

# Curriculum Vitae

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## Training

08/1989 - 12/1993 M.D. in Medicine from Nagpur University, India  
01/1994 - 12/1994 Internship from University of Nagpur, India  
09/1995 - 06/1996 Training in Research from University of Pittsburgh  
07/1996 - 06/1997 Residency in Anesthesiology from Saint Barnabas Medical Center, Livingston, NJ  
07/1997 - 06/1999 Residency in Anesthesiology from Saint Barnabas Medical Center, Livingston, NJ  
07/1999 - 06/2000 Chief Resident in Anesthesiology from Saint Barnabas Medical Center, Livingston, NJ  
07/2000 - 06/2001 Fellowship in Critical Care from Vanderbilt University Medical Center, Nashville, TN  
09/2003 - 08/2005 M.S.C.I. in Masters of Science and Clinical Investigation from Vanderbilt University, TN United States

## Licensure and Certification

2000 - Present Medical, Tennessee Department of Health, Medical License (35218)  
2002 - Present Boards, American Board of Anesthesiology (34915)  
2002 - Present Boards, Special Certification in Critical Care  
2004 - Present Medical, Fundamentals in Critical Care Support (FCCS) Instructor Certification  
2009 - Present Medical, Fellow College of Critical Care Medicine (FCCM)

## Academic Appointments

07/2001 - 06/2002 Instructor, Vanderbilt University (Nashville, Tennessee)  
12/2001 - 06/2009 Assistant Professor, Vanderbilt University (Nashville, Tennessee)  
09/2008 - 06/2014 Associate Professor of Anesthesiology, Vanderbilt University (Nashville, Tennessee)  
07/2011 - 06/2014 Associate Professor of Surgery, Vanderbilt University (Nashville, Tennessee)  
10/2012 - Present Professor of Anesthesiology, Vanderbilt University (Nashville, Tennessee)  
10/2012 - Present Professor of Surgery, Vanderbilt University (Nashville, Tennessee)  
10/2012 - Present Professor Anesthesiology and Critical Care, Anesthesia Service, TN Valley Health Care System (Nashville, Tennessee)

## Other Work Experience

2014 - Present Division Chief, Anesthesiology Critical Care Medicine, Department of Anesthesiology, Vanderbilt University Medical Center (Nashville, Tennessee)  
2018 - Present Associate Vice Chair of Faculty Affairs, Anesthesiology, Vanderbilt University Medical Center (Nashville, Tennessee)

## Professional Organizations

Society of Critical Care Anesthesiologists, Member  
Society of Critical Care Medicine, Member  
Association of University Anesthesiologists, Member  
International Anesthesia Research Society, Member  
American Society of Anesthesiologists, Member  
American Delirium Society

## Professional Activities

### Intramural

2001 - 2003	OR Pharmacy Committee, Anesthesiology, Member
2001 - 2003	Clinical Case Conferences Coordinator, Anesthesiology, Coordinator
2001 - 2003	Residency Education Committee, Anesthesiology, Member
2001 - 2003	Morbidity and Mortality Conferences Coordinator, Anesthesiology, Coordinator
2003 - 2018	ICU Delirium and Cognitive Impairment Group, Anesthesiology, Site PI
2004 - 2015	FCCS Instructor and Organizing Committee Member, Anesthesiology, Member
2006 - 2011	Academic Development Conference Committee Coordinator, Anesthesiology, Coordinator
2006 - 10/2019	Resident Research Coordinator, Anesthesiology, Coordinator
2008 - 2016	BH Robbins Scholars Program Coordinator, Anesthesiology, Co-Coordinator
2009 - Present	Research Executive Committee, Anesthesiology, Member
2018 - Present	Critical Illness, Brain Dysfunction, and Survivorship (CIBS) Center, Anesthesiology, Co-Director

### Extramural

2004 - Present	Reviewer for Critical Care Medicine
2004 - Present	Reviewer for Anesthesiology
2005 - Present	Reviewer for Intensive Care Medicine
2009 - 2010	Committee on Critical Care, American Society of Anesthesiologists, Member
2010 - Present	Reviewer for Anesthesia and Analgesia
2011 - 2013	Critical Care Exam Committee, American Board of Anesthesiology
2016 - Present	Reviewer for Lancet
2016 - Present	Reviewer for JAMA
2018 - Present	Reviewer for New England Journal of Medicine

### Teaching Activities

2001 - Present	Supervision of the training of Residents and Fellows in the Departments of Anesthesiology and Surgery in Intensive Care Medicine, VUMC, Nashville, TN
2001 - Present	Critical Care Resident Monthly Lectures, 6 lectures per year for the Anesthesia and Surgical Residents on topics related to sedation, delirium, long term cognitive impairment, mechanical ventilation
2001 - 2015	Mock Oral Examiner
2005 - 2015	Fundamentals in Critical Care Support (FCCS): Fundamentals of Critical Care, Vanderbilt University Medical Center, VUMC conducted 3-4 courses per year and I taught 3-4 topics (including simulations) per course which included sedation, diagnosis of critical illness, mechanical ventilation, septic shock
2009 - Present	Critical Care Skills Week, 8 hours of teaching every 3 months
2010 - Present	Fellow Didactic Lectures, 2-3 lectures per year for the Anesthesia and Surgical Critical Care Fellows on topics related to sedation, delirium, long term cognitive impairment, mechanical ventilation, statistics

### Research Supervision / Mentorship

2006 - 2009	Vivek Agarwal, M.D. Cedar Sinai LA, Current Position: Resident Internal Medicine. (Resident, Research)
2007 - 2011	Stuart McGrane, M.D., M.S.C.I. Vanderbilt University Medical Center, Current Position: Associate Professor of Anesthesiology. (Faculty, Research)
2008 - Present	Christopher Hughes, M.D. Vanderbilt University Medical Center, Current Position: Assistant Professor of Anesthesiology. (Faculty, Research)
2008 - 2012	Jessica Adams, M.D. Current Position: Assistant Professor. (Medical Student, Research)
2009 - Present	Heidi Smith, M.D., M.S.C.I. Vanderbilt University Medical Center, Current Position: Associate Professor of Anesthesiology. (Faculty, Research)
2010 - Present	Mayur Patel, M.D., M.P.H. Vanderbilt University Medical Center, Current Position: Associate Professor of Surgery and Trauma. (Faculty, Research)
2016 - Present	Joseph Schlesinger, M.D. Vanderbilt University Medical Center, Current Position: Associate Professor of Anesthesiology. (Faculty, Research)
2018 - Present	Robert Freundlich, M.D., M.S.C.I. Vanderbilt University Medical Center, Current Position: Assistant Professor of Anesthesiology. (Faculty, Research)

### Other Significant Activities

11/2011	Expert Reviewer for VA Merit Awards:
07/2012	Expert Reviewer VA Merit Awards:

2013	Conference Planning Committee American Delirium Society:
2014	SCCM PAD Sedation Group:
07/2014	AdHoc Reviewer NIH Grants:
2015	Co_Director Medical School Clinical and Translational Research Immersion:
06/2016	American Delirium Society: President and Conference Planning Chair
05/2017	Expert Reviewer Brain Canada Foundation Grants: Reviewer for Brain Canada- a large funding organization in canada

## Grants and Funding

Grant number unavailable P Pandharipande (PI) 2005 - 2007  
 Foundation of Anesthesia Education and Research (FAER) and Hospira (study drug and laboratory costs)  
 " A randomized, double-blind trial in ventilated ICU patients comparing treatment with an alpha2 agonist versus a gamma aminobutyric acid (GABA)-agonist to determine delirium rates, efficacy of sedation and analgesia, and clinical outcomes including durat  
 Role: Principal Investigator  
 Total Cost: \$750,000.00

UL1 RR024975 P Pandharipande (PI) 2007 - 2010  
 NIH CTSA  
 Pathogenesis of delirium-inflammation and genetics  
 Role: Principal Investigator  
 Total Cost: \$35,000.00

Grant number unavailable P Pandharipande (PI) 2009 - 2011  
 VA CSR&D Career Development Award  
 Risk Factors for Delirium and PTSD in Critically Ill veterans  
 Role: Principal Investigator  
 Total Cost: \$647,572.00

UL1 RR024975 C Hughes (PI) 2009 - 2011  
 NIH CTSA  
 Role of endothelial progenitor cells in brain dysfunction  
 Role: Mentor  
 Total Cost: \$45,000.00

Grant number unavailable Hughes (PI) 2010 - 2012  
 FAER  
 Role of endothelial progenitor cells in brain dysfunction  
 Role: Mentor  
 Total Cost: \$175,000.00

AG035117 E.Wesly Ely (PI) 2011 - 2017  
 NIA  
 The MIND-USA study  
 The long-term objective of the MIND-USA (Modifying the Impact of ICU-Induced Neurological Dysfunction-USA) Study is to define the role of antipsychotics in the management of delirium in vulnerable critically ill patients.  
 Role: Co-Investigator  
 Total Cost: \$5,452,052.00

Hospira P Pandharipande (PI) 2012 - 2019  
 Industry  
 MENDS2: Altering sedation paradigms for improving outcomes in septic patients  
 Study drug cost for the NIH study funded by industry  
 Role: Principal Investigator  
 Total Cost: \$480,000.00

HL111111 P Pandharipande (PI) 2012 - 2019  
 NHLBI  
 MENDS2: Altering sedation paradigms to improve outcomes in septic patients

"The MENDS II Trial - Altering Sedation Paradigms to Improve Brain Injury and Survival in Severe Sepsis" Data indicate that GABA-ergic and alpha2 agonist agents have very different effects on innate immunity, apoptosis, arousability, and respiratory drive. A few randomized trials designed and conducted by these investigators (MENDS and SEDCOM) as well as a European group (MIDEX and PRODEX) have provided guidance to clinicians when selecting between sedatives, yet none have explored the mechanisms underlying the differences in outcomes previously reported to date. In early animal and human studies, dexmedetomidine (an alpha-2 agonist) had more anti-inflammatory effects than the GABA-ergic agents propofol and benzodiazepines. Dexmedetomidine improved bacterial clearance, whereas propofol impaired it. In addition, in the above mentioned trials it was shown that sedation with dexmedetomidine instead of benzodiazepines reduced delirium by 20%-30% and improved arousability, cognition, and attentiveness in ventilated patients while reducing the time on mechanical ventilation in some studies. The septic subgroup of the MENDS trial showed a survival advantage if randomized to dexmedetomidine vs. lorazepam. Alpha-2 agonists induce unconsciousness at the brainstem - more akin to natural sleep, which may improve autonomic function and immunity. All these factors converge to suggest that sedation with an alpha-2 agonist rather than a GABA-ergic agent may improve outcomes, including brain function, time on mechanical ventilation, and survival for septic mechanically ventilated patients.

Role: Principal Investigator

Total Cost: \$2,869,750.00

VUMC63278(R24AG054259) Inouye (PI) 2016 - 2020

National Institute on Aging

Network for Investigation of Delirium across the US (NIDUS)

Role: Co-Investigator

Total Cost: \$3,200,000.00

5R01GM120484 Patel (PI) 2017 - 2021

National Institute of General Medical Sciences

The INSIGHT-ICU Study: Illuminating Neuropsychological dysfunction and Systemic Inflammatory mechanisms Gleaned after Hospitalization in Trauma-ICU Study

Role: Co-Investigator

Total Cost: \$2,960,280.00

Grant number unavailable Ely and Patel (PI) 2019 - 2024

NIH

BRAIN-ICU-2 Study: Bringing to Light the Risk Factors And Incidence of Neuropsychological Dysfunction (Dementia) in ICU Survivors, 2nd Study

Role: Co-Investigator

Total Cost: \$15,300,000.00

## Honors / Awards

1995	University Gold Medal in Preventive Medicine, Nagpur University
1995	First Prize in Rural Based Community Research Project Titled "A Study of Malnutrition in School Children", Pune University
2002	Volker I. Striepe Teaching Award, Department of Anesthesiology, Vanderbilt University Medical Center, VUMC
2003	Volker I. Striepe Teaching Award, Department of Anesthesiology, Vanderbilt University Medical Center, VUMC
2003	Vanderbilt Physician Scientist Development Program Award, VUMC, 2003-2005 Principle Investigator Award Amount \$150,000
2007	Anesthesiology Specialty Award from Society of Critical Care Medicine (SCCM), SCCM
2007	Stoutenbeek Award from ESICM, ESICM, 2007 Stoutenbeek Award Principle Investigator Award Amount \$15,000
2008	Charles Pittinger Award for Research Excellence, Department of Anesthesiology
2008	Chairs Award for Excellence in Research, Department of Anesthesiology
2010	Bradley Smith Award for Excellence in Mentorship, Department of Anesthesiology
2014	Charles Pittinger Award for Research Excellence, Department of Anesthesiology
2014	FAER Academy of Research Mentors, FAER
2017	Presidential Citation Award, Society of Critical Care Medicine
2019	Presidential Citation Award, Society of Critical Care Medicine

FAER Mentoring Excellence in Research Award, FAER-American Society of Anesthesiology, The FAER Mentoring Excellence in Research Award recognizes the value of outstanding mentors in anesthesiology. The award recognizes mentorship rather than scientific accomplishment. It acknowledges the successful development of mentees who also go on to become physician scientists, ultimately shaping the future of the specialty.

## Publications

### Peer Reviewed Publications

#### Research Articles

1. Shurin, M and **Pandharipande, P**. Flt3 receptor and ligand. A new tool in biological immunotherapy. *In Vivo Veritas (Biological Therapeutic Program of UPCI)* 1996; 4(4).
2. Shurin MR, **Pandharipande P** et al. Flt3 ligand induces the generation of functionally active dendritic cells in mice. *Cellular Immunology* 1997; 2(179):174-84. PMID: 9268501.
3. **Pandharipande, P**, Shintani, A, Peterson, J, Pun, BT, Wilkinson, GR, Dittus, RS, Bernard, GR, Ely, EW. Lorazepam is an independent risk factor for transitioning to delirium in intensive care unit patients. *Anesthesiology* 2006; 104(1):21-26. PMID: 16394685.
4. **Pandharipande, P**, Cotton, BA, Shintani, A, Thompson, J, Costabile, S, Truman Pun, B, Dittus, R, Ely, EW. Motoric subtypes of delirium in mechanically ventilated surgical and trauma intensive care unit patients. *Intensive Care Medicine* 2007; 33(10):1726-31. PMID: 17549455.
5. **Pandharipande, PP**, Pun, BT, Herr, DL, Maze, M, Girard, TD, Miller, RR, Shintani, AK, Thompson, JL, Jackson, JC, Deppen, SA, Stiles, RA, Dittus, RS, Bernard, GR, Ely, EW. Effect of sedation with dexmedetomidine vs lorazepam on acute brain dysfunction in mechanically ventilated patients: the MENDS randomized controlled trial. *JAMA* 2007; 298(22):2644-53. PMID: 18073360.
6. Masica A, Girard T, **Pandharipande P** et al. Clinical sedation scores as indicators of sedative and analgesic exposures in critically ill ICU patients. *American Journal of Geriatric Pharmacotherapy* 2007; 5(3):218-31. PMID: 17996661.
7. Ely, EW, Girard, TD, Shintani, AK, Jackson, JC, Gordon, SM, Thomason, JW, Pun, BT, Canonico, AE, Light, RW, **Pandharipande, P**, Laskowitz, DT. Apolipoprotein E4 polymorphism as a genetic predisposition to delirium in critically ill patients. *Critical Care Medicine* 2007; 35(1):112-7. PMID: 17133176.
8. Watson, PL, Shintani, AK, Tyson, R, **Pandharipande, PP**, Pun, BT, Ely, EW. Presence of electroencephalogram burst suppression in sedated, critically ill patients is associated with increased mortality. *Critical Care Medicine* 2008; 36(12):3171-7. PMID: 19020432.
9. Soja, SL, **Pandharipande, PP**, Fleming, SB, Cotton, BA, Miller, LR, Weaver, SG, Lee, BT, Ely, EW. Implementation, reliability testing, and compliance monitoring of the Confusion Assessment Method for the Intensive Care Unit in trauma patients. *Intensive Care Medicine* 2008; 34(7):1263-8. PMID: 18297270.
10. **Pandharipande, P**, Cotton, BA, Shintani, A, Thompson, J, Pun, BT, Morris, JA, Dittus, R, Ely, EW. Prevalence and risk factors for development of delirium in surgical and trauma intensive care unit patients. *Journal of Trauma* 2008; 65(1):34-41. PMID: 18580517.
11. Patel, RP, Gambrell, M, Speroff, T, Scott, TA, Pun, BT, Okahashi, J, Strength, C, **Pandharipande, P**, Girard, TD, Burgess, H, Dittus, RS, Bernard, GR, Ely, EW. Delirium and sedation in the intensive care unit: survey of behaviors and attitudes of 1384 healthcare professionals. *Critical Care Medicine* 2009; 37(3):825-32. PMID: 19237884.
12. Pousman, R.M., Pepper, C., **Pandharipande, P.**, Ayers, G.D., Mills, B., Diaz, J., Collier, B., Miller, R., Jensen, G. Feasibility of Implementing a Reduced Fasting Protocol for Critically Ill Trauma Patients Undergoing Operative and Nonoperative Procedures. *Journal of Parenteral and Enteral Nutrition* 2009; 33(2):176-80. PMID: 19251911.
13. **Pandharipande, PP**, Shintani, AK, Hagerman, HE, St Jacques, PJ, Rice, TW, Sanders, NW, Ware, LB, Bernard, GR, Ely, EW. Derivation and validation of Spo2/Fio2 ratio to impute for Pao2/Fio2 ratio in the respiratory component of the Sequential Organ Failure Assessment score. *Critical Care Medicine* 2009; 37(4):1317-1321. PMID: 19242333.
14. **Pandharipande PP**, Morandi A, Adams JR, Girard TD, Thompson JL, Shintani AK, Ely EW. Plasma tryptophan and tyrosine levels are independent risk factors for delirium in critically ill patients. *Intensive Care Medicine* 2009 November;35(11):1886-92. PMID: 19588122.
15. Agarwal V, O'Neill PJ, Cotton BA, Pun BT, Haney S, Thompson J, Kassebaum N, Shintani A, Guy J, Ely EW, **Pandharipande P**. Prevalence and risk factors for development of delirium in burn intensive care unit patients. *Journal of Burn Care & Research* 2010; 31(5):706-15. PMID: 20647937.
16. **Pandharipande PP**, Sanders RD, Girard TD, McGrane S, Thompson JL, Shintani AK, Herr DL, Maze M, Ely EW, MENDS investigators. Effect of dexmedetomidine versus lorazepam on outcome in patients with sepsis: an a priori-designed analysis of the MENDS randomized

- controlled trial. *Critical Care(London, England)* 2010; 14(2):R38. PMID: 20233428 PMCID: PMC2887145.
17. Girard TD, **Pandharipande P**, Carson SS, Schmidt GA, Wright PE, Canonico AE, Pun BT, Thompson JL, Shintani AK, Meltzer HY, Bernard GR, Dittus RS, Ely EW, MIND Trial Investigators. Feasibility, efficacy, and safety of antipsychotics for intensive care unit delirium: the MIND randomized, placebo-controlled trial. *Critical Care Medicine* 2010 February;38(2):428-37. PMID: 20095068.
  18. Girard TD, Jackson JC, **Pandharipande PP**, Pun BT, Thompson JL, Shintani AK, Gordon SM, Canonico AE, Dittus RS, Bernard GR, Ely EW. Delirium as a predictor of long-term cognitive impairment in survivors of critical illness. *Critical Care Medicine* 2010 July;38(7):1513-20. PMID: 20473145.
  19. Hughes CG, Weavind L, Banerjee A, Mercaldo ND, Schildcrout JS, **Pandharipande PP**. Intraoperative risk factors for acute respiratory distress syndrome in critically ill patients. *Anesthesia and Analgesia* 2010 August;111(2):464-7. PMID: 20418537.
  20. Morandi A, Gunther ML, Vasilevskis EE, Girard TD, Hopkins RO, Jackson JC, **Pandharipande P**, Ely EW. Neuroimaging in Delirious Intensive Care Unit Patients: A Preliminary Case Series Report. *Psychiatry (Edgmont (Pa. : Township))* 2010 September;7(9):28-33. PMID: 20941349 PMCID: PMC2952644.
  21. Smith HA, Boyd J, Fuchs DC, Melvin K, Berry P, Shintani A, Eden SK, Terrell MK, Boswell T, Wolfram K, Sophe J, Barr FE, **Pandharipande PP**, Ely EW. Diagnosing delirium in critically ill children: Validity and reliability of the Pediatric Confusion Assessment Method for the Intensive Care Unit (pCAM-ICU). *Critical Care Medicine* 2010 October;39(1):150-7. PMID: 20959783.
  22. Morandi A, Gunther ML, **Pandharipande PP**, Jackson JC, Thompson JL, Shintani AK, Ely EW, Girard TD. Insulin-like growth factor-1 and delirium in critically ill mechanically ventilated patients: a preliminary investigation. *International Psychogeriatrics / IPA* 2011 February;23(7):1175-81. PMID: 21294938.
  23. McGrane S, Girard TD, Thompson JL, Shintani AK, Woodworth A, Ely EW, **Pandharipande PP**. Procalcitonin and C-reactive protein levels at admission as predictors of duration of acute brain dysfunction in critically ill patients. *Critical Care (London, England)* 2011 March;15(2):R78. PMID: 21366899.
  24. Morandi A, Vasilevskis EE, **Pandharipande PP**, Girard TD, Solberg LM, Neal EB, Koestner T, Torres R, Thompson JL, Shintani AK, Han JH, Schnelle J, Fick DM, Ely EW, Kripalani S. Inappropriate medications in elderly ICU survivors: where to intervene?. *Archives of Internal Medicine* 2011 June;171(11):1032-4. PMID: 21670372.
  25. Choi L, Caffo BS, Kohli U, **Pandharipande P**, Kurnik D, Ely EW, Stein CM. A Bayesian hierarchical nonlinear mixture model in the presence of artifactual outliers in a population pharmacokinetic study. *Journal of Pharmacokinetics and Pharmacodynamics* 2011 August;38(5):613-36. PMID: 21847635.
  26. Morandi A, Hughes CG, Girard TD, McAuley DF, Ely EW, **Pandharipande PP**. Statins and brain dysfunction: a hypothesis to reduce the burden of cognitive impairment in patients who are critically ill. *Chest* 2011 September;140(3):580-5. PMID: 21896517.
  27. Vasilevskis EE, Morandi A, Boehm L, **Pandharipande PP**, Girard TD, Jackson JC, Thompson JL, Shintani A, Gordon SM, Pun BT, Wesley Ely E. Delirium and sedation recognition using validated instruments: reliability of bedside intensive care unit nursing assessments from 2007 to 2010. *Journal of the American Geriatrics Society* 2011 November;59 Suppl 2:S249-55. PMID: 22091569.
  28. Adams Wilson JR, Morandi A, Girard TD, Thompson JL, Boomershine CS, Shintani AK, Ely EW, **Pandharipande PP**. The association of the kynurenine pathway of tryptophan metabolism with acute brain dysfunction during critical illness. *Critical Care Medicine* 2011 November;40(3):835-41. PMID: 22080637.
  29. Kohli U, **Pandharipande P**, Muszkat M, Sofowora GG, Friedman EA, Scheinin M, Wood AJ, Ely EW, Tyndale RF, Choi L, Stein CM, Kurnik D. CYP2A6 genetic variation and dexmedetomidine disposition. *European Journal of Clinical Pharmacology* 2012 January;68(6):937-42. PMID: 22271297.
  30. Walia A, Susan Mandell M, Mercaldo N, Michaels D, Robertson A, Banerjee A, Pai R, Klinck J, Weinger M, **Pandharipande P**, Schildcrout J, Schumann R. Anesthesia for liver transplantation in U.S. Academic centers: Institutional structure and perioperative care. *Liver Transplantation* 2012 March;18(6):737-43. PMID: 22407934.
  31. Brummel NE, Jackson JC, Girard TD, **Pandharipande PP**, Schiro E, Work B, Pun BT, Boehm L, Gill TM, Ely EW. A Combined Early Cognitive and Physical Rehabilitation Program for People Who Are Critically Ill: The Activity and Cognitive Therapy in the Intensive Care Unit (ACT-ICU) Trial. *Physical Therapy* 2012 May;92(12):1580-92. PMID: 22577067.
  32. Morandi A, Rogers BP, Gunther ML, Merkle K, **Pandharipande P**, Girard TD, Jackson JC, Thompson J, Shintani AK, Geevarghese S, Miller RR 3rd, Canonico A, Cannistraci CJ, Gore JC, Ely EW, Hopkins RO, for the VISIONS Investigation (VISualizing Icu SurvivOrs Neuroradiological Sequelae). The relationship between delirium duration, white matter integrity, and cognitive impairment in intensive care unit survivors as determined by diffusion tensor imaging: The VISIONS prospective cohort magnetic resonance imaging study. *Critical Care Medicine* 2012 May;40(7):2182-9. PMID: 22584766.

33. Gunther ML, Morandi A, Krauskopf E, **Pandharipande P**, Girard TD, Jackson JC, Thompson J, Shintani AK, Geevarghese S, Miller RR 3rd, Canonico A, Merkle K, Cannistraci CJ, Rogers BP, Gatenby JC, Heckers S, Gore JC, Hopkins RO, Ely EW, for the VISIONS Investigation (VISualizing Icu SurvivOrs Neuroradiological Sequelae). The association between brain volumes, delirium duration, and cognitive outcomes in intensive care unit survivors: The VISIONS cohort magnetic resonance imaging study\*. *Critical Care Medicine* 2012 July;40(7):2022-2032. PMID: 22710202.
34. Morandi A, Barnett N, Miller RR 3rd, Girard TD, **Pandharipande PP**, Ely EW, Ware LB. Vitamin D and delirium in critically ill patients: a preliminary investigation. *Journal of Critical Care* 2012 August; PMID: 22884531.
35. Patel MB, McKenna JW, Alvarez JM, Sugiura A, Jenkins JM, Guillamondegui OD, **Pandharipande PP**. Decreasing adrenergic or sympathetic hyperactivity after severe traumatic brain injury using propranolol and clonidine (DASH After TBI Study): study protocol for a randomized controlled trial. *Trials* 2012 September;13(1):177. PMID: 23013802.
36. Seymour CW, **Pandharipande PP**, Koestner T, Hudson LD, Thompson JL, Shintani AK, Ely EW, Girard TD. Diurnal sedative changes during intensive care: Impact on liberation from mechanical ventilation and delirium\*. *Critical Care Medicine* 2012 October;40(10):2788-2796. PMID: 22824928 PMID: 3576216.
37. Girard TD, Ware LB, Bernard GR, **Pandharipande PP**, Thompson JL, Shintani AK, Jackson JC, Dittus RS, Ely EW. Associations of markers of inflammation and coagulation with delirium during critical illness. *Intensive care medicine* 2012 December;38(12):1965-73. PMID: 22903241.
38. Brummel NE, Jackson JC, Girard TD, **Pandharipande PP**, Schiro E, Work B, Pun BT, Boehm L, Gill TM, Ely EW. A Combined Early Cognitive and Physical Rehabilitation Program for People Who Are Critically Ill: The Activity and Cognitive Therapy in the Intensive Care Unit (ACT-ICU) Trial. *Physical therapy* 2012 December;92(12):1580-92. PMID: 22577067 PMID: PMC3513484.
39. McPherson JA, Wagner CE, Boehm LM, Hall JD, Johnson DC, Miller LR, Burns KM, Thompson JL, Shintani AK, Ely EW, **Pandharipande PP**. Delirium in the Cardiovascular ICU: Exploring Modifiable Risk Factors. *Critical care medicine* 2013 February;41(2):405-413. PMID: 23263581 PMID: 355770.
40. Hughes CG, Morandi A, Girard TD, Riedel B, Thompson JL, Shintani AK, Pun BT, Ely EW, **Pandharipande PP**. Association between Endothelial Dysfunction and Acute Brain Dysfunction during Critical Illness. *Anesthesiology* 2013 March;118(3):631-639. PMID: 23263016 PMID: 3580006.
41. Morandi A, Vasilevskis E, **Pandharipande PP**, Girard TD, Solberg LM, Neal EB, Koestner T, Torres RE, Thompson JL, Shintani AK, Han JH, Schnelle JF, Fick DM, Ely EW, Kripalani S. Inappropriate medication prescriptions in elderly adults surviving an intensive care unit hospitalization. *Journal of the American Geriatrics Society* 2013 July;61(7):1128-34. PMID: 23855843 PMID: PMC3713508.
42. Schumann R, Mandell MS, Mercaldo N, Michaels D, Robertson A, Banerjee A, Pai R, Klinck J, **Pandharipande P**, Walia A. Anesthesia for liver transplantation in United States academic centers: intraoperative practice. *Journal of clinical anesthesia* 2013 August; PMID: 23994704.
43. Watson PL, **Pandharipande P**, Gehlbach BK, Thompson JL, Shintani AK, Dittus BS, Bernard GR, Malow BA, Ely EW. Atypical Sleep in Ventilated Patients: Empirical Electroencephalography Findings and the Path Toward Revised ICU Sleep Scoring Criteria. *Critical care medicine* 2013 August;41(8):1958-1967. PMID: 23863228.
44. Hughes CG, Girard TD, **Pandharipande PP**. Daily sedation interruption versus targeted light sedation strategies in ICU patients. *Critical care medicine* 2013 September;41(9 Suppl 1):S39-45. PMID: 23989094.
45. **Pandharipande PP**, Girard TD, Jackson JC, Morandi A, Thompson JL, Pun BT, Brummel NE, Hughes CG, Vasilevskis EE, Shintani AK, Moons KG, Geevarghese SK, Canonico A, Hopkins RO, Bernard GR, Dittus RS, Ely EW, BRAIN-ICU Study Investigators. Long-term cognitive impairment after critical illness. *The New England journal of medicine* 2013 October;369(14):1306-16. PMID: 24088092.
46. Brummel NE, Girard TD, Ely EW, **Pandharipande PP**, Morandi A, Hughes CG, Graves AJ, Shintani A, Murphy E, Work B, Pun BT, Boehm L, Gill TM, Dittus RS, Jackson JC. Feasibility and safety of early combined cognitive and physical therapy for critically ill medical and surgical patients: the Activity and Cognitive Therapy in ICU (ACT-ICU) trial. *Intensive care medicine* 2013 November; PMID: 24257969.
47. Patel MB, Laudanski K, **Pandharipande PP**. An International Career Development Survey of Critical Care Practitioners. *Critical care medicine* 2013 December; PMID: 24335441.
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27. Boncyk CS, Rengel KF, **Pandharipande PP**, Hughes CG. In the ICU - delirium post cardiac arrest. *Curr Opin Crit Care* 2019 June;25(3):218-255. PMID: 30985357.
28. Rengel KF, **Pandharipande PP**, Hughes CG. Special Considerations for the Aging Brain and Perioperative Neurocognitive Dysfunction. *Anesthesiol Clin* 2019 September;521-536. PMID: 31337482.

### Editorials

1. **Pandharipande, P**, Ely, EW. Narcotic-based sedation regimens for critically ill mechanically ventilated patients. *Critical Care* 2005; 9(3):247-8. PMID: 15987412 PMCID: 1175895.
2. **Pandharipande, P**, Ely, EW. Sedation and analgesia in the ICU--pharmacology protocolization and clinical consequences. *Critical Care Clinics* 2009 July;2009 July(25(3)):xv-xvi. PMID: 19576522.
3. **Pandharipande P**, Banerjee A, McGrane S, Ely EW. Liberation and animation for ventilated ICU patients: the ABCDE bundle for the back-end of critical care. *Critical Care (London, England)* 2010; 14(3):157. PMID: 20497606 PMCID: PMC2911702.
4. **Pandharipande PP**, Ely EW. Sedation and Analgesia in the ICU: Pharmacology, Protocolization, and Clinical Consequences: Preface. *Anesthesiology clinics* 2011 December;29(4):xv-xvi. PMID: 22078923.

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- Sanders RD, Coburn M, **Pandharipande PP**. Neural and immune consequences of traumatic brain injury: does propofol reduce the impact?. *Anesthesiology* 2013 December;119(6):1241-3. PMID: 24113646.
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- Sanders R, Coburn M, Cunningham C, **Pandharipande P**. Risk factors for postoperative delirium. *Lancet Psychiatry* 2014 October;1(6):404-406.
- Ely EW, **Pandharipande PP**. The Evolving Approach to Brain Dysfunction in Critically Ill Patients. *JAMA* 2016 March; PMID: 26976552.
- Marra A, **Pandharipande PP**. The evolving approach to sedation in ventilated patients: a real world perspective. *Annals of translational medicine* 2016 December;4(24):494. PMID: 28149856 PMCID: PMC5233542.
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- Fick Donna M, Auerbach Andrew D, Avidan Michael S, Busby-Whitehead Jan, Ely E Wesley, Jones Richard N, Marcantonio Edward R, Needham Dale M, **Pandharipande Pratik**, Robinson Thomas N, Schmitt Eva M, Trivison Thomas G, Inouye Sharon K,. Network for Investigation of Delirium across the U.S.: Advancing the Field of Delirium with a New Interdisciplinary Research Network. 2017 October; PMID: 28631268 PMCID: PMC5641224.

### Case Reports

- Pratik **Pandharipande**, Peter Reichard , Michael Vallee. High gastric output as a perioperative sign of carcinoid syndrome. *Anesthesiology* 2002; 96:755-6. PMID: 11873054.
- Chester, MW, Barwise, JA, Holzman, MD, **Pandharipande, P**. Acute dermal capillary rupture associated with noninvasive blood pressure monitoring. *Journal of Clinical Anesthesiology* 2007; 19(6):473-5. PMID: 17967681.
- Turner, S, Mathews, L, **Pandharipande, P**, Thompson, R. Dolasetron-induced torsades de pointes. *Journal of Clinical Anesthesiology* 2007; 19(8):622-5. PMID: 18083478.
- Kassebaum, N, Hairr, J, Goldsmith, W, Barwise, J, **Pandharipande, P**. Diabetes insipidus associated with propofol anesthesia. *Journal of Clinical Anesthesiology* 2008; 20(6):466-8. PMID: 18929291.

### Letters

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## Non-Peer Reviewed Publications

### Research Articles

- Stollings Joanna L, Thompson Jennifer L, Ferrell Benjamin A, Scheinin Mika, Wilkinson Grant R, Hughes Christopher G, Shintani Ayumi K, Ely E Wesley, Girard Timothy D, **Pandharipande Pratik P**, Patel Mayur B. Sedative Plasma Concentrations and Delirium Risk in Critical Illness. *The Annals of pharmacotherapy* 2018 June;52(6):513-521. PMID: 29363356 PMCID: PMC5930024.

### Book Chapters

- Pandharipande P**, Jackson J, Ely EW. Delirium and mental illness during critical illness. *Critical Care Medicine (4th Edition)* . Editors: Parrillo and Dellinger. Lippincott; 2008.
- Banerjee A and **Pandharipande PP**. Delirium in hospitalized patients. *Conn's Current Therapy* . Editors: Bope and Rakel. 2010.
- Sanders R, **Pandharipande P**, Ely EW, Maze M. What is the role of Alpha2 receptor agonists in the ICU. *Evidence-based practice of Critical Care*. Editors: Deutschman and Neligan. Saunders; 2010 June;548-553.
- Terhune K, Weavind L, **Pandharipande P**. How do we prevent, diagnose and treat delirium in the ICU. *Evidence-based practice of Critical Care*. Editors: Deutschman and Neligan. Saunders; 2010 June;553-561.
- Hughes CH, McGrane SM, **Pandharipande P**. Management of Sedation, Analgesia and Delirium . *Anesthetic Pharmacology: Basic Principles and Clinical Practice*. Editors: Evers, Maze and Kharasch. Cambridge University Press; 2011 June;2nd Edition.

- Hughes CH, Ely EW, **Pandharipande P**. Management of Pain, Anxiety and Delirium. Textbook of Critical Care. Editors: JL Vincent, E Abraham, F Moore and M Fink. Saunders; 2011 July;6th edition.
- Han, JH; **Pandharipande, P**. Sedation in the Mechanically Ventilated Patient. Decision Making Emergency Critical Care: An Evidence Based Handbook. Editors: Stephen J. Ruoss; Geoffrey K. Lighthall; Michael P. Jones. Philadelphia, Pennsylvania, United States: Lippincott Williams & Wilkins; 2014 October;727-740.

### Editorials

- Devlin John W, **Pandharipande Pratik P**. Light Sedation Is the Goal: Making the Evidence Heavier. *Critical care medicine* 2018 June;46(6):1003-1004. PMID: 29762397.

### Letters

- Kingeter Adam J, **Pandharipande Pratik P**. In Response. *Anesthesia and analgesia* 2018 October; PMID: 30300183.

### Conference Proceedings

- Williams MR, Ward DS, Carlson D, Cravero J, Dexter F, Lightdale JR, Mason KP, Miner J, Vargo JJ, Berkenbosch JW, Clark RM, Constant I, Dionne R, Dworkin RH, Gozal D, Grayzel D, Irwin MG, Lerman J, O'Connor RE, **Pandharipande P**, Rappaport BA, Riker RR, Tobin JR, Turk DC, Twersky RS, Sessler DI. Evaluating Patient-Centered Outcomes in Clinical Trials of Procedural Sedation, Part 1 Efficacy: Sedation Consortium on Endpoints and Procedures for Treatment, Education, and Research Recommendations.. Sedation Consortium on Endpoints and Procedures for Treatment, Education, and Research. 2017 March;3(124):Bethesda, Maryland; 821-830. PMID: 27622720.

### Evidence-Based Guidelines

- Devlin John W, Skrobik Yoanna, Gélinas Céline, Needham Dale M, Slooter Arjen J C, **Pandharipande Pratik P**, Watson Paula L, Weinhouse Gerald L, Nunnally Mark E, Rochweg Bram, Balas Michele C, van den Boogaard Mark, Bosma Karen J, Brummel Nathaniel E, Chanques Gerald, Denehy Linda, Drouot Xavier, Fraser Gilles L, Harris Jocelyn E, Joffe Aaron M, Kho Michelle E, Kress John P, Lanphere Julie A, McKinley Sharon, Neufeld Karin J, Pisani Margaret A, Payen Jean-Francois, Pun Brenda T, Puntillo Kathleen A, Riker Richard R, Robinson Bryce R H, Shehabi Yahya, Szumita Paul M, Winkelman Chris, Centofanti John E, Price Carrie, Nikayin Sina, Misak Cheryl J, Flood Pamela D, Kiedrowski Ken, Alhazzani Waleed. Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the ICU.. 2018 September;e825-e873. PMID: 30113379.
- Devlin John W, Skrobik Yoanna, Gélinas Céline, Needham Dale M, Slooter Arjen J C, **Pandharipande Pratik P**, Watson Paula L, Weinhouse Gerald L, Nunnally Mark E, Rochweg Bram, Balas Michele C, van den Boogaard Mark, Bosma Karen J, Brummel Nathaniel E, Chanques Gerald, Denehy Linda, Drouot Xavier, Fraser Gilles L, Harris Jocelyn E, Joffe Aaron M, Kho Michelle E, Kress John P, Lanphere Julie A, McKinley Sharon, Neufeld Karin J, Pisani Margaret A, Payen Jean-Francois, Pun Brenda T, Puntillo Kathleen A, Riker Richard R, Robinson Bryce R H, Shehabi Yahya, Szumita Paul M, Winkelman Chris, Centofanti John E, Price Carrie, Nikayin Sina, Misak Cheryl J, Flood Pamela D, Kiedrowski Ken, Alhazzani Waleed. Executive Summary: Clinical Practice Guidelines for the Prevention and Management of Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption in Adult Patients in the ICU.. 2018 September;1532-1548. PMID: 30113371.
- Devlin John W, Skrobik Yoanna, Rochweg Bram, Nunnally Mark E, Needham Dale M, Gélinas Céline, **Pandharipande Pratik P**, Slooter Arjen J C, Watson Paula L, Weinhouse Gerald L, Kho Michelle E, Centofanti John, Price Carrie, Harmon Lori, Misak Cheryl J, Flood Pamela D, Alhazzani Waleed. Methodologic Innovation in Creating Clinical Practice Guidelines: Insights From the 2018 Society of Critical Care Medicine Pain, Agitation/Sedation, Delirium, Immobility, and Sleep Disruption Guideline Effort.. 2018 September;1457-1463. PMID: 29985807.

## Presentations

### Visiting Professor

- Cleveland University Hospitals; Cleveland, Ohio. 2008 Feb; Sedation and Outcomes.
- Massachusetts General Hospital; Boston, Massachusetts. 2010 Oct; Sedation in critically ill patients.
- Weber Memorial lecture. Sunnybrook Medical Center; Toronto, Canada. 2011 Apr; Critical care associated brain dysfunction.

4. Internal Medicine Grand Rounds. Jewish Hospital of Montreal; Montreal, Canada. 2012 Feb; Critical illness associated brain dysfunction.
5. Annual Critical Care meeting of the Catholic University of Santiago, Chile. Catholic University of Santiago, Chile; Santiago, Chile. 2012 Aug; The ABCDEs of good sedation and delirium practices.
6. Annual Critical Care meeting of the Catholic University of Santiago, Chile. Catholic University of Santiago, Chile; Santiago, Chile. 2012 Aug; Critical Illness Associated Brain Dysfunction: The Neuroanatomical and Neurotransmitter hypothesis.
7. Pratik Pandharipande. Yale Medical School; New Haven, Connecticut. 2014 Feb; Acute and long term cognitive impairment after critical illness.
8. Pratik Pandharipande. Duke University. Duke University; Durham, North Carolina. 2014 May; Long term Consequences of Critical Illness.
9. Pratik Pandharipande. Washington University. St Louis, Missouri. 2014 Dec; Long-term Consequences of Critical Illness and Prehabilitation.
10. Pratik Pandharipande. Johns Hopkins University Medical Center; Baltimore, District of Columbia. 2017 Aug; Critical Care Associated Brain Dysfunction.
11. Pratik Pandharipande. Columbia University Hospital; New York, New York. 2017 Dec; Critical Illness Associated Brain Dysfunction.
12. Critical Care Visiting Professor Seminars. University of Alabama; Birmingham, Alabama. 2018 Feb; Acute and Chronic Critical Illness Associated Brain Dysfunction.
13. Pratik Pandharipande. University of Washington and Harborview; Seattle, Washington. 2019 Feb; The PADIS and ABCDEF bundle; Long term Consequences of Critical Illness.
14. Pratik Pandharipande. Rush University; Chicago, Illinois. 2019 Mar; Improving Sedation Paradigms; Survivorship after Critical Illness.
15. Methodist Hospital; Houston, Texas. 2020 Mar; Cognitive Impairment after Critical Illness.

#### **Presentations at Scientific Meetings**

1. EuroNeuro Congress; Maastricht, Netherlands. 2008 Jan; Delirium in Critically Ill Patients.
2. Brazilian National Congress; Salvador, Brazil. 2008 May; Sedation and Delirium in the ICU.
3. Mexican Critical Care Congress; Merida, Mexico. 2008 Oct; Sedation and Delirium in Critically Ill Patients.
4. Canadian Critical Care Forum. Toronto, Canada. 2008 Nov; The MENDS Study.
5. Turkish Intensive Care Society.. Turkish Intensive Care Society.; Istanbul, Turkey. 2009 May; Delirium, sedation and LTCI.
6. Columbian Critical Care Congress. Columbian Critical Care Society; Bogota, Colombia. 2009 May; Advances in Management of Sedation and Delirium.
7. American Society of Anesthesiologists. ASA; New Orleans, Louisiana. 2009 Oct; Beta blockers for non cardiac surgery.
8. Society of Critical Care Medicine. SCCM; Miami, Florida. 2010 Jan; Delirium a never event: is it practical?.
9. Brazilian National Conference. Brazilian Critical Care Society; Sao Paulo, Brazil. 2010 May; New paradigms for sedation.
10. Singapore Duke Conference on Critical Care. Singapore University and Duke University; Singapore, Singapore. 2010 Sep; Beta blockers- all things considered.
11. Singapore Duke Conference on Critical Care. Singapore University and Duke University; Singapore, Singapore. 2010 Sep; New paradims for sedation.
12. American Society of Anesthesiology Annual Meeting. ASA; San Diego, California. 2010 Oct; Delirium in PACU can be avoided.
13. European Society of Intensive Care Medicine. ESICM; Barcelona, Spain. 2010 Oct; Clinical trials with alpha2 agonists.
14. Society of Critical Care Medicine Annual Congress. SCCM; San Diego, California. 2011 Jan; New drugs for alcohol withdrawal.
15. Red Intensiva Medicine. Chilean Critical Care Society; Santiago, Chile. 2011 May; New Paradigms of Sedation in ICU.
16. Red Intensiva Medicine. Chilean Critical Care Society; Santiago, Chile. 2011 May; Neuroanatomical and neurobiological basis of delirium and outcomes.
17. Versailles NeuroIntensive Care Congress. French Society of Intensive Care Medicine; Versailles, France. 2011 Jun; Changes in neurotransmission in delirium.
18. Versailles NeuroIntensive Care Congress. French Society of Intensive Care Medicine; Versailles, France. 2011 Jun; Pharmacological approaches to delirium.
19. UCSF Trauma Critical Care Meeting. UCSF; San Fransisco, California. 2012 May; Long term complications of critical illness.
20. UCSF Trauma Critical Care Meeting. UCSF; San Fransisco, California. 2012 Jun; Delirium: Identification and Prevention.
21. American Delirium Society. ADS; Indianapolis, Indiana. 2012 Jun; Critical Illness Associated Brain Dysfunction.

22. Pratik Pandharipande. American Delirium Society. American Delirium Society; Baltimore, Maryland. 2013 Jun; Biomarkers in Delirium.
23. Pratik Pandharipande. American Delirium Society. American Delirium Society; Baltimore, Maryland. 2013 Jun; The BRAIN-ICU Study: Cognitive outcomes after critical illness.
24. Pratik Pandharipande. ASA. ASA; San Fransisco, California. 2013 Oct; What's new in sedation and delirium?.
25. Pratik Pandharipande. SCCM. SCCM; San Fransisco, California. 2014 Jan; Cognitive Impairment Beyond Delirium.
26. Pratik Pandharipande. U13 Meeting of the American Geriatrics Society. AGS and NIH; Bethesda, Maryland. 2014 Feb; End points for Delirium Research.
27. Pratik Pandharipande. Sociaety of Cardiovascular Anesthesiologists. SCA; New Orleans, Louisiana. 2014 Mar; Benzodiazepines in Cardiac Surgery.
28. Pratik Pandharipande. ASA. ASA; New Orleans, Louisiana. 2014 Oct; Delirium can be managed: Point, Counterpoint.
29. Pratik Pandharipande. ASA. ASA; New Orleans, Louisiana. 2014 Oct; Delirium during Critical Illness: Refresher Course.
30. Pratik Pandharipande. European Delirium Society. EDA; Cremona, Italy. 2014 Nov; PTSD in Critically Ill Patients.
31. Pratik Pandharipande. European Delirium Society. EDA; Cremona, Italy. 2014 Nov; Vulnerability to LTCI and Mental Illness.
32. Pratik Pandharipande. International Symposium on Intensive Care and Emergency Medicine. International Symposium on Intensive Care and Emergency Medicine; Brussels, Belgium. 2015 Mar; Acute Brain Dysfunction in Critical Illness.
33. Pratik Pandharipande. International Symposium on Intensive Care and Emergency Medicine. International Symposium on Intensive Care and Emergency Medicine; Brussels, Belgium. 2015 Mar; Delirium.
34. Pratik Pandharipande. International Symposium on Intensive Care and Emergency Medicine. International Symposium on Intensive Care and Emergency Medicine; Brussels, Belgium. 2015 Mar; Long-term Neuropsychological Consequences After ICU.
35. Pratik Pandharipande. American Delirium Society. American Delirium Society; Baltimore, Maryland. 2015 Jun; Delirium: Screening Why and How?.
36. Pratik Pandharipande. Neurosciences in Intensive Care International Symposium. Neurosciences in Intensive Care International Symposium; Paris, France. 2015 Jun; Cognitive Recovery after Critical Illness.
37. Pratik Pandharipande. Critical Care Society of South Africa. Critical Care Society of South Africa; Sun City, South Africa. 2015 Jul; Improving Cognitive Outcomes after Critical illness.
38. Pratik Pandharipande. Critical Care Society of South Africa. Critical Care Society of South Africa; Sun City, South Africa. 2015 Jul; Liberation and Animation of Critically Ill patients.
39. Pratik Pandharipande. Canadian Critical Care Forum. Canadian Critical Care Society; Toronto, Canada. 2015 Oct; Delirium and Mortality: A Causal Relationship?.
40. Pratik Pandharipande. Canadian Critical Care Forum. Canadian Critical Care Society; Toronto, Canada. 2015 Oct; Delirium and Sedation.
41. Pratik Pandharipande. Australasian Delirium Society. Sydey, Australia. 2016 Jul; Improving Cognitive Outcomes after Critical illness.
42. Pratik Pandharipande. American Society of Anesthesiology. ASA; New Orleans, Louisiana. 2016 Oct; Promotong Cognitive Health.
43. Pratik Pandharipande. European Society of Intensive Care Medicine. ESICM; Milan, Italy. 2016 Oct; Pain, sedation, delirium - New insights, new ideas.
44. Pratik Pandharipande. American Society of Anesthesiology. ASA; New Orleans, Louisiana. 2016 Oct; Delirium Diagnosis.
45. Pratik Pandharipande. American Society of Anesthesiology. ASA; New Orleans, Louisiana. 2016 Oct; Delirium in the ICU.
46. Pratik Pandharipande. Society of Anesthesiology and Sleep Medicine. SASM; New Orleans, Louisiana. 2016 Oct; Delirium and Other Mood Disorders.
47. Pratik Pandharipande. European Society of Intensive Care Medicine. ESICM; Milan, Tennessee, Italy. 2016 Oct; Immune (dys-) function due to Modification of Neuronal Networks.
48. Pratik Pandharipande. European Delirium Association. EDA; Villamoura, Tennessee, Portugal. 2016 Nov; Survivorship after Critical Illness.
49. Pratik Pandharipande. Society of Critical Care Medicine. SCCM; Honolulu, Hawaii. 2017 Jan; Risk Factors and Diagnosis of Delirium/Cognitive Dysfunction in the ICU and Beyond.
50. Pratik Pandharipande. International Symposium of Post Cardiac Arrest. Lund, Sweden. 2017 Sep; Brain Dysfunction and Interventions to Imporve Outcomes.
51. Pratik Pandharipande. 34th Scandinavian Anesthesiology and ICU Congress. Scandinavian Anesthesiology and ICU Congress; Malmo, Sweden. 2017 Sep; Criticla Illness Associate Brain Dysfunction and Survivorship.
52. Pratik Pandharipande. American Society of Anesthesiology. ASA; Boston, Massachusetts. 2017 Oct; Delirium: Pathophysiology, Risk Factors and Outcomes.



53. Pratik Pandharipande. European Delirium Association. EDA; Oslo, Norway. 2017 Nov; Creating Delirium Networks: NIDUS.
54. Pratik Pandharipande. Australasian Delirium Association. Melbourne, Australia. 2018 Sep; Survivorship after Critical Illness.
55. Pratik Pandharipande. European Delirium Association. Utrecht, Netherlands. 2018 Nov; Long-term Consequences of Critical Illness.
56. PratikPandharipande. Chilean CC Society (SOCHIMI). Santiago, Chile. 2019 Apr; Delirium; Long-term Cognitive Impairment after Critical Illness; PADIS Guidelines.
57. Pratik Pandharipande. American Delirium Society. Boston, Massachusetts. 2019 Jun; History of Delirium.
58. Pratik Pandharipande. Best of SCCM 2019. SCCM; Abu Dhabi, United Arab Emirates. 2019 Nov; ABCDEF Bundle and PADIS Guidelines; Sleep: Why do we need it?; Long-term Consequences of Critical Illness; Seizures 101.

#### **Invited Presentation - Local**

1. Tennessee Perioperative Nurses Seminar. Nashville, Tennessee. 2008 Mar; Emergence Delirium.
2. Ingham Medical Center; Lansing, Michigan. 2009 Feb; Delirium and sedation in the ICU.
3. Good Samaritan Hospital; Brockton, Massachusetts. 2010 Oct; Sedation and Delirium.
4. Pratik Pandharipande. University of Maryland Delirium Day. Baltimore, Maryland. 2019 Mar; Optimizing sedation and Delirium Management in ICU Patients; Long term Consequences of Critical Illness.

#### **Invited Presentation - Regional**

1. TSA. Tennessee Society of Anesthesiologist; Nashville, Tennessee. 2008 Feb; Acute Brain Dysfunction.
2. AACN Critical Care Symposium. AACN Kansas Chapter; Kansas City, Kansas. 2011 Mar; Liberation and Animation in MV patients.
3. Department of Psychiatry Annual Meeting. Wichita, Kansas. 2011 Nov; Delirium and sedation in the ICU.
4. American Association of Critical Care Nurses. AACN Kansas Chapter; Kansas City, Kansas. 2012 Mar; Liberation and Animation in critically ill patients.
5. P. Cynosure health. Cynosure health; San Fransisco, California. 2013 Jan; The ABCDEs of good sedation and delirium practices.
6. Pratik Pandharipande. Middle East Society of Critical Care; Dubai, United Arab Emirates. 2013 May; Sedation and Delirium: PAD guidelines.
7. Pratik Pandharipande. Middle East Society of Critical Care; Riyadh, Saudi Arabia. 2013 May; Sedation and Delirium: PAD guidelines.
8. Pratik Pandharipande. Harvard Refresher Course. Harvard University; Boston, Massachusetts. 2014 May; Delirium during Critical Illness.
9. Pratik Pandharipande. Neurotrauma Symposium. HCA; Nashville, Tennessee. 2014 Nov; Long-term Impact of Delirium.
10. Pratik Pandharipande. New England Critical Care Fellow Meeting. Baystate Medical Center; Springfield, Massachusetts. 2016 May; The PAD Bundle: Liberation and Animation.
11. Pratik Pandharipande. Fairfax Pulmonary Symposium. Innova Health; Fairfax, Virginia. 2019 Mar; Updates on PICS in 2019.

#### **Invited Presentation - National**

1. Scripps Memorial Trauma Center Critical Care Symposium. La Jolla, San Diego, California. 2011 May; ABCDE's of sedation and delirium.
2. Pratik Pandharipande. SCEPTER II meeting in Sedation Clinical Trial. SCEPTER/FDA; Washington, District of Columbia. 2016 Nov; Adverse Events in Sedation Trials.
3. Pratik Pandharipande. FDA SCEPTER III. FDA; Washigton, District of Columbia. 2019 Mar; How do you Define Light Sedation?.

#### **Workshop**

1. Society of Critical Care Medicine Refresher Course. SCCM; San Fransisco, California. 2009 Jul; Sedation, analgesia and delirium.
2. Pratik Pandharipande. National Sedation Day. Dublin, Ireland. 2013 Feb; Sedation and Delirium.
3. Pratik Pandharipande. Cynosure Health. Gordon and Betty Moore Foundation; San Fransisco, California. 2013 Jul; ABCDEs of good sedation and delirium practices.
4. Pratik Pandharipande. National Sedation and Delirium Day. Critical Care Society of Ireland; Dublin, Ireland. 2015 Mar; Long-term Neuropsychological Consequences After ICU.
5. Pratik Pandharipande. Australasian Delirium Association. Melbourne, Australia. 2018 Sep; Delirium 101 (simulation).

6. Pratik Pandharipande. NIDUS NIA Boot Camp. NIDUS/NIA; State College, Pennsylvania. 2018 Oct; Pathophysiology of delirium; Designing Clinical Trials.

### **Panel Presentation**

1. ASCCA; Orlando, Florida. 2008 Oct; Partnership with Industry.
2. ASA; Orlando, Florida. 2008 Oct; "My Patient is Delirious".
3. Canadian Critical Care Forum. Toronto, Canada. 2008 Nov; Modifying Sedation Paradigms in ICU.
4. American Society of Anesthesiologists. ASA; Chicago, Illinois. 2011 Oct; Delirium in the ICU and PACU can be prevented.
5. European Society of Critical Care Medicine. ESICM; Berlin, Germany. 2011 Oct; Killing them softly with sedatives.
6. Society for Neuroscience in Anesthesiology and Critical Care. SNACC; Chicago, Illinois. 2011 Oct; Sleep and Delirium in the ICU.
7. San Francisco General Hospital. Cynosure Health; San Francisco, California. 2012 Sep; Implementing of the ABCDE bundle in the ICU.
8. Pratik Pandharipande. American Society of Anesthesiology. ASA; Washington, District of Columbia. 2012 Oct; Perioperative Delirium.
9. Pratik Pandharipande. American Society of Anesthesiology. ASA; Washington, District of Columbia. 2012 Oct; Year in Review: Sedation and Delirium.
10. Pratik Pandharipande. American Society of Anesthesiology. San Francisco, California. 2018 Oct; Brain Organ Dysfunction after Acute Illness.
11. Pratik Pandharipande. Patient Safety Foundation. Long Beach, California. 2019 Jan; Delirium: A preventable cause of death.

### **University Talk**

1. University of Toronto; Toronto, Canada. 2011 Apr; Critical care associated brain dysfunction.

### **External Grand Rounds**

1. Chester Medical Center; West Chester, Pennsylvania. 2008 May; New Concepts for Sedation in Critically Ill.
2. Chester Medical Center; West Chester, Pennsylvania. 2008 Sep; New Concepts for Sedation in Critically Ill.
3. Reading Medical Center; Reading, Pennsylvania. 2008 Sep; Sedation in Critically Ill.
4. Bristol Medical Center; Bristol, Tennessee. 2008 Dec; New Solutions to Old Problems.
5. Northshore Hospital; New York, New York. 2009 Sep; Sedation, analgesia and delirium.
6. St Roosevelt Hospital NYC; New York, New York. 2010 Jan; ABCDE's of good sedation and delirium practices.
7. Baystate Medical Center; Baystate, Massachusetts. 2011 Apr; Sedation and Delirium.
8. Division of Trauma, Herman Medical Center; Houston, Texas. 2012 Feb; Implementing sedation and delirium bundles in ICU.
9. Pratik Pandharipande. Boulder Community Hospital; Boulder, Colorado. 2012 Sep; Improving sedation paradigms.

### **Internal Grand Rounds**

1. Multidisciplinary Critical Care Conference. Vanderbilt Medical Center, Department of Surgery; Nashville, Tennessee. 2008 Dec; Killing them softly with benzodiazepines.
2. Pratik Pandharipande. St Agnes Hospital. St Agnes Hospital; Baltimore, Maryland. 2014 Jul; Implementation of the PAD Bundle.