Stanford



Martin S. Angst

Professor of Anesthesiology, Perioperative and Pain Medicine (MSD)

Curriculum Vitae available Online

CLINICAL OFFICE (PRIMARY)

- **Anesthesia Department**

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ACADEMIC CONTACT INFORMATION

- **Administrative Contact**

  Angelica Samano-Reyes - Administrative Associate

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Bio

CLINICAL FOCUS

- Anesthesia for Liver Transplantation
- Neuroanesthesia
- Anesthesia
- Perioperative Recovery

ACADEMIC APPOINTMENTS

- Professor-Univ Med Line, Anesthesiology, Perioperative and Pain Medicine
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Vice Chair Strategy and Initiatives, Stanford University School of Medicine, Department of Anesthesiology, (2022- present)
- Director of CTA Strategic Initiatives and Operations, Stanford University School of Medicine, (2019-2022)
- CVH Operations Leadership Group, Stanford University School of Medicine, CV Health Service Line, (2019-2022)
- Appointments and Promotions Committee, Stanford University School of Medicine, (2015-2021)
- Finance Committee, Stanford University School of Medicine, Department of Anesthesiology, (2019- present)
- Governance Committee, Stanford University School of Medicine, Department of Anesthesiology, (2019- present)

HONORS AND AWARDS

- Inaugural Sustained Excellence IMPACT Award, Stanford University School of Medicine, Department of Anesthesiology (May 2026)
- Ellis N Cohen Award: Exceptional Performance in Teaching, Research, Clinical Care and Administration, Stanford University School of Medicine, Department of Anesthesiology (June 2025)

PROFESSIONAL EDUCATION

- Board Certification: Anesthesia, Swiss Medical Federation FMH (1993)
- Residency: University of Bern - Switzerland (1994) Switzerland
- Residency: Regionalspital Burgdorf (1990) Switzerland
- Medical Education: Berne University School of Medicine (1987) Switzerland

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

We investigate the biological and clinical characteristics that drive resilience in humans using surgery as an interventional injury model. The capacity to recover from injury, or alternatively, suffer from dire consequences, is at the very core of human health. The modern armamentarium in the natural, clinical, and computational sciences allows for an unprecedented exploration of the question as to what constitutes human fitness. Our efforts employ sophisticated multi-omic and computational approaches. Gained knowledge will permit individual patient consultation and management in the field of anesthesiology and perioperative care. Some patients may benefit most from complex and invasive surgical procedures, while others may be better served by minimally invasive or none-surgical interventions. Furthermore, novel strategies are on the horizon to render vulnerable patients fit for surgery with pre-surgical and perioperative interventions.

CLINICAL TRIALS

- A Human In-vivo Model for the Detection of Inflammatory and Nociceptive Biomarkers, Not Recruiting
- A Study to Evaluate the Effect of GRF6021 on Postoperative Recovery Following Primary Hip or Knee Arthroplasty, Not Recruiting
- Cocoa Flavanols for Modulating Immune Response and Accelerating Recovery, Not Recruiting
- Detection of Immune Changes as a Result of Surgical Trauma in Human Subject, Not Recruiting
- Effects of a Peripheral Nerve Block on Biomarkers of Pain and Inflammation, Not Recruiting
- Evaluation of Immune Signaling Networks in Healthy Human Volunteers, Not Recruiting
- Evaluation of Propranolol's Effect on Pain and Inflammation., Not Recruiting
- Heritability of Opioid Effects: A Twin Study, Not Recruiting
- Immune-modulation Effects of an Arginine Rich Nutritional Supplement in Surgical Patients, Not Recruiting
- Optimization of Time-of-Flight Mass Cytometry (CyTOF) Analysis for Evaluation of Immune Changes Following Surgery, Not Recruiting
- Study of Experimental Models of Pain and Inflammation., Not Recruiting

Publications

PUBLICATIONS

- **An adult proteomic signature associated with very low birth weight and chronic disease risk.** *Med (New York, N.Y.)*
  Huang, C. Y., Seong, D., Reiss, J., Shu, C. H., Sadeghi, M. A., Chung, P., Yang, L. K., Xue, L., Fang, Y., Xu, R., Ding, X., Sheybani, S., Han, et al
  2026: 101297
- **Identification of high-impact chronic pain in adolescents with musculoskeletal pain.** *Pain*
  White, J. N., King, C. D., Coghill, R. C., López-Solá, M., Moayedi, M., Stinson, J. N., Angst, M. S., Gaudillière, B., Aghaeepour, N., Simons, L. E.
  2026
- **Managing Hyperkalemia amid Supramassive Hemorrhage and Transfusion.** *Anesthesiology*
  Zhou, G. P., Garland, M., Lee, S., Kloosterboer, A., Smith, N. K., Angst, M. S.
  2026; 145 (2): 446-455
- **PregMedNet: Multifaceted maternal medication impacts on neonatal complications.** *Nature communications*

Kim, Y., Marić, I., Kashiwagi, C. M., Han, L., Chung, P., Reiss, J. D., Butcher, L. D., Caoili, K. J., Berson, E., Xue, L., Espinosa, C., James, T., Shome, et al

2026

- **Hypermobility and chronic pain in adolescents: diverging functional and neural profiles without sensory differences.** *Pain*

  Huft, K., Gaydos, E. F., White, J. N., Pascual-Diaz, S., Schubert-Hjalmarsson, E., Harrison, N., Moua, L., Hoeppli, M. E., Biggs, E., Stinson, J. N., Aghaeepour, N., Angst, M. S., Gaudilliere, et al

  2026

- **AI Guided Parenteral Nutrition Therapy After Hematopoietic Stem Cell Transplantation.** *NPJ digital medicine*

  El Ariss, A. B., Phongpreecha, T., Ghanem, M., Kimari, M., James, T., Freche, E., Kerner, J. A., Gaudillière, B., Angst, M. S., Gaskari, S., Stevenson, D. K., Smith, M., Aghaeepour, et al

  2026

- **Modulatory Effects of Physical Activity on the Relationship Between Pain Processing And Clinical Characteristics in Youth with Chronic Musculoskeletal Pain: A Cross-Sectional Study**

  Bailes, A. H., White, J. N., Moayedi, M., Coghill, R. C., Stinson, J., Angst, M. S., Aghaeepour, N., Gaudilliere, B., Lopez-Sola, M., King, C. D., Simons, L. E.

  CHURCHILL LIVINGSTONE.2026

- **Baseline Psychological Profiles Associated with Distinct Trajectories of Chronic Musculoskeletal Pain in Youth**

  Masood, S., Davis, A., White, J. N., Moayedi, M., Coghill, R. C., Stinson, J., Angst, M. S., Aghaeepour, N., Gaudilliere, B., King, C. D., Lopez-Sola, M. L., Simons, L. E.

  CHURCHILL LIVINGSTONE.2026

- **Substance Use Trajectory Patterns and Mood in Youth with Chronic Musculoskeletal Pain: Findings from the Signature for Pain Recovery in Teens Cohort**

  White, J. N., Moayedi, M., Coghill, R. C., Stinson, J., Angst, M. S., Aghaeepour, N., Gaudilliere, B., King, C. D., Lopez-Sola, M., Simons, L. E.

  CHURCHILL LIVINGSTONE.2026

- **A machine learning model for frailty based on wearable device measurements.** *Communications medicine*

  Culos, A., Manas, A., Shidara, K., Fallazadeh, R., Garcia-Garcia, F. J., Losa-Reyna, J., Alegre, L. M., Rodriguez-Manas, L., Chang, A. L., Espinosa, C., De Francesco, D., Phongpreecha, T., Becker, et al

  2026

- **Systemic immune dysregulation in hypertensive disorders of pregnancy persists years after delivery.** *Frontiers in immunology*

  Sabayev, M., Ganio, E. A., Stelzer, I. A., Sato, M., Cambriel, A., Bonham, T. A., Juvan, Z. N., Diop, M., Iyer, P., Sedan, O., Aghaeepour, N., Angst, M. S., Shaw, et al

  2026; 17: 1716809

- **Early gestational prediction of spontaneous preterm birth using a validated three-protein serum biomarker panel.** *BMC medicine*

  Luo, Q., Wei, J., Ding, Y., Chen, Y., Wu, L., Chou, C. J., Luo, X., Ghafourian, N., Tao, J., Jin, B., Su, K. J., Mortensen, R. D., Schilling, et al

  2026

- **Quantitative assessment of neonatal health using dried blood spot metabolite profiles and deep learning.** *Science translational medicine*

  Chang, A. L., Reiss, J. D., Culos, A., Becker, M., Mayo, J. A., Marić, I., De Francesco, D., Phongpreecha, T., Espinosa, C. A., Mataraso, S. J., Berson, E., Kim, Y., Xue, et al

  2026; 18 (833): eadv4942

- **Development and validation of a pre-trained language model for neonatal morbidities: a retrospective, multicentre, prognostic study.** *The Lancet. Digital health*

  Xie, F., Chung, P., Reiss, J. D., Tjoa, E., De Francesco, D., Phongpreecha, T., Haberkorn, W., Chakraborty, D., Chang, A. L., James, T., Kim, Y., Mataraso, S., Espinosa, et al

  2025: 100926

- **Brain-immune correlates of quality of life in adolescents with chronic musculoskeletal pain.** *Brain, behavior, and immunity*

  Pascual-Diaz, S., Suñol, M., Hoeppli, M. E., Biggs, E., King, C. D., Aghaeepour, N., Angst, M. S., Ganio, E., Cambriel, A., Feyaerts, D., Gaudilliere, B., Stinson, J. N., Moayedi, et al

  2025: 106225

- **AI learning for pediatric right ventricular assessment: development and validation across multiple centers.** *NPJ digital medicine*

  Reddy, C., Yan, Y., Qiu, M., Tang, Y., Jin, B., Han, Z., Li, Y., Zhou, S., Tang, Q., Xiao, H., Yang, S., Wen, Q., Wu, et al

2025; 8 (1): 752

- **Systemic immune dysregulation in hypertensive disorders of pregnancy persists years after delivery.** *bioRxiv : the preprint server for biology*
  Sabayev, M., Ganio, E. A., Stelzer, I. A., Sato, M., Cambriel, A., Bonham, T. A., Juvan, Z. N., Diop, M., Iyer, P., Sedan, O., Aghaeepour, N., Angst, M. S., Shaw, et al
  2025

- **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

- **EEG Patterns Correlated with Biomarkers of Alzheimer's Disease and Neurodegeneration after Cardiac Surgery**
  Mather, R., Feinstein, I., Gutierrez, R., Young, C., McAllister, T., Mendiola, J., Gao, X., Porras, G., Kitsis, A., Hansine, A., Delaney, G., Wilson, E., Angst, et al
  LIPPINCOTT WILLIAMS & WILKINS.2025: 485

- **Modification of Post-operative Inflammation Through Infusion of a Young Donor Plasma Fraction in Older Patients**
  Tsai, A., Xue, L., Gao, X., McAllister, T., Tingle, M., Porras, G., Feinstein, I., Feyaerts, D., Verdonk, F., Sabayev, M., Hedou, J., Ganio, E., Berson, et al
  LIPPINCOTT WILLIAMS & WILKINS.2025: 965-967

- **Biomarkers of Alzheimer's Disease and Neurodegeneration After Cardiac Surgery: First Insights from the Ongoing CARDIAC-PND Study**
  Feinstein, I., Young, C., McAllister, T., Mendiola, J., Gao, X., Porras, G., Kitsis, A., Huhn, A., Delaney, G., Mather, R., Gutierrez, R., Purdon, P., Wilson, et al
  LIPPINCOTT WILLIAMS & WILKINS.2025: 530-533

- **Author Correction: AI-guided precision parenteral nutrition for neonatal intensive care units.** *Nature medicine*
  Phongpreecha, T., Ghanem, M., Reiss, J. D., Oskotsky, T. T., Mataraso, S. J., De Francesco, D., Reincke, S. M., Espinosa, C., Chung, P., Ng, T., Costello, J. M., Sequoia, J. A., Razdan, et al
  2025

- **AI-guided precision parenteral nutrition for neonatal intensive care units.** *Nature medicine*
  Phongpreecha, T., Ghanem, M., Reiss, J. D., Oskotsky, T., Mataraso, S. J., De Francesco, D., Reincke, S. M., Espinosa, C., Chung, P., Ng, T., Costello, J. M., Sequoia, J. A., Razdan, et al
  2025

- **Near-infrared spectroscopy in perioperative medicine.** *BMJ (Clinical research ed.)*
  Feinstein, I., Angst, M. S.
  2025; 388: r539

- **Systemic Immune Dysregulation Induced by Preeclampsia Persists Years After Delivery**
  Sabayev, M., Feyaerts, D., Edward, G. A., Ina, S., Sato, M., Cambriel, A., Bonham, T., Mihalic, Z. N., Diop, M., Iyer, P., Sedan, O., Aghaeepour, N., Angst, et al
  SPRINGER HEIDELBERG.2025: 98A-99A

- **Infusion of young donor plasma components in older patients modifies the immune and inflammatory response to surgical tissue injury: a randomized clinical trial.** *Journal of translational medicine*
  Gaudilliere, B., Xue, L., Tsai, A. S., Gao, X., McAllister, T. N., Tingle, M., Porras, G., Feinstein, I., Feyaerts, D., Verdonk, F., Sabayev, M., Hedou, J., Ganio, et al
  2025; 23 (1): 183

- **PregMedNet: Multifaceted Maternal Medication Impacts on Neonatal Complications.** *medRxiv : the preprint server for health sciences*
  Kim, Y., Marić, I., Kashiwagi, C. M., Han, L., Chung, P., Reiss, J. D., Butcher, L. D., Caoili, K. J., Berson, E., Xue, L., Espinosa, C., James, T., Shome, et al
  2025

- **A machine learning approach to leveraging electronic health records for enhanced omics analysis.** *Nature machine intelligence*
  Mataraso, S. J., Espinosa, C. A., Seong, D., Reincke, S. M., Berson, E., Reiss, J. D., Kim, Y., Ghanem, M., Shu, C. H., James, T., Tan, Y., Shome, S., Stelzer, et al
  2025; 7 (2): 293-306

- **Prediction of late-onset preeclampsia using plasma proteomics: a longitudinal multi-cohort study.** *Scientific reports*
  Andresen, I. J., Zucknick, M., Degnes, M. L., Angst, M. S., Aghaeepour, N., Romero, R., Roland, M. C., Tarca, A. L., Westerberg, A. C., Michelsen, T. M.
  2024; 14 (1): 30813

- **Autoantibodies cause nociceptive sensitization in a mouse model of degenerative osteoarthritis.** *Pain*
  Guo, T. Z., Shi, X., Li, X., Li, W. W., Wei, T., Sahbaie, P., McAllister, T. N., Angst, M. S., Clark, J. D., Kingery, W. S.
  2024

- **Prediction of risk for early or very early preterm births using high-resolution urinary metabolomic profiling.** *BMC pregnancy and childbirth*
  Zhang, Y., Sylvester, K. G., Wong, R. J., Blumenfeld, Y. J., Hwa, K. Y., Chou, C. J., Thyparambil, S., Liao, W., Han, Z., Schilling, J., Jin, B., Marić, I., Aghaeepour, et al
  2024; 24 (1): 783

- **Towards a new taxonomy of preterm birth.** *Journal of perinatology : official journal of the California Perinatal Association*
  Stevenson, D. K., Chang, A. L., Wong, R. J., Reiss, J. D., Gaudillière, B., Sylvester, K. G., Ling, X. B., Angst, M. S., Shaw, G. M., Katz, M., Aghaeepour, N., Marić, I.
  2024

- **Towards a new taxonomy of preterm birth** *Journal of Perinatology*
  Stevenson, D. K., Chang, A. L., Wong, R. J., Reiss, J. D., Gaudillière, B., Sylvester, K. G., Ling, X. B., Angst, M. S., Shaw, G. M., Katz, M., Aghaeepour, N., Marić , I.
  2024

- **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

- **Generating pregnant patient biological profiles by deconvoluting clinical records with electronic health record foundation models.** *Briefings in bioinformatics*
  Seong, D., Mataraso, S., Espinosa, C., Berson, E., Reincke, S. M., Xue, L., Kashiwagi, C., Kim, Y., Shu, C. H., Chung, P., Ghanem, M., Xie, F., Wong, et al
  2024; 25 (6)

- **Uncovering newly identified aldehyde dehydrogenase 2 genetic variants that lead to acetaldehyde accumulation after an alcohol challenge.** *Journal of translational medicine*
  Rwere, F., White, J. R., Hell, R. C., Yu, X., Zeng, X., McNeil, L., Zhou, K. N., Angst, M. S., Chen, C. H., Mochly-Rosen, D., Gross, E. R.
  2024; 22 (1): 697

- **Predicting Preterm Birth Using Proteomics.** *Clinics in perinatology*
  Marić, I., Stevenson, D. K., Aghaeepour, N., Gaudillière, B., Wong, R. J., Angst, M. S.
  2024; 51 (2): 391-409

- **Corrigendum: Advances and potential of omics studies for understanding the development of food allergy.** *Frontiers in allergy*
  Sindher, S. B., Chin, A. R., Aghaeepour, N., Prince, L., Maecker, H., Shaw, G. M., Stevenson, D., Nadeau, K. C., Snyder, M., Khatri, P., Boyd, S. D., Winn, V. D., Angst, et al
  2024; 5: 1373485

- **Discovery of sparse, reliable omic biomarkers with Stabl.** *Nature biotechnology*
  Hédou, J., Marić, I., Bellan, G., Einhaus, J., Gaudillière, D. K., Ladant, F. X., Verdonk, F., Stelzer, I. A., Feyaerts, D., Tsai, A. S., Ganio, E. A., Sabayev, M., Gillard, et al
  2024

- **Deep representation learning identifies associations between physical activity and sleep patterns during pregnancy and prematurity.** *NPJ digital medicine*
  Ravindra, N. G., Espinosa, C., Berson, E., Phongpreecha, T., Zhao, P., Becker, M., Chang, A. L., Shome, S., Marić, I., De Francesco, D., Mataraso, S., Saarunya, G., Thuraiappah, et al
  2023; 6 (1): 171

- **Variability and relative contribution of surgeon and anesthesia specific time components to total procedural time in cardiac surgery.** *The Journal of thoracic and cardiovascular surgery*

Vanneman, M. W., Thuraiappah, M., Feinstein, I., Fielding-Singh, V., Peterson, A., Kronenberg, S., Angst, M. S., Aghaeepour, N.
2023

- **Comparative predictive power of serum vs plasma proteomic signatures in feto-maternal medicine.** *AJOG global reports*
  Espinosa, C., Ali, S. M., Khan, W., Khanam, R., Pervin, J., Price, J. T., Rahman, S., Hasan, T., Ahmed, S., Raqib, R., Rahman, M., Aktar, S., Nisar, et al
  2023; 3 (3): 100244

- **Multiomic signals associated with maternal epidemiological factors contributing to preterm birth in low- and middle-income countries.** *Science advances*
  Espinosa, C. A., Khan, W., Khanam, R., Das, S., Khalid, J., Pervin, J., Kasaro, M. P., Contrepois, K., Chang, A. L., Phongpreecha, T., Michael, B., Ellenberger, M., Mehmood, et al
  2023; 9 (21): eade7692

- **STABL Enables Reliable and Selective biomarker Discovery in Predictive Modeling of High Dimensional Omics Data**
  Verdonk, F., Hedou, J., Maric, I., Bellan, G., Einhaus, J., Gaudilliere, D., Ladant, F., Stelzer, I., Feyaerts, D., Tsai, A., Bonham, A., Angst, M., Aghaeepour, et al
  LIPPINCOTT WILLIAMS & WILKINS.2023: 814-821

- **Large-scale correlation network construction for unraveling the coordination of complex biological systems.** *Nature computational science*
  Becker, M., Nassar, H., Espinosa, C., Stelzer, I. A., Feyaerts, D., Berson, E., Bidoki, N. H., Chang, A. L., Saarunya, G., Culos, A., De Francesco, D., Fallahzadeh, R., Liu, et al
  2023; 3 (4): 346-359

- **Advances and potential of omics studies for understanding the development of food allergy.** *Frontiers in allergy*
  Sindher, S. B., Chin, A. R., Aghaeepour, N., Prince, L., Maecker, H., Shaw, G. M., Stevenson, D. K., Nadeau, K. C., Snyder, M., Khatri, P., Boyd, S. D., Winn, V. D., Angst, et al
  2023; 4: 1149008

- **Data-driven longitudinal characterization of neonatal health and morbidity.** *Science translational medicine*
  De Francesco, D., Reiss, J. D., Roger, J., Tang, A. S., Chang, A. L., Becker, M., Phongpreecha, T., Espinosa, C., Morin, S., Berson, E., Thuraiappah, M., Le, B. L., Ravindra, et al
  2023; 15 (683): eadc9854

- **In-Silico Generation of High-Dimensional Immune Response Data in Patients using a Deep Neural Network.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Fallahzadeh, R., Bidoki, N. H., Stelzer, I. A., Becker, M., Marić, I., Chang, A. L., Culos, A., Phongpreecha, T., Xenochristou, M., De Francesco, D., Espinosa, C., Berson, E., Verdonk, et al
  2022

- **Early prediction and longitudinal modeling of preeclampsia from multiomics.** *Patterns (New York, N.Y.)*
  Maric, I., Contrepois, K., Moufarrej, M. N., Stelzer, I. A., Feyaerts, D., Han, X., Tang, A., Stanley, N., Wong, R. J., Traber, G. M., Ellenberger, M., Chang, A. L., Fallahzadeh, et al
  2022; 3 (12): 100655

- **Integrated plasma proteomic and single-cell immune signaling network signatures demarcate mild, moderate, and severe COVID-19.** *Cell reports. Medicine*
  Feyaerts, D., Hédou, J., Gillard, J., Chen, H., Tsai, E. S., Peterson, L. S., Ando, K., Manohar, M., Do, E., Dhondalay, G. K., Fitzpatrick, J., Artandi, M., Chang, et al
  2022: 100680

- **Signature for Pain Recovery IN Teens (SPRINT): protocol for a multisite prospective signature study in chronic musculoskeletal pain.** *BMJ open*
  Simons, L., Moayedi, M., Coghill, R. C., Stinson, J., Angst, M. S., Aghaeepour, N., Gaudilliere, B., King, C. D., López-Solà, M., Hoeppli, M. E., Biggs, E., Ganio, E., Williams, et al
  2022; 12 (6): e061548

- **A data-driven health index for neonatal morbidities.** *iScience*
  De Francesco, D., Blumenfeld, Y. J., Maric, I., Mayo, J. A., Chang, A. L., Fallahzadeh, R., Phongpreecha, T., Butwick, A. J., Xenochristou, M., Phibbs, C. S., Bidoki, N. H., Becker, M., Culos, et al
  2022; 25 (4): 104143

- **MULTIOMICS LONGITUDINAL MODELING OF PREECLAMPTIC PREGNANCIES**
  Espinosa, C., Maric, I., Contrepois, K., Moufarrej, M., Stelzer, I. S., Feyaerts, D., Han, X., Tang, A., Wong, R. J., Darmstadt, G. L., Winn, V. D., Shaw, G. M., Relman, et al
  BMJ PUBLISHING GROUP.2022: 309

- **Revealing the impact of lifestyle stressors on the risk of adverse pregnancy outcomes with multitask machine learning.** *Frontiers in pediatrics*
  Becker, M., Dai, J., Chang, A. L., Feyaerts, D., Stelzer, I. A., Zhang, M., Berson, E., Saarunya, G., De Francesco, D., Espinosa, C., Kim, Y., Maric, I., Mataraso, et al
  2022; 10: 933266

- **Maternal stress and its consequences - biological strain.** *American journal of perinatology*
  Stevenson, D. K., Gotlib, I. H., Buthmann, J. L., Maric, I., Aghaeepour, N., Gaudilliere, B., Angst, M. S., Darmstadt, G. L., Druzin, M. L., Wong, R. J., Shaw, G. M., Katz, M.
  2022

- **Integrated Single-Cell and Plasma Proteomic Modeling to Predict Surgical Site Complications: A Prospective Cohort Study.** *Annals of surgery*
  Rumer, K. K., Hedou, J., Tsai, A., Einhaus, J., Verdonk, F., Stanley, N., Choisy, B., Ganio, E., Bonham, A., Jacobsen, D., Warrington, B., Gao, X., Tingle, et al
  1800

- **Preoperative Opioid Utilization Patterns and Postoperative Opioid Utilization: A Retrospective Cohort Study.** *Anesthesiology*
  Rishel, C. A., Angst, M. S., Sun, E. C.
  2021; 135 (6): 1015-1026

- **Plasma Biomarkers of Tau and Neurodegeneration During Major Cardiac and Noncardiac Surgery.** *JAMA neurology*
  Feinstein, I., Wilson, E. N., Swarovski, M. S., Andreasson, K. I., Angst, M. S., Greicius, M. D.
  2021

- **Integrated trajectories of the maternal metabolome, proteome, and immunome predict labor onset.** *Science translational medicine*
  Stelzer, I. A., Ghaemi, M. S., Han, X., Ando, K., Hedou, J. J., Feyaerts, D., Peterson, L. S., Rumer, K. K., Tsai, E. S., Ganio, E. A., Gaudilliere, D. K., Tsai, A. S., Choisy, et al
  2021; 13 (592)

- **Stimulant use for self-management of pain among safety-net patients with chronic non-cancer pain.** *Substance abuse*
  Beliveau, C. M., McMahan, V. M., Arenander, J., Angst, M. S., Kushel, M., Torres, A., Santos, G., Coffin, P. O.
  2021: 1–8

- **Understanding how biologic and social determinants affect disparities in preterm birth and outcomes of preterm infants in the NICU.** *Seminars in perinatology*
  Stevenson, D. K., Aghaeepour, N., Maric, I., Angst, M. S., Darmstadt, G. L., Druzin, M. L., Gaudilliere, B., Ling, X. B., Moufarrej, M. N., Peterson, L. S., Quake, S. R., Relman, D. A., Snyder, et al
  2021: 151408

- **Integrated plasma proteomic and single-cell immune signaling network signatures demarcate mild, moderate, and severe COVID-19.** *bioRxiv : the preprint server for biology*
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