# Robert E. Christensen Clinical Associate Professor Department of Anesthesiology

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## **Summary**

As an academic pediatric anesthesiologist, I have more than a decade of experience providing care for patients, with a particular interest in non-operating room anesthesia such as sedation for radiation therapy and voiding cystourethrogram. My research focuses on pediatric perioperative cardiac arrest, so I have reviewed hundreds of cases from various national databases. I regularly teach our fellows, residents, medical students and other learners.

## **Education and Training**

## **Education**

08/1996-04/2000 BS, University of Michigan, Ann Arbor, MI 08/1998-06/1999 University of Seville, Seville, Spain 08/2000-06/2004 MD, University of Michigan, Ann Arbor, MI

## **Residency and Fellowship**

07/2004-06/2005 Internship, Transitional Year, Oakwood Hospital, Dearborn, MI
07/2005-06/2008 Residency, Anesthesiology, University of Michigan, Ann Arbor, MI

07/2008-06/2009 Fellowship, Pediatric Anesthesiology, University of Michigan, Ann Arbor, MI

## **Certification And Licensure**

#### Certification

2009-present American Board of Anesthesiology (General/Primary Certificate) - Anesthesiology #44500 2013-present American Board of Anesthesiology (Subspeciality Certification) - Pediatric Anesthesiology

2004-present Pediatric Advanced Life Support and Advanced Cardiac Life Support

**Licensure** 

2008-present DEA Registration

2008-present State of Michigan, Controlled Substance 2008-present State of Michigan, Medical License

## **Academic Appointments**

#### **Academic Appointments**

07/2009-03/2012	Clinical Lecturer of Anesthesiology, University of Michigan, Ann Arbor, MI
04/2012-08/2018	Clinical Assistant Professor of Anesthesiology, University of Michigan, Ann Arbor, MI
09/2018-present	Clinical Associate Professor of Anesthesiology, University of Michigan, Ann Arbor, MI

## **Clinical Interests**

- Pediatric Anesthesia
- Non-operating Room Anesthesia

#### **Research Interests**

Pediatric Perioperative Cardiac Arrest

## **Honors and Awards**

## **International**

2019 SPA Spring 2019 Editors Best Picks: Pediatric Perioperative Cardiac Arrest, Death in the

Off Hours: A Report From Wake Up Safe, The Pediatric Quality Improvement Initiative

#### Institutional

1997	University of Michigan, Undergraduate Degree - class honors
1998	University of Michigan, Undergraduate Degree - class honors
2000	University of Michigan, Student Biomedical Research Fellowship
2000	University of Michigan, Undergraduate Degree - class honors
2000	University of Michigan, Undergraduate Degree - graduated with high distinction
2001	University of Michigan, Student Biomedical Research Fellowship
2004	University of Michigan, Department of Anesthesiology - Robert B. Sweet Award

## **Memberships in Professional Societies**

2004-present	Member, American Society of Anesthesiologists
2004-present	Member, Michigan Society of Anesthesiologists
2005-present	Member, International Anesthesia Research Society
2009-present	Member, Society of Pediatric Anesthesia
2016-2018	Member, Society for Non-Operating Room Intervention and

Member, Society for Non-Operating Room Intervention and Anesthesia Member, Academy of Medical Educators, University of Michigan Medical School 2016-present

Reviewer, Anesthesia and Analgesia (Ad Hoc)

Elected Member, Association of University Anesthesiologists 2018-present

# **Editorial Positions, Boards, and Peer-Review Service**

## **Journal Reviewer** 2010-present

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2010-present	Reviewer, British Journal of Anesthesia (Ad Hoc)
2016-present	Reviewer, Journal of Anesthesiology Research and Practice (Ad Hoc)
2016-present	Reviewer, Journal of Clinical Anesthesia (Ad Hoc)
2016-present	Reviewer, Orphan Anesthesia (Ad Hoc)
2016-present	Reviewer, Pediatrics - The Journal of the American Academy of Pediatrics (Ad Hoc)
2019-present	Pediatric Anesthesia (Ad Hoc)
2019-present	Pediatric Radiology (Ad Hoc)
2020-present	Anesthesiology (Ad Hoc)

# **Teaching Activity**

## Institutional

2009-present	Medical Student Lectures
2009-present	Pediatric Anesthesiology Fellowship Lecture Series

2009-present Pediatric Anesthesia Morning Lecture Series -Residents and Medical Students 2009-present Anesthesiology Resident Tutorials

#### **Dissertation Committees**

2009 Thomas Ferris, Tactile Interface, University of Michigan, Engineering, Committee Member

#### **Committee and Administrative Services**

2009-2011	Society for Pediatric Anesthesia- Education Committee, Member
2010-2011	Society for Pediatric Anesthesia- Membership Committee, Member
2016-2018	Society for Non-OR Intervention and Anesthesiologists, Pediatric Section Head

**National** 

2011-present Wake Up Safe: The Pediatric Anesthesia Quality Improvement Initiative, Member

2017-present ASPIRE Pediatric Anesthesiology Subgroup, Member 2017-present American Board of Anesthesiology, Question Writer

**Institutional** 

2008-present Centricity Development, Manager
2009-2011 C.S. Mott PACU Clinical Practice Committee, Member
2009-2011 PACU Centricity Committee, Member

2009-present Anesthesia Clinical Research Committee, Member

2010-2011 Pediatric Regional Anesthesia, Member

2013-present MiChart Provider Superuser/Pediatric Liaison, Member

2014-present Radiation Oncology, Clinical Liaison

2015-2016 Perioperative Practice Guideline Development for Spinal Muscular Atrophy Patients,

Member

2015-present Clinical Pathway Development for Voiding Cystourethrogram, Member

2016-present Quality Assurance Committee, Member

2020-present Fellow Scholarship Oversight Committee, Member

#### **Volunteer Service**

## **Volunteer**

2007 Medical Volunteer, Project Shunt, Guatemala, Providing anesthesia for children in need of

neurosurgery

# Visiting Professorships and Extramural Invited Presentations

#### **Extramural Invited Presentations**

 Cardiovascular and Anesthesia (Two Part Video Conference), St. Paul's Hospital Millennium Medical College, February 2017, Addis Ababa, Ethiopia

## Other .

1. Anesthetic Neurotoxicity in Pediatrics, 89th Annual Spring Postgraduate Conference, May 2013, Kellogg Eye Center Ann Arbor Michigan

#### **Seminars**

- 1. Congenital Heart Disease: A Practical Review of Anesthesia for Non-Cardiac Surgery, Practical Updates in Anesthesiology, University of Michigan, February 1998, Puerto Vallarta, Mexico
- 2. Team STEPPS: An Evidence-Based Teamwork System to Improve Communication and Teamwork Skills, Practical Updates in Anesthesiology, University of Michigan, February 2010, Puerto Vallarta, Mexico

# **Bibliography**

#### **Peer-Reviewed Journals and Publications**

- 1. **Christensen RE**, Fetters MD, Green LA: Opening the black box: cognitive strategies in family practice. *Annals of family medicine* 3(2): 144-50, 2005. PM15798041
- 2. Doherty TM, Voepel-Lewis T, **Christensen RE**, Malviya S: Postoperative opioid usage in children receiving Remifentanil vs. sufentanil *Acute Pain* 11(3): 107-11, 2009.
- Christensen RE, Reynolds PI, Bukowski BK, Malviya S: Anaesthetic management and outcomes in patients with surgically corrected D-transposition of the great arteries undergoing non-cardiac surgery. Br J Anaesth 104(1): 12-5, 2010. PM19933174
- 4. Pearce B, **Christensen R**, Voepel-Lewis T: Perioperative Hypothermia in the Pediatric Population: Prevalence, Risk Factors and Outcomes *J Anesthe Clinic Res* 1: 102, 2010.
- Chiravuri SD, Riegger LQ, Christensen R, Butler RR, Malviya S, Tait AR, Voepel-Lewis T: Factors associated with acute kidney injury or failure in children undergoing cardiopulmonary bypass: a casecontrolled study. *Paediatr Anaesth* 21(8): 880-6, 2011. PM21306475
- 6. Nafiu OO, Burke CC, Gupta R, **Christensen R**, Reynolds PI, Malviya S: Association of neck circumference with perioperative adverse respiratory events in children. *Pediatrics* 127(5): e1198-205, 2011. PM21464187
- 7. Tallman K, Ramachandran SK, **Christensen R**, O'Brien D: Cardiac arrest in the PACU: an analysis of evolving challenges for perianesthesia nursing. *J Perianesth Nurs* 26(1): 4-8, 2011. PM21276543
- 8. **Christensen RE**, Gholami AS, Reynolds PI, Malviya S: Anaesthetic management and outcomes after noncardiac surgery in patients with hypoplastic left heart syndrome: a retrospective review. *Euro J Anaesthesiol* 29(9): 425-30, 2012. PM22717725
- 9. **Christensen R**, Voepel-Lewis T, Lewis I, Ramachandran SK, Malviya S, American Heart Association's Get With The Guidelines®-Resuscitation (formerly the National Registry of Cardiopulmonary Resuscitation) investigators: Pediatric cardiopulmonary arrest in the postanesthesia care unit: analysis of data from the American Heart Association Get With The Guidelines(®) -Resuscitation registry. *Paediatr Anaesth* 23(6): 517-23, 2013. PM23551906
- Tait AR, Voepel-Lewis T, Christensen R, O'Brien LM: The STBUR questionnaire for predicting perioperative respiratory adverse events in children at risk for sleep-disordered breathing. *Paediatr Anaesth* 23(6): 510-6, 2013. PM23551934
- 11. Ramachandran SK, Mhyre J, Kheterpal S, **Christensen RE**, Tallman K, Morris M, Chan PS, American Heart Association's Get With The Guidelines-Resuscitation Investigators: Predictors of survival from perioperative cardiopulmonary arrests: a retrospective analysis of 2,524 events from the Get With The Guidelines-Resuscitation registry. *Anesthesiology* 119(6): 1322-1339, 2013. PM23838723
- 12. Mathis MR, Haydar B, Taylor EL, Morris M, Malviya SV, **Christensen RE**, Ramachandran SK, Kheterpal S: Failure of the Laryngeal Mask Airway Unique™ and Classic™ in the pediatric surgical patient: a study of clinical predictors and outcomes. *Anesthesiology* 119(6): 1284-1295, 2013. PM24126262
- Shah GS, Christensen RE, Wagner DS, Pearce BK, Sweeney J, Tait AR: Retrospective evaluation of antimicrobial prophylaxis in prevention of surgical site infection in the pediatric population *Paediatr Anaesth* 24(9): 994-998, 2014. PM24823901
- 14. Mollard BJ, Smith EA, Lai ME, Phan T, Christensen RE, Dillman JR: MR enterography under the age of

- Bai W, Golmirzaie K, Burke C, Van Veen T, Christensen R, Voepel-Lewis T, Malviya S: Evaluation of emergency pediatric tracheal intubation by pediatric anesthesiologists on inpatient units and the emergency department. *Paediatr Anaesth* 26(4): 384-91, 2016. PM26738465
- Christensen RE, Haydar B, Voepel-Lewis TD: Pediatric Cardiopulmonary Arrest in the Postanesthesia Care Unit, Rare but Preventable: Analysis of Data From Wake Up Safe, The Pediatric Anesthesia Quality Improvement Initiative. Anesth Analg 124(4): 1231-1236, 2017. PM28166099
- 17. **Robert Christensen**: Respiratory Outcomes in Preterm Infants: From Infancy through Adulthood *Anesth Analg* 125(5): 1811, 2017. PM28799969
- Christensen R, Voepel-Lewis T: When the Worst Happens: Cardiac Arrest in the Pediatric PACU. J Perianesth Nurs 32(4): 382-384, 2017. PM28739074
- Christensen RE, Lee AC, Gowen MS, Rettiganti MR, Deshpande JK, Morray JP: Pediatric Perioperative Cardiac Arrest, Death in the Off Hours: A Report From Wake Up Safe, The Pediatric Quality Improvement Initiative. Anesth Analg 127(2): 472-477, 2018. PM29677059
- Christensen RE, Nause-Osthoff RC, Waldman JC, Spratt DE, Hearn JWD: Adverse events in radiation oncology: A case series from wake up safe, the pediatric anesthesia quality improvement initiative. Paediatr Anaesth 29(3): 265-270, 2019. PM30580487
- Baetzel A, Brown DJ, Koppera P, Rentz A, Thompson A, Christensen R: Adultification of Black Children in Pediatric Anesthesia. Anesth Analg 129(4): 1118-23, 2019. PM31295177
- 22. Haydar B, Baetzel A, Stewart M, Voepel-Lewis T, Malviya S, **Christensen R**: Complications Associated With the Anesthesia Transport of Pediatric Patients: An Analysis of the Wake Up Safe Database. *Anesth Analg* 131(1): 245-254, 2020. PM31569160
- 23. Haydar B, Baetzel A, Elliott A, MacEachern M, Kamal A, **Christensen R**: Adverse Events During Intrahospital Transport of Critically III Children: A Systematic Review. *Anesth Analg* 131(4): 1135-1145, 2020. PM31856008
- 24. **Robert Christensen** Bishr Haydar Shobha Malviya: Managing the Post-COVID-19 Pediatric Surgical Surge Opportunities and Challenges *J Clin Anesth* 67: 110016. PMC7383138
- Christensen R, Haydar B, Leis A, Mentz G, Reynolds P: Anesthesiologist-Related Factors Associated with Risk-Adjusted Pediatric Anesthesia-Related Cardiopulmonary Arrest: A Retrospective Two Level Analysis. *Paediatr Anaesth* 31(12): 1282-1289, 2021. PM34328691

## **Non-Peer-Reviewed Journals and Publications**

- 1. Shah GS, **Christensen RE**, Tait AR: Response to Dr. Murphy and Dr. Ferguson regarding comment on our paper: Retrospective evaluation of antimicrobial prophylaxis in prevention of surgical site infection in the pediatric population *Paediatr Anaesth* 25(2): 218, 2015. PM25580660
- 2. **Robert Christensen, MD** Terri Voepel-Lewis, PhD, RN: When the Worst Happens: Cardiac Arrest in the Pediatric PACU *J Perianesth Nurs.* 32(4): 382-384, 2017. PM28739074

# Other Media

## **Editorial comment**

1. **Christensen R**: Anesthesiology Recruiting: Dispatches from the Interview Trail - Is Anesthesiology Becoming More Competitive?, ASA Newsletter, 2004.

## **Letter to editor**

 Tait AR, Voepel-Lewis T, Christensen R, O'Brien LM: Comment on 'Utility of screening questionnaire, obesity, neck circumference, and sleep polysomnography to predict sleep-disordered breathing in children and adolescents", *Paediatr Anaesth*, 26(8):858, 2016.