

Education

M.D. **Perelman School of Medicine at the University of Pennsylvania** Philadelphia, PA
2009 – 2013.

Sc. B. **Brown University** Providence, RI
2004 – 2008. Graduated *magna cum laude* and with honors in Biology

Honors and Awards

Magna cum laude, Brown University, 2008

Honors in Biology, Brown University, 2008

Travel Award, 36th Annual Conference on Shock, 2013

Winner of 1st annual laparoscopic skills competition at Northern California Chapter of the American College of Surgeons, 2014

Medical Student Teaching Award, Department of Surgery, University of California, San Francisco, 2016

T32 FAVOR Grant Recipient, National Institutes of Health, 2016

Teaching Excellence Award for Cherished Housestaff, School of Medicine, University of California, San Francisco, 2017

Reilly Vascular Disease Research Fellowship Award, University of California, San Francisco, 2018

William Schechter Trauma Resident of the Year, University of California, San Francisco, 2019

Research Experience

Development of a novel pro-resolving perivascular device for the prevention of anastomotic intimal hyperplasia 05/2016 – 07/2018

Investigator: Michael S. Conte, MD

Division of Vascular and Endovascular Surgery

University of California, San Francisco

- Served as project manager for two ongoing projects in the lab.
 - Organized multiple animal models for use in different projects and functioned as the primary surgeon for these animal models.
 - Learned multiple laboratory techniques (including immunohistochemistry, real-time PCR and cell culture) and how to use necessary software to allow for independent production and interpretation of data.
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Reactive Oxygen Species-Mediated Mitochondrial Dysfunction in Hemorrhagic Shock 07/2012 – 08/2013

Investigator: Carrie Sims, MD

Division of Traumatology, Surgical Critical Care and Emergency Surgery

Hospital of the University of Pennsylvania

- Learned multiple laboratory techniques (including Western blot) and how to use necessary software to allow for independent production and interpretation of data.
- Planned and conducted experiments that formed the basis of a Scholarly Pursuit and manuscript submission.
- Provided post-operative care for lab animals involved in Dr. Sims' rat model of hemorrhagic shock.

Assessing the Burden of Surgical Disease in Low and Middle Income Countries 07/2011 – 06/2013

Investigator: Joseph Sakran, MD, MPH

The Division of Traumatology, Surgical Critical Care and Emergency Surgery

Hospital of the University of Pennsylvania

- Reviewed and compiled existing literature on surgical disease in low and middle-income countries.
- Wrote the initial drafts of significant portions of a manuscript that was published in the Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine.
- Contributed post-submission revisions required for publishing of the manuscript.

Antibacterial Properties of a Novel Metal-Polymer Hybrid Surface Coating 03/2007 – 06/2008

Investigator: Jeffrey Morgan, PhD

Center for Biomedical Engineering

Brown University

- Developed novel rapid screening assays of the chemical and antimicrobial activity of the hybrid polymers under investigation.
- Worked in a rat model evaluating soft tissue integration of percutaneous implants, including fabricating and coating over 100 implants, significant surgical work and post-operative evaluations of the animals for several weeks following the initial surgeries.
- Wrote a manuscript that was submitted for a senior honors thesis.

Publications/Presentations

Mottola G, **Werlin E**, Wu B, Chen M, Chatterjee A, Schaller M, Conte MS. Oral Resolvin D1 attenuates early inflammation but not intimal hyperplasia in a rat carotid angioplasty model. Prostaglandins and Other Lipid Mediators. *In press.* 2020 Feb;146:106401.

Werlin EC, Kaushik S, Gasper WJ, Hoffman M, Reilly LM, Chuter TA, Hiramoto JS. Multibranched endovascular aortic aneurysm repair in patients with and without chronic dissections. *J Vasc Surg.* 2019 Nov;70(5):1419-1426.

Wu B, **Werlin E**, Mottola G, Chatterjee A, Chen M, Lance KD, Bernards DA, Sansbury B, Spite M, Desai TA, Conte MS. Perivascular Delivery of Resolvin D1 Inhibits Neointimal Hyperplasia in a Rabbit Vein Graft Model. *Journal of Vascular Surgery.* 68 (Supplement 6): 188S-200S, December 2018.

Conte MS, Desai TA, Wu B, Schaller M, **Werlin E**. Pro-resolving lipid mediators in vascular disease. *Journal of Clinical Investigation.* 128(9): 3727-3735. August 2018.

Evan C. Werlin, Melinda Schaller, Charles Parks, Brooke Goodman, Blake Wallace, Monara Dini, Michael Conte, Alex Reyzelman, Warren J. Gasper. Lower Extremity Revascularization with Transmetatarsal Amputation Improves Healing and Reduces Major Amputation. 33rd Annual Meeting of the Vascular Society. Santa Fe, NM. September 2018.

Evan Werlin, Joy Walker, Jonathan Freise, Anna Mello, Mehdi Tavakol, Peter Stock, Jade Hiramoto. Utility of preoperative non-contrast computed tomography (CT) to guide perioperative management for renal transplantation. The 27th International Congress of the Transplantation Society. Madrid, Spain. July 2018.

Evan C Werlin, Smita Kaushik, Warren Gasper, Megan Hoffman, Linda M Reilly, Timothy A Chuter, Jade S Hiramoto. Multi-Branched Endovascular Aortic Aneurysm Repair In Patients With Chronic Aortic Dissections: Technical Challenges and Clinical Outcomes. 42nd Annual Meeting of the Vascular and Endovascular Surgical Society. Vail, CO. Feb 2017.

Carrie A. Sims, Guan Yuxia , Khushboo Singh , **Evan C. Werlin** , Patrick M. Reilly , Joseph A. Baur. Supplemental arginine vasopressin during the resuscitation of severe hemorrhagic shock preserves renal mitochondrial function. *PLoS One.* 12(10), Oct 2017.

Evan Werlin, Bian Wu, Giorgio Mottola, Anuran Chatterjee, Mian Chen, Kevin D Lance, Dan A Bernards, Brian Sansbury, Matt Spite, Tejal A Desai, Michael S Conte. Perivascular Delivery of Resolvin D1 Inhibits Inflammation and Neointimal Hyperplasia in a Rabbit Vein Graft Model. UCSF Department of Surgery 30th Annual Resident Research Symposium. San Francisco, CA. April, 2017.

Giorgio Mottola, **Evan Werlin**, Bian Wu, Mian Chen, Anuran Chatterjee, Melinda Schaller and Michael S Conte. Oral Administration of Resolvin D1 Attenuates Early Inflammation Following Vascular Injury in a Rat Carotid Angioplasty Model. *Arteriosclerosis, Thrombosis and Vascular Biology | Peripheral Vascular Disease 2017 Scientific Sessions.* Minneapolis, MN. May 2017.

Wu B, Chatterjee A, Mottola G, **Werlin E**, Chen M, Lance KD, Desai TA, Conte MS. Perivascular delivery of Resolvin D1 inhibits neointimal hyperplasia in a rabbit vein bypass model. 12th Annual Academic Surgical Congress. Las Vegas, NV. February, 2017.

Agarwal A, **Werlin E**, Yu M, Lin M, Donovan A. 1986: Calciphylaxis as a contributor to refractory hypotension [Report]. *Critical Care Medicine*. 44(12) (Supplement 1): 571, December 2016.

Sims C, Guan Y, **Werlin E**, Reilly P. Hemorrhagic shock depletes AVP stores and hormonal supplementation preserves mitochondrial function. 75th Annual Meeting of the American Association for the Surgery of Trauma & Clinical Congress of Acute Care Surgery. Waikoloa, HI, September, 2016.

Karamercan MA, Weiss SL, Villarroel JP, Guan Y, **Werlin E**, Figueredo R, Becker LB, Sims C. Can peripheral blood mononuclear cells be used as a proxy for mitochondrial dysfunction in vital organs during hemorrhagic shock and resuscitation? *Shock*. 2013 Dec; 40(6):476-84.

Villarroel JP, Guan Y, **Werlin E**, Selak MA, Becker LB, Sims CA. Hemorrhagic shock and resuscitation are associated with peripheral blood mononuclear cell mitochondrial dysfunction and immunosuppression. *Journal of Trauma and Acute Care Surgery*. 2013 Jul;75(1):24-31.

Sakran, Joseph V, Greer, Sarah E, **Werlin, Evan C**, McCunn, Maureen. Care of the Injured Worldwide: Trauma, Still the Neglected Disease of Modern Society. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*. 2012, 20:64.

Werlin, EC, Guan, Y, Agarwal, B, Baur, JA, Villarroel, JP, Figueredo, R, Karamercan, MA, Becker, LB, Sims, CA. Resuscitation with Arginine vasopressin reduces oxidative damage in kidney mitochondria following hemorrhagic shock. 36th Annual Conference on Shock. San Diego, CA, June, 2013.

Jarrell, John D; **Werlin, EC**; Weinstock, B; Puckett, SD; Morgan, JR; Ciombor, D M; Aaron, R K. Rapid Development of Biointerfaces for Antimicrobial Transcutaneous Osseointegrated Implant Devices (TCOIDs). 55th Annual Meeting of the Orthopaedic Research Society, Transactions Vol. 34, No. 0555, Las Vegas, NV, February, 2009.

Jarrell, John D; **Werlin, EC**; Weinstock, B; Puckett, SD; Morgan, JR; Ciombor, D M; Aaron, R K. Rapid Development of Photoactive Solid State Dispersions as Biointerfaces for Orthopaedic Implants, Hybrid Materials 2009, First International Conference on Multifunctional, Hybrid and Nanomaterials, Transactions, A1.3.07, Tours France, March, 2009.

Jarrell, John D, **Werlin, Evan C**, Puckett, Sabrina, Morgan, Jeffrey R. Active metal oxide and polymer hybrid coatings for antimicrobial devices. *BioInterface* 2008, Annual Symposium, Surfaces in Biomaterials Foundation, Min., MN, October, 2008.

Werlin, Evan, Jarrell, John, and Morgan, Jeffrey. The effects of precursor selection and coating thickness on the photoactivity of a novel metal-polymer hybrid. 34th annual Northeast Bioengineering conference; 2008 Apr 4-6. Providence, RI.

Jarrell, John D, **Werlin, EC**, Morgan, JR. Novel light-activated antimicrobial controlled delivery polymer hybrids for osseointegrated transcutaneous devices. 54th Annual Meeting of the Orthopaedic Research Society, Transactions Vol. 33, No. 1729, San Francisco, CA March,

Work Experience

Adventure Learning Program 05/2009 – 07/2009

National Ability Center

Park City, UT

- Encouraged individuals with and without disabilities to discover their abilities through participation in a high ropes course and team-building activities.
- Taught children and adults with disabilities how to ride horses.

Adaptive snowboard instructor 12/2008 – 04/2009

National Ability Center

Park City, UT

- Taught snowboarding to people with disabilities.

Andrologist 06/2006 – 08/2006,

Coastal Fertility Medical Center 06/2008 – 12/2008

Irvine, CA

- Performed semen analysis, semen cryopreservation and the laboratory preparation for intrauterine insemination.
- Provided assistance for oocyte retrieval, embryo transfer, intracytoplasmic sperm injection (ICSI) and sperm penetration assays (hamster zona-free ovum test).
- Prepared culture media for oocyte retrieval, embryo transfer and ICSI.

Extracurricular activities

Calcula Technologies 12/2012 – 05/2012

University of Pennsylvania

- Worked as clinical lead to design animal models and clinical trials for the development of a novel medical device used to treat kidney stones in an outpatient setting.
 - Finished 3rd at the 2012 Wharton Business Plan Competition at the Wharton School of Business.
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The Gambia, West Africa

- Represented the non-profit organization, Power Up Gambia, on an international trip to The Gambia, West Africa where 8 rural health clinics were assessed for the feasibility of receiving a solar panel installation that would provide sustainable electricity for basic medical care.
 - Met with village leaders in many rural communities in The Gambia to discuss barriers to basic health care access and provided extensive photographic documentation of current clinical spaces.
 - Attended meetings, wrote articles about my experiences in The Gambia and helped contribute to decisions about the organization's future.
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Interests

Running

2009 - Present

- Regularly running 30-40 miles per week with up to 60 miles per week during training periods. Past races include the California International Marathon (2016), Big Sur Marathon (2015, 2016), San Francisco Marathon (2014), Boston Marathon (2013), Reach the Beach Relay (2013), Philadelphia Marathon (2009, 2010, 2011, 2012), Philadelphia Rock and Roll Half Marathon (2011), Broad Street Run (2010, 2011, 2012), Tom's Run Team Relay (2010), Penn Relays Distance Classic (2010).
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Independent Travel

2004 - Present

- Extensive travel throughout Europe, South America and the USA.
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Snowboarding

1996 - Present

- Advanced snowboarder able to ride most terrain with extensive riding during 2008/2009, 2011/2012, 2012/2013 seasons.