

Karen R. Boretsky MD

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Place of Birth: Pittsburgh, PA USA

Education

1976-1980	B.S.	Chemistry	Carnegie-Mellon University
1980-1984	M.D.		University of Pittsburgh School of Medicine

Postdoctoral Training

1984-1985	Intern	Rotating	Mercy Hospital of Pittsburgh
1985-1987	Resident	Anesthesiology	Mercy Hospital of Pittsburgh <i>Chairman: ES Siker</i>
1986-1987	Chief Resident	Anesthesiology	Mercy Hospital of Pittsburgh
1987-1988	Fellow	Pediatric Anesthesia and Critical Care Medicine	Children's Hospital Of Philadelphia <i>Chairman: JJ Downes</i>
1990-1991	Fellow	Pediatric Critical Care	Children's Hospital of Pittsburgh

Faculty Academic Appointments

1990-1996	Clinical Assistant Professor	Pediatrics & Anesthesiology	University of Pittsburgh School of Medicine
1992-2001	Assistant Professor	Pediatrics & Anesthesiology	MCP.Hahnemann School of Medicine
2002-2011	Clinical Assistant Professor	Anesthesiology	University of Pittsburgh School of Medicine
2011-2012	Assistant Professor	Anesthesiology	University of Pittsburgh School of Medicine
2012-2014	Lecturer on Anaesthesia	Anesthesiology, Perioperative and Pain Medicine	Harvard Medical School

Appointments at Hospitals/Affiliated Institutions

1989 – 1992	Mercy Hospital of Pittsburgh	Associate Attending Staff; Departments of Anesthesiology and Pediatrics
	St. Margaret’s Hospital	Associate Attending Staff; Department of Anesthesiology
	North Hills Passavant Hospital	Associate Attending Staff; Department of Anesthesiology
	St Clair Memorial Hospital	Associate Attending Staff; Department of Anesthesiology
1993-2001	Allegheny General Hospital	Associate Attending Staff; Departments of Anesthesiology and Pediatrics
	Mercy Hospital of Pittsburgh	Adjunct Staff; Departments of Anesthesiology and Pediatrics
2002-2012	Children’s Hospital of Pittsburgh	Associate Attending Staff; Department of Anesthesiology
	UPMC Shadyside Hospital	Associate Attending Staff; Department of Anesthesiology
	UPMC Presbyterian Hospital	Associate Attending Staff; Department of Anesthesiology
2012-	Children’s Hospital of Boston	Associate in Anesthesiology, Perioperative and Pain medicine

Major Administrative Leadership Positions

Local

1990-1992	Medical Director; Pediatric Intensive Care Unit	Mercy Hospital of Pittsburgh
1990-1992	Chief; Division of Pediatric Critical Care Medicine	Mercy Hospital of Pittsburgh
1990-1992	Director, Pediatric Critical Care Medicine Rotation	Mercy Hospital of Pittsburgh
2007-2010	Director; CA2 Acute Pain Rotation	University of Pittsburgh Medical Center
2009-2012	Director; CA-3 Advanced Pediatric Rotation with International Component	University of Pittsburgh Medical Center
2010-2012	Director: Pediatric Regional Anesthesia Fellowship Rotation	University of Pittsburgh Medical Center
2010-2012	Director; Acute Interventional Perioperative Pain Service; Pittsburgh Children’s Hospital	University of Pittsburgh Medical Center
2012-2014	Program Director; Pediatric Regional Anesthesia Fellowship;	Boston Children’s Hospital
2012-June 2015	Director of Pediatric Regional Anesthesia Program	Boston Children’s Hospital

National and International

2014 –(2016)	Board of Directors	Society for Pediatric Pain Medicine
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Committee Service

Local

1990-1992	Critical Care Committee	Mercy Hospital of Pittsburgh Member
1991-1992	Asthma Critical Pathways 1991-1992	Allegheny General Hospital Physician Co-Chair
1993-1994	Airway Management Task Force 1993-1994	Allegheny General Hospital Chair
1992-1999	Pediatric Trauma Quality Assurance	Allegheny General Hospital Member
1992-1999	Council for Pediatric Care	Allegheny General Hospital Member
1995-1996	Latex Allergy Council	Allegheny General Hospital Member
1992-1998	Conscious Sedation Committee 1995-1998	Allegheny General Hospital Chair
2007-2012	Curriculum Committee; Department of Anesthesiology	University of Pittsburgh Medical Center Member
2007-2012	Resident Education Committee	University of Pittsburgh Medical Center Member
2010-2012	Pain Council	Children's Hospital of Pittsburgh of UPMC Physician Chair
2013-	HIP TEAM	Boston Children's Hospital Ad Hoc member
National		
2009-2012	International Outreach Committee	Society for Education in Anesthesia (SEA) Member
2011	Subcommittees for Optional Advanced Pediatric Anesthesia Fellowship Curriculum Development; Pediatric Regional Anesthesia;	Society for Pediatric Anesthesia (SPA) Invited Member
2014-	Regional Anesthesia Fellowship Directors Committee;	American Society of Regional Anesthesia (ASRA) Member
International		
2010-2013	Anesthesiology QA	CURE International

		Member
2105	Steering Committee; Pediatric Task Sessions	NWAC World Anesthesia Convention Co-Chair
2106	Steering Committee; Pediatric Task Sessions	NWAC World Anesthesia Convention Chair

Professional Societies

1985-	American Society of Anesthesiologists (ASA)
1988-	Society of Pediatric Anesthesiologists (SPA)
2010-	American Society of Regional Anesthesia (ASRA)
2013-	Society for Pediatric Pain Medicine (SPPM)
1987-2011	Pennsylvania Society of Anesthesiologists
2009-2011	Society for Education in Anesthesia (SEA)
1990-2002	Society for Critical Care Medicine (SCCM)

Editorial Activities

Ad Hoc reviewer

Anesthesia & Analgesia
Pediatric Anesthesia

Honors and Prizes

1980	Merck Award in Medicinal Chemistry	Carnegie-Mellon University
1987	Chief Resident in Anesthesiology	Mercy Hospital of Pittsburgh

Report of Funded and Unfunded Projects

Funding Information

2012-	A comparison of caudal and transversus abdominis plane block for post-operative pain control for pediatric inguinal hernia surgery Anesthesiology Department Seed Grant PI (\$6000) Determine the efficacy of TAP blocks when compared to existing pain therapies
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Current unfunded

2015	PI	Regional Anesthesia Database Collaboration with the outcomes division for creation of database for collection of outcomes information related to regional anesthesia techniques
2015	PI	Increases in anesthesia controlled times associated with regional anesthesia, a prospective observational study in a pediatric tertiary center
2015	Co-inv	Fascia iliaca nerve block for post hip arthroscopy analgesia; A retrospective study Collaborative effort with orthopedic surgery (sports medicine) to determine efficacy of regional technique for pain relief in specific application
2014	Co-Inv	Comparison of lumbar plexus block with epidural block for analgesia after

2014 complete	PI	periacetabular osteotomy: effect on Length of Stay Ultrasound-guided lumbar plexus block in pediatric patients using a short-axis, in-plane needle technique: a retrospective review Working with fellow/ faculty to determine efficacy of new regional technique
2014	PI	Fascia iliaca nerve block for post hip arthroscopy analgesia; A blinded prospective study Collaborative effort with orthopedic surgery (sports medicine) to determine efficacy of regional technique for pain relief in specific application
2014	Co-investigator	Prospective cohort study comparing outcomes from regional anesthesia to those from general anesthesia in free tissue transfers in extremities. Collaborative effort with plastic surgery Collaborative effort with plastic surgery to determine role of regional anesthesia in viability of free tissue transfers
2012	Co-Investigator	Multi-center study of use and complications in pediatric regional anesthesia Large collaborative data base to follow infrequent adverse outcomes; Pediatric regional anesthesia network (PRAN)
2013	PI	Intensity of pain in children following select inpatient surgical procedures Retrospective chart review to determine intensity of pain following surgical procedures on inpatients
2013	PI	Transition from hospital setting to home environment for pediatric surgical patients with same day discharge; focus on pain, resumption of activities of daily living and satisfaction. Prospective study to determine how easily patients transition to the home environment following same day surgical procedures

Report of Local Teaching and Training

Teaching of Students in Courses

1990-2001	Advanced Trauma Life Support (ATLS) Medical Professionals	Pittsburgh, PA 4-6 1 hour lectures/year
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Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

2002-2012	Pediatric Anesthesia Block lectures Anesthesiology residents	University of Pittsburgh Medical Center 6, 1-hr lectures/yr
2002-2012	Mock Oral Board Examinations Anesthesiology residents	University of Pittsburgh Medical Center 3, 2 hr exams/yr
2007-2012	Regional Anesthesia Fellow Block lectures Regional Anesthesia Fellows	University of Pittsburgh Medical Center 2, 1 hr lectures/yr
2010-2015	Pediatric Ultrasound/Regional Symposium; workshop and lecture Pediatric and regional anesthesia fellows	University of Pittsburgh Medical Center 4 hr workshop + 1 hr lecture /yr
2012-	Pediatric Regional Anesthesia AM Block lectures	Boston Children's Hospital 6, 1hr lectures/year

Clinical Supervisory and Training Responsibilities

1989-1992	Supervision / training of anesthesia residents in the operating room, Mercy hospital of Pittsburgh	2-3 days/week, 8-10 hours/day, 40-46 weeks/year
1990-1992	Supervision / training of pediatric residents in the Pediatric Intensive Care Unit, Mercy Hospital of Pittsburgh	6-7 days/week, 8-10 hours/day, 12 weeks/year
1993-2001	Supervision / training of anesthesia residents in the operating room, Allegheny General Hospital	1-2 days/week, 8-10 hours/day, 35-40 weeks/year
2002-2007	Supervision /training of anesthesia residents in the operating room, Children’s Hospital of Pittsburgh	4-5 days/week, 8-10 hours/day, 48-50 weeks/year
2007-2010	Supervision / training of anesthesia residents in the operating room, Shadyside Hospital of UPMC	1-2 days/week, 8-10 hours/day, 30 weeks/year
2007-2010	Supervision / training of regional anesthesia Fellows and anesthesia residents Shadyside Hospital of UPMC	5-7 days/week, 8-10 hours/day, 10 weeks/year
2007-2012	Supervision / training of anesthesia residents in the operating room, International Locations/VMSA	6 days/week, 8-10 hours/day, 5 weeks/year
2010-2012	Supervision / training of Regional anesthesia Fellows and Pediatric Anesthesia Fellows, Children’s Hospital of Pittsburgh	5-7 days/week, 8-10 hours/day, 10 weeks/year
2012-	Supervision / training of Pediatric Regional Anesthesia Fellows Boston Children’s Hospital	3 days/week, 8-10 hours/day, 20-30 weeks/year
2012-	Supervision / training of anesthesia residents & pediatric anesthesia fellows in the operating room, Boston Children’s Hospital	2-3 days/week, 8-10 hours/day, 15-20 weeks/year

Formally Supervised Trainees

	Tricia Veccione MD	Assistant Professor of Anesthesia John Hopkins University, Baltimore MD Published 2 manuscripts
2014-2015	Pediatric Perioperative Pain and Regional Anesthesia Fellow; Shelby Cody MD	mentor & clinical supervisor Assistant Clinical Professor of Anesthesia Stanford University, Oakland, California
2014-2015	Pediatric Perioperative Pain and Regional Anesthesia Fellow; Thomas Weismeuller	mentor & clinical supervisor Pediatric Perioperative Pain and Regional Anesthesia Fellow: mentor& clinical supervisor

2013-2014	Nishanthi Kandiah MD	Assistant Professor of Anesthesia, University of Washington Medical School, Seattle Children's Hospital. Published 2 manuscript Pediatric Perioperative Pain and Regional Anesthesia Fellow; mentor & clinical supervisor
2009- 2010	Denise Hall-Burton MD	Assistant Professor of Anesthesia, University of Pittsburgh Medical School; Children's Hospital of Pittsburgh. Published 4 manuscripts Pediatric Perioperative Pain and Regional Anesthesia Fellow; mentor & clinical supervisor
2013	Cornelius Sullivan MD	Instructor in Anaesthesia, Harvard Medical School Pediatric Perioperative Pain and Regional Anesthesia Mini-Fellowship; clinical supervisor
2013	Elizabeth Eastburn MD	Instructor in Anaesthesia, Harvard Medical School Published 1 manuscript Pediatric Perioperative Pain and Regional Anesthesia Mini-Fellowship; clinical supervisor
2013	Kai Matthes MD	Associate Professor in Anesthesia, Harvard Medical School Pediatric Perioperative Pain and Regional Anesthesia Mini-Fellowship; clinical supervisor
2014	Elena Brusseau MD	Instructor in Anaesthesia, Harvard Medical School Pediatric Perioperative Pain and Regional Anesthesia Mini-Fellowship; clinical supervisor
2014	Roland Brusseau MD	Instructor in Anaesthesia, Harvard Medical School Pediatric Perioperative Pain and Regional Anesthesia Mini-Fellowship; clinical supervisor
2014	David Waisel MD	Associate Professor in Anesthesia, Harvard Medical School Pediatric Perioperative Pain and Regional Anesthesia Mini-Fellowship; clinical supervisor

Formal Teaching of Peers (e.g., CME and other continuing education courses)

2008	Anesthesia for Voluntary Surgical Service Abroad Grand Rounds; Department of Anesthesiology	Department of Anesthesiology, University of Pittsburgh Medical Center Pittsburgh , PA
2011	Neonatal Perioperative Pain Management: Current Concepts and Initiatives Neonatology Grand Rounds	Department of Pediatrics; Magee Women's Hospital, UPMC Pittsburgh, PA
2012	Neonatal Perioperative Pain Management: Update on Current Concepts and Initiatives Neonatology Grand Rounds	Department of Pediatrics; Magee Women's Hospital, UPMC Pittsburgh, PA
2012	From Pittsburgh to Boston; New Concepts in Pediatric Regional Anesthesia and Pain Management Morning Conference	Department of Anesthesiology, Perioperative and Pain Medicine; Boston Children's Hospital Boston, MA
2013	Plastic Surgery Grand Rounds; Update on Regional Anesthesia for Plastic Surgery Patients	Department of Paediatric Plastic Surgery; Boston Children's Hospital

	Plastic Surgery Department Meeting	
2013	Sports Medicine Conference; The Role of Regional Anesthesia in Paediatric Orthopaedic Surgeries	Department of Orthopaedic Surgery; Division of Sports Medicine; Boston Children's Hospital
	Orthopedic Surgery Department Meeting	
2013	Regional Anesthesia for the Chest and Abdomen: Update and Current Research in Pediatrics;	Departments of Pediatric General Surgery and Anesthesiology, Perioperative and Pain Medicine. BCH Boston, MA
	Combined Surgery/Anesthesia Grand Rounds	
2013	What's New in the World of Regional Anesthesia?	Department of Anesthesiology, Perioperative and Pain Medicine. BCH Boston, MA
	Grand Rounds; Anesthesiology, Perioperative and Pain Medicine	
2014	Urology Grand Rounds; Review of Regional Anesthesia in Paediatric Urologic Surgeries	Department of Paediatric Urology; Boston Children's Hospital
	Urology Department Meeting	

Local Invited Presentations and Courses

2014 Regional Anesthesia Workshop; ultrasound guided regional anesthesia.
Massachusetts Society of Anesthesiologists; Waltham, MA

Report of Regional, National and International Invited Teaching and Presentations

Regional

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| 2010 | 1. Starting a Pediatric Regional Service; What a Pain!
2. Regional Anesthesia Workshop |
| | 6 th Annual UPMC Regional Anesthesia & Ultrasound Techniques Conference; Nemaconlin, PA |
| 2011 | 1. Getting a pediatric pain service off the ground. |
| | 7 th Annual UPMC Regional Anesthesia & Ultrasound Techniques Conference; Nemaconlin, PA |
| 2012 | 1. Pediatric Trunk Blocks; Beyond the Neuraxis |
| | 8 th Annual UPMC Regional Anesthesia & Ultrasound Techniques Conference; Nemaconlin, PA |

- 2013 1. Pediatric Multimodal Therapy
9th Annual UPMC Regional Anesthesia & Ultrasound Techniques Conference; Nemaquin, PA
- 2013 1. Regional Anesthesia and Pain Treatment Workshop
Harvard Medical School Continuing Medical Education Course; Practical Aspects of Pediatric Anesthesia and Critical Care Medicine; Boston, MA
- 2014 1. Pediatric Regional Anesthesia Workshop; organizer
Harvard Medical School Continuing Medical Education Course; Principles of Pediatric Anesthesia and Critical Care; Boston, MA
- 2014 1. Pediatric Lower Extremity Nerve blocks; Finally Something New
10th Annual UPMC Regional Anesthesia & Ultrasound Techniques Conference; Nemaquin, PA
- 2015 1. What's new in pediatric regional anesthesia, lecture
2. Practical Overview of Pediatric Regional Techniques, lecture
3. Pediatric Regional Anesthesia Workshop; Organizer, Moderator and Instructor
Harvard Medical School Continuing Medical Education Course; Principles of Pediatric Anesthesia and Critical Care; Boston, MA
- 2016
Apr. Controversial issues in Pediatric Regional Anesthesia
9th Annual UPMC Regional Anesthesia & Ultrasound Techniques; Nemaquin, PA
- 2016 1. What's new in pediatric regional anesthesia, lecture
May 2. Pediatric Regional Anesthesia Workshop; Organizer, Moderator and Instructor
Harvard Medical School Continuing Medical Education Course; Principles of Pediatric Anesthesia and Critical Care; Boston, MA
- National
- 2011 The Role of Regional Anesthesia in Pediatric Orthopedics; single lecture
8th Annual pre-ASA Joint Meeting of OAPRS and SAGA, Washington, DC
- 2012 Is a thoracic epidural the best option for postoperative analgesia in an adolescent undergoing pectus excavatum repair? PBLD moderator
Society for Pediatric Anesthesia Annual Meeting, Washington, DC
- 2013 Practical Pediatric Regional Anesthesia: single lecture and workshop
New York School of Regional Anesthesia (NYSORA) 13th Annual Symposium on Regional

Anesthesia, Pain and Perioperative Medicine

- 2013 1. The Future of Pediatric Regional Anesthesia and Pain Management,
 2. Pediatric Regional Anesthesia 101
University of North Carolina, Chapel Hill, NC (Visiting Professor)
- 2014 Workshop: Ultrasound guided Pediatric Regional Anesthesia Techniques
Society for Pediatric Anesthesia (SPA) Annual Meeting, Fort Lauderdale
- 2014 Update in Pediatric Regional Anesthesia; single lecture and workshop
New York Society of Regional Anesthesia (NYSORA) 14th Annual Symposium on Regional
Anesthesia, Pain and Perioperative Medicine
- 2014 Workshop: Ultrasound guided Pediatric Regional Anesthesia Techniques
American Society of Anesthesiologists Annual Meeting, (ASA) New Orleans
- 2015 Pediatric Regional Anesthesia; Big Advances for Little Patients
Albert Einstein College of Medicine, New York, NY (Visiting Professor)
- 2015 Starting a Perioperative Pediatric Regional Anesthesia Program; a practical approach
Society for Pediatric Pain Medicine Annual Meeting. Biltmore, Arizona
- 2015 Workshop: Ultrasound guided Pediatric Regional Anesthesia Techniques
Society for Pediatric Anesthesia annual Meeting. Biltmore Arizona
- 2015 1. Safety Profile of Pediatric Regional Anesthesia (lecture)
 2. Peripheral or Neuraxial Nerve Blocks for Pediatric Abdominal Surgery (PBLD)
 3. Practical Pediatric Regional Anesthesia; most useful techniques (PBLD)
California Society of Anesthesiologists, San Francisco, CA
- 2015 Pediatric Regional Anesthesia; Visions of the Future
Nationwide Children’s Hospital, Columbus, Ohio
- 2015 Update on Pediatric Regional Anesthesia for Pediatric Patients
Memorial Sloan Kettering Hospital, Columbia University, NY (visiting Professor)
- 2015 1. Adult and Pediatric Regional Anesthesia; The Venn Diagram
Sept. 2. Pediatric Regional Workshop (Organizer/ Moderator)
 3. Abstracts Moderator
New York School of Regional Anesthesia (NYSORA) 15th Annual Symposium on Regional
Anesthesia, Pain and Perioperative Medicine; New York, NY
- 2016 Update on Pediatric Regional Anesthesia for Pediatric Patients
Feb. Memorial Sloan Kettering Hospital, Columbia University, NY (visiting Professor)
- 2016 Pro/Con Debate: Use of Clonidine in Pediatric Regional Anesthesia
Apr. SPA-AAP Pediatric Anesthesiology 2016; The Broadmoor, Colorado Springs, CO

2016

Apr.

1. Pain Management in Infants and Children: 90 min. "Ask the experts Panel"
2. Ultrasound-guided regional anesthesia workshop

41st Annual Regional Anesthesiology and Acute Pain Medicine Meeting; The Roosevelt
New Orleans, New Orleans (ASRA)

2016

Sept.

1. Pediatric Anesthesia Workshop; Moderator

New York School of Regional Anesthesia (NYSORA) 16th Annual Symposium on Regional
Anesthesia, Pain and Perioperative Medicine. New York, NY

International

2014

1. Trunk blocks; Moving Beyond the Neuraxis (lecture)
2. Using Regional Anesthesia to Improve Outcomes (lecture)
3. Focus on Perineural Catheters (lecture)
4. Demonstration of nerve block techniques; (Tele- conference from Operating Room)
5. Workshop on Pediatric Regional Anesthesia Techniques (workshop)

Keynote Speaker

Symposium on Pediatric Pain Medicine and Regional Anesthesia. Centro Hospitalario Pereira
Rossell; Hospital Pediatrico. Montevideo Uruguay

2015

Practical Pediatric Regional Anesthesia Lecture Series

1. Pediatric regional anesthesia safety data
2. Multimodal approach to pain in pediatric patients
3. Trunk blocks for Pediatric Patients
4. Making the fascia Iliaca block work

New York School of Regional Anesthesia Inspire Seminar. Mont Tremblant, Canada

2015

1. Pediatric regional anesthesia: Practical tips and most useful blocks (PBLD)
2. *Pediatric Anesthesia Task in Session*: Panel Chair & Moderator
3. All TAP blocks are not created equal. (lecture)
4. Abstract Session Moderator

NWAC World Anesthesia Convention; Vancouver, Canada

2015

1. Breaking News: New kids on the "block"
2. Safety Profile; Pediatric Regional Anesthesia
3. Focus on Perineural Catheters
4. Cadaver Workshop; TAP Blocks
5. Demonstration of nerve block techniques; (Tele- conference from Operating Room)

Keynote Speaker

Winter Symposium on Pediatric Pain Medicine and Regional Anesthesia. Centro Hospitalario
Pereira Rossell; Hospital Pediatrico. Montevideo, Uruguay

2015 October

Ultrasound Guided Pediatric Regional Anesthesia Techniques

2015 Joint SPANZA (Society for Pediatric Anesthesiology Australia New Zealand) & ANZAPS
Meeting; Auckland, New Zealand

2015 October Regional anesthesia in neonates and infants
Christchurch Hospital, Christchurch School of Medicine, Otago University, Christchurch NZ,
(Visiting Professor)

2016 May 1. Does Anesthesia make you stupid? Vulnerability in Pediatric Patients
2. Pediatric Regional Anesthesia Workshop
3. Session Moderator
NWAC World Anesthesia Convention; New York, NY

2016 September 1. Analgesia for Esophageal Atresia
2. Pain Management in Neonates and Infants
Winter Symposium on Anesthesia and Pain Management for the Neonate. Centro Hospitalario
Pereira Rossell; Hospital Pediatrico. Montevideo, Uruguay

2016 October 1. Neonates, Pain and Regional Anesthesia
2. Regional Anesthesia Workshop
Society for Pediatric Anesthesia Australia New Zealand, Adelaide Australia

2017 August 1. Pediatric Regional Anesthesia
Asian Society of Pediatric Anesthesiologists Annual Meeting. Mumbai India

Report of Clinical Activities and Innovations

Current Licensure and Certification:

1985 Diplomate of the National Board of Medical Examiners,
1985 Registered Physician Commonwealth of Pennsylvania
1989 Diplomate of the American Board of Anesthesiology (ABA)
1990 American Board of Anesthesiology, Certificate of Special Competence in Critical Care Medicine
(ABA)
2012 Registered Physician Commonwealth of Massachusetts
2013 Diplomate of the American Board of Anesthesiology, Pediatric Anesthesiology (ABA)

Practice Activities

Management of children experiencing pain in the perioperative period using multimodal techniques with an emphasis on regional anesthesia	Perioperative Clinical Units	Boston Children's Hospital	3 days/week, 8-10 hours/day, 20-22 weeks/year
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Management of anesthesia for infants and children in the perioperative period	Operating Room Suite	Boston Children's Hospital	3 days/week, 8-10 hours/day, 20-22 weeks/year
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Report of Education of Patients and Service to the Community

Activities

2000	Operation Smile /Anesthesiologist 2-week trip to Tsing Tsoa China
2006	Children of the Americas/ Anesthesiologist 1-week trip to San Marcos, Guatemala
2008-2015	SurgiCorps International/UPMC Cooperative / Anesthesia Team Leader Annual 8-day trip to Antigua, Guatemala
2008-2010	SurgiCorps International/UPMC Cooperative / Anesthesia Team Leader Annual 10 day trip to Ho Chi Minh City, Viet Nam
2008-2010	SurgiCorps International/UPMC Cooperative / Anesthesia Team Leader Annual 14 –day trip to Paro, Bhutan
2010	SurgiCorps International/UPMC Cooperative / Anesthesia Team Leader 10-day trip to Addis Ababa, Ethiopia
2011, 2012	Hospital Albert Sweitzer /Anesthesiologist 8-day trip to Des’Chapelle, Haiti
2013	SurgiCorps, International/ Anesthesia Team Leader Mandalay, Myanmar
2016	SurgiCorps International 8-day trip to Mexico
2001-2003	The Ellis School/ Board of Directors

Educational Material for Patients and the Lay Community

2014	When is a nerve block appropriate for the treatment of a sickle cell crisis?	Boston Children’s Hospital Website. Department of Hematology
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Recognition

2012	Tony Demos Award/ (Team member going above and beyond)	SurgiCorps International
2014	Author of the Month	Department of Anesthesiology, Perioperative and Pain Medicine; BCH

Report of Scholarship

Publications

Peer reviewed publications in print or other media

Research:

1. Kelleher S, Alyashi W, Boretsky K. The Use of Ultrasound to Facilitate Neonatal Spinal Anesthesia. *Anesthesiology*. MS # ALN-D-16-00943 Accepted pending revision:
2. Eastburn E, Sullivan C, Yen Y, **Boretsky K**. "Technical Success of the ultrasound-guided supra-inguinal fascia iliaca compartment block in children and adolescents. *Anes Analg*: MS#: AA-D-16-00404; accepted and under revision
3. **Boretsky K**, Hernandez M, Vecchione T. Dermatomal Spread Following Posterior Transversus Abdominis Plane Block for Pain Control in Abdominal Surgery. *Pediatric Anesthesiology* MS#: PAN-2016-0228; accepted and under revision
4. Vecchione T, Zurakowski D, **Boretsky K**. Paravertebral Nerve Block in Pediatric and Young Adult Patients; Safety and Clinical Experience. *Anes Analg*: MS#: AA-D-16-00102; accepted
5. Hall-Burton DM, Hudson ME, Grudziak JS, Cunningham S, **Boretsky K**, Boretsky KR. Regional Anesthesia Is Cost-Effective in Preventing Unanticipated Hospital Admission in Pediatric Patients Having Anterior Cruciate Ligament Reconstruction. *Reg Anesth Pain Med*. 2016 May 20. [Epub ahead of print] PMID: 27203396
6. Sigrid Bairdain MD MPH, Brenda Dodson PharmD, David Zurakowski, PhD, Russell W. Jennings MD, **Karen Boretsky, MD**. Paravertebral Nerve Block Catheters Using Chloroprocaine in Infants with Long-Gap Esophageal Atresia. *Pediatric Anesthesia*. *Paediatr Anaesth*. 2015 Nov;25(11):1151-7. doi: 10.1111/pan.12736. Epub 2015 Aug 14. PMID:26272104
7. Carolina Donado, MD*, Laura Cornelissen, PhD*, Kimberly Lobo, MS, MPH, Joseph Kim, MA, Katherine E Kurgansky, MPH, James Peyton, MB, ChB, MRCP, Aykut Bilge, MD, **Karen Boretsky, MD**, and Mary Ellen McCann, MD, David Zurakowski, PhD, Charles Berde, MD, PhD, Joseph Cravero, MD. Long-Acting Local Anesthesia with Neosaxitoxin in Combinations with Bupivacaine 0.2%, with and without Epinephrine. *Anesthesiology*. 2015; doi: 10.1097/ALN.0000000000000831
8. Hall-Burton D, **Boretsky K**. A Comparison of Paravertebral Nerve Block Catheters and Thoracic Epidural Catheters for Postoperative Analgesia Following the Nuss Procedure for Pectus Excavatum; *Paediatric Anesthesia*; *Pediatric Anesthesia* 2014 (24) pages 516–520.
9. **Boretsky k**, Visoiu M, Bigeleison P. Ultrasound-Guided Approach to the Paravertebral Space for Catheter Insertion in Infants and Children: *Pediatric Anesthesia* 2013 (23) 1193–1198
10. Davis PJ, Fertil KM, **Boretsky KR**, Fedel GM, Ingram MD, Woelfel SK, Hoffmann PC, Gurnaney H, Young MC. The Effects of Oral Ondansetron Disintegrating Tablets for Prevention of At-Home Emesis in Pediatric Patients After Ear-Nose-Throat Surgery; *Anesth Analg* 2008; 106:1117-1121

Other Peer Reviewed:

11. Alejandra Hernandez, **Karen Boretsky**. Chloroprocaine Local anesthetic Toxicity in an infant with paravertebral catheter. *Paedric Anaesth*. 2016 Jun;26(8):665-666. Doi 10.1111/pan.12912. Epub 2016 April 19
12. Nishanthi Kandiah, Kathryn K Walker, **Karen L Boretsky**. Paravertebral Nerve Block Facilitates Tracheal Extubation in a 5 week-old Infant with Respiratory Failure and Rib Fractures; Case Report. *A&A Case Reports*. 2014; 2(10):131-132,
13. Visoiu M, **Boretsky KR**, Goyal G, Cladis FP, Cassara A. Postoperative analgesia via transversus abdominis plane (TAP) catheter for small weight children-our initial experience; *Paediatr Anaesth*. 2012 Mar;22(3):281-4.

Non-peer reviewed scientific or medical publications/materials in print or other media

Reviews:

14. **Boretsky K**. Regional Anesthesia in Pediatrics; *Marching On; Current Opinions in Anesthesiology*. 2014 27(5):

Editorials:

15. Berde CB, **Boretsky KR**, Cravero JP. Paravertebral block for analgesia after pediatric thoracic surgery. *Reg Anesth Pain Med*. 2014 May-Jun; 39(3): 179-80.
16. Dinardo JA, **Boretsky KB**. 'The "Kiddie" Caudal; Safe but More to Learn. *Anesth Analg*. 2015; 120(1): 12-13
17. Waisel D, **Boretsky KR**, Mancuso T. Pediatric research, risk and paravertebral blocks. *Anesth Analg*. 2015; 120(5): 987-989

Letters to the Editor:

18. Hall-Burton D, **Boretsky K**. (Letter to the Editor) Ultrasound Guided Transversus Abdominis Plane vs. Surgeon Administered Intraoperative Regional Field Infiltration with Bupivacaine for Early Postoperative Pain Control in Children Undergoing Open Pyeloplasty; Do we have an answer? *J Urol*. 2014 Dec;192(6):1891-3
19. **Boretsky K**, Orebaugh SL, Yen Y, Harbaugh C, Williams B. Femoral nerve block for ACL reconstruction; do we have the information we need? *Am J Sports Med September 2015; 43 (9) doi: 10.1177/0363546515601379*

Book Chapters:

1. **Boretsky K**, Tsui B. 2 Chapters: The Lumbar Plexus Block, & The Paravertebral Block in *Pediatric Atlas of Ultrasound Guided Regional Anesthesia* , Edited by Ban Tsui. Cambridge University Press. In press
2. Shelby Cody, **Karen Boretsky**. Pediatrics in *Decision-Making in Orthopedic and Regional Anesthesiology: A Case-Based Approach*, edited by Mike Anderson, Sylvia Wilson and Meg Rosenblatt. Cambridge University Press. In press
3. **Boretsky K**, Visoiu M. Regional Anesthesia in Neonates. In: Matthes K, Greco C, McCann M, editors. *Essentials of Anesthesia for Infants and Neonates*, New York: Cambridge University Press; In press 2015
4. **Boretsky K**, Kandiah N. Pediatric Regional Anesthesia and Analgesia. In: Matthes K, Laubauch A, editors. *Pediatric Anesthesiology: A Comprehensive Board Review*. Oxford: Oxford University Press, in press.
5. Dinakar P, **Boretsky K**, Sethna N, Interventional Pain Management Techniques For Chronic Pain In McGrath P, Stevens B, Walker S and Zempsky W, editors; *The Oxford Textbook of Pediatric Pain*. Oxford: Oxford University Press; 2013
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Professional educational materials or reports, in print or other media

2007 Curriculum Development for novel resident rotation; Advanced pediatric rotation with international component. (UPMC Department of Anesthesiology website)

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings (Past 3 years)

1. SPA/AAP Pediatric Anesthesiology 2015 meeting, March 13-15, 2015, Arizona Biltmore, Phoenix, AZ.,
 - a. Sigrid Bairdain MD MPH, Brenda Dodson PharmD, David Zurakowski, PhD, Russell W. Jennings MD, Karen Boretsky, MD.. *Benefits of Paravertebral Nerve Block Catheters in infants with Long Gap Esophageal Atresia.*
 - b. Kandiah N, Boretsky K. An Ultrasound Guided Approach to the Fascia Iliaca Compartment Block
 - c. Cody S., Waisel D., Boretsky K. Measuring Technical Success of Peripheral Nerve Blocks in Pediatrics: A Single Institutional Observational Study
2. IARS 2015 Annual Meeting and International Science Symposium March 21-24, 2015 The Hilton Hawaiian Village – Honolulu, Hawaii
 - a. Waisel D., Boretsky K., Two Models to Define the Relationship Between the Regional Anesthesia Consultant and Primary Anesthesiologist
 - b. Matthes K, Bitarafan S, Boretsky K. Efficacy and safety of paravertebral nerve blocks in pediatric patients.
3. 40th Annual American Society of Regional Anesthesia (ASRA) Meeting. Las Vegas
 - a. Sigrid Bairdain MD MPH, Brenda Dodson PharmD, David Zurakowski, PhD, Russell W. Jennings MD, Karen Boretsky, MD.. *Benefits of Paravertebral Nerve Block Catheters in infants with Long Gap Esophageal Atresia.*
 - b. Kandiah N, Boretsky K. An Ultrasound Guided Approach to the Lumbar Plexus block in children and young adults.
4. SPA/AAP Pediatric Anesthesiology 2016 Meeting
 - a. Vecchione T, Boretsky K. TAP Block: Determining reliable dermatomal spread from posterior approach
 - b. Vecchione T, Boretsky K. Successful diagnosis of Compartment Syndrome with in-situ nerve block for pain management; a case series
 - c. Gomez A, Boretsky K. RA in patients with pre-existing Neuropathies
5. 41th Annual American Society of Regional Anesthesia (ASRA) Meeting. 2016 New Orleans
 - a. Waisel D, Boretsky K. RA in Patients with Ehlers Danlos syndrome
 - b. Kelleher S, Boretsky K. Use of Ultrasound to Facilitate Placement of Spinal Anesthesia in a 1.5kg infant
 - c. Hernandez MA, Boretsky K. Seizure following Chloroprocaine administration on a 9-mo infant with PV catheter
 - d. Alrayashi W, Cravero J, Boretsky K. Perioperative Outcomes in pediatric patients receiving suprainguinal fascia iliaca block for arthroscopic hip procedures
6. 2016 IARS
 - a. Eastburn E, Boretsky K. RA in patients undergoing intervention for Fibro-adenovascular anomalies
7. 35th Annual European Society of Regional Anesthesia (ESRA) Congress 2016. Maastricht, The Netherlands
 - a. Sparks W, Sullivan C, Myette B, Boretsky K. Transition from Hospital to Home for Ambulatory Pediatric Orthopedic Surgery Patients with Regional Anesthesia; Pain and functional Recovery

Narrative Report

My area of strength is “clinical expertise and innovation” with a healthy understanding of administration and organization. I am pediatric anesthesia/ pediatric critical care fellowship trained with expertise in perioperative pain management and regional anesthesia (RA). Over the many years of my career I have had a rich and varied experience in many areas of anesthesiology. Most recently, I created robust acute perioperative interventional pain management programs in two top ranked tertiary care

pediatric institutions. I have also developed 1) several novel applications of RA techniques for use in infants and children, 2) training programs for anesthesia fellows as well as mid-career practitioners, and 3) research databases and protocols to look at outcome data related to RA. I am a National and Internationally recognized expert in and advocate for RA-based pain management for infants and children.

Initially, the administration of the RA Program at Boston Children's Hospital occupied significant time. Similar to most pediatric institutions, the Boston Children's Hospital was behind in embracing a robust RA program presenting both an opportunity and challenge. Initial efforts included: faculty training in current RA techniques, presentations to anesthesia and surgical colleagues, resource acquisition and interfacing with administrators to create efficient and efficacious processes for the provision of new RA-related services, and the creation of a pediatric RA fellowship program. As part of being an ambassador for the advantages of RA, I informally educate nursing personnel, physical therapists, pharmacists and patients and parents daily. The current core faculty consists of 10 RA faculty and in 2014 provided 2450 peripheral nerve blocks, a 250% increase over 2012.

The majority of my clinical time is spent in the operating rooms as a perioperative RA attending providing patient care and teaching/ supervision of fellows. In addition to the provision of the everyday blocks, I am known for the development of novel techniques for the placement and use of ultrasound-guided blocks in children, infants and neonates. I am recognized as a leader and strong advocate for pediatric pain management nationally and internationally in the pediatric anesthesia community. I am published in impact factor journals, have written many chapters and spoken nationally and internationally on issues related to acute perioperative pain management and RA in infants and children. I have research protocols in place to define outcomes related to RA with a special interest in functional recovery.

As a clinician with special expertise in using RA to treat pain in infants and children, I have used this expertise to create comprehensive RA programs with robust training and teaching in tertiary care pediatric hospitals and advanced the understanding and application of RA. Pediatric RA and perioperative pain management, as a means to achieve better/faster functional recovery after surgery is my passion.

Most interesting things I've done:

1. Had lunch with the King and Queen of Bhutan in the Palace in Thimpu, Bhutan
2. Learned Italian and worked for 2 summers as an anesthesiologist in Sicily, Italy

Most gratifying things I've done:

1. Raised 4 daughters.
2. Improved pain management for infants and children