Stanford



Cornelius Botha Groenewald

Associate Professor of Anesthesiology, Perioperative and Pain Medicine (Pediatric)

NIH Biosketch available Online Curriculum Vitae available Online

CLINICAL OFFICE (PRIMARY)

- **Anesthesia Department**

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ACADEMIC CONTACT INFORMATION

- **Administrative Contact**

  Samer Dabit - Research Administrative Associate

  Email sdabit@stanford.edu

Bio

BIO

Dr. Groenewald is Director of Pediatric Anesthesiology Research at Stanford University School of Medicine. He conducts clinical research that crosses several areas related to child health, including epidemiology, health services research, pediatric pain, sleep deficiency, and opioid use behaviors. His research is funded by the National Institutes of Health, International Association for the Study of Pain, and the Society for Pediatric Anesthesiology. His work on pediatric pain, sleep disturbance, and opioid use has been published in JAMA Pediatrics, Pediatrics, PAIN, Journal of Pain, SLEEP, and JAMA Psychiatry. Dr. Groenewald holds national leadership positions in the United States Association for the Study of Pain, including being elected as inaugural Chair of the Pediatric Special Interest Group in 2020 and co-chair of the Advocacy committee in 2022. He serves on the editorial boards of the Journal of Pain and Pediatric Anesthesiology.

CLINICAL FOCUS

- Anesthesia

ACADEMIC APPOINTMENTS

- Associate Prof-Univ Med Line, Anesthesiology, Perioperative and Pain Medicine
- Member, Maternal & Child Health Research Institute (MCHRI)

ADMINISTRATIVE APPOINTMENTS

- Director of Pediatric Anesthesiology Research, Stanford University School of Medicine, (2023- present)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Editorial Board, Pediatric Anesthesia (2023 - present)
- Co-Chair, Advocacy Committee, United States Association for the Study of Pain (2023 - 2025)
- Chair, Pediatric Special Interest Group, United States Association for the Study of Pain (2021 - 2023)
- Editorial Board, Journal of Pain (2019 - present)
- Organizing Committee, United States Association for the Study of Pain (2019 - 2021)

PROFESSIONAL EDUCATION

- Residency: Mayo Clinic College of Medicine and Science Rochester (2011) MN
- Board Certification: Anesthesia, American Board of Anesthesiology (2023)
- Board Certification: Pediatric Anesthesiology, American Board of Anesthesiology (2015)
- Research Fellowship, Seattle Children's Hospital and the University of Washington, Seattle, WA (2013)
- Fellowship, Seattle Children's Hospital and the University of Washington, Seattle WA (2012)
- Residency, Mayo Clinic, Rochester MN (2011)
- Medical Education, Faculty of Medicine and Health Sciences, Stellenbosch University, South Africa (2002)

LINKS

- Groenewald lab website: https://groenewaldlab.stanford.edu/

Research & Scholarship

PROJECTS

- Sleep Disturbances and Long-term Outcomes after Critical Illness in Children (K23HL138155), National Heart, Lung, and Blood Institute (NHLBI,NIH) - Seattle Children's Hospital and University of Washington, Seattle WA (2017 - 2023)
- Sleep deficiency and opioid use/misuse in adolescents following surgery (R01HL166337), National Heart, Lung, and Blood Institute (NHLBI, NIH) - Stanford University School of Medicine (2023 - 2028)

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Laila Chaudhry

Postdoctoral Research Mentor

Rory Mather

Publications

PUBLICATIONS

- **Annual medical care expenditures and financial toxicity among families of children with pain conditions in the United States: a nationally representative study.** *The journal of pain*
  Groenewald, C. B., Carney, A. C., Anderson, T. A., Rabbitts, J. A., Chaudhry, L. A.
  2026: 106488
- **Prevalence of chronic pain among U.S. children with neurodevelopmental disorders.** *Pain reports*
  Chou, H., Chaudhry, L. A., Rabbitts, J. A., Groenewald, C. B.
  2026; 11 (5): e1495
- **National medical expenditures associated with pediatric surgical care in the United States.** *Journal of pediatric surgery*
  Kreider, S. L., Chaudhry, L. A., Rabbitts, J. A., Chao, S. D., Anderson, T. A., Groenewald, C. B.
  2026: 163492
- **Contextualizing Opioid Consumption After Ambulatory Surgery in Adolescents.** *Paediatric anaesthesia*
  Groenewald, C. B., Rabbitts, J. A., Borucki, A. N., Agarwal, R., Sabatti, C., Palermo, T. M., Rogers, A. H.
  2026
- **Individual and Family-Level Risk Factors of Daily Opioid Use in Adolescents Following Spinal Fusion Surgery.** *The Clinical journal of pain*
  Dionicio, P., Groenewald, C. B., Palermo, T., Kain, Z. N., Rabbitts, J. A.

2026

- **Comorbidities Associated With Chronic Pain Among Adolescents.** *Anesthesia and analgesia*
  King, M. R., Li, S., De Souza, E., Dinh, A., Groenewald, C. B., Anderson, T. A.
  2026
- **Pre-surgical quantitative sensory testing and post-surgical pain among adolescents undergoing spinal fusion surgery: A longitudinal cohort study.** *The journal of pain*
  Sujan, A. C., Groenewald, C., Li, R., Schreiber, K. L., Palermo, T. M., Kain, Z., Rabbitts, J. A.
  2026; 45: 106327
- **Health care expenditures associated with sleep disorders among children and adolescents in the United States: a nationally representative study.** *Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine*
  Carney, A. C., Rabbitts, J. A., Okorie, C. U., Groenewald, C. B.
  2026; 22 (1)
- **Association Between High-Risk Preexisting Substance Use and Increased Postoperative Opioid Dose Use Among Adolescents Undergoing Ambulatory Orthopedic Surgery.** *Paediatric anaesthesia*
  Groenewald, C. B., Rabbitts, J. A., Borucki, A. N., Agarwal, R., Sabatti, C., Palermo, T. M., Rogers, A. H.
  2026
- **Trends in Complementary and Alternative Medicine Use Among US Youths.** *JAMA pediatrics*
  Groenewald, C. B., Kreider, S. L., Cragun, J., Falasinnu, T.
  2026
- **Pre-Surgical Quantitative Sensory Testing and Post-Surgical Pain Among Adolescents Undergoing Spinal Fusion Surgery: A Longitudinal Cohort Study**
  Sujan, A., Groenewald, C., Li, R., Schreiber, K., Kain, Z., Rabbitts, J.
  CHURCHILL LIVINGSTONE.2026
- **National Medical Expenditures Associated With Pediatric Disorders of Gut-Brain Interaction in the United States.** *Neurogastroenterology and motility*
  Sujan, A. C., Major, J., Groenewald, C. B., Rabbitts, J. A.
  2026; 38 (3): e70279
- **Health Care Expenditures Associated with Pain Conditions Among Children and Adolescents in the United States: A Nationally Representative Study**
  Carney, A., Groenewald, C.
  CHURCHILL LIVINGSTONE.2026
- **Perceived Risk and Prescription Opioid Misuse Among Adolescents After Surgery**
  Onyewu, A., Groenewald, C.
  CHURCHILL LIVINGSTONE.2026
- **Incidence of Hospital Readmissions after Pediatric Outpatient Surgery**
  Peach-Riley, Z., Groenewald, C.
  CHURCHILL LIVINGSTONE.2026
- **The Influence of Rurality in Pediatric Chronic Pain and Barriers to Pain Care**
  Sahaym, O., Groenewald, C.
  CHURCHILL LIVINGSTONE.2026
- **Prevalence of Complementary and Alternative Medicine (CAM) Use for Pain Among Children in the United States**
  Kreider, S., Falasinnu, T., Groenewald, C.
  CHURCHILL LIVINGSTONE.2026
- **Pediatric Oncology Providers' Perceptions on Pain Management and Opioid Use for Adolescents and Young Adults With Cancer: A Qualitative Study.** *Pediatric blood & cancer*
  Rogers, A. H., Pester, B. D., Fligelman, S. J., Pielech, M., Groenewald, C. B., Ketterl, T. G., Vest, B. M., Palermo, T. M.
  2026: e70131

- **Prescription Opioid Misuse Among Sexual and Gender Minority (SGM) Youth in the United States: A Nationally Representative Study.** *Substance use & misuse*
  Kreider, S. L., Harrison, L., Reece-Nguyen, T., Groenewald, C. B.
  2025: 1-8
- **National Medical Expenditures Associated With Surgical Care Among Individuals in the United States.** *Annals of surgery open : perspectives of surgical history, education, and clinical approaches*
  Groenewald, C. B., Rabbitts, J. A., De Souza, E., Anderson, T. A., Bicket, M. C.
  2025; 6 (4): e634
- **Associations Between Electronic Vapor Product Use and Prescription Opioid Misuse Among High School Students in the United States; A Retrospective Cross-Sectional Analysis.** *Children (Basel, Switzerland)*
  Pache, K. M., Kameni, L., Groenewald, C. B.
  2025; 12 (11)
- **Positive childhood experiences and insufficient sleep among children and adolescents in the United States: Anationally representative study.** *Sleep health*
  Flack, R. L., Kreider, S. L., Groenewald, C. B.
  2025
- **Chronic pain among Asian American children and associations with racial and ethnic discrimination: a nationally representative study.** *The journal of pain*
  Ma, R. S., Kim, Y., Bhandari, R., Groenewald, C. B.
  2025: 105432
- **Something in the Air: Uncovering the Relationship Between Air Pollution and Chronic Pain in Children**
  Pintea, S., Groenewald, C.
  LIPPINCOTT WILLIAMS & WILKINS.2025: 655
- **Teens and opioids postsurgery (TOPS): protocol for a prospective observational study describing associations between sleep deficiency and opioid use following outpatient surgery in adolescents.** *BMJ open*
  Groenewald, C. B., Palermo, T., Rabbitts, J. A., Flack, R. L., Kreider, S. L.
  2025; 15 (4): e099679
- **Bullying and Pediatric Chronic Pain: Racial/Ethnic Disparities among Asian and White Youth**
  Kim, Y., Ma, R., Rabbitts, J., Groenewald, C.
  CHURCHILL LIVINGSTONE.2025
- **Associations Between Preoperative Actigraphy Sleep Measures And Acute Postsurgery Pain Intensity Among Adolescents: A Preliminary Investigation**
  Carney, A., Groenewald, C.
  CHURCHILL LIVINGSTONE.2025
- **Describing Pediatric Intraoperative Methadone Outcomes Using the PHIS Dataset**
  Peach-Riley, Z., Groenewald, C.
  CHURCHILL LIVINGSTONE.2025
- **Discrimination and the Prevalence of Pediatric Pain in Asian Americans**
  Ma, R., Kim, Y., Groenewald, C., Bhandari, R.
  CHURCHILL LIVINGSTONE.2025
- **Preoperative Substance Use: A Risk Factor for Increased Post-Surgical Opioid Use Among Adolescents**
  Flack, R. L., Rogers, A. H., Rabbitts, J. A., Palermo, T. M., Groenewald, C. B.
  CHURCHILL LIVINGSTONE.2025
- **Adverse Childhood Events (ACEs) Associated with Increased Acute Post-Surgical Pain Intensity in Adolescents in the United States**
  Kreider, S., Flack, R., Rabbitts, J., Palermo, T., Groenewald, C.
  CHURCHILL LIVINGSTONE.2025
- **Medical expenditures associated with abdominal and pelvic pain in the United States, 2017-2021.** *The journal of pain*
  Li, R., Tham, S. W., Basu, A., Palermo, T. M., Dang, T. T., Groenewald, C. B.

2025; 28: 104793

- **Adolescent predictors of substance use in young adulthood among individuals with childhood-onset chronic pain: A follow-up study.** *European journal of pain (London, England)*
  Rogers, A. H., Palermo, T. M., Groenewald, C. B., Murray, C. B.
  2024
- **Ecological momentary assessment of sleep, pain, and opioid use among adolescents following surgery.** *Sleep advances : a journal of the Sleep Research Society*
  Rogers, A. H., Rabbitts, J. A., Saper, M. G., Schmale, G. A., Palermo, T. M., Groenewald, C. B.
  2024; 5 (1): zpae039
- **Reply to Long-Mills and Tumin.** *Pain*
  Kapos, F. P., Vandeleur, D. M., Tham, S. W., Palermo, T. M., Groenewald, C. B.
  2024; 165 (6): 1425
- **Influence of chronotype on pain incidence during early adolescence.** *Pain*
  Li, R., Groenewald, C., Tham, S. W., Rabbitts, J. A., Ward, T. M., Palermo, T. M.
  2024
- **Healthcare Discrimination Associated with Pediatric Chronic Pain in the United States**
  Flack, R. L., Groenewald, C. B.
  CHURCHILL LIVINGSTONE.2024: 55
- **Sexual orientation/gender identity discrimination and chronic pain in children: A national study.** *American journal of preventive medicine*
  Weiss, K. E., Li, R., Chen, D., Palermo, T. M., Scheurich, J. A., Groenewald, C. B.
  2024
- **Prescription Opioid Decision-Making and Use Behaviors in Adolescents with Acute Pain: A Qualitative Study.** *The Clinical journal of pain*
  Kapos, F. P., Gordon, G. O., Groenewald, C. B., Slack, K., Wang, V., Palermo, T. M., Wilson, A. C., Rabbitts, J. A.
  2024
- **Association of Neighborhood Characteristics and Chronic Pain in Children and Adolescents in the United States.** *The Clinical journal of pain*
  Vandeleur, D. M., Cunningham, M. M., Palermo, T. M., Groenewald, C. B.
  2023
- **Opioid prescription rates associated with surgery among adolescents in the United States from 2015 to 2020.** *Paediatric anaesthesia*
  Sofia, J. T., Kim, A., Jones, I., Rabbitts, J. A., Groenewald, C. B.
  2023
- **Comparing the prevalence of chronic pain in school-aged children in the United States from 2019 to 2020: a nationally representative study examining differences associated with the COVID-19 pandemic.** *Pain*
  Kapos, F. P., Vandeleur, D. M., Tham, S. W., Palermo, T. M., Groenewald, C. B.
  2023
- **Positive Childhood Experiences and Chronic Pain Among Children and Adolescents in the United States.** *The journal of pain*
  Pugh, S. J., Murray, C., Groenewald, C. B.
  2023; 24 (7): 1193-1202
- **We need to talk: The urgent conversation on chronic pain, mental health, prescribing patterns and the opioid crisis** *JOURNAL OF PSYCHOPHARMACOLOGY*
  Battaglia, M., Groenewald, C. B., Campbell, F., Scaini, S., De Koninck, Y., Stinson, J., Quinn, P. D.
  2023: 437-448
- **Household Food Insufficiency and Chronic Pain among Children in the US: A National Study** *CHILDREN-BASEL*
  Tham, S., Law, E. F., Palermo, T. M., Kapos, F. P., Mendoza, J. A., Groenewald, C. B.
  2023; 10 (2)
- **Racial and ethnic differences in pediatric surgery utilization in the United States: A nationally representative cross-sectional analysis** *JOURNAL OF PEDIATRIC SURGERY*
  Groenewald, C. B., Lee, H. H., Jimenez, N., Ehie, O., Rabbitts, J. A.

2022; 57 (8): 1584-1591

- **Prevalence of Pain Management Techniques Among Adults With Chronic Pain in the United States, 2019** *JAMA NETWORK OPEN*
  Groenewald, C. B., Murray, C. B., Battaglia, M., Scaini, M., Quinn, P. D.
  2022; 5 (2): e2146697
- **Can Use of Default Dispensing Quantities in Electronic Medical Record Lower Opioid Prescribing?** *Pediatric emergency care*
  Chua, W. J., Groenewald, C. B., Varakitsomboon, S., Harris, J., Faino, A. V., Quan, L., Walco, G. A., Sousa, T. C.
  2022; 38 (2): e600-e604
- **Healthcare utilization and costs among pediatric patients with chronic postsurgical pain after major musculoskeletal surgery** *PEDIATRIC ANESTHESIA*
  Ellyson, A. M., Powelson, E. B., Groenewald, C. B., Rabbitts, J. A.
  2022; 32 (4): 577-578
- **Associations between insufficient sleep and prescription opioid misuse among high school students in the United States.** *Journal of clinical sleep medicine : JCSM : official publication of the American Academy of Sleep Medicine*
  Groenewald, C. B., Rabbitts, J. A., Tham, S. W., Law, E. F., Palermo, T. M.
  2021; 17 (11): 2205-2214
- **Prescription Opioid Misuse and Sports-Related Concussion Among High School Students in the United States** *JOURNAL OF HEAD TRAUMA REHABILITATION*
  Tham, S., Palermo, T. M., Chrisman, S. P. D., Groenewald, C. B.
  2021; 36 (5): 338-344
- **Training the Trainers in Ultrasound-guided Access to Improve Peripheral Intravenous Catheter Placement among Children Presenting for Anesthesia** *PEDIATRIC QUALITY & SAFETY*
  O'Reilly-Shah, V. N., Franz, A., Groenewald, C. B., Collins, M., Patak, L. S.
  2021; 6 (3): e406
- **Associations between adolescent sleep deficiency and prescription opioid misuse in adulthood.** *Sleep*
  Groenewald, C. B., Law, E. F., Rabbitts, J. A., Palermo, T. M.
  2021; 44 (3)
- **The Role of Sleep in the Transition from Acute to Chronic Musculoskeletal Pain in Youth-A Narrative Review** *CHILDREN-BASEL*
  Andreucci, A., Groenewald, C. B., Rathleff, M., Palermo, T. M.
  2021; 8 (3)
- **Association of Headache With School Functioning Among Children and Adolescents in the United States** *JAMA PEDIATRICS*
  Turner, S. B., Szperka, C. L., Hershey, A. D., Law, E. F., Palermo, T. M., Groenewald, C. B.
  2021; 175 (5): 522-524
- **Subacute pain trajectories following major musculoskeletal surgery in adolescents: A pilot study** *CANADIAN JOURNAL OF PAIN-REVUE CANADIENNE DE LA DOULEUR*
  Rabbitts, J. A., Groenewald, C. B., Zhou, C.
  2020; 4 (4): 3-12
- **Impaired School Functioning in Children With Chronic Pain: A National Perspective.** *The Clinical journal of pain*
  Groenewald, C. B., Tham, S. W., Palermo, T. M.
  2020; 36 (9): 693-699
- **Adverse childhood experiences and chronic pain among children and adolescents in the United States** *PAIN REPORTS*
  Groenewald, C. B., Murray, C. B., Palermo, T. M.
  2020; 5 (5): e839
- **Epidemiology of Pediatric Surgery in the United States** *PEDIATRIC ANESTHESIA*
  Rabbitts, J. A., Groenewald, C. B.
  2020; 30 (10): 1083-1090
- **Consideration of Adolescent Pain in Responses to the Opioid Crisis.** *JAMA psychiatry*
  Battaglia, M., Quinn, P. D., Groenewald, C. B.

2020

- **Correlates and motivations of prescription opioid use among adolescents 12 to 17 years of age in the United States.** *Pain*
  Groenewald, C. B., Patel, K. V., Rabbitts, J. A., Palermo, T. M.
  2020; 161 (4): 742-748

- **Long-term impact of adolescent chronic pain on young adult educational, vocational, and social outcomes** *PAIN*
  Murray, C. B., Groenewald, C. B., de la Vega, R., Palermo, T. M.
  2020; 161 (2): 439-445

- **Associations Between Opioid Prescribing Patterns and Overdose Among Privately Insured Adolescents** *PEDIATRICS*
  Groenewald, C. B., Zhou, C., Palermo, T. M., Van Cleve, W. C.
  2019; 144 (5)

- **Patterns and predictors of difficult intravenous access among children presenting for procedures requiring anesthesia at a tertiary academic medical center** *PEDIATRIC ANESTHESIA*
  Patak, L. S., Stroschein, K. M., Risley, R., Collins, M., Groenewald, C. B.
  2019; 29 (10): 1068-1070

- **Economic Impact of Headache and Psychiatric Comorbidities on Healthcare Expenditures Among Children in the United States: A Retrospective Cross-Sectional Study** *HEADACHE*
  Law, E. F., Palermo, T. M., Zhou, C., Groenewald, C. B.
  2019; 59 (9): 1504-1515

- **Opioid-prescribing Patterns for Pediatric Patients in the United States.** *The Clinical journal of pain*
  Groenewald, C. B.
  2019; 35 (6): 515-520

- **School Absence Associated With Childhood Pain in the United States.** *The Clinical journal of pain*
  Groenewald, C. B., Giles, M., Palermo, T. M.
  2019; 35 (6): 525-531

- **Associations Between Adolescent Chronic Pain and Prescription Opioid Misuse in Adulthood.** *The journal of pain*
  Groenewald, C. B., Law, E. F., Fisher, E., Beals-Erickson, S. E., Palermo, T. M.
  2019; 20 (1): 28-37

- **Racial differences in opioid prescribing for children in the United States.** *Pain*
  Groenewald, C. B., Rabbitts, J. A., Hansen, E. E., Palermo, T. M.
  2018; 159 (10): 2050-2057

- **Effect on Health Care Costs for Adolescents Receiving Adjunctive Internet-Delivered Cognitive-Behavioral Therapy: Results of a Randomized Controlled Trial** *JOURNAL OF PAIN*
  Law, E. F., Groenewald, C. B., Zhou, C., Palermo, T. M.
  2018; 19 (8): 910-919

- **Chronic pain prevalence and associated factors in adolescents with and without physical disabilities** *DEVELOPMENTAL MEDICINE AND CHILD NEUROLOGY*
  De la Vega, R., Groenewald, C., Bromberg, M. H., Beals-Erickson, S. E., Palermo, T. M.
  2018; 60 (6): 596-+

- **Endoscopic Versus Open Repair for Craniosynostosis in Infants Using Propensity Score Matching to Compare Outcomes: A Multicenter Study from the Pediatric Craniofacial Collaborative Group** *ANESTHESIA AND ANALGESIA*
  Thompson, D. R., Zurakowski, D., Haberkern, C. M., Stricker, P. A., Meier, P. M., Pediat Craniofacial Collaborat Grp
  2018; 126 (3): 968-975

- **Combining morphine and ibuprofen does not improve pain control compared with using either drug alone following musculoskeletal injury in children.** *Evidence-based nursing*
  Groenewald, C. B.
  2018; 21 (4): 107

- **Morphine is not superior to ibuprofen for managing children's pain following minor orthopedic surgery.** *Evidence-based nursing*

Groenewald, C. B.
2018; 21 (2): 48

- **Complementary and Alternative Medicine Use by Children With Pain in the United States** *ACADEMIC PEDIATRICS*
  Groenewald, C. B., Beals-Erickson, S. E., Ralston-Wilson, J., Rabbitts, J. A., Palermo, T. M.
  2017; 17 (7): 785-793
- **Codeine use among children in the United States: a nationally representative study from 1996 to 2013.** *Paediatric anaesthesia*
  Livingstone, M. J., Groenewald, C. B., Rabbitts, J. A., Palermo, T. M.
  2017; 27 (1): 19-27
- **Chronic pain in adolescence and internalizing mental health disorders: a nationally representative study** *PAIN*
  Noel, M., Groenewald, C. B., Beals-Erickson, S. E., Gebert, J., Palermo, T. M.
  2016; 157 (6): 1333-1338
- **Association Between Widespread Pain Scores and Functional Impairment and Health-Related Quality of Life in Clinical Samples of Children** *JOURNAL OF PAIN*
  Rabbitts, J. A., Holley, A., Groenewald, C. B., Palermo, T. M.
  2016; 17 (6): 678-684
- **Trends in opioid prescriptions among children and adolescents in the United States: a nationally representative study from 1996 to 2012.** *Pain*
  Groenewald, C. B., Rabbitts, J. A., Gebert, J. T., Palermo, T. M.
  2016; 157 (5): 1021-1027
- **Legitimate opioid prescription increases the risk for future opioid misuse in some adolescents.** *Evidence-based nursing*
  Groenewald, C., Palermo, T.
  2016; 19 (3): 83
- **Trajectories of postsurgical pain in children: risk factors and impact of late recovery on long-term health outcomes after major surgery** *PAIN*
  Rabbitts, J. A., Zhou, C., Groenewald, C. B., Durkin, L., Palermo, T. M.
  2015; 156 (11): 2383-2389
- **Alcohol and Tobacco Use in Youth With and Without Chronic Pain** *JOURNAL OF PEDIATRIC PSYCHOLOGY*
  Law, E. F., Bromberg, M. H., Noel, M., Groenewald, C., Murphy, L. K., Palermo, T. M.
  2015; 40 (5): 509-516
- **Health care expenditures associated with pediatric pain-related conditions in the United States** *PAIN*
  Groenewald, C. B., Wright, D. R., Palermo, T. M.
  2015; 156 (5): 951-957
- **Presurgical Psychosocial Predictors of Acute Postsurgical Pain and Quality of Life in Children Undergoing Major Surgery** *JOURNAL OF PAIN*
  Rabbitts, J. A., Groenewald, C. B., Tai, G. G., Palermo, T. M.
  2015; 16 (3): 226-234
- **The price of pain: the economics of chronic adolescent pain** *PAIN MANAGEMENT*
  Groenewald, C. B., Palermo, T. M.
  2015; 5 (2): 61-64
- **The Economic Costs of Chronic Pain Among a Cohort of Treatment-Seeking Adolescents in the United States** *JOURNAL OF PAIN*
  Groenewald, C. B., Essner, B. S., Wright, D., Fesinmeyer, M. D., Palermo, T. M.
  2014; 15 (9): 925-933
- **Sympathetic Support of Energy Expenditure and Sympathetic Nervous System Activity After Gastric Bypass Surgery** *OBESITY*
  Curry, T. B., Somaraju, M., Hines, C. N., Groenewald, C. B., Miles, J. M., Joyner, M. J., Charkoudian, N.
  2013; 21 (3): 480-485
- **Outcomes of general anesthesia for noncardiac surgery in a series of patients with Fontan palliation** *PEDIATRIC ANESTHESIA*
  Rabbitts, J. A., Groenewald, C. B., Mauermann, W. J., Barbara, D. W., Burkhart, H. M., Warnes, C. A., Oliver, W. C., Flick, R. P.

2013; 23 (2): 180-187

- **An unexpected cause of cardiac arrest during laparoscopy in an infant with supravalvar aortic stenosis** *PEDIATRIC ANESTHESIA*
  Groenewald, C. B., Latham, G. J.
  2013; 23 (1): 91-93
- **Geographic differences in perioperative opioid administration in children** *PEDIATRIC ANESTHESIA*
  Rabbitts, J. A., Groenewald, C. B., Raesaenen, J.
  2012; 22 (7): 676-681
- **Prevalence of moderate-severe pain in hospitalized children** *PEDIATRIC ANESTHESIA*
  Groenewald, C. B., Rabbitts, J. A., Schroeder, D. R., Harrison, T. E.
  2012; 22 (7): 661-668
- **Postural orthostatic tachycardia syndrome and general anesthesia: a series of 13 cases** *JOURNAL OF CLINICAL ANESTHESIA*
  Rabbitts, J. A., Groenewald, C. B., Jacob, A. K., Low, P. A., Curry, T. B.
  2011; 23 (5): 384-392
- **Perioperative opioid requirements are decreased in hypoxic children living at altitude** *PEDIATRIC ANESTHESIA*
  Rabbitts, J. A., Groenewald, C. B., Dietz, N. M., Morales, C., Raesaenen, J.
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