



Signature

CURRICULUM VITAE

Joseph A. Grubenhoff, MD, MSCS
Associate Professor of Pediatrics
Section of Emergency Medicine
University of Colorado School of Medicine

ABP ID 663905
AAP ID 996967
NPI ID 1396720066
CO Lic. 42624

BUSINESS ADDRESS

Children's Hospital Colorado
13123 E. 16th Avenue, B-251
Aurora, CO 80045
(720) 478-9240 (office)
(720) 777-7317 (fax)
Joe.grubenhoff@childrenscolorado.org

EDUCATION and POST-GRADUATE TRAINING

8/1993 – 5/1997	The Colorado College Colorado Springs, CO	BA <i>magna cum laude</i>
8/1998 – 5/2002	St. Louis Univ. School of Medicine St. Louis, MO	MD <i>summa cum laude</i>
6/2002 – 6/2003	University of Colorado, Denver Denver, CO	Pediatric Internship
7/2003 – 6/2005	University of Colorado, Denver Denver, CO	Pediatric Residency
7/2006 – 6/2009	University of Colorado, Denver Denver, CO	Emergency Med. Fellowship
1/2012 – 12/2015	University of Colorado, Denver Denver, CO	MSCS (Clinical Science)
2/2020 – 4/2022	Children's Hospital Colorado Aurora, CO	Physician Leadership Development Program

ACADEMIC APPOINTMENTS

4/2002 – 5/2002	Visiting Lecturer	Colorado College, Department of Gen. Studies
11/2004 – 6/2009	Clinical Instructor	University of Colorado School of Medicine Department of Pediatrics
7/2009 – 6/2016	Assistant Professor	University of Colorado School of Medicine Department of Pediatrics Section of Emergency Medicine



Signature

11/2009 – 8/2010	Clinical Associate	Nova Southeastern University, College of Allied Health and Nursing, Physician Assistant Department
7/2016 – Present	Associate Professor	University of Colorado School of Medicine Department of Pediatrics Section of Emergency Medicine Department of Emergency Medicine (by courtesy)

OTHER PROFESSIONAL POSITIONS

6/1997 – 7/1998	Research Assistant	University of Colorado School of Medicine Department of Internal Medicine, Section of Rheumatology
7/2005 – 6/2006	CarePoint, PC	3033 S. Parker Rd., Suite 800 Aurora, CO 80014
2/2014 – 2/2015	Reviewer	Pediatric After-Hours Triage Protocols (trauma) Barton Schmitt, MD
1/2017 – 11/2020	Associate Medical Director	Clinical Effectiveness (focus: diagnostic error) Children's Hospital Colorado
12/2020 – Present	Medical Director	Diagnostic Safety Program Children's Hospital Colorado

HONORS, SPECIAL RECOGNITION AND AWARDS

6/1996 – 8/1996	Summer Research Fellow, University of Colorado Cancer Education Center
5/1994	Alpha Lambda Delta – Colorado College
5/1997	Phi Beta Kappa Honor Society – Beta Chapter of CO/Colorado College
5/2001	Alpha Sigma Nu Jesuit Honor Society – St. Louis University
5/2001	Alpha Omega Alpha Honor Medical Society – St. Louis University
5/2002	Merck Book Award – St. Louis University
5/2002	Department of Psychiatry Senior Student Award – St. Louis University
5/2002	Outstanding Student in Pediatrics – St. Louis Pediatrics Society
5/2008	Academic Pediatric Association Ludwig-Seidel Award



Signature

- 4/2011 Golden Stethoscope Best Patient/Physician Communication Award
University of Colorado School of Medicine Foundations on
Doctoring Curriculum
- 12/2011 Children's Hospital Colorado Emergency Department "Above & Beyond"
- 6/2012 Children's Hospital Colorado Pillar Award
Presented to the Values Champion Workgroup
- 8/2013 *5280 Magazine* "Denver's Top Docs" Recipient (also 2014-2022)
- 4/2014 Golden Key International Honor Society – University of Colorado
- 4/2014 **Children's Hospital Colorado Century Award**
- 5/2014 Children's Hospital Colorado Excellence in Trauma Physician Award
- 10/2017 Children's Hospital Colorado Medical Staff Provider of the Month
- 5/2018 Golden Stethoscope Best Physical Exam Skills Award
University of Colorado School of Medicine Foundations on
Doctoring Curriculum
- 10/2020 Best Oral Research Abstract
2020 13th Annual Diagnostic Error in Medicine Conference
- 3/2021 Finalist – Inaugural National Academy of Medicine Scholars in Diagnostic
Excellence Fellowship
- 3/2022 CU Medical Alumni Hero
University of Colorado Anschutz Medical Alumni Office
- 7/2022 **American Board of Medical Specialties Visiting Scholar**
- 8/2023 Patient & Family Experience Top 20% ED Provider
Children's Hospital Colorado

PROFESSIONAL SOCIETIES

- 1/2003 – Present American Academy of Pediatrics
- 11/2009 – Present AAP Section of Emergency Medicine
- 5/2010 – 5/2013 Brain Injury Association of Colorado Youth Concussion SIG
- 5/2013 – 5/2014 Pediatric Trauma Society
- 11/2015 – Present Society to Improve Diagnosis in Medicine



Signature

MAJOR COMMITTEE and SERVICE RESPONSIBILITIES

National

- 8/2009 – 8/2010 Medical Director (Denver Venue), 2010 Jewish Community Centers of America Maccabi Games
- 3/2015 – 12/2020 Chief Medical Consultant: National High School Sports-Related Injury Surveillance Study (High School RIO™)
- 3/2022 – 10/2022 15th Annual Society to Improve Diagnosis in Medicine Conference: The Future of Diagnosis, Conference Planning Committee
- 12/2022 – Present Subject Matter Expert and Faculty, AAP Quality Minute Series on Diagnostic Safety in the Ambulatory Setting
- 9/2023 – Present Member, National Quality Forum Diagnostic Excellence Committee

School Of Medicine

- 8/2022 – 7/2023 Coach, Institute for Healthcare Quality, Safety and Efficiency (IHQSE) Certificate Training Program (Cohort #10; SHARe Team)

Department of Pediatrics

- 11/2009, 2012 Interviewer, University of Colorado Pediatric Emergency Medicine Fellowship Program
- 11/2010 – 11/2021 Interviewer, University of Colorado Pediatric Residency Program
- 7/2014 – Present Core Faculty, Longitudinal Small Group Facilitator
University of Colorado Pediatric Residency Program
- 9/2015 – 8/2018 Member, Resident Selection Committee
University of Colorado Pediatric Residency Program
- 10/2021 – 6/2023 Implement & PREDICT Septic Shock Data Safety Monitoring Committee
DSMC Committee Chair. (Project PI: H. Scott; AHRQ K08;
CT.gov NCT05065333)

Section of Emergency Medicine

- 6/2019 – Present Case Review Committee
- 10/2019 – 5/2022 Faculty Advisory Committee
- 11/2019 – Present APP Shared Service Taskforce
- 1/2021 – Present Research Implementation Committee



Signature

7/2021 – Present	Clinical Competency & Program Evaluation Committee (Pediatric Emergency Medicine Fellowship program)
Hospital	
9/2003 – 6/2005	Resident Member, Children's Hosp. Colorado Advocacy Committee
7/2010 – 7/2015	ED Liaison, Children's Hospital Colorado Trauma QI Committee
4/2011 – 1/2013	Children's Hospital Colorado Values Champion Workgroup Commissioned to re-invigorate and enliven the Core Values of Children's Hospital Colorado, Sole Medical Staff Representative
7/2016 – 12/2021	Member, Practitioner Review Team (PRT), Children's Hospital Colorado
1/2022 - Present	Chair, Professional Standards Committee (formerly PRT), Children's Hospital Colorado
1/2017 – 12/2020	Associate Medical Director, Clinical Effectiveness (Diagnostic Safety) Children's Hospital Colorado
1/2019 – Present	Member, Clinical Pathways and Measures Committee
1/2021 – Present	Medical Director of Diagnostic Safety, Children's Hospital Colorado

LICENSURE and BOARD CERTIFICATION

5/2004	Colorado Medical License (42624)
6/2004	DEA Registration (# available on request)
11/2005 – 12/2022	American Board of Pediatrics: General Pediatrics (# 83869)
3/2011	American Board of Pediatrics: Pediatric Emergency Medicine (# 1675)

CLINICAL CERTIFICATIONS

7/2002 – Present	Pediatric Advanced Life Support
8/2006 – 8/2016	Pediatric Advanced Life Support Instructor
9/2005 – 9/2016	Advanced Trauma Life Support

REVIEW and REFEREE WORK

7/2010	<i>Journal of Emergencies, Trauma and Shock</i> <i>ad hoc</i> article reviewer – TBI in elderly adults
2/2012	<i>Pediatric Emergency Care</i> <i>ad hoc</i> article reviewer – Back blow maneuvers



Signature

- 11/2013 *Pediatrics*
ad hoc article reviewer – Use of ACE discharge instructions
- 4/2014 AAP National Conference and Exhibition
Scientific abstract reviewer – Section of Emergency Medicine
- 1/2015 *American Journal of Sports Medicine*
ad hoc article reviewer – Utilization of head CT in the ED for children with sports-related head injury
- 7/2015 *American Journal of Sports Medicine*
ad hoc article reviewer - Objective measurement of balance in acutely concussed athletes
- 1/2016 *American Journal of Sports Medicine*
ad hoc article reviewer - A randomized trial of exercise tolerance in adolescents with sport-related concussion
- 8/2016 *The Journal of Pediatrics*
ad hoc article reviewer - Annual and seasonal trends in ambulatory care visits for pediatric concussion in Ontario between 2003 and 2013 - A population-based study
- 4/2017 *BMJ Open*
ad hoc article reviewer - The Advancing Concussion Assessment in Pediatrics (ACAP) study: Protocol for a prospective, concurrent cohort, longitudinal study of mild traumatic brain injury in children
- 4/2017 *American Journal of Sports Medicine*
ad hoc article reviewer - The association between dual-task gait after concussion and prolonged symptom duration
- 5/2017 *JAMA Pediatrics*
ad hoc article reviewer - Physician Diagnosis of Concussion in Pediatric Emergency Departments: A Prospective Multicenter Study
- 8/2017 *The Journal of Pediatrics*
ad hoc article reviewer - Psychological Resilience as a Predictor of Persistent Post-Concussive Symptoms in Children with Single and Multiple Concussions
- 10/2017 *Child Abuse and Neglect*
ad hoc article reviewer - Development of screening tool for child maltreatment in Korea
- 2/2018 *Child Abuse and Neglect*
ad hoc article reviewer – Diagnostic Yield of Skeletal Surveys in



Signature

Pediatric Trauma Patients by Age

- 4/2018 *American Journal of Sports Medicine*
ad hoc article reviewer - Identifying persistent post-concussion symptom risk in a pediatric sports medicine clinic
- 5/2018 *The Journal of Pediatrics*
ad hoc article reviewer - Emergency department visits due to intentional and unintentional traumatic brain injury in infants in the United States: a population-based assessment.
(assisted by N. Navanandan, MD)
- 9/2018 *Diagnosis*
Ad hoc article reviewer - Resident Education on Misdiagnosis and Quality Assurance in Emergency Medicine Training Programs
- 11/2018 *The American Journal of Sports Medicine*
Ad hoc article reviewer - High injury burden in adolescent elite athletes: a 52-week prospective study
- 11/2018 *Journal of Neurotrauma*
Ad hoc article reviewer - Practice Patterns in Pharmacologic and Non-pharmacologic Therapies for Children with Mild Traumatic Brain Injury: A survey of 15 North American Centers
- 2/2019 *Child Abuse and Neglect*
Ad hoc article reviewer - Non-Accidental Trauma is an independent risk factor for mortality among injured infants
- 8/2019 *Pediatrics*
Ad hoc article reviewer - A Comparison of Methods for Classifying Persistent Postconcussive Symptoms in Children
- 9/2019 *Pediatric Quality and Safety*
Ad hoc article reviewer - The Impact of a Multi-Disciplinary Sepsis Initiative on Diagnostic Knowledge and Clinical Behavior in a Pediatric Tertiary Care Center
- 10/2019 *Pediatric Quality and Safety*
Ad hoc article reviewer - Contributing Factors to Pediatric Ambulatory Diagnostic Errors: Project RedDE
- 11/2020 *Journal of Head Trauma Rehabilitation*
Ad hoc article reviewer - Traumatic brain injury-related attention deficits in children: A controlled treatment trial with lisdexamfetamine dimesylate
- 4/2021 *Diagnosis*



Signature

Ad hoc article reviewer - Identification of Diagnostic Errors in the Acute Setting: A Process-driven Approach

- 7/2021 14th Annual Diagnostic Error in Medicine (SIDM) Conference
Scientific abstract reviewer
- 8/2021 *Hospital Practice*
Ad hoc article reviewer – Diagnostic Error in Pediatric Hospitals
- 11/2021 *Diagnosis*
Ad hoc article reviewer – Facilitating Optimal Therapies for Patients with Infection-Related Decompensation through Team-Based Decision Making
- 4/2022 15th Annual Society to Improve Diagnosis in Medicine (SIDM) Conference
Workshop proposal reviewer
- 4/2022 *JAMA Network Open*
Ad hoc article reviewer - Changes in hospital-based care seeking for acute mental health concerns in children and adolescents during the COVID-19 pandemic
- 1/2023 *Hospital Pediatrics*
Ad hoc article reviewer - Nonspecific diagnoses and return visits among children discharged from the emergency department
- 3/2023 *Hospital Pediatrics*
Ad hoc article reviewer - Community Validation of an Approach to Detect Delayed Diagnosis of Appendicitis in Big Database

[Dr. Grubenhoff's Web of Science Profile](#) and [ORCID Public Profile](#)

INVITED LECTURES and PRESENTATIONS

- Local**
1. 5/2007 *Mild Traumatic Brain Injury*
Denver Health Medical Center Pediatric Grand Rounds
 2. 7/2007 *Pediatric Toxicology*
Denver Area EMS Conference
 3. 9/2007 *Pediatric Trauma Considerations*
Pridemark Ambulance Services, Westminster, CO
 4. 2/2009 *Mild Traumatic Brain Injury*
Colorado Permanente Medical Group (Colorado Kaiser)
 5. 8/2009 *Pediatric Burns*
Flight For Life Case Conference, Denver, CO



Signature

6. 10/2009 *Blows to the Bean: When to Buzz the Melon and other head injury questions answered*
Children's Colorado Inaugural Urgent Care Conference
7. 1/2010 *Blows to the Bean: When to Buzz the Melon and other head injury questions answered*
Lutheran Medical Center Lecture Series, Westminster, CO
8. 6/2010 *Myths and Facts, Consensus and Controversy of Pediatric mTBI*
Denver Health Medical Center Pediatric Grand Rounds
9. 11/2010 *Child Abuse*
Flight for Life Case Conference, Denver, CO
10. 9/2011 *ALTE: Apparent Life-Threatening Event or Annoying Little Trivial Episode?*
Children's Hospital Colorado Annual Urgent Care Conference
11. 10/2011 *Pediatric Environmental Emergencies*
Partnership in Outstanding Pre-Hospital Pediatric Care, Aurora, CO
12. 11/2011 *Common Pediatric Overdoses*
Boulder Community Hospital
13. 1/2015 *Pre-hospital Providers' Contribution to In-hospital Care*
Partnership in Outstanding Pre-Hospital Pediatric Care, Aurora, CO
14. 11/2015 *Psychological predictors of delayed symptom resolution in children with concussion. Master's Thesis Defense, Clinical Science Graduate Program, University of Colorado, Aurora, CO*
15. 6/2016 *Refining Clinical Reasoning*
Colorado Permanente Medical Group (Colorado Kaiser)
16. 10/2016 *Diagnostic Performance and Patient Safety Workshop (4 session series)*
CUSOM IHQSE CTP Connections Seminar Series
17. 5/2017 *Diagnostic Safety is a Multidisciplinary Sport*
Children's Hospital Colorado Target Zero Open Forum
18. 8/2017 *Centering the Pendulum: Clinical Practice Update on Concussion*
Colorado Permanente Medical Group (Colorado Kaiser)
19. 9/2017 *Beyond a Knowledge Gap: Human Reasoning and Diagnostic Safety*
CU SOM Department of Pediatrics Division of Endocrinology



Signature

20. 10/2017 *Beyond a Knowledge Gap: Human Reasoning and Diagnostic Safety*
CU SOM Dept. of Pediatrics Division of Emergency Medicine
21. 1/2018 *How the Brain is Hardwired: How Systems of Human Judgment Influence the Diagnostic Process*
CHCO Eliza Fernie Critical Care Nursing Annual Conference
22. 1/2018 *Beyond a Knowledge Gap: Human Reasoning and Diagnostic Safety*
CU SOM Dept. of Pediatrics Division of Metabolics/Genetics
23. 2/2018 *Heuristic and Dispositions: The Next Adventure in Patient Safety*
Department of Pediatric Radiology, Children's Hospital Colorado
24. 2/2019 *Heuristic and Dispositions: The Next Adventure in Patient Safety*
Cardiac Ultrasonographer Corps, Children's Hospital Colorado
25. 1/2020 *Beyond a Knowledge Gap: Human Reasoning and Diagnostic Safety*
CU SOM Dept. of Pediatric Surgery
26. 5/2021 *We're Not in Kansas Anymore: Human Reasoning and Diagnostic Safety*
CU SOM PCCM Fellow Lecture Series
27. 9/2021 *No News is Good No News: Feedback Sanction and Threats to Diagnostic Safety*
Target Zero Open Forum, Children's Hospital Colorado
28. 6/2022 *Strategies for Diagnostic Error Mitigation in Trainees*
CU SOM Dept. of Pediatrics, Sect. of Hospital Medicine
TEAM Faculty
29. 4/2023 *The Game of Blame and Shame: Or Making Mistakes and Surviving*
CU SOM Section of Emergency Medicine CME Lecture Series
30. 9/2023 *Honing the Blade: Strategies for Diagnostic Excellence*
Colorado Permanente Medical Group (Colorado Kaiser)
- Regional**
1. 3/2008 *The Importance of Specialists When it Comes to the ER*
34th Annual Barbara Joyce Symposium
Colorado State University, Ft. Collins, CO
2. 11/2009 *Blows to the Bean: When to Buzz the Melon and other head injury questions answered*
Poudre Valley Hospital Lecture Series, Ft. Collins, CO
3. 4/2010 *Child Abuse for the Healthcare Provider*
Penrose-St. Francis Hospital Trauma and Critical Care Symposium, Colorado Springs, CO



Signature

4. 5/2010 *Pediatric Burns: Evaluation and Management and Pediatric Trauma Care*
Eagle County Ambulance Service Critical Care Course, Vail, CO
5. 9/2010 *Child Abuse Recognition in the ED*
Good Samaritan Hospital, Lafayette, CO
6. 11/2011 *Expanding Your Comfort Zone: Reporting and Documentation of Child Physical Abuse in the Emergency Department.*
Children's Hospital Colorado Annual Trauma Conference
7. 6/2012 *Pediatric Shock Management*
AirLink/Medical Center of the Rockies, Loveland, CO
8. 9/2012 *Evaluation of Blunt Head Trauma & Shock Skills Station*
Children's Hospital Colorado Emergency and Trauma Outreach Symposium, Cheyenne, WY
9. 9/2013 *Concussion Management*
Children's Hospital Colorado Emergency and Trauma Outreach Symposium, Steamboat Springs, CO
10. 9/2013 *Recognizing Child Abuse in the ED*
Children's Hospital Colorado Emergency and Trauma Outreach Symposium, Steamboat Springs, CO
11. 11/2014 *Identifying Sentinel Injuries in Child Physical Abuse*
Children's Hospital Colorado Annual Trauma Conference
12. 1/2015 *Pre-hospital Providers' Contribution to In-hospital Care*
Children's Hospital Colorado Annual EMS Conference
13. 4/2016 *Centering the Pendulum: Supporting Rational Concussion Management Through Evidence*
Pediatric Grand Rounds, Univ. of Colorado School of Medicine
14. 10/2016 *The Boy Who Cried Wolf and Other Tales: Diagnostic Reasoning, Patient Safety and Escalating Concerns*
6th Annual Escalation in Care Nursing Conference (CHCO)
15. 11/2016 *"Brain Sprain" Let's Start Concussion Recovery Right*
Children's Hospital Colorado Acute Illness and Injury Conference
16. 11/2016 *State of the Science Emergent Concussion Evaluation*
Children's Hospital Colorado Annual Trauma Conference
17. 11/2017 *Acute Concussion Management – An Emergency Dept Perspective*
Children's Hospital Colorado Annual Advanced Care of the Young Athlete Conference



Signature

18. 1/2018 *Heuristic and Dispositions: The Next Adventure in Patient Safety*
Pediatric Grand Rounds, Univ. of Colorado School of Medicine
19. 4/2018 *Cognitive Bias: The Impact of Human Reasoning in the Diagnostic Process*
AAP Colorado Chapter Annual CME Conference
20. 8/2019 *Acute Head Injury Care in the Pediatric Setting*
Children's Hospital Colorado Youth Concussion in the Primary Care Setting mTBI Symposium
21. 8/2020 *Beyond a Knowledge Gap: Human Reasoning and Diagnostic Safety*
Valley View Hospital Grand Rounds, Glenwood Springs, CO*
(*postponed due to SARS-CoV2 Pandemic)
- National**
1. 1/2013 *Concussion Recognition & Management for Riders and Instructors*
United States Pony Club Annual Meeting, Westminster, CO
2. 5/2014 *Pediatric Concussion: Making the Diagnosis and Discharge Plan*
Pediatric Academic Societies Annual Meeting Workshop
Vancouver, CAN
3. 10/2015 *Identifying and Managing Concussion in the Homeless Population*
National Association of State Head Injury Administrators
Annual Meeting, Denver, CO
4. 9/2017 *Developing a Diagnostic Safety Program to Reduce Harm: Children's Hospital Colorado's Experience (So Far)*
Children's Hospital Association Patient Safety Organization
Annual Meeting, Chicago, IL
5. 5/2018 *Humans, Systems and Diagnostic Safety: Preventing Harm From Diagnostic Errors (workshop)*
Pediatric Academic Societies Annual Meeting Workshop
Toronto, CAN
6. 2/2019 *How the Design of Systems Contribute to Delayed or Missed Diagnosis and Treatment in the Emergency Department*
CHA PSO Safe Table Webinar Panelist
7. 3/2020 *A Novel Data Stream for Detecting Harm from Diagnostic Errors*
CHA Annual Quality and Safety Conference "Pioneering Initiative"*
(*prepared but not given due to SARS-CoV2 Pandemic)
8. 5/2020 *A Novel Data Stream for Detecting Harm from Diagnostic Errors*
CHA PSO Webinar on CHA PSO's Dx Safety Toolkit



Signature

9. 11/2020 *A Family's Experience with Diagnostic Error and Developing a Diagnostic Safety Program*
Children's Hospitals Solutions for Patient Safety Learning Series
10. 4/2021 *We're Not in Kansas Anymore: Human Reasoning and Diagnostic Safety*
Society for Pediatric Urgent Care Weekly CME Webinar
11. 7/2021 *Feedback Sanction and its Threat to Diagnostic Safety in the PED*
Gary Fleisher PEM Grand Rounds (CU, Harvard, UT-Southwestern, Ohio State)
12. 10/2021 *Feedback Sanction and its Threat to Diagnostic Safety in the PED*
Primary Children's Hospital, Salt Lake City, UT
13. 2/2023 *Intentions, Intuitions, and Incident Reports: Diagnostic Safety Requires Us to Think Differently*
NYU Langone Department of Pediatrics Grand Rounds, NY, NY
14. 4/2023 *Intentions, Intuitions, and Incident Reports: Diagnostic Safety Requires Us to Think Differently*
Hackensack University Department of Pediatrics Grand Rounds, Hackensack, NJ
15. 8/2023 *Clinical Pathway Adherence and Missed Diagnostic Opportunities*
Society to Improve Diagnosis in Medicine QI Journal Club (virtual)
16. 9/2023 *Operationalizing Cognitive Bias/Diagnostic Error Concepts -- Identify, Educate and Improve*
Children's Hospital Association Patient Safety Organization Annual Meeting, St. Louis, MO
17. 10/2023 *Intentions, Intuitions, and Incident Reports: Diagnostic Safety Requires Us to Think Differently*
Nemours Children's Hospital/University of Central Florida Pediatric Grand Rounds
18. 10/2023 *Patient Safety & Diagnostic Errors in the Era of EHRs*
AAP NCE Combined COCIT-COQIPS Workshop (SME on Diagnostic Safety)

TEACHING RECORD**Student/Resident/Fellow Lectures**

1. 4/2007 *Pediatric Mild Traumatic Brain Injury*
Pediatric Noon Conference, CU Pediatric Residency Program
2. 10/2008 *Pediatric Toxicology*
Pediatric Noon Conference, CU Pediatric Residency Program



Signature

3. 12/2008 *Pediatric Mild Traumatic Brain Injury*
Pediatric Noon Conference, CU Pediatric Residency Program
4. 11/2009 *Pediatric Mild Traumatic Brain Injury*
Pediatric Noon Conference, CU Pediatric Residency Program
5. 10/2010 *Pediatric Mild Traumatic Brain Injury*
Pediatric Noon Conference, CU Pediatric Residency Program
6. 12/2011 *Pediatric Mild Traumatic Brain Injury*
Pediatric Noon Conference, CU Pediatric Residency Program
7. 9/2012 *Trauma Team Activation*
PEM Fellows Lecture Series, CU Pediatric Emergency Medicine Fellowship Program
8. 10/2012 *Pediatric Mild Traumatic Brain Injury*
PEM Fellows Lecture Series, CU Pediatric Emergency Medicine Fellowship Program
9. 5/2013 *Pediatric Mild Traumatic Brain Injury*
Weekly Resident Education, DHMC Emergency Medicine Residency Program
10. 8/2013 *Pediatric Mild Traumatic Brain Injury*
Pediatric Noon Conference, CU Pediatric Residency Program
11. 9/2013 *Trauma Team Activation*
PEM Fellows Lecture Series, CU Pediatric Emergency Medicine Fellowship Program
12. 1/2015 *The Game of Blame and Shame: Or How Not to Learn from Our Mistakes*
Longitudinal Small Group Lecture Series, CU Pediatric Residency Program
13. 5/2015 *The Game of Blame and Shame: Or How Not to Learn from Our Mistakes*
Longitudinal Small Group Lecture Series, CU Pediatric Emergency Medicine Fellowship Program
14. 5/2015 *Concussion Case Studies*
Emergency Medicine Academic Half-day, CU Pediatric Residency Program
15. 11/2015 *Pediatric Mild Traumatic Brain Injury*
CU Family Medicine Residency Clinical Lecture Series
16. 1/2016 *Dental and Abdominal Trauma Jeopardy*
PEM Fellows Educational Series, CU Pediatric Emerg. Medicine Fellowship Program



Signature

17. 5/2016 *Common Issues and Errors in Pediatrics*
CUSOM IDPT 8005
18. 6/2016 *Role of Observation following Blunt Head Injury*
PEM Fellows Journal Club, CU Pediatric Emergency Medicine
Fellowship Program
19. 3/2017 *The Game of Blame and Shame: Or How Not to Learn from Our Mistakes*
Longitudinal Small Group Lecture Series, CU Pediatric Residency
Program
20. 5/2017 *Common Issues and Errors in Pediatrics – Diagnostic Errors*
CUSOM IDPT 8005
21. 1/2018 *Metabolic Emergencies Board Review*
PEM Fellows Board Review Series, CU Pediatric Emergency
Medicine Fellowship Program
22. 2/2018 *Diagnostic Errors: A Family's Perspective*
Longitudinal Small Group Lecture Series, CU Pediatric Residency
Program
23. 3/2018 *Evolution of a Manuscript – Submission, Peer-review, Publication*
PEM Fellows Journal Club, CU Pediatric Emergency Medicine
Fellowship Program
24. 5/2018 *Common Issues and Errors in Pediatrics – Diagnostic Errors*
CUSOM IDPT 8005
25. 1/2019 *Review of an RCT on APAP for Febrile Seizures*
PEM Fellows Journal Club, CU Pediatric Emergency Medicine
Fellowship Program
26. 1/2019 *Dental and Abdominal Trauma Jeopardy*
PEM Fellows Educational Series, CU Pediatric Emerg. Medicine
Fellowship Program
27. 1/2019 *Manuscript Review, Revision and Resubmission*
PEM Fellows Educational Series Journal Club, CU Pediatric
Emerg. Medicine Fellowship Program
28. 2/2019 *Evolution in Clinical Decision Making in Trainees*
CUSOM IDPT 8004 (larger class than IDPT 8005)
29. 4/2019 *Pediatric Endocrine Emergencies*
DHMC Emergency Medicine Core Lecture Series
30. 5/2020 *Features of Poorly Presented/Written Journal Articles*



Signature

PEM Fellows Educational Series Journal Club, CU Pediatric
Emergency Medicine Fellowship Program

31. 7/2020 *Pediatric Endocrine Emergencies*
DHMC Emergency Medicine Core Lecture Series
32. 9/2020 *Beyond a Knowledge Gap: Human Reasoning and Diagnostic Safety*
CU SOM Dept. of Pediatrics Fellow Lecture series
33. 1/2021 *Racial Disparities in Triage Assignment: Why's this kid even here?*
PEM Fellows Educational Series Journal Club, CU Pediatric
Emergency Medicine Fellowship Program
34. 5/2021 *We're Not in Kansas Anymore: Human Reasoning and Diagnostic Safety*
CU Acute Care Pediatric Nurse Practitioner Program
35. 5/2021 *We're Not in Kansas Anymore: Human Reasoning and Diagnostic Safety*
CU SOM Dept. of Pediatrics Critical Care Fellowship Program
36. 5/2021 CU SOM Pediatrics Residency Leadership Simulation Session (facilitator)
37. 9/2021 CU SOM Pediatrics Residency Intern Simulation Session (facilitator)
38. 5/2022 CU SOM Pediatrics Residency PGY2 Resident Orientation
Escalation of Care (facilitator)
39. 6/2022 CU SOM Pediatrics Residency PGY3 Resident Orientation
Escalation of Care (facilitator)
40. 6/2022 CU SOM Pediatrics Residency Leadership Simulation Session (facilitator)
41. 6/2023 CU SOM Pediatric Emerg. Med. Fellowship Simulation Session(facilitator)

Lectures as Part of Courses in Degree-granting Programs

1. 2008-2015 *Pediatric Radiology: Pearls for the Provider* in Minor Acute Illness
(NURS6487), PNP Program, CU School of Nursing
2. 2012 *Pediatric Radiology: Pearls for the Provider* in Primary Health Care of
Children and Their Families (NR 642), FNP Program, Loretto Heights
School of Nursing, Regis University
3. 2021-2022 *Beyond a Knowledge Gap: Human Reasoning and Diagnostic Safety*
(NURS6510, NURS6520), Acute Care PNP Program, CU SON

Clinical Teaching as Attending Physician

Children's Hospital Colorado Emergency Department



Signature

- 2009 – Present Supervision and bedside teaching of 6-11 pediatric emergency medicine fellows, 5-6 pediatric residents, 3-4 emergency medicine residents and occasional family practice residents (8-10 8-hour shifts/month)
- 2009 – 2017 Supervision and bedside teaching of 1-3 emergency care clerkship students per month in “teaching attending” shifts (~6 6-hour shifts/yr)
NOTE: Program discontinued by clerkship director
- 2009 – 2022 Foundations on Doctoring Preceptor for a total of 5 medical students
Teaching occurs during regular shifts in the CHCO ED
(~1-2 sessions/month for MS1/2 students; program ended by SOM 2022)
- 2022 – Present Longitudinal Integrated Curriculum Preceptor CU SOM medical students
Teaching occurs during regular shifts in the CHCO ED
(Ginocchio '21-'22; Jiang, Ha '22-'23; De Schutter, Bolotin '23-'24)

Children's Hospital Colorado at Parker Adventist Hospital Emergency Department

- 2006 – 2011 Supervision and bedside teaching of 1 family medicine resident and 1-2 pediatrics clerkship students. (1-2 12-hour shifts/month)

Children's Hospital Colorado South Campus Emergency Department

- 2020 – Present Supervision and bedside teaching of 1 Cheyenne Regional Medical Center family medicine resident (1-2 8-hour shifts/month)

GRANT SUPPORT

Current Grants

9/2023-9/2027

The Right Call: Implementing a Sepsis Diagnostic Safety Toolkit in a Pediatric Transfer Call Center to Improve Diagnosis of Children in General Emergency Settings (Halden Scott, PI)

Granting Agency: Agency for Healthcare Research and Quality

Grant Number: R18HS029786-01

Total Award: \$1,826,983

Role: Co-investigator

FTE: 0.10

Completed Grants

9/2022 – 8/2023

Moving from "Do you remember?" to "What can we learn?": Developing strategies to assist emergency department (ED) providers in calibrating diagnostic performance. (Joseph A. Grubenhoff – PI)

Granting Agency: American Board of Medical Specialties

Grant Number: n/a

Total Direct Costs: \$12,500

Role: PI, Visiting Scholar

FTE: In-kind



Signature

- 11/2022 – 4/2023 Diagnostic Safety Capacity Building (Joseph A. Grubenhoff, PI)
Granting Agency: MedStar health for AHRQ
Grant Number: HHSP233201500022I
Total Direct Costs: \$7,500
Role: Local PI
FTE: In-kind (part of 0.3 FTE from CHCO to Grubenhoff)
- 12/2015 – 9/2018 Near-infrared spectroscopy (NIRS) for intracranial hematoma detection in Children (Matthew Kirschen – PI)
Granting Agency: InfraScan, Inc.
Grant Number: n/a
Total Direct Costs: \$ 26,739
Role: Site PI
FTE: In-kind – Industry funded study
- 7/2017 – 6/2018 Developing a Diagnostic Error Trigger Tool for the Emergency Department (I. Topoz and J. Grubenhoff, Co-PIs)
Granting Agency: UC Denver COEPS Small Grant Program
Grant Number: n/a
Total Direct Costs: \$15,000
Role: Co-PI
FTE: In-kind
- 7/2015 - 6/2017 Outpatient Follow-up after ED Evaluation of Concussion in Children: Barriers, Facilitators and Benefits. (Joseph A. Grubenhoff – PI)
Granting Agency: Colo. Dept. of Human Services
Grant Number: 4600
Total Direct Costs: \$95,676 over 2 years
FTE: 10%
- 7/2015 - 6/2017 Fast MRI for Young Children with TBI (Daniel Lindberg – PI)
Granting Agency: Colo. Dept. of Human Services
Grant Number: 4595
Total Direct Costs: \$300,000 over 2 years
Role: Co-I
FTE: 3%
- 9/2009 - 8/2012 Lorazepam Efficacy and Safety Study (James Chamberlain – PI)
Granting Agency: NIH (NICHD)
Grant Number: 63095035
Total Direct Costs: \$154,520 over 3 years (local)
Role: Site PI
FTE: 9% (averaged over 3 years)



Signature

10/2010 - 9/2012

Comparison of acute mTBI symptoms and persistence of post-concussion symptoms (Joseph A. Grubenhoff – PI)

Granting Agency: Thrasher Research Fund

Grant Name: Early Career Award

Grant Number: NR-0126

Total Direct Costs: \$22,740 over 2 years

FTE: 5%

BIBLIOGRAPHY

Peer-reviewed Journal Articles

1. **Grubenhoff JA**, Brent A. *Case Report: Brown-Sequard syndrome resulting from a ski injury in a 7-year-old male*. *Curr Opin Pediatr* 2008 20(3): 341-344. PMID: 18475106
2. **Grubenhoff JA**, Kirkwood M, Gao D, et al. *Evaluation of the Standardized Assessment of Concussion in a Pediatric Emergency Department Population*. *Pediatrics* 2010;126(4):688-695. PMID: 20819901
3. **Grubenhoff JA**, Kirkwood M, Deakyne S, Wathen J. *Detailed concussion symptom analysis paediatric ED population*. *Brain Inj* 2011;25(10):943-949. PMID: 21749192
4. Greene AE, Roosevelt GE, **Grubenhoff JA**, Klein U. *Little boy black and blue*. *Pediatr Emerg Care* 2011;27(8):758-759. PMID: 21822090
5. Kedia S, Ginde AA, **Grubenhoff JA**, Kempe A, Hershey AD, Powers SW. *Monthly variation of United States pediatric headache emergency department visits*. *Cephalgia* 2014; 34(6):473-8. PMID: 24335850
6. Kirkwood MW, Peterson R, Connery A, Baker D, **Grubenhoff JA**. *Postconcussive symptom exaggeration after pediatric mild traumatic brain injury*. *Pediatrics* 2014;133(4):643-50. PMID: 24616360
7. **Grubenhoff JA**, Deakyne S, Brou L, Bajaj L, Comstock RD, Kirkwood MW. *Acute Concussion Symptom Severity and Delayed Symptom Resolution*. *Pediatrics* 2014;134(1):54-62. PMID: 24958583
8. Chamberlain JM, Okada P, Holsti M, Mahajan P, Brown KM, Vance C, Gonzalez V, Lichenstein R, Stanley R, Brousseau DC, **Grubenhoff JA**, Zemek R, Johnson DW, Clemons TE, Baren J; Pediatric Emergency Care Applied Research Network (PECARN). *Lorazepam vs diazepam for pediatric status epilepticus: a randomized clinical trial*. *JAMA*. 2014 23-30;311(16):1652-6. PMID: 24756515
9. Mackelprang JL, Harpin SB, **Grubenhoff JA**, Rivara FP. *Adverse Outcomes among Homeless Adolescents and Young Adults Who Report a History of TBI*. *Am J Public Health*. 2014;104:1986-92. PMID: 25122029



Signature

10. **Grubenhoff JA**, Deakyne SJ, Comstock RD, Kirkwood MW, Bajaj L. *Outpatient follow-up and return to school after emergency department evaluation among children with persistent post-concussion symptoms*. Brain Injury ePub May 25, 2015 1-6. PMID: 26004755
11. Comstock RD, Currie DW, Pierpoint LA, **Grubenhoff JA**, Fields SK. *An Evidence-Based Discussion of Heading and Concussions in High School Soccer*. JAMA Pediatr 2015;169(9):830-7. PMID: 26168306
12. **Grubenhoff JA**, Currie D, Comstock RD, Juarez-Colunga E, Bajaj L, Kirkwood MW. *Psychological Factors Associated with Delayed Symptom Resolution in Children with Concussion*. J Pediatr. 2016;174:27-32. PMID: 27079963
13. Vollmer B, Kirkwood MW, Comstock RD, Currie D, **Grubenhoff JA**. *Assessing the Clinical Utility of the Question "Is Your Child/Are You Back to Normal?" in Pediatric Concussion Symptom Resolution*. Clin Pediatr. (Phila) 2018 Feb;57(2):146-151. PMID: 28198194
14. Sanchez-Cristal N, Staab J, Chatham R, Ryan S, McNair B, **Grubenhoff JA**. *Child Life Reduces Distress, Pain & Improves Family Satisfaction in the Pediatric Emergency Department*. Clin Pediatr. (Phil) 2018 Nov;57(13):1567-1575. PMID: 30175600
15. Howell DR, Wilson JC, Kirkwood MW, **Grubenhoff JA**. *Quality of Life and Symptom Burden 1 Month After Concussion in Children and Adolescents*. Clin Pediatr (Phila). 2019;58(1):42-49. PMID: 30311786
16. Currie D, Pierpoint L, Snedden T, Comstock RD, **Grubenhoff JA**. *Factors Influencing Primary Care Follow-up after Pediatric Mild Traumatic Brain Injury*. J Head Trauma Rehabil. 2019;34:E11-E19. PMID: 30608309
17. **Grubenhoff JA**, Ziniel S, Bajaj L, Hyman D. *Pediatric Faculty Knowledge of Heuristics and Comfort Discussing Diagnostic Errors: A Pilot Survey to Understand Barriers to An Institutional Educational Program*. Diagnosis (Berl). 2019;6:101-107. PMID: 30759067
18. Snedden T, Pierpoint L, Comstock RD, **Grubenhoff JA**. *Post-concussion Academic Support in Children Who Attend a Primary Care Provider Follow-up Visit after Presenting to the Emergency Department*. J Pediatr 2019;209:168-75 PMID: 30853206
19. Lindberg DM, Stence NV, **Grubenhoff JA**, Lewis T, Mirsky DM, Miller AL, O'Neill BR, Grice K, Mourani, PM, Runyan DK. *Feasibility and Accuracy of Fast MRI vs CT for Traumatic Brain Injury in Young Children*. Pediatrics published online 9-20-19 doi: 10.1542/peds.2008-1536. PMID: 31533974
20. Gaensbauer JT, Todd J, **Grubenhoff JA**, Soranno DE, Scudamore D, Cheetham A, Messacar K. *A Resident-Based, Educational Program to Drive Individual and Institutional Improvement in a Pediatric Training Hospital*. J Pediatr. 2019 Nov;214:4-7.e1 PMID: 31655703
21. Searns JB, Williams M, MacBrayne C, Wirtz A, Parker S, **Grubenhoff JA**. *Handshake Antimicrobial Stewardship as a Model to Prevent Patient Safety Incidents and Recognize Diagnostic Errors*. Open Forum Infectious Diseases. 2019;6_S19:S379



Signature

22. **Grubenhoff JA**, Ziniel SI, Cifra CL, Singhal G, McClead RE, Singh H. *Pediatric Clinician Comfort Discussing Diagnostic Errors for Improving Patient Safety: A Survey*. *Pediatr Qual Saf*. 2020;5:e259. PMID: 32426626
23. Searns JB, Williams M, MacBrayne C, Wirtz A, Parker S, **Grubenhoff JA**. *Handshake Antimicrobial Stewardship as a Model to Recognize and Prevent Diagnostic Errors*. *Diagnosis*. 2020; 28;8(3):347-352 PMID: 33112779
24. Flood S, Osborne C, Martin B, Derderian SC, Stenson E, **Grubenhoff JA**. *Severe SARS-CoV-2 Infection in a Pediatric Patient Requiring Extra-Corporeal Membrane Oxygenation*. *Case Rep Pediatr*. 2020; doi: 10.1155/2020/8885022. eCollection 2020. PMID: 33062363
25. Staab S, Black T, Leonard J, Bruny J, Bajaj L, **Grubenhoff JA**. *Diagnostic Accuracy of Suspected Appendicitis: A Comparative Analysis of Misdiagnosed Appendicitis in Children*. *Pediatr. Emerg. Care*. 2020;38:e690-e696. PMID: 34170096
26. Kirschen MP, Myers SP, Neuman MI, **Grubenhoff JA**, Mannix R, Stence N, Yang E, Woodford AL, Rogers T, Nordell A, Vossough A, Zonfrillo MR. *Intracranial Traumatic Hematoma Detection in Children Using a Portable Near-infrared Spectroscopy Device*. *West J Emerg Med*. 2021;22:782-791 PMID: 34125061
27. Michelson KA, Reeves SD, **Grubenhoff JA**, Cruz AT, Chaudhari PP, Dart AH, Finkelstein JA, Bachur RG. *Clinical Features and Preventability of Delayed Diagnosis of Pediatric Appendicitis*. *JAMA Netw Open*. 2021;4:e2122248. PMID: 34463745
28. Wyner D, Wyner F, Brumbaugh D, **Grubenhoff JA**. *A Family and Hospital's Journey and Commitment to Diagnostic Safety*. *Pediatrics*. 2021;148:e2021053091doi: 10.1542/2020-000123. PMID: 34851407
29. Graham JMK, Ambroggio L, Leonard JE, Ziniel SI, **Grubenhoff JA**. *Evaluation of feedback modalities and preferences regarding feedback on decision-making in a pediatric emergency department*. *Diagnosis (Berl)*. 2021;9:216-224. PMID: 34894116.
30. Lam D, Dominguez F, Leonard J, Wiersma A, **Grubenhoff JA**. *Use of e-triggers to identify diagnostic errors in the paediatric ED*. *BMJ Qual Saf*. 2022;31(10):735-743 PMID: 35318272.
31. Howell DR, Wingerson MJ, Kirkwood MW, **Grubenhoff JA**, Wilson JC. *Early aerobic exercise among adolescents at moderate/high risk for persistent post-concussion symptoms: A pilot randomized clinical trial*. *Physical Therapy in Sport*. 2022;55:196-204. PMID: 35489100
32. Michelson KA, Bachur RG, Dart AH, Chaudhari PP, Cruz AT, **Grubenhoff JA**, Reeves SD, Monuteaux MC, Finkelstein JA. *Identification of delayed diagnosis of paediatric appendicitis in administrative data: a multicentre retrospective validation study*. *BMJ Open*. 2023;13(2):e064852. doi: 10.1136/bmjopen-2022-064852. PMID: 36854600.
33. Mahajan P, **Grubenhoff JA**, Cranford J, Bhatt M, Chamberlain JM, Chang T, Lyttle M, Oostenbrink R, Roland D, Rudy RM, Shaw KN, Zuniga RV, Belle A, Kuppermann N, Singh H. *Types of diagnostic errors reported by paediatric emergency providers in a global paediatric emergency care research network*. *BMJ Open Qual*. 2023;12:e002062. doi: 10.1136/bmjopen-2022-002062. PMID: 36990648



Signature

34. Michelson KA, Bachur RG, **Grubenhoff JA**, Cruz AT, Chaudhari PP, Reeves SD, Porter JJ, Monuteaux MC, Dart AH, Finkelstein JA. *Outcomes of Missed Diagnosis of Pediatric Appendicitis, New-Onset Diabetic Ketoacidosis, and Sepsis in Five Pediatric Hospitals*. J Emerg Med. 2023 65(1):e9-e18. doi: 10.1016/j.jemermed.2023.04.006. Epub 2023 Apr 18. PMID: 37355425
35. **Grubenhoff JA**, Bakel LA, Dominguez F, Leonard J, Widmer K, Sanders JS, Spencer SP, Stein JM, Searns JB. *Clinical Pathway Adherence and Missed Diagnostic Opportunities Among Children with Musculoskeletal Infections*. Joint Comm J Qual Pat Saf. 2023;49:547-556. PMID: 37495472.
36. Michelson KA, Bachur RG, Cruz AT, **Grubenhoff JA**, Reeves SD, Chaudhari PP, Monuteaux MC, Dart AH, Finkelstein JA. *Multicenter Evaluation of a Method to Identify Delayed Diagnosis of Diabetic Ketoacidosis and Sepsis in Administrative Data*. Diagnosis. 2023. doi: 10.1515/dx-2023-0019. Online ahead of print. PMID: 37340621
37. **Grubenhoff JA**, Cifra CL, Marshall T, Perry MF. Issue Brief 14. *Pediatric Diagnostic Safety: State of the Science and Future Directions*. Rockville, MD: Agency for Healthcare Research and Quality; September 2023. Publication No. [23-0040-5-EF](#)
38. Ladell M, Ziniel S, Shafer G, **Grubenhoff JA**. *Comparative Perspectives on Diagnostic Error Discussions Between Inpatient and Outpatient Pediatric Providers*. Amer J Med Qual. 38(5):245-254. PMID: 37678302
39. Lowe J, Leonard J, Domiguez F, Widmer K, Deakyne-Davies SJ, Wiersma AJ, Mendenhall M, **Grubenhoff JA**. *Preferred Language and Diagnostic Errors in the Pediatric Emergency Department*. Diagnosis (Berl). 2023. doi: 10.1515/dx-2023-0079. Online ahead of print. PMID: 37795819

Non-refereed Journal Articles, Invited Commentaries and Letters to the Editor

1. **Grubenhoff JA**, du Ford K, Roosevelt GE. *Heat-related illness*. Clin Ped Emerg Med 8(1):59-64. 2007
2. Schmitt BD, **Grubenhoff JA**. *Observations regarding "Evaluation of An After-Hours Call Center: Are Pediatric Patients Appropriately Referred to the Emergency Department."* Pediatr Emerg Care 2015;31(8):e5-6. PMID: 26241720
3. **Grubenhoff JA**. *The Diagnostic Safety Program at Children's Hospital Colorado*. Pennsylvania Patient Safety Advisory. 2018;15 (Suppl1):p55-56.
4. Cheung DS, **Grubenhoff JA**. *Machine Learning in Clinical Medicine Still Finding Its Way*. JAMA Netw Open. [Epub ahead of print] 2019 Jan 4;2(1):e186926. PMID: 30646201
5. Gaensbauer J, **Grubenhoff JA**. *Neonatal Herpes Simplex Virus Infections: New Data, Old Conundrum*. Pediatrics. 2019 143(4). PMID: 30923057
6. **Grubenhoff JA**. *PECARN blunt head-trauma prediction rule in infants <3 months old*. J Pediatr. 2021;238:338-342. PMID: 34702504.



Signature

7. **Grubenhoff JA**, Carubia BA. *Understanding Regional Healthcare-Seeking Behavior During the COVID-19 Pandemic – An Important Aspect of Addressing Resource Needs*. JAMA Netw Open. 2022;5:e2220560. PMID: 35797051.

8. **Grubenhoff JA**, Perry MF. *Complementary Approaches to Identifying Missed Diagnostic Opportunities in Hospitalized Children*. Hosp Pediatr. 2023;3:e186-e188. PMID: 37271797

Book Chapters and On-line Educational Content

1. Mandt MJ, **Grubenhoff JA**. Emergencies and Injuries. In Hay WW et al, ed. *Current Diagnosis and Treatment-Pediatrics, 20th ed*. New York: McGraw-Hill; 2010:300-320.

2. **Grubenhoff JA**. Head Injury. In: Bajaj L et al, eds. *Berman's Pediatric Decision Making, 5th ed*. Philadelphia: Mosby; 2011:418-21.

3. **Grubenhoff JA**. Neck Injury. In: Bajaj L et al, eds. *Berman's Pediatric Decision Making, 5th ed*. Philadelphia: Mosby; 2011:422-25.

4. Mandt MJ, **Grubenhoff JA**. Emergencies and Injuries. In Hay WW et al, ed. *Current Diagnosis and Treatment-Pediatrics, 21st ed*. New York: McGraw-Hill; 2012:316-338.

5. **Grubenhoff JA**, Provance A. Physical and Neurologic Exam. In Yeates KO & Kirkwood MW, eds. *Pediatric Mild Traumatic Brain Injury: From Basic Science to Clinical Management*. New York: Guilford; 2012:196-217.

6. Mandt MJ, **Grubenhoff JA**. Emergencies and Injuries. In Hay WW et al, ed. *Current Diagnosis and Treatment-Pediatrics, 22nd ed*. New York: McGraw-Hill; 2014:334-356.

7. **Grubenhoff JA**. Neurologic and Spinal Trauma. In *Pediatric Emergency Medicine Board Review*, by Oakstone Specialty Review Online Courses. Katherine Bakes, MD Course Director. 2016
<https://www.oakstone.com/pediatric-emergency-medicine-board-review>

8. Ricci LR, Dorighi M, **Grubehoff JA**, Nicklas D. *Concussion Podcast- Department of Pediatrics University of Colorado*, 22 Nov. 2019, www.merlot.org/merlot/viewMaterial.htm?id=771655813.

9. *A Simple Way to Reduce Diagnostic Errors*. (Invited commentary in *Children's Hospitals Today Newsletter*) October 12, 2022 https://www.childrenshospitals.org/news/childrens-hospitals-today/2022/10/a-simple-way-to-reduce-diagnostic-errors?utm_campaign=CHT-Newsletter-Weekly&utm_source=Salesforce-MC&utm_medium=Email&utm_term=October-13-2022&utm_content=Article-2

Scientific Abstracts - Competitive (Grubenhoff lead author unless indicated otherwise)

1. *Knowledge, practice and attitudes regarding NOCSAE helmet standards among high school lacrosse coaches*. Pediatric Academic Soc. Annual Meeting 2007 – Toronto, CAN (poster)

2. *Use of the SAC-ER for identifying mild traumatic brain injury in a pediatric population*. Pediatric Academic Soc. Annual Meeting 2008 – Honolulu, HI (oral)



Signature

3. *A Detailed Evaluation of Acute Mild Traumatic Brain Injury Symptoms in the ED.* Pediatric Academic Soc. Annual Meeting 2009 – Vancouver, CAN (poster)
4. *Monthly Variation of US Emergency Department Visits for Headaches in School-Aged Children* (Kedia, S lead author) Pediatric Academic Soc. Annual Meeting 2013 – Washington, D.C. (poster)
5. *Injury Management Experiences Following ED Evaluation of Concussion.* Pediatric Academic Soc. Annual Meeting 2014 – Vancouver, CAN (oral)
6. *Acute Symptom Load Does Not Predict Persistent Post-concussion Symptoms.* Pediatric Academic Soc. Annual Meeting 2014 – Vancouver, CAN (oral)
7. *Evaluating Parental Views on Head Injury Terminology.* (Santana A lead author; Grubenhoff J senior author) Pediatric Academic Soc. Annual Meeting 2014 – Vancouver, CAN (poster)
8. *Results of a Randomized Controlled Trial of Lorazepam Versus Diazepam for Pediatric Status Epilepticus.* (Chamberlain J lead author) Pediatric Academic Soc. Annual Meeting 2014 – Vancouver, CAN (oral)
9. *Compliance of Return-to-Play Guidelines of US High School Athletes After Sports-Related Concussion from 2005/06 through 2012/13.* (Reiderer M lead author) American Medical Society for Sports Medicine Annual Meeting 2014 – New Orleans, LA (poster)
10. *Compliance of Return-to-Play Guidelines of US High School Athletes after Sports-Related Concussion from 2005/06 to 2012/13.* (Reiderer M lead author) American Academy of Pediatrics NCE 2014 – San Diego, CA (poster)
11. *Traumatic brain injury among runaway/homeless youth.* (Harpin SB lead author) State of the Science Congress on Nursing Research, Council for the Advancement of Nursing Science 2014 - Washington, DC (oral)
12. *Acute Symptom Load Does Not Predict Persistent Post-concussion Symptoms.* Craig Hospital National Brain Injury Summit 2015 – Vail, CO (oral)
13. *Documentation of Symptoms and Diagnosis Accuracy in Children with Blunt Head Trauma.* (Szeffler P lead author; Grubenhoff J, senior author) Pediatric Academic Soc. Annual Meeting 2015 – San Diego, CA (poster)
14. *Psychological Factors Associated With Delayed Symptom Resolution in Concussed Children.* Pediatric Academic Soc. Annual Meeting 2016 – Baltimore, MD (oral)
15. *Assessing the Clinical Utility of "Is Your Child Back to Normal?" for Pediatric Mild Traumatic Brain Injury Symptom Resolution.* (Vollmer B lead author; Grubenhoff J senior author) Pediatric Academic Soc. Annual Meeting 2016 – Baltimore, MD (poster)
16. *PECARN & non-PECARN Injury Variables Associated with Head CT in Concussed Pediatric ED Population.* (Krack A lead author; Grubenhoff J senior author) Pediatric Academic Soc. Annual Meeting 2017 – San Francisco, CA (poster)



Signature

17. *Discussing Diagnostic Error: Knowledge and Perceptions of a Pediatric Hospital Medical Staff.* 10th Annual Diagnostic Error in Medicine Conference 2017 – Boston, MA (poster)
18. *The LOOP Project: A Multicenter, Interdisciplinary Initiative to Improve Diagnostic Reasoning and Patient Safety through Consistent, Rapid Feedback.* (Wheeler B, lead author). University of Colorado Hospital 6th Annual Education Symposium 2017 – Aurora, CO (poster)
19. *Fast MRI is Feasible and Accurate for TBI in Young Children.* (Lindberg D, lead author) Ray Helfer Society Annual Conference 2018 – Nashville, TN (oral)
20. *Post-Concussion Academic Support in Children who attend a follow-up visit after presenting to the Emergency Department.* (Snedden T lead author; Grubenhoff J, senior author) Midwest Nursing Research Society Meeting 2018 – Cleveland, OH (poster)
21. *Barriers & Facilitators for Primary Care Follow-up after ED Evaluation of Concussion.* Pediatric Academic Soc. Annual Meeting 2018 – Toronto, CA (poster)
22. *Improving Residents' Diagnostic Reasoning through Peer-to-Peer Feedback – The LOOP Study.* (Wheeler B, lead author). Pediatric Academic Soc. Annual Meeting 2018 – Toronto, CAN (poster)
23. *CT Scan Reduction Is Not Associated with an Increase in Negative Appendectomies or Missed Appendicitis.* (Staab S, lead author). Ped. Academic Soc. Annual Meeting 2018 – Toronto, CAN (oral)
24. *Association of Burnout with Perception of Diagnostic Error at a Large Pediatric Academic Medical Center: An Opportunity to Improve Patient Safety.* (Reese J, lead author). National Summit on Promoting Well-Being and Resilience in Healthcare Providers 2018 – Columbus, OH (oral)
25. *Comparison of Pediatrician Comfort Discussing System Versus Diagnostic Errors in Morbidity and Mortality Conference.* 11th Annual Diagnostic Error in Medicine Conference 2018 – New Orleans, LA (poster)
26. *Handshake Antimicrobial Stewardship as a Model to Prevent Patient Safety Incidents and Recognize Diagnostic Errors.* (Searns J, lead author) IDWeek 2019 – Washington, D.C. (poster)
27. *Pediatric Emergency Physicians' Perspectives on Diagnostic Safety - Results from an International Survey.* (Mahajan P, lead author) 12th Annual Diagnostic Error in Medicine Conference 2019 – Washington, D.C. (oral)
28. *Types of Diagnostic Errors Self-Reported by an International Cohort of Pediatric Emergency Physicians.* (Mahajan P, lead author) 12th Annual Diagnostic Error in Medicine Conference 2019 – Washington, D.C. (poster)
29. *Epidemiology of Diagnostic Errors in an International Cohort of Pediatric Emergency Departments* (Mahajan P, lead author) Pediatric Academic Society Annual Meeting 2020 – Philadelphia, PA (poster)*
(*not presented due to SARS-CoV2 Pandemic)
30. *Provider Opinions of Three Modalities of Feedback in a Pediatric Emergency Department.* (Graham J, lead author; Grubenhoff, J senior author) CU SOM Pediatric Research *Virtual* Poster Session 2020 – Aurora, CO (poster)



Signature

31. *Clinical Pathways May Be a Source of Diagnostic Error: Saved by ED Hand-off.* 13th Annual Diagnostic Error in Medicine Conference 2020 – Minneapolis, MN (virtual poster)
32. *Analysis of a Data Stream to Detect Diagnostic Errors in the Pediatric ED.* (Lam D, lead author; Grubenhoff J, senior author) 13th Annual Diagnostic Error in Medicine Conference 2020 – Minneapolis, MN (virtual plenary)
33. *Developing a Data Stream to Detect Diagnostic Errors in the Pediatric ED.* 13th Annual Diagnostic Error in Medicine Conference 2020 – Minneapolis, MN (virtual poster)
34. *Pediatric Emergency Physicians' Perspectives on Diagnostic Safety - Results from an International Survey.* (Mahajan P, lead author) AAP NCE 2020 (virtual)
35. *Provider Opinions of Three Modalities of Feedback in a Pediatric Emergency Department.* Virtual Poster Presentation Graham J, lead author; Grubenhoff J senior author) Pediatric Academic Society Annual Meeting 2021 (virtual poster)
36. *Analysis of a Data Stream to Detect Diagnostic Errors in the Pediatric ED.* (Lam D, lead author; Grubenhoff J, senior author) Pediatric Academic Society Annual Meeting 2021 (virtual poster)
37. *Not Seeing Is Believing: The Conundrum Of The Non-Visualized Appendix.* (Tutman J, lead author) Society for Pediatric Radiology Annual Meeting 2022 – Denver, CO (platform)
38. *Diagnostic Delays of MSK Infections and Clinical Pathway Execution.* 15th Annual Diagnostic Error in Medicine Conference 2022 – Minneapolis, MN (poster)
39. *Contribution of Limited English Proficiency to Diagnostic Errors in Pediatric ED Patients.* (Lowe J, lead author; Grubenhoff J senior author) 15th Annual Diagnostic Error in Medicine Conference 2022 – Minneapolis, MN (platform)
40. *Synthesized Differential Diagnoses May Decrease Diagnostic Error.* (Sheline E, lead author; Grubenhoff J senior author). Pediatric Academic Society Annual Meeting 2023 (platform)
41. *Racial and Ethnic Disparities in Pediatric Emergency Department Diagnostic Errors.* (Eyal K, lead author; Grubenhoff J senior author). Pediatric Academic Society Annual Meeting 2023 (poster)
42. *SHAREing is Caring, The Development of a Surgical Co-Management Program at Children's Hospital Colorado* (Zamkoff J, lead author). AAP NCE 2023. (poster)
43. *Racial and Ethnic Disparities in Pediatric Emergency Department Diagnostic Errors.* (Eyal K, lead author; Grubenhoff J senior author). SIDM 2023. Cleveland, OH (platform)
44. *Synthesized Versus Inventorial Differential Diagnoses and Risk of Diagnostic Error.* SIDM 2023. Cleveland, OH (poster)
45. *Surgical Hospitalist Recovery (SHARE) Team.* (Scarberry J, lead author; Grubenhoff J, contributing author). Annual Rocky Mountain Interprofessional Research and Evidence-Based-Practice Symposium, Denver, CO 2023. (platform)



Signature

Other Products of Scholarship

1. Children's Hospital Colorado Concussion Clinical Care Guideline (Grubenhoff J, team lead, 2010)
2. Department of Ped. Collaborative Case Review Facilitator Guide (Grubenhoff, J, team lead, 2018)
3. Children's Hospital Association Patient Safety Organization Diagnostic Safety Toolkit
 - a. Member Expert: <https://www.childrenshospitals.org/content/quality/toolkit/diagnostic-safety-toolkit>
4. American Academy of Pediatrics Quality Minute Series: Improving Diagnosis in Ambulatory Pediatrics – Intracranial Processes <https://learn.aap.org/course/view.php?id=153&pageid=2924>

Media Coverage of Academic Work

1. *Concussion symptom severity does not predict delayed symptom resolution* in In The Journals on Healio website. June 27, 2014.
<https://www.healio.com/pediatrics/adolescent-medicine/news/online/%7Bd9301fe8-af1f-4a55-956a-6dddaac43b92%7D/concussion-symptom-severity-does-not-predict-delayed-symptom-resolution>
2. *Mood disorders linked to lingering concussion effect in kids* in Concussion News October 24, 2014.
<https://www.myheadfirst.com/mood-disorders-linked-to-lingering-concussion-effect-in-kids?journal=158>
3. *Heading the ball, player-to-player contact and concussions in high school soccer* in Science Daily. July 13, 2015.
<https://www.sciencedaily.com/releases/2015/07/150713113251.htm>
4. *"What a long headache you've had!" Lingering concussion symptoms may not be what they appear in kids* in Atlas of Science. September 18, 2016.
<https://atlasofscience.org/what-a-long-headache-youve-had-lingering-concussion-symptoms-may-not-be-what-they-appear-in-kids/>
5. Grubenhoff JA, et al. *Psychological Factors Associated with Delayed Symptom Resolution in Children with Concussion*. J Pediatr. 2016;174:27-32.
 - a. Featured in AAP Grand Rounds September 2016, Volume 36 / Issue 3
6. *Applying the Science of Human Fallibility to Patient Safety* in Clinically Speaking (newsletter of the CU School of Medicine Clinical Affairs Department) January 2018.
<http://www.ucdenver.edu/academics/colleges/medicalschool/PatientCare/quality/Newsroom/Pages/Clinical-Reasoning-January%202018.aspx>
7. *Episode 4: Youth Concussions with Joe Grubenhoff* on Little Big Med podcast. December 2017.
<https://www.listennotes.com/podcasts/little-big-med/episode-4-youth-concussions-QgryLGVxUbf/>
8. *Cognitive Bias and How it Affects Health Care Providers' Decision Making* in Children's Hospitals Today (newsletter of the Children's Hospital Association) July 30, 2018



Signature

https://www.childrenshospitals.org/Newsroom/Childrens-Hospitals-Today/Summer-2018/Articles/Cognitive-Bias-and-How-it-Affects-Health-Care-Providers-Decision-Making?utm_source=exm&utm_medium=email&utm_campaign=cht&utm_content=083018

9. *Cognitive Error in Diagnosis (S2:E31 in Charting Pediatrics Podcast* (Podcast of Children's Hospital Colorado) March 26, 2019 <https://www.listennotes.com/podcasts/charting-pediatrics/cognitive-error-in-diagnosis-l-vzmjsy7V0/>

10. *Use Data and Research to Create a Quality Improvement Cultural Shift* (Children's Hospitals Today Newsletter) August 3, 2020 <https://www.childrenshospitals.org/Newsroom/Childrens-Hospitals-Today/Summer-2020/Articles/Use-Data-and-Research-to-Create-a-Cultural-Shift>

11. *Charting a Better Way Forward in Addressing Diagnostic Error* (ED Management 2021;33(7):73-77.) <https://www.reliasmedia.com/articles/148145-charting-a-better-way-forward-in-addressing-diagnostic-errors>

12. Lam D, ... **Grubenhoff JA**. *Use of e-triggers to identify diagnostic errors in the paediatric ED*. BMJ Qual Saf. 2022;31(10):735-743 PMID: 35318272.

a. Featured in the April 6, 2022 [AHRQ Patient Safety Network \(PSNet\) Collection](#)

b. Invited commentary critiquing work from BMJ Qual Saf:

<https://qualitysafety.bmj.com/content/early/2022/05/03/bmjqs-2021-014517>

12. *The Joint Commission Puts Providers on Notice Regarding Diagnostic Overshadowing*. (ED Management 2022;34(9):135-137.) <https://www.reliasmedia.com/articles/the-joint-commission-puts-providers-on-notice-regarding-diagnostic-overshadowing>

13. *Harsh Criticism for New Report on ED Diagnostic Errors*. (Hospital Employee Health April 1, 2023.) <https://www.reliasmedia.com/articles/harsh-criticism-for-new-report-on-ed-diagnostic-errors-2>

14. *Clinical pathway adherence and missed diagnostic opportunities among children with musculoskeletal infections* (Highlight in the AHRQ Patient Safety Network collection) <https://psnet.ahrq.gov/issue/clinical-pathway-adherence-and-missed-diagnostic-opportunities-among-children-musculoskeletal>