Stanford



David Drover

Professor of Anesthesiology, Perioperative and Pain Medicine (MSD), Emeritus

CLINICAL OFFICE (PRIMARY)

- **Department of Anesthesia**

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Bio

CLINICAL FOCUS

- Anesthesia for ENT Surgery
- Difficult Airway
- Neuroanesthesia
- Anesthesia

ACADEMIC APPOINTMENTS

- Professor Emeritus, Anesthesiology, Perioperative and Pain Medicine
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

PROFESSIONAL EDUCATION

- Fellow, Stanford University , Biodesign Faculty Fellowship (2019)
- Residency: Dalhousie University Residency Training (1995) Canada
- Internship: Dalhousie University Residency Training (1991) Canada
- Medical Education: Dalhousie University Medicine (1990)
- Board Certification: Anesthesia, Royal College of Physicians and Surgeons (1995)
- BSc, Dalhousie University , Science (1985)
- MSc, Dalhousie University , Clinical Chemistry (1988)
- MD, Dalhousie University , Medicine (1990)
- FRCP(C), Dalhousie University , Anesthesia (1995)

LINKS

- Department Research Site: http://anesthesia.stanford.edu/research/#drover

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Field of clinical pharmacology. This involves analysis of what the body does to a drug (pharmacokinetics) and how exactly a specific drug affects the body (pharmacodynamics). His research starts at the level of new drug development with detailed analysis of the pharmacokinetics and pharmacodynamics of a medication.

CLINICAL TRIALS

- Building a Platform for Precision Anesthesia in the Geriatric Surgical Patient, Not Recruiting
- Can Ondansetron Prevent Neonatal Abstinence Syndrome (NAS) in Babies Born to Narcotic-dependent Women, Not Recruiting
- Correlate of Surface Electroencephalogram (EEG) With Implanted EEG Recordings (ECOG), Not Recruiting
- How Pregnant Women and Their Babies Metabolize Ondansetron Compared to a Group of Non-pregnant Women, Not Recruiting
- Pharmacokinetic (PK) and Pharmacodynamic (PD) Modeling of Ampicillin and Gentamicin in Peripartum Patients, Not Recruiting
- Postoperative Pain and Functional Patient Outcomes After Functional Endoscopic Sinus Surgery, Not Recruiting
- Study of Drug Concentration of Ondansetron and Cefazolin in Mothers and Neonates, Not Recruiting
- Using the SEDLine for the Titration of Sevoflurane in Elderly Patients Recovery Using the SEDLine TM for the Titration of Sevoflurane in Elderly Patients Undergoing Non-Cardiac Surgery After Beta-Adrenergic Blockade, Not Recruiting

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Anesthesia (Fellowship Program)

Publications

PUBLICATIONS

- **Frailty assessment utilization around the globe-a systematic review.** *The Journal of frailty & aging*
  Gaston, S., Billman, E., Han, L., Drover, D.
  2025; 14 (6): 100088
- **A soft robotic device for rapid and self-guided intubation.** *Science translational medicine*
  Haggerty, D. A., Cazzoli, J. R., Wayne, M. A., Winckler, C. J., Wampler, D. A., Jarvis, J. L., Han, L., Rydell, L., Mahajan, A., Zevallos, J. P., Drover, D. R., Hawkes, E. W.
  2025; 17 (815): eads7681
- **Single-Cell Epigenetic Dynamics and Determinants of Surgical Outcomes**
  Cambriel, A., Sabayev, M., Ganio, E., Angst, M., Bonham, T., Anronikov, A., Tsai, A., Diop, M., Einhaus, J., Feyaerts, D., Goodman, S., Drover, D., Verdonk, et al
  LIPPINCOTT WILLIAMS & WILKINS.2025: 496
- **Deep learning models using intracranial and scalp EEG for predicting sedation level during emergence from anaesthesia.** *BJA open*
  Han, L., Purger, D. A., Eagleman, S. L., Halpern, C. H., Buch, V., Gaston, S. M., Razavi, B., Meador, K., Drover, D. R.
  2024; 12: 100347
- **An immune signature of postoperative cognitive decline: A prospective cohort study.** *International journal of surgery (London, England)*
  Verdonk, F., Cambriel, A., Hedou, J., Ganio, E., Bellan, G., Gaudilliere, D., Einhaus, J., Sabayev, M., Stelzer, I. A., Feyaerts, D., Bonham, A. T., Ando, K., Choisy, et al
  2024

- **AcumenTM hypotension prediction index guidance for prevention and treatment of hypotension in noncardiac surgery: a prospective, single-arm, multicenter trial.** *Perioperative medicine (London, England)*
  Bao, X., Kumar, S. S., Shah, N. J., Penning, D., Weinstein, M., Malhotra, G., Rose, S., Drover, D., Pennington, M. W., Domino, K., Meng, L., Treggiari, M., Clavijo, et al
  2024; 13 (1): 13

- **Multicenter Population Pharmacokinetics of Fentanyl in Neonatal Surgical Patients Using Dried Blood Spot Specimen Collection Demonstrates Maturation of Elimination Clearance.** *Anesthesia and analgesia*
  Rzasa Lynn, R. S., Henthorn, T. K., Zuk, J., Hammer, G. B., Drover, D. R., Levy, R. J., Maxwell, L. G., Sadhasivam, S., Suresh, S., Galinkin, J. L.
  2024; 138 (2): 447-455

- **Predicting Sedation Level using Surface and Intracranial EEG with Convolutional Neural Networks during Emergence from Anesthesia**
  Han, L., Purger, D., Eagleman, S., Halpern, C., Buch, V., Razavi, B., Meador, K., Drover, D.
  LIPPINCOTT WILLIAMS & WILKINS.2023: 583-585

- **EEG response of dexmedetomidine during drug induced sleep endoscopy.** *Frontiers in neuroscience*
  Han, L., Drover, D. R., Chen, M. C., Saxena, A. R., Eagleman, S. L., Nekhendzy, V., Pritchard, A., Capasso, R.
  2023; 17: 1144141

- **Evaluation of patient state index, bispectral index, and entropy during drug induced sleep endoscopy with dexmedetomidine.** *Journal of clinical monitoring and computing*
  Han, L., Drover, D. R., Chen, M. C., Saxena, A. R., Eagleman, S. L., Nekhendzy, V., Capasso, R.
  2022

- **Ondansetron to reduce neonatal opioid withdrawal severity a randomized clinical trial.** *Journal of perinatology : official journal of the California Perinatal Association*
  Peltz, G., Jansson, L. M., Adeniyi-Jones, S., Cohane, C., Drover, D., Shafer, S., Wang, M., Wu, M., Govindaswami, B., Jegatheesan, P., Argani, C., Khan, S., Kraft, et al
  2022

- **Offline comparison of brain function monitors for geriatric anesthetic-induced electroencephalogram changes**
  Eagleman, S., Drover, C., Li, X., Maciver, B., Drover, D.
  LIPPINCOTT WILLIAMS & WILKINS.2021: 1041

- **Offline comparison of brain function monitors for geriatric anaesthetic-induced electroencephalogram changes** *British Journal of Anaesthesia*
  Eagleman, S., Drover, C., Li, X., MacIver, B., Drover, D.
  2021

- **Ampicillin Pharmacokinetics in Peripartum and Laboring Women.** *American journal of perinatology*
  Judy, A. E., Frymoyer, A., Ansari, J., Drover, D. R., Carvalho, B.
  2021

- **Theophylline dosing and pharmacokinetics for renal protection in neonates with hypoxic-ischemic encephalopathy undergoing therapeutic hypothermia.** *Pediatric research*
  Frymoyer, A., Van Meurs, K. P., Drover, D. R., Klawitter, J., Christians, U., Chock, V. Y.
  2020

- **Offline comparison between brain monitors for geriatric anesthetic-induced EEG changes**
  Eagleman, S., Drover, C., Li, X., Maciver, B., Drover, D.
  LIPPINCOTT WILLIAMS & WILKINS.2020: 985

- **Pharmacokinetics of Dexmedetomidine in Infants and Children After Orthotopic Liver Transplantation** *ANESTHESIA AND ANALGESIA*
  Damian, M. A., Hammer, G. B., Elkomy, M. H., Frymoyer, A., Drover, D. R., Su, F.
  2020; 130 (1): 209–16

- **Speeding the Detection of Vessel Cannulation: An In-Vitro Stimulation Study** *ANESTHESIA AND ANALGESIA*
  Muffly, M. K., Ku, A., Drover, D. R., Rodriguez, S., Caruso, T. J., Ku, A., Tsui, B. C. H.
  2020; 130 (1): 159–64

- **Antimicrobial Disposition During Pediatric Continuous Renal Replacement Therapy Using an Ex Vivo Model.** *Critical care medicine*

Purohit, P. J., Elkomy, M. H., Frymoyer, A., Sutherland, S. M., Drover, D. R., Hammer, G. B., Su, F.
2019

- **Assessment of Ketamine Adult Anesthetic Doses in Pediatrics Using Pharmacokinetic Modeling and Simulations** *PHARMACOTHERAPY*
  Elkomy, M. H., Alruwaili, N., Elmowafy, M., Shalaby, K., Drover, D. R., Ramamoorthy, C.
  2019; 39 (4): 454–62
- **Assessment of Ketamine Adult Anesthetic Doses in Pediatrics using Pharmacokinetic Modeling and Simulations.** *Pharmacotherapy*
  Elkomy, M. H., Alruwaili, N., Elmowafy, M., Shalaby, K., Drover, D. R., Ramamoorthy, C.
  2019
- **Speeding the Detection of Vessel Cannulation: An In-Vitro Stimulation Study.** *Anesthesia and analgesia*
  Muffly, M. K., Ku, A., Drover, D. R., Rodriguez, S., Caruso, T. J., Ku, A., Tsui, B. C.
  2019
- **Letter to the editor.** *Journal of clinical monitoring and computing*
  Drover, D. R., Barker, S. J.
  2019
- **Do Complexity Measures of Frontal EEG Distinguish Loss of Consciousness in Geriatric Patients Under Anesthesia?** *Frontiers in neuroscience*
  Eagleman, S. L., Vaughn, D. A., Drover, D. R., Drover, C. M., Cohen, M. S., Ouellette, N. T., MacIver, M. B.
  2018; 12: 645
- **Pharmacokinetics of Dexmedetomidine in Infants and Children After Orthotopic Liver Transplantation.** *Anesthesia and analgesia*
  Damian, M. A., Hammer, G. B., Elkomy, M. H., Frymoyer, A., Drover, D. R., Su, F.
  2018
- **Calculations of consciousness: electroencephalography analyses to determine anesthetic depth.** *Current opinion in anaesthesiology*
  Eagleman, S. L., Drover, D. R.
  2018; 31 (4): 431-438
- **Remifentanil and Nitrous Oxide Anesthesia Produces a Unique Pattern of EEG Activity During Loss and Recovery of Response** *FRONTIERS IN HUMAN NEUROSCIENCE*
  Eagleman, S. L., Drover, C. M., Drover, D. R., Ouellette, N. T., MacIver, M.
  2018; 12: 173
- **Improved operative efficiency using a real-time MRI-guided stereotactic platform for laser amygdalohippocampotomy** *JOURNAL OF NEUROSURGERY*
  Ho, A. L., Sussman, E. S., Pendharkar, A. V., Le, S., Mantovani, A., Keebaugh, A. C., Drover, D. R., Grant, G. A., Wintermark, M., Halpern, C. H.
  2018; 128 (4): 1165–72
- **Calculations of Consciousness: EEG analyses to determine anesthetic depth.** *Current Opinion in Anesthesiology*
  Eagleman, S., Drover, D.
  2018
- **Do complexity measures of frontal EEG distinguish loss of consciousness in geriatric patients under anesthesia?** *Frontiers in Neuroscience*
  Eagleman*, S. L., Vaughn*, D. A., Drover, D. R., Drover, C. M., Cohen, M. S., Ouellette, N. T., MacIver, B.
  2018
- **Optimization of Maternal Magnesium Sulfate Administration for Fetal Neuroprotection: Application of a Prospectively Constructed Pharmacokinetic Model to the BEAM Cohort.** *Journal of clinical pharmacology*
  Brookfield, K. F., Elkomy, M., Su, F., Drover, D. R., Carvalho, B.
  2017
- **Small-Volume Injections: Evaluation of Volume Administration Deviation From Intended Injection Volumes.** *Anesthesia and analgesia*
  Muffly, M. K., Chen, M. I., Claure, R. E., Drover, D. R., Efron, B., Fitch, W. L., Hammer, G. B.
  2017
- **Small-Volume Injections: Evaluation of Volume Administration Deviation From Intended Injection Volumes.** *Anesthesia and analgesia*
  Muffly, M. K., Chen, M. I., Claure, R. E., Drover, D. R., Efron, B., Fitch, W. L., Hammer, G. B.

2017

- **Decreased Morphine Clearance in Neonates With Hypoxic Ischemic Encephalopathy Receiving Hypothermia** *JOURNAL OF CLINICAL PHARMACOLOGY*
  Frymoyer, A., Bonifacio, S. L., Drover, D. R., Su, F., Wustoff, C. J., Van Meurs, K. P.
  2017; 57 (1): 64-76

- **Pharmacodynamic Analysis of Morphine Time-to-Remedication Events in Infants and Young Children After Congenital Heart Surgery.** *Clinical pharmacokinetics*
  Elkomy, M. H., Drover, D. R., Galinkin, J. L., Hammer, G. B., Glotzbach, K. L.
  2016; 55 (10): 1217-1226

- **Pharmacokinetics and placental transfer of magnesium sulfate in pregnant women** *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY*
  Brookfield, K. F., Su, F., Elkomy, M. H., Drover, D. R., Lyell, D. J., Carvalho, B.
  2016; 214 (6)

- **Variable Findings for Drug-Induced Sleep Endoscopy in Obstructive Sleep Apnea with Propofol versus Dexmedetomidine.** *Otolaryngology--head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*
  Capasso, R., Rosa, T., Tsou, D. Y., Nekhendzy, V., Drover, D., Collins, J., Zaghi, S., Camacho, M.
  2016; 154 (4): 765-770

- **Pharmacokinetics of Morphine and Its Metabolites in Infants and Young Children After Congenital Heart Surgery** *AAPS JOURNAL*
  Elkomy, M. H., Drover, D. R., Glotzbach, K. L., Galinkin, J. L., Frymoyer, A., Su, F., Hammer, G. B.
  2016; 18 (1): 124-133

- **Optimization of maternal magnesium sulfate administration for fetal neuroprotection and cerebral palsy prevention**
  Brookfield, K., Su, F., El-Komy, M., Ho, P., Drover, D., Carvalho, B.
  MOSBY-ELSEVIER.2016: S370

- **Pharmacokinetics of Morphine and Its Metabolites in Infants and Young Children After Congenital Heart Surgery.** *The AAPS journal*
  Elkomy, M. H., Drover, D. R., Glotzbach, K. L., Galinkin, J. L., Frymoyer, A., Su, F., Hammer, G. B.
  2016; 18 (1): 124-33

- **Safety and Efficacy of Sodium Nitroprusside During Prolonged Infusion in Pediatric Patients** *PEDIATRIC CRITICAL CARE MEDICINE*
  Hammer, G. B., Lewandowski, A., Drover, D. R., Rosen, D. A., Cohane, C., Anand, R., Mitchell, J., Reece, T., Schulman, S. R.
  2015; 16 (5): 397-403

- **Pharmacokinetics of Prophylactic Cefazolin in Parturients Undergoing Cesarean Delivery (vol 58, pg 3504, 2014)** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*
  Elkomy, M. H., Sultan, P., Drover, D. R., Epshtein, E., Galinkin, J. L., Carvalho, B.
  2015; 59 (6): 3694

- **Safety and efficacy of sodium nitroprusside during prolonged infusion in pediatric patients.** *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies*
  Hammer, G. B., Lewandowski, A., Drover, D. R., Rosen, D. A., Cohane, C., Anand, R., Mitchell, J., Reece, T., Schulman, S. R.
  2015; 16 (5): 397-403

- **Population pharmacokinetics of etomidate in neonates and infants with congenital heart disease** *BIOPHARMACEUTICS & DRUG DISPOSITION*
  Su, F., El-Komy, M. H., Hammer, G. B., Frymoyer, A., Cohane, C. A., Drover, D. R.
  2015; 36 (2): 104-114

- **Risk factors for respiratory depression in patients undergoing retrobulbar block for vitreoretinal surgery.** *Ophthalmic surgery, lasers & imaging retina*
  Silva, R. A., Leng, J. C., He, L., Brock-Utne, J. G., Drover, D. R., Leng, T.
  2015; 46 (2): 243-247

- **Risk Factors for Respiratory Depression in Patients Undergoing Retrobulbar Block for Vitreoretinal Surgery** *OPHTHALMIC SURGERY LASERS & IMAGING RETINA*
  Silva, R. A., Leng, J. C., He, L., Brock-Utne, J. G., Drover, D. R., Leng, T.

2015; 46 (2): 243-247

- **Ondansetron pharmacokinetics in pregnant women and neonates: towards a new treatment for neonatal abstinence syndrome.** *Clinical pharmacology & therapeutics*
  Elkomy, M., Sultan, P., Carvalho, B., Peltz, G., Wu, M., Clavijo, C., Galinkin, J., Drover, D.
  2015; 97 (2): 167-176
- **Population pharmacokinetics of ketamine in children with heart disease** *INTERNATIONAL JOURNAL OF PHARMACEUTICS*
  Elkomy, M. H., Drover, D. R., Hammer, G. B., Galinkin, J. L., Ramamoorthy, C.
  2015; 478 (1): 223-231
- **Population pharmacokinetics of ketamine in children with heart disease.** *International journal of pharmaceutics*
  Elkomy, M. H., Drover, D. R., Hammer, G. B., Galinkin, J. L., Ramamoorthy, C.
  2015; 478 (1): 223-231
- **Evaluation of sodium nitroprusside for controlled hypotension in children during surgery.** *Frontiers in pharmacology*
  Drover, D. R., Hammer, G. B., Barrett, J. S., Cohane, C. A., Reece, T., Zajicek, A., Schulman, S. R.
  2015; 6: 136-?
- **Pharmacokinetics of magnesium sulfate in pregnant women**
  Brookfield, K., Su, F., Drover, D., Adelus, M., Lyell, D., Carvalho, B.
  MOSBY-ELSEVIER.2015: S102
- **Umbilical cord magnesium levels and neonatal resuscitation in infants exposed to magnesium sulfate**
  Brookfield, K., Su, F., Drover, D., Adelus, M., Lyell, D., Carvalho, B.
  MOSBY-ELSEVIER.2015: S395–S396
- **Evaluation of sodium nitroprusside for controlled hypotension in children during surgery.** *Frontiers in pharmacology*
  Drover, D. R., Hammer, G. B., Barrett, J. S., Cohane, C. A., Reece, T., Zajicek, A., Schulman, S. R.
  2015; 6: 136-?
- **A hemodynamic model to guide blood pressure control during deliberate hypotension with sodium nitroprusside in children.** *Frontiers in pharmacology*
  Barrett, J. S., Hirankarn, S., Holford, N., Hammer, G. B., Drover, D. R., Cohane, C. A., Anderson, B., Dombrowski, E., Reece, T., Zajicek, A., Schulman, S. R.
  2015; 6: 151-?
- **A hemodynamic model to guide blood pressure control during deliberate hypotension with sodium nitroprusside in children.** *Frontiers in pharmacology*
  Barrett, J. S., Hirankarn, S., Holford, N., Hammer, G. B., Drover, D. R., Cohane, C. A., Anderson, B., Dombrowski, E., Reece, T., Zajicek, A., Schulman, S. R.
  2015; 6: 151-?
- **Detection of respiratory compromise by acoustic monitoring, capnography, and brain function monitoring during monitored anesthesia care** *JOURNAL OF CLINICAL MONITORING AND COMPUTING*
  Tanaka, P. P., Tanaka, M., Drover, D. R.
  2014; 28 (6): 561-566
- **THE PHARMACOKINETICS OF ETOMIDATE IN NEONATES AND INFANTS WITH CONGENITAL HEART DISEASE**
  Su, F., Cohane, C., Drover, D., El-Komy, M., Frymoyer, A., Hammer, G.
  LIPPINCOTT WILLIAMS & WILKINS.2014
- **Association between vancomycin trough concentration and area under the concentration-time curve in neonates.** *Antimicrobial agents and chemotherapy*
  Frymoyer, A., Hersh, A. L., El-Komy, M. H., Gaskari, S., Su, F., Drover, D. R., Van Meurs, K.
  2014; 58 (11): 6454-6461
- **Association between Vancomycin Trough Concentration and Area under the Concentration-Time Curve in Neonates** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*
  Frymoyer, A., Hersh, A. L., El-Komy, M. H., Gaskari, S., Su, F., Drover, D. R., Van Meurs, K.
  2014; 58 (11): 6454-6461

- **Predictors of Arterial Blood Pressure Control During Deliberate Hypotension with Sodium Nitroprusside in Children** *ANESTHESIA AND ANALGESIA*
  Spielberg, D. R., Barrett, J. S., Hammer, G. B., Drover, D. R., Reece, T., Cohane, C. A., Schulman, S. R.
  2014; 119 (4): 867-874
- **The pharmacokinetics of methadone and its metabolites in neonates, infants, and children** *PEDIATRIC ANESTHESIA*
  Ward, R. M., Drover, D. R., Hammer, G. B., Stemland, C. J., Kern, S., Tristani-Firouzi, M., Lugo, R. A., Satterfield, K., Anderson, B. J.
  2014; 24 (6): 591-601
- **Pharmacokinetics of prophylactic cefazolin in parturients undergoing cesarean delivery.** *Antimicrobial agents and chemotherapy*
  Elkomy, M. H., Sultan, P., Drover, D. R., Epshtein, E., Galinkin, J. L., Carvalho, B.
  2014; 58 (6): 3504-3513
- **The effects of ketamine on dexmedetomidine-induced electrophysiologic changes in children.** *Paediatric anaesthesia*
  Char, D., Drover, D. R., Motonaga, K. S., Gupta, S., Miyake, C. Y., Dubin, A. M., Hammer, G. B.
  2013; 23 (10): 898-905
- **Comparison of a New Cobinamide-Based Method to a Standard Laboratory Method for Measuring Cyanide in Human Blood** *JOURNAL OF ANALYTICAL TOXICOLOGY*
  Swezey, R., Shinn, W., Green, C., Drover, D. R., Hammer, G. B., Schulman, S. R., Zajicek, A., Jett, D. A., Boss, G. R.
  2013; 37 (6): 382-385
- **Sodium nitroprusside is not associated with metabolic acidosis during intraoperative infusion in children** *BMC ANESTHESIOLOGY*
  Hammer, G. B., Connolly, S. G., Schulman, S. R., Lewandowski, A., Cohane, C., Reece, T. L., Anand, R., Mitchell, J., Drover, D. R.
  2013; 13
- **Aversive and Reinforcing Opioid Effects A Pharmacogenomic Twin Study** *ANESTHESIOLOGY*
  Angst, M. S., Lazzeroni, L. C., Phillips, N. G., Drover, D. R., Tingle, M., Ray, A., Swan, G. E., Clark, J. D.
  2012; 117 (1): 22-37
- **Pain sensitivity and opioid analgesia: A pharmacogenomic twin study** *PAIN*
  Angst, M. S., Phillips, N. G., Drover, D. R., Tingle, M., Ray, A., Swan, G. E., Lazzeroni, L. C., Clark, J. D.
  2012; 153 (7): 1397-1409
- **The Pharmacokinetics of Ketorolac After Single Postoperative Intranasal Administration in Adolescent Patients** *ANESTHESIA AND ANALGESIA*
  Drover, D. R., Hammer, G. B., Anderson, B. J.
  2012; 114 (6): 1270-1276
- **Sodium Nitroprusside Is Not Associated with Metabolic Acidosis During Intraoperative Infusion in Children**
  Hammer, G., Drover, D., Connolly, S., Cohane, C., Schulman, S.
  OXFORD UNIV PRESS.2012: 293
- **Intrathecal fentanyl added to bupivacaine and morphine for cesarean delivery may induce a subtle acute opioid tolerance** *INTERNATIONAL JOURNAL OF OBSTETRIC ANESTHESIA*
  Carvalho, B., Drover, D. R., Ginosar, Y., Cohen, S. E., Riley, E. T.
  2012; 21 (1): 29-34
- **Intrathecal Dosing for Cesarean Delivery in Obese and Nonobese Patients Reply** *ANESTHESIOLOGY*
  Carvalho, B., Drover, D. R., Collins, J.
  2011; 115 (4): 900-900
- **Comparative clinical effects of hydromorphone and morphine: a meta-analysis** *BRITISH JOURNAL OF ANAESTHESIA*
  Felden, L., Walter, C., Harder, S., Treede, R., Kayser, H., Drover, D., Geisslinger, G., Loetsch, J.
  2011; 107 (3): 319-328
- **Prior epidural lidocaine alters the pharmacokinetics and drug effects of extended-release epidural morphine (DepoDur®) after cesarean delivery.** *Anesthesia and analgesia*
  Atkinson Ralls, L., Drover, D. R., Clavijo, C. F., Carvalho, B.
  2011; 113 (2): 251-258

- **Prior Epidural Lidocaine Alters the Pharmacokinetics and Drug Effects of Extended-Release Epidural Morphine (DepoDur (R)) After Cesarean Delivery** *ANESTHESIA AND ANALGESIA*
  Ralls, L. A., Drover, D. R., Clavijo, C. F., Carvalho, B.
  2011; 113 (2): 251-258

- **TITRATION OF SEVOFLURANE IN ELDERLY PATIENTS: BLINDED, RANDOMIZED CLINICAL TRIAL, IN NON-CARDIAC SURGERY AFTER BETA-ADRENERGIC BLOCKADE** *JOURNAL OF CLINICAL MONITORING AND COMPUTING*
  Drover, D. R., Schmiesing, C., Buchin, A. F., Ortega, H. R., Tanner, J. W., Atkins, J. H., Macario, A.
  2011; 25 (3): 175-181

- **A sensitive assay for the quantification of morphine and its active metabolites in human plasma and dried blood spots using high-performance liquid chromatography-tandem mass spectrometry** *ANALYTICAL AND BIOANALYTICAL CHEMISTRY*
  Clavijo, C. F., Hoffman, K. L., Thomas, J. J., Carvalho, B., Chu, L. F., Drover, D. R., Hammer, G. B., Christians, U., Galinkin, J. L.
  2011; 400 (3): 715-728

- **The effectiveness of preemptive sphenopalatine ganglion block on postoperative pain and functional outcomes after functional endoscopic sinus surgery** *56th Annual Fall Scientific Meeting of the American-Rhinologic-Society (ARS)*
  Cho, D., Drover, D. R., Nekhendzy, V., Butwick, A. J., Collins, J., Hwang, P. H.
  WILEY-BLACKWELL.2011: 212–18

- **ED50 and ED95 of Intrathecal Bupivacaine in Morbidly Obese Patients Undergoing Cesarean Delivery** *ANESTHESIOLOGY*
  Carvalho, B., Collins, J., Drover, D. R., Ralls, L. A., Riley, E. T.
  2011; 114 (3): 529-535

- **Morphine and its metabolites after patient-controlled analgesia: considerations for respiratory depression** *JOURNAL OF CLINICAL ANESTHESIA*
  Sam, W. J., Mackey, S. C., Loetsch, J., Drover, D. R.
  2011; 23 (2): 102-106

- **Efficacy, Safety, and Pharmacokinetics of Sugammadex for the Reversal of Rocuronium-induced Neuromuscular Blockade in Elderly Patients** *ANESTHESIOLOGY*
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