; 336:924-6.  
Barr J et al. *Crit Care Med*. In press.

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Considerations	Effect on Strength of Recommendation
Quality of evidence	Lower quality of evidence reduces the likelihood of a strong recommendation, and vice versa.
Uncertainty about the balance between desirable and undesirable effects	Higher degree of uncertainty about the balance between risks and benefits reduces the likelihood of a strong recommendation, and vice versa.
Uncertainty or variability in values and preferences	Wide variability in values and preferences across groups reduces the likelihood of a strong recommendation, and vice versa.
Uncertainty about whether the intervention represents a wise use of resources	A higher overall cost of treatment reduces the likelihood of a strong recommendation, and vice versa.

Barr J et al. *Crit Care Med*. In press.

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**What's Different about this Version of the PAD Guidelines? *Methods***

- Anonymous online voting (E-survey) by all Task Force Members
- Standardized voting thresholds used
  - A recommendation in *favor* of an intervention (or the comparator) required at least 50% voting in *favor*, with ≤20% voting *against*; failure to meet these voting thresholds resulted in *no recommendation* being made.
  - For a recommendation to be graded as *strong* rather than *weak*, at least 70% of those voting had to vote for a *strong* recommendation, otherwise it received a *weak* recommendation.

Barr J et al. *Crit Care Med*. In press.

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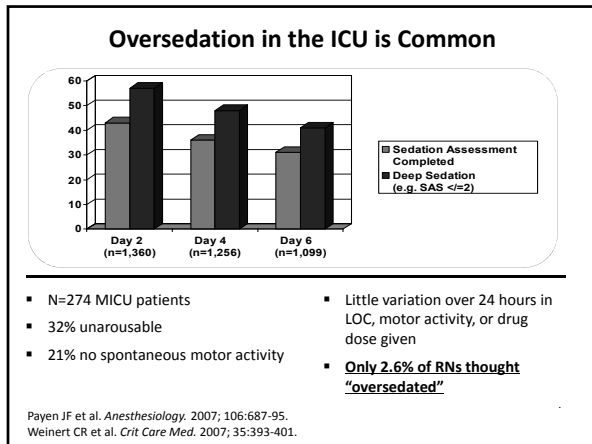
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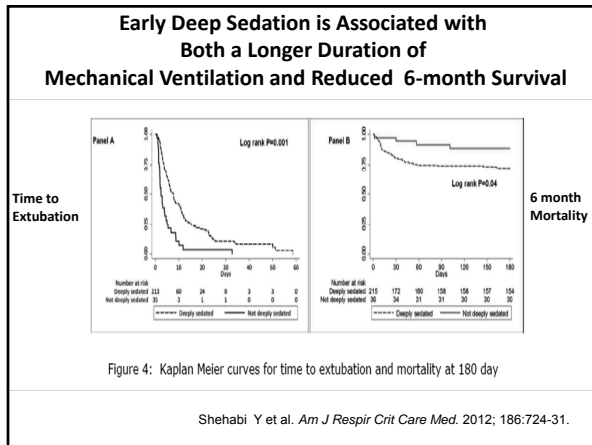
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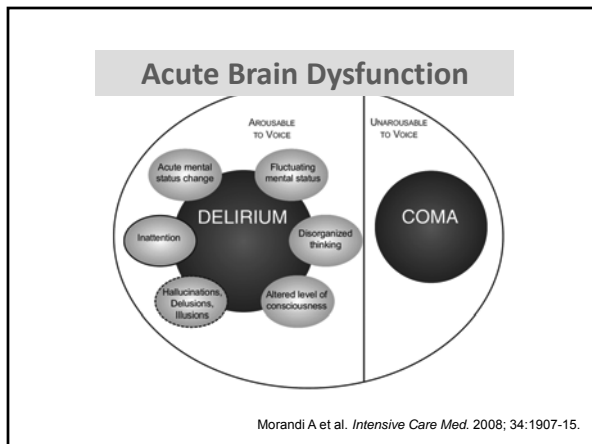
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**Which of the following has been shown in studies to be an outcome of maintaining mechanically ventilated adult patients at a light (rather than deep) level of sedation?**

- A greater incidence of post-traumatic stress disorder.
- A greater incidence of patient-initiated device removal (e.g., self-extubation).
- A shorter duration of mechanical ventilation.

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**Question: Should adult ICU patients be maintained at a light level of sedation? (actionable)**

**Answer:** Maintaining light levels of sedation in adult ICU patients is associated with improved clinical outcomes (e.g., shorter duration of mechanical ventilation and a shorter ICU length of stay) (B). We recommend that sedative medications should be titrated to maintain a light rather than deep level of sedation in adult ICU patients, unless clinically contraindicated (+1B).

Barr J et al. *Crit Care Med.* In press.

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**Impact of a Combined SAT-SBT Strategy on Patient Outcomes**

Outcome	SBT	SAT+SBT	P-value
Ventilator-free days	12	15	0.02
Coma, days	3	2	0.002
Time-to-event, days			
Successful extubation	7	5	0.05
ICU discharge	13	9	0.01
Hospital discharge	19	15	0.04

Compliance with SAT and SBT components of protocol in this controlled study was ≥ 90%

SAT = Spontaneous Awakening Trial  
SBT = Spontaneous Breathing Trial

Girard TD et al. *Lancet.* 2008; 371:126-134.

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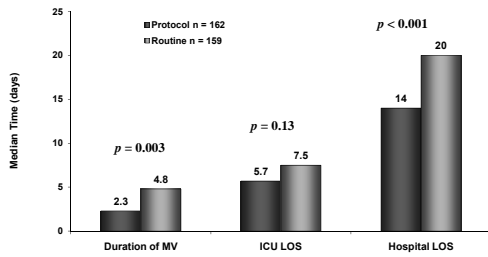
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### Nursing-Implemented Sedation Protocol: Barnes Jewish Pilot United States



Brook AD et al. *Crit Care Med.* 1999; 27:2609-15.

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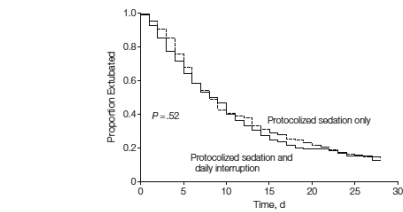
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### Protocol + SAT/SBT versus Protocol + SBT alone

Figure 2. Kaplan-Meier Curves for Time to Successful Extubation



No. at risk	0	5	10	15	20	25	30
Protocolized sedation only	209	146	72	49	34	23	
Protocolized sedation and daily interruption	214	140	81	42	28	16	

P value calculated from log-rank statistic.

Mehta S et al. *JAMA.* 2012. Online ahead of print. URL in Ref List.

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**Question:** Should a protocol that includes either daily sedative interruption or a light target level of sedation be used in mechanically ventilated adult ICU patients? (actionable)

**Answer:** We recommend either daily sedation interruption or a light target level of sedation be routinely used in mechanically ventilated adult ICU patients (+1B).

Barr J et al. *Crit Care Med.* In press.

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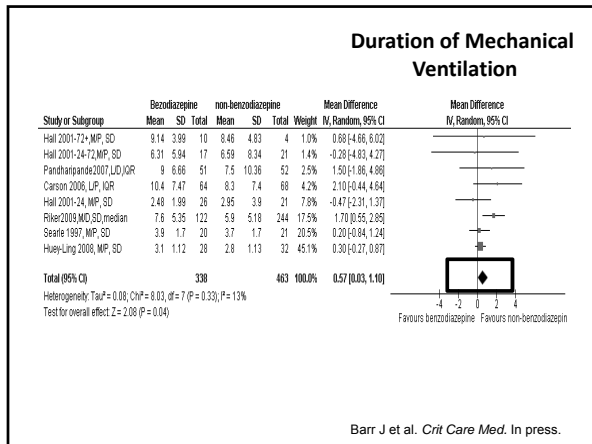
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**Question:** Should non-benzodiazepine-based sedation, instead of sedation with benzodiazepines, be used in mechanically ventilated adult ICU patients? (actionable)

**Answer:** We suggest that sedation strategies using non-benzodiazepine sedatives (either propofol or dexmedetomidine) may be preferred over sedation with benzodiazepines (either midazolam or lorazepam) to improve clinical outcomes in mechanically ventilated adult ICU patients (+2B).

Barr J et al. *Crit Care Med.* In press.

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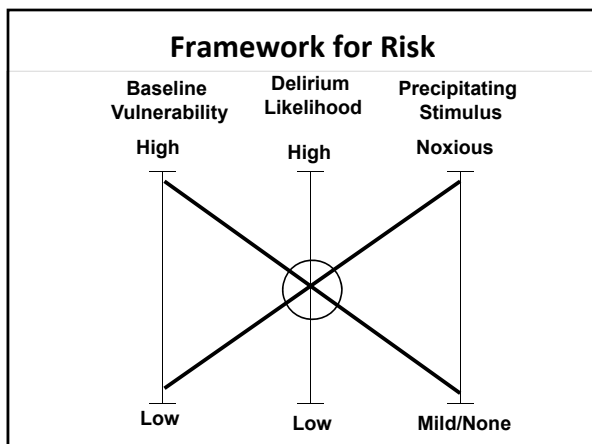
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**Question:** Which instruments available for delirium monitoring have the strongest evidence for validity and reliability in ventilated and non-ventilated medical and surgical ICU patients? (descriptive)

**Answer:** The Confusion Assessment Method for the ICU (CAM-ICU) and the Intensive Care Delirium Screening Checklist (ICDSC) are the most valid and reliable delirium monitoring tools in adult ICU patients (A).

Barr J et al. *Crit Care Med.* In press.

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### Strategies to Boost Delirium Recognition in the ICU

- Sedation assessment (i.e., SAS or RASS) should be occurring regularly and reliably
- Need buy-in from both nurse and physician managers
- Education
  - Both didactic (e.g., classroom/web) and at bedside
    - Both nurses and pharmacists can deliver this education
  - Deliver education to all nurses (i.e., both day and night shift), physicians, and pharmacists
- Ensure that clinicians are comfortable with “not being able to evaluate” components of delirium at certain times
- Documentation of delirium evaluation
- Mandatory discussion of delirium evaluation during daily rounds

SAS=Sedation-Agitation Scale  
RASS=Richmond Agitation-Sedation Scale

Devlin JW et al. *Best Pract Res Clin Anaesthesiol.* 2012; 26:385-93.

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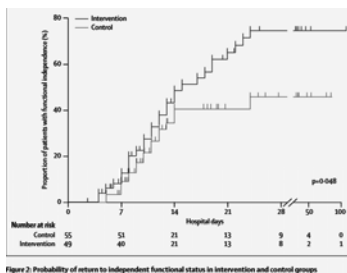
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### Early Mobilization



Return to independent functional status at d/c  
– 59% in intervention group  
– 35% in control group (p=0.02)

Schweickert WD et al. *Lancet.* 2009; 373:1874-82.

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## Early Mobility Study Results

Outcome	Intervention (n=49)	Control (n=50)	P
Functionally independent at discharge	29 (59%)	19 (35%)	0.02
ICU delirium (days)	2.0 (0.0-6.0)	4.0 (2.0-7.0)	0.03
Time in ICU with delirium (%)	33 (0-58)	57 (33-69)	0.02
Hospital delirium (days)	2.0 (0.0-6.0)	4.0 (2.0-8.0)	0.02
Hospital days with delirium (%)	29 (26)	44 (27)	0.04
Barthel index score at discharge	75 (7.5-95)	55 (0-85)	0.05
ICU-acquired paresis at discharge	15 (31%)	27 (49%)	0.09
Ventilator-free days	23.5 (7.4-25.6)	21.1 (0.0-23.8)	0.05
Length of stay in ICU (days)	5.9 (4.5-13.2)	7.9 (6.1-12.9)	0.08
Length of stay in hospital (days)	13.5 (8.0-23.1)	12.9 (8.9-19.8)	0.93
Hospital mortality	9 (18%)	14 (25%)	0.53

Schweickert WD et al. *Lancet*. 2009; 373:1874-82.

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**Question:** Should a non-pharmacological delirium protocol in the ICU be used to reduce the incidence or duration of delirium? (actionable)

**Answer:** We recommend that early mobilization of adult ICU patients be performed whenever feasible to reduce the incidence and duration of delirium (+1B).

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**Which of the following is MOST true about the role of antipsychotic therapy for either the prevention or treatment of delirium in the ICU?**

- Haloperidol is approved by the FDA for the treatment of delirium in the ICU.
- Quetiapine has been shown in one randomized, controlled trial to prevent delirium in the ICU.
- Neither of the above.

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**Question:** Should haloperidol or atypical antipsychotics be used prophylactically to prevent delirium in ICU patients? (actionable)

**Answer:** We do not suggest that either haloperidol or atypical antipsychotics be administered to prevent delirium in adult ICU patients (-2C).

Barr J et al. *Crit Care Med.* In press.

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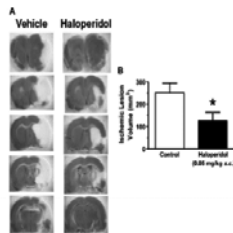
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### Haloperidol: A Sigma-1 Receptor Antagonist

- The Sigma-1 ligand PPBP protects the brain from ischemia
- Haloperidol is a Sigma-1 receptor antagonist
- Low dose haloperidol (0.05 mg/kg) when administered after an induced transient cerebral artery occlusion in rats decreased ischemic lesion volume by 50%
- Assuming that delirium is mediated by a diffuse, low-level ischemia, associated with critical illness, this Sigma-1 receptor antagonism may be an important mechanism by which haloperidol may prevent delirium in the critically ill.



Schetz JA et al. *Brain Res.* 2007; 1181:1-9.

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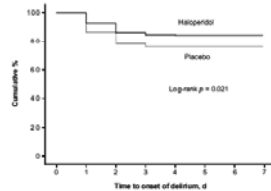
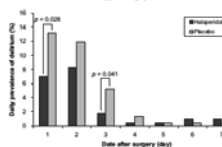
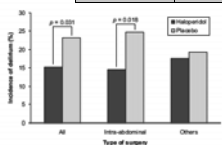
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	Haloperidol (n=229)	Placebo (n=228)	P value
Age	74.0 ± 5.8	74.4 ± 7.0	0.50
APACHE-2	8.7 ± 3.0	8.6 ± 2.8	0.58
Intubated (%)	78.6	77.6	0.80



Wang W et al. *Crit Care Med.* 2012; 40:731-9.

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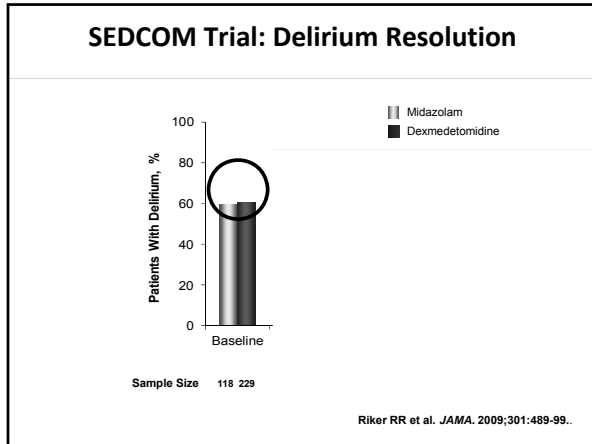
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### Dexmedetomidine vs. Morphine: DEXCOM

Outcome Variables	Dexmedetomidine (n = 152)	Morphine (n = 147)	P Value
<i>Delirium outcomes</i>			
Patients with delirium, n(%)	13 (8.6)	22 (15.0)	0.088
Delirium days, median (IQR)	2 [1-7]	5 [2-12]	0.031
Patients with IABP and delirium, n (%)	3/20 (15)	9/25 (36)	0.001

IABP = intraaortic balloon pump

Shehabi Y et al. *Anesthesiology*. 2009;111:1075-84.

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**Question:** Should dexmedetomidine be used prophylactically to prevent delirium in ICU patients? (actionable)

**Answer:** We provide no recommendation for the use of dexmedetomidine to prevent delirium in adult ICU patients, as there is no compelling evidence regarding its effectiveness in these patients (0,C).

Barr J et al. *Crit Care Med*. In press.

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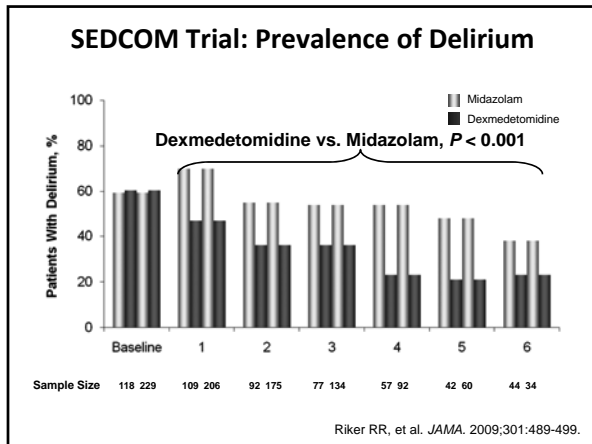
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**Question:** For mechanically ventilated, adult ICU patients with delirium who require continuous IV infusions of sedative medications, is dexmedetomidine preferred over benzodiazepines to reduce the duration of delirium? (actionable)

**Answer:** We suggest that in adult ICU patients with delirium which is not related to either alcohol or benzodiazepine withdrawal, continuous intravenous infusions of dexmedetomidine rather than benzodiazepine infusions be administered for sedation in order to reduce the duration of delirium in these patients (+2B).

Barr J, et al. *Crit Care Med* 2012 (in press).

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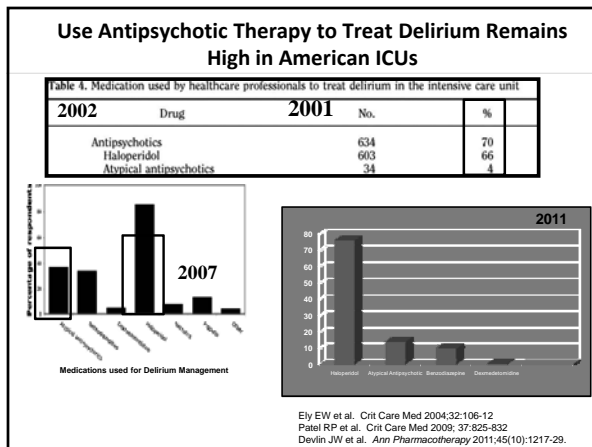
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**Efficacy and safety of quetiapine in critically ill patients with delirium: A prospective, multicenter, randomized, double-blind, placebo-controlled pilot study\***

John W. Devlin, PharmD; Russel J. Roberts, PharmD; Jeffrey J. Fong, PharmD; Yoanna Skrobik, MD; Richard R. Riker, MD; Nicholas S. Hill, MD; Tracey Robbins, RN; Erik Garpestad, MD

- n=36 (18 quetiapine, 18 placebo) with delirium based on ICDSC assessment
- QUETIAPINE 50mg PO/tube bid (max 200mg bid) vs. PLACEBO
  - PRN IV haloperidol could be used to treat agitation in either group
- Baseline characteristics between groups were similar
- Primary Outcome
  - Time to first resolution of delirium was significantly less with quetiapine 1 day vs 4.5 days (p=0.001)

Devlin JW et al. *Crit Care Med.* 2010; 38:419-27.

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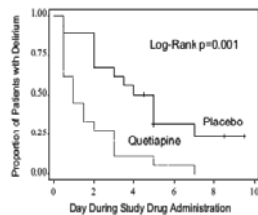
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**Safety**

- Somnolence (n= 5 episodes)
- Hypotension (n=1 episode)
- No episodes of EPS
- The number of subjects with QTc prolongation was similar between the quetiapine and placebo groups.

	Quetiapine (n=18)	Placebo (n=18)	P-value
Time in delirium (hours)	36 (12-87)	120 (60-195)	0.006
Time spent agitated (SAS ≥ 5) (hours)	6 (0-38)	36 (11-66)	0.02
Percent of time spent in delirium after ICU discharge	0 (0-0)	14 (0-47)	0.05
Subject placement after hospital discharge (%)			
Home / rehabilitation center	89	56	0.06
Chronic care facility / another acute care hospital / death	11	44	

Devlin JW et al. *Crit Care Med.* 2010;38:419-27.

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**Question: Does treatment with haloperidol reduce the duration of delirium in adult ICU patients? (descriptive)**

**Answer:** There is no published evidence that treatment with haloperidol reduces the duration of delirium in adult ICU patients (No Evidence).

**Question: Does treatment with atypical antipsychotics reduce the duration of delirium in adult ICU patients? (descriptive)**

**Answer:** Atypical antipsychotics may reduce the duration of delirium in adult ICU patients (C).

Barr J et al. *Crit Care Med.* In press.

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# The Pharmacist's Role in Implementing the New Pain, Agitation, and Delirium Guidelines in the Critical Care Setting

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## **Gilles L. Fraser, Pharm.D., FCCM**

Professor, School of Medicine  
Tufts University  
PGY2 Critical Care Residency Program Director  
Clinical Pharmacist, Critical Care  
Maine Medical Center  
Portland, Maine

Gilles L. Fraser, Pharm.D., FCCM, is Professor, School of Medicine, Tufts University, and Clinical Pharmacist, Critical Care, at the Maine Medical Center in Portland. Dr. Fraser also serves as program director for the PGY2 critical care residency program.

Dr. Fraser earned his Bachelor of Science in Pharmacy from the University of Connecticut in Storrs and Doctor of Pharmacy degree from the University of Minnesota in Minneapolis.

Dr. Fraser is a fellow of the American College of Critical Care Medicine. He served on the editorial board of *Critical Care Research* and was a contributing editor for *Critical Care Therapeutics* and *Hospital Pharmacy*. Dr. Fraser has published extensively in the area of critical care medicine in the form of original research articles, review papers and editorials, textbook chapters, and research abstracts at national and international pharmacy and critical care scientific meetings.

Dr. Fraser has received numerous awards and honors, including presidential citations from the Society of Critical Care Medicine (2013, 2006, and 2000), Maine Society of Health-System Pharmacists Pharmacy Practice Award (2010), and the Society of Critical Care Medicine Internal Medicine Award (2007).

## **Role of the Pharmacist in Implementing the New Pain, Agitation, and Delirium Guidelines**

**Gilles L. Fraser, Pharm.D., FCCM**  
Professor, School of Medicine, Tufts University  
Director, PGY2 Critical Care Residency, Maine Medical Center  
Outcomes Team Leader, SCCM PAD Guidelines

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### **Learning Objectives The Pharmacist Will**

- Accept a leadership role to create an ICU that is a more humane environment to heal and to die
- Evaluate AND understand the rationale for PAD management recommendations
- Successfully adapt the guidelines to local clinical resources and goals
- Organize a multifaceted interdisciplinary approach to implement adaptation of these guidelines

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### **What We've Learned: Goals for Our ICU Patients**

- THEN: Survival and discharge
- NOW: Don't fix patients and break them at the same time
  - Complications extend beyond hospital discharge
    - Delirium
    - Long-term cognitive impairment
    - PTSD

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### Gestational Period

- Mouse = 20 days
- Human = 9 months
- Elephant = 22 months
- PAD guidelines = 80 months

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### 2006-13 SCCM Guidelines for the Management of Pain, Agitation, and Delirium

Sedation	Analgesia	Delirium	Outcomes
<u>J Barr, Chair</u>	<u>K Puntillo, Lead</u>	<u>W Ely, Lead</u>	<u>G Fraser, Lead</u>
D Fontaine	D Coursin	B Pun	J Dasta
M Ramsay	C Gelinias	C Sessler	J Davidson
R Riker	D Herr	Y Skrobik	J Devlin
B Robinson	A Joffe		JP Kress
A Tung			

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### 2013 PAD Guidelines

- Focus is on the patient, these are NOT sedation guidelines
- 12 pharmacologic recommendations
- Surprises
  - No recommendation on haloperidol
  - Either daily sedation interruption OR careful titration
  - Benzo's as potential risk for delirium
  - Dexmedetomidine

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### Yes/No Poll

- Our ICU uses
  - A sedation protocol
  - A behavioral pain scale
  - A delirium screening tool



Yes



No

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### Perceived vs. Actual Practice

- Survey 85 ICUs = 24-h practice snapshot
- Sedation protocols used in 50% ICUs
- Sedation interruption reported in 66% ICUs
  - Performed in 36% patients
- Delirium monitoring reported in 25% ICUs
  - Performed in 10% of patients

Gill KV et al. *Ann Pharmacother.* 2012; 46:1331-9.

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### Ever Feel Like You Are Going in Circles?

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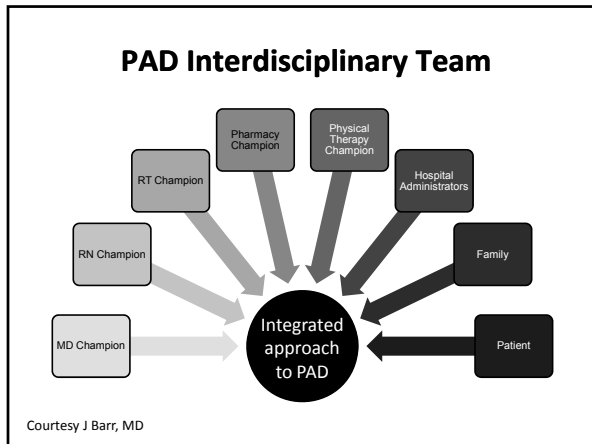
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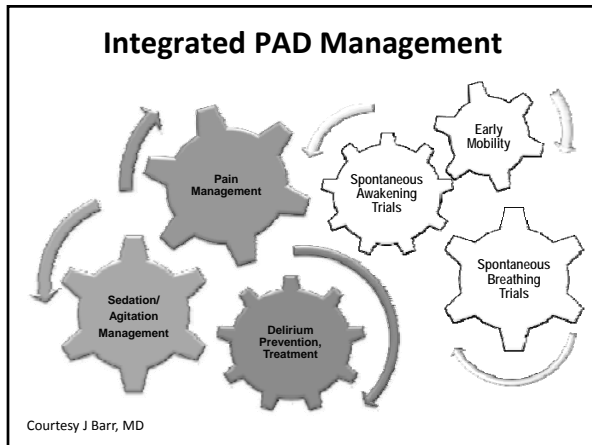
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- ### Changing Practice Behaviors
- Multifaceted approach IS necessary
    - Champions
      - All disciplines should be represented
    - Education
      - A first step to inform and demonstrate relevance
    - Protocols
      - Efficient way to make it easy to do the right thing
    - Point of use reminders
      - For those who need a little help remembering nuances
    - Feedback loops
      - For those needing “encouragement” to do the right thing

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### Why is This So Important?

- Benefits of implementing guidelines
  - Reduced time on the ventilator and in the ICU
  - Lower rates of ICU complications
  - Improved quality of life after discharge
  - Less delirium and cognitive impairment

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### Facilitating Knowledge Transfer to the Bedside

- Use clinical practice guideline as a model
  - Develop protocols for managing PAD
  - Develop “order sets” based on institution specific protocols
  - Create “bundles” for implementing essential components of practice guidelines
    - Consider daily rounding pharmacist or quality checklist with these elements
      - Marshall J et al. *Crit Care Med.* 2008; 36:427-33.
      - DuBose JJ et al. *J Trauma.* 2008; 64:22-7.
  - Offer real time clinical decision support
- NOT to WORRY! We’ve got a plan!**

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### Importance of Protocolization

- Brings “best practice” to the bedside
- Limits practice variation
- Reduces delays in management
  - Encourages regular assessment of pain, agitation, delirium
  - Facilitates pharmacologic interventions: drug choice, dosing, titration

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## Why are Protocols Not Used?

- Potential barriers
  - Nursing acceptance
  - Potential for medical device removal, airway compromise, and patient discomfort  
Roberts RJ et al. J Crit Care. 2010; 25:660.e1-7.  
 Taniot MA. Crit Care Med. 2005: A793.
  - Lack of physician buy in Taniot MA et al. J Crit Care. 2009; 24:66-73.
  - *ICU patients and protocols are too complex*

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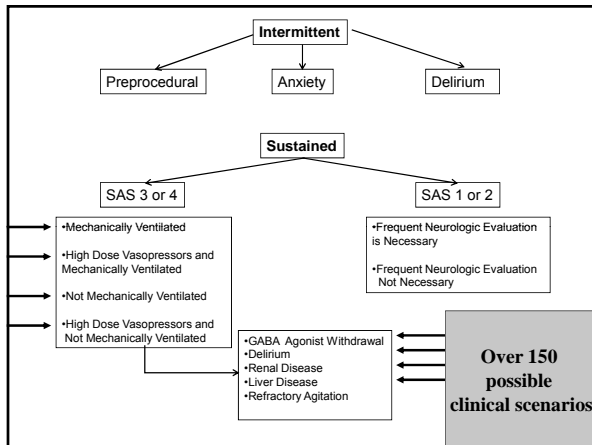
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## Complex to Simple: ICU Care Bundles

- Examples: sepsis, central line placement, and now PAD!
- Elements should
  - Be easy to implement and measure
  - Have proven benefit
  - Be supported by sound scientific and clinical reasoning
  - Be relevant across a wide range of patient populations and health-care systems
- Metrics allow caregiver feedback and serve as part of a rapid-cycle change process improvement effort

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### ICU PAD Bundle Web-based Toolkit

- Educational Tools
  - PowerPoint presentations
    - PAD guideline staff education
    - PAD implementation strategies
  - Instructional videos
    - Use of pain, sedation, delirium assessment tools
    - Early mobility techniques
- Implementation Tools
  - Pocket cards
    - ICU PAD Care bundle
    - PAD guideline recommendations
  - Apps for smart phone, tablets
    - Monitoring tools
    - Drug dosing guidelines
  - Templates
    - Check lists
    - Goals sheets
  - Sample protocols
- Performance Improvement Metrics

Courtesy J Barr, MD

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#### EXAMPLE

SCCM PAD  
Guidelines

Two-sided  
“pocket” card

Available when guidelines are published

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### SCCM PAD Bundle *Identify, Manage, Monitor*

Available when guidelines are published

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## EXAMPLE: Pain Bundle

### Stepwise process

Incorporate valid pain monitoring tools  
Address analgesia adequacy daily

Implement protocols to prevent and  
manage pain

Monitor adherence and effectiveness  
of these protocols

Track performance to understand  
barriers and identify strategies for  
improvement

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## Some Things Are Easy

- Job #1 = Patient comfort, patient and caregiver safety, maintenance of oxygenation and perfusion
- Don't complicate things
  - Avoid delirigenic drugs
  - Avoid propofol in pancreatitis
  - Avoid morphine in renal disease, etc.
  - Avoid propofol and dexmedetomidine with high dose vasoactive therapy
- Initiate home medications IF and when appropriate

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Cure sometimes

Comfort always

Armstrong & Crisp (Turkel)  
New Horizons 1994:2:85

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# The Pharmacist's Role in Implementing the New Pain, Agitation, and Delirium Guidelines in the Critical Care Setting

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## The Pharmacist's Role in Implementing the New Pain, Agitation, and Delirium Guidelines in the Critical Care Setting

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# The Pharmacist's Role in Implementing the New Pain, Agitation, and Delirium Guidelines in the Critical Care Setting

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## SELF – A S S E S S M E N T Q U E S T I O N S

1. The soon-to-be-released guidelines for management of pain, agitation, and delirium in adults in the intensive care unit (ICU) differ from the previous version because recommendations for interventions are based on:
  - a. Relative risks and benefits alone, without using expert opinion in the absence of evidence
  - b. Strength of evidence alone, without using expert opinion in the absence of evidence
  - c. Both strength of evidence and relative risks and benefits, without using expert opinion in the absence of evidence
  - d. Both strength of evidence and relative risks and benefits, using expert opinion in the absence of evidence
  
2. Which of the following organizations support the new guidelines for management of pain, agitation, and delirium in adults in the ICU?
  - a. American College of Critical Care Medicine
  - b. Society of Critical Care Medicine
  - c. American Society of Health-System Pharmacists
  - d. All of the above
  
3. According to the new guidelines, the Confusion Assessment Method for the ICU (CAM-ICU) and the Intensive Care Delirium Screening Checklist (ICDSC) are the most valid and reliable delirium monitoring tools in adult ICU patients.
  - a. True
  - b. False
  
4. In the absence of alcohol or benzodiazepine withdrawal, what is the preferred sedative medication for mechanically ventilated, adult ICU patients with delirium who require continuous intravenous infusion?
  - a. Midazolam
  - b. Dexmedetomidine
  - c. Lorazepam
  - d. None of the above
  
5. Which of the following is NOT a benefit of protocols in medical practice?
  - a. Limit practice variation
  - b. Reduce delays in patient management
  - c. Facilitate pharmacologic intervention
  - d. Contain medical costs

### Answer Key

- |      |      |      |
|------|------|------|
| 1. c | 3. a | 5. d |
| 2. d | 4. b |      |

# The Pharmacist's Role in Implementing the New Pain, Agitation, and Delirium Guidelines in the Critical Care Setting

December 4, 2012

Las Vegas, Nevada

Separate at the perforated edge

<h2 style="text-align: center;">Marking Instructions</h2> <ul style="list-style-type: none"> <li>■ Use blue or black ink or a No. 2 pencil</li> <li>■ DO NOT use pens with ink that soak through the paper</li> <li>■ Make solid marks that fill the oval completely</li> </ul> <p>Correct Mark <span style="margin-left: 100px;">Incorrect Marks</span></p> <p style="text-align: center;"> <input type="radio"/> <span style="margin-left: 100px;"><input type="radio"/></span> <input type="radio"/> <span style="margin-left: 10px;"><input type="radio"/></span> <input type="radio"/> <span style="margin-left: 10px;"><input type="radio"/></span> </p>	<h2 style="text-align: center;">ACTIVITY EVALUATION FORM</h2> <p>Please rate the instructional quality of each presentation by filling in the appropriate oval that corresponds to your rating using the scale below.</p> <p>Note any comments or suggestions for the below ratings using the space provided.</p> <p style="text-align: center;"><b>The following scale should be used</b></p> <p style="text-align: center;"> <b>Strongly Disagree</b>    (1) (2) (3) (4) (5)    <b>Strongly Agree</b> </p>
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➔

**Please indicate your profession:**

Pharmacist                       MD/DO  
 Technician                          Other: \_\_\_\_\_

Presentation and Speaker(s)	The presentation provided current and relevant information	Speaker was knowledgeable and presented the information clearly	I did not perceive any commercial bias in this presentation
<b>Overview of the New Pain, Agitation, and Delirium (PAD) Guidelines</b> <i>John W. Devlin, Pharm.D., FCCP, FCCM</i>	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)
<b>Role of the Pharmacist in Implementing the New PAD Guidelines</b> <i>Gilles L. Fraser, Pharm.D., FCCM</i>	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)	(1) (2) (3) (4) (5)

What feedback would you like to provide about individual faculty?

## OVERALL PROGRAM EVALUATION FORM

	Strongly Disagree				Strongly Agree
<b>Content</b>					
1. The activity content presented was based on best available evidence	(1)	(2)	(3)	(4)	(5)
2. The activity content presented was relevant to the target audience	(1)	(2)	(3)	(4)	(5)
3. The learning objectives for this activity were met	(1)	(2)	(3)	(4)	(5)
4. The activity handout materials were useful and of high quality	(1)	(2)	(3)	(4)	(5)
5. The active learning strategies (e.g., questions, cases, discussion) were appropriate and effective	(1)	(2)	(3)	(4)	(5)

**Continued on Side 2 ➔**

## Participation Benefits

6. My educational needs were met
7. I would recommend this activity to a colleague
8. I plan to revise my current practice or implement new services based on the knowledge acquired at this activity

**Strongly  
Disagree**

**Strongly  
Agree**

- |   |   |   |   |   |
|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ |
| ① | ② | ③ | ④ | ⑤ |
| ① | ② | ③ | ④ | ⑤ |

## Practice Changes

Choose or describe at least ONE and no more than THREE changes that you might make in your practice as a result of this activity.

- Educate other critical care clinicians at my practice site about the rationale for the recommendations and revisions to the Society of Critical Care Medicine's pain, agitation, and delirium (PAD) guidelines.
- Incorporate recommendations from the PAD guidelines into new or existing protocols at my health system.
- Convene a multidisciplinary team at our health system to adapt and implement the PAD guideline recommendations.
- Promote the maintenance of a light level of sedation for patients through the use of a daily sedation interruption or a tight sedation protocol.
- Minimize the use of antipsychotic drugs for intensive care unit (ICU) delirium and ensure that antipsychotic drugs are discontinued as soon as possible following transfer from the ICU.

Other, please describe.

Is there anything that would prevent or limit you from making those desired change(s)?  
If yes, please explain

What questions do you still have about this topic?

Comments or recommendations for improving the activity (e.g., content, facilities, etc.)

Suggested topics for future activities

**Please return this form to the staff monitors**