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CURRICULUM VITAE

Matt Durand PhD

Associate Professor
Department of Physical Medicine and Rehabilitation

OFFICE ADDRESS:

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EDUCATION:

2001 - 2005 BA, Lawrence University, Appleton, WI
2005 - 2010 Ph.D., Medical College of Wisconsin, Milwaukee, WI

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

01/2011 - 09/2015 Postdoctoral Fellow, Department of Medicine, Advisor: David D. Gutterman, MD, Medical College of Wisconsin

FACULTY APPOINTMENTS:

10/2015 - 06/2020 Assistant Professor, Department of Physical Medicine and Rehabilitation, Medical College of Wisconsin, Milwaukee, WI
02/2017 - Present Research Assistant Professor Courtesy Appointment, Department of Physical Therapy, Marquette University
07/2020 - Present Associate Professor, Department of Physical Medicine and Rehabilitation, Medical College of Wisconsin, Milwaukee, WI

ADMINISTRATIVE APPOINTMENTS:

01/01/2018 - Present Research Director, Physical Medicine and Rehabilitation, Medical College of Wisconsin

AWARDS AND HONORS:

2010 Burton E. Sobel Young Investigator Award, Society for Experimental Biology and Medicine
2010 Zweifach Graduate Student Travel Award, Microcirculatory Society
2011 Acceptance into Medical College of Wisconsin Clinical Research Scholars Program (Previously K30 Award).
2011 Acceptance onto T32 Training Grant - Cardiovascular Center, Medical College of Wisconsin
2012 Pappenheimer Postdoctoral Travel Award, Microcirculatory Society
2013 Postdoctoral Travel Award - Medical College of Wisconsin
2014 Pappenheimer Postdoctoral Travel Award, Microcirculatory Society
2016 ATVB Travel Award for Young Investigators, American Heart Association
2018 Gerritsen Award (for the most highly cited invited review over the previous 5 year period), Microcirculatory Society

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:

2008 - Present American Physiological Society
2009 - Present Microcirculatory Society
2009 - Present American Heart Association
2015 - Present American College of Sports Medicine

EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:

Editorial Board

2018 - Present American Journal of Physiology – Heart and Circulatory Physiology
2020 - Present Antioxidants and Redox Signaling
2020 - Present Microcirculation

Journal Review

American Journal of Hypertension
Cardiovascular Research
American Journal of Physiology - Heart and Circulatory Physiology
Antioxidants and Redox Signalling
Experimental Brain Research
Journal of the American Heart Association
Medicine & Science in Sports & Exercise
Journal of Physiology
Stroke
Scandinavian Journal of Medicine & Science in Sports
PLoS One
Microcirculation
Comparative Exercise Physiology
Journal of Applied Physiology
American Journal of Physiology-Endocrinology and Metabolism

NATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

2016 Peer Reviewer, Vascular Endothelial Clinical Study Section, American Heart Association
2017 Peer Reviewer, Vascular Endothelial Biology Clinical Study Section, American Heart Association
2018 - 2021 Member, Cardiovascular Section Award Committee, American Physiological Society
2019 Peer Reviewer, Vascular Endothelial Biology Basic Science Study Section, American Heart Association
2019 Peer Reviewer, Switzer Research Fellowship Program, National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) in the Department of Health and Human Services
2020 Peer Reviewer, American Heart Association, Transformational Project Award Clinical Sciences
2021 Peer Reviewer, Vascular Sciences Career Development Award Committee, American Heart Association
2021 - Present Fellow, Cardiovascular Section, American Physiological Society
2021 Peer Reviewer, Vascular Study Section, Fellowships, American Heart Association
2021 - Present Member, Nominating Committee, Cardiovascular Section, American Physiological Society
2021 Peer Reviewer, Vascular Endothelial Biology Basic Science Study Section, American Heart Association
2022 Peer Reviewer (standing member), Rehabilitation Research and Development Service Career Development Awards – Panel 1., Veterans Health Administration
2022 Peer Reviewer (ad hoc), Musculoskeletal Rehabilitation Sciences (MRS) Study Section, National Institutes of Health
2022 Peer Reviewer (ad hoc), Rehabilitation Research and Development Service Career Development Awards – Panel 1, Veterans Health Administration

RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:

Active

Peer Review

Title:	Optimizing Functional Outcomes of Stroke Survivors through Translational Research
Source:	Advancing a Healthier Wisconsin
Role:	Co-Investigator
PI:	Diane Braza, MD
Dates:	12/01/2015 - 11/30/2020
Direct Funds:	$1,003,673
Title:	Pivotal Role of Mitochondrial Telomerase in Regulation of Vascular

	Tone and Redox Homeostasis
Source:	NIH/NHLBI 1R01HL133029-01A1
Role:	Co-Investigator
PI:	Andreas M. Beyer
Dates:	04/01/2017 - 03/31/2022
Direct Funds:	$2,105,032
Title:	Role of Mitochondrial Dysfunction in Hyperoxia-Induced Pulmonary Vascular Endothelial Injury
Source:	VA Merit Review BX003833
Role:	Co-Investigator
PI:	Elizabeth Jacobs
Dates:	01/01/2019 - 12/31/2022
Direct Funds:	$656,311
Title:	Prehabilitation of Frail Surgical Cancer Patients using Remote Ischemic Preconditioning
Source:	NIH/NIA 1R21AG062933-01
Role:	Principal Investigator
Dates:	04/01/2019 - 03/31/2021
Direct Funds:	$275,000
Title:	Ischemic Conditioning and Improved Motor Function Post Stroke
Source:	NIH/NICHD R01HD099340
Role:	Principal Investigator
Dates:	07/01/2019 - 06/30/2024
Direct Funds:	$1,582,448
Title:	Ischemic Conditioning and Sympathetic Activation in Chronic Stroke Survivors
Source:	CTSI of Southeastern Wisconsin
Role:	Principal Investigator
Dates:	10/01/2019 - 03/31/2020
Direct Funds:	$12,500
Title:	Understanding and Addressing Disparities in Cancer Therapy Induced Inflammation and Associated Endothelial Dysfunction
Source:	American Heart Association, Strategically Focused Research Network
Role:	Co-Investigator; Core Director
PI:	Melinda Stolley, Ph.D.
Dates:	07/01/2021 - 06/30/2025
Direct Funds:	$2,659,000
Title:	Critical role of Mitochondrial Fission/Fusion in Regulation of Microvascular Endothelial Function
Source:	NIH/NHLBI 1R01HL157025-01
Role:	Co-Investigator
PI:	David Gutterman, MD
Dates:	08/01/2021 - 07/31/2025
Direct Funds:	$2,135,940

Title:	Dual Functionality of Ceramide in Human Microvascular Endothelial Function
Source:	NIH/NHLBI R01HL160752
Role:	Co-Investigator
PI:	Julie K. Freed, MD, Ph.D.
Dates:	07/01/2022 - 06/30/2027
Direct Funds:	$3,163,950

Title:	Blood Flow Regulation and Neuromuscular Function Post-Stroke
Source:	NIH/NICHD R01HD112258
Role:	Principal Investigator
Dates:	07/01/2023 - 06/30/2028
Direct Funds:	$3,836,712

Prior

Peer Review

Title:	Contributions of Reduced Angiotensin II Levels to Oxidative Stress and Impaired Vasodilation in Dahl Salt-Sensitive Rats
Source:	American Heart Association Predoctoral Fellowship: Midwest Affiliate #0815532G
Role:	Principal Investigator
Dates:	07/01/2008 - 06/30/2010
Direct Funds:	$52,000

Title:	Effects of Altered Perfusion on Neuromuscular Fatigue and Leg Function Post Stroke
Source:	Clinical and Translational Science Institute of Southeastern Wisconsin Pilot Grant
Role:	Co-Investigator
PI:	Allison S. Hyngstrom
Dates:	04/01/2013 - 03/31/2014
Direct Funds:	$25,833

Title:	The Critical Role of Telomerase in Maintaining Nitric-Oxide Mediated Vasodilation in the Human Coronary Microcirculation
Source:	American Heart Association Postdoctoral Fellowship: Midwest Affiliate # 14POST18780022
Role:	Principal Investigator
Dates:	01/01/2014 - 09/30/2015
Direct Funds:	$98,476

Title:	Impaired Blood Flow and Neuromuscular Fatigue Post Stroke
Source:	NIH/NINDS R21NS088818
Role:	Co-Investigator
PI:	Allison S. Hyngstrom

Dates:	07/01/2014 - 06/30/2016
Direct Funds:	$228,611
Title:	Ischemic Preconditioning as an Intervention to Improve Paretic Leg Function in Chronic Stroke Subjects
Source:	Clinical and Translational Science Institute (CTSI) Mentored Career Development Program Award – CTSI KL2 UL1TR001436
Role:	Principal Investigator
Dates:	10/08/2015 - 10/07/2018
Direct Funds:	$354,633
Title:	Optimizing Functional Outcomes of Stroke Survivors through Translational Research
Source:	Advancing a Healthier Wisconsin
Role:	Co-Investigator
PI:	Diane Braza, MD
Dates:	12/01/2015 - 11/30/2020
Direct Funds:	$1,003,673
Title:	Ischemic Preconditioning as an Intervention to Improve Paretic Leg Function in Chronic Stroke Subjects
Source:	American Heart Association NCRP Mentored Clinical & Population Research Award #16MCPRP27270001
Role:	Principal Investigator
Dates:	01/01/2016 - 12/31/2017
Direct Funds:	$153,508 (3rd Percentile. Declined in favor of KL2 Award)
Title:	Pivotal Role of Mitochondrial Telomerase in Regulation of Vascular Tone and Redox Homeostasis.
Source:	NIH/NHLBI R01HL133029
Role:	Co-Investigator
PI:	Andreas Beyer, Ph.D.
Dates:	04/01/2017 - 03/31/2022
Direct Funds:	$2,158,907
Title:	The Harambee-Hoja Partnership: A Park Based Intervention to Increase Physical Activity in Under Resourced Communities
Source:	Medical College of Wisconsin, Community Engaged Research (CEnR) Seed Grant Program: Cardiovascular Focus
Role:	Principal Investigator
Dates:	01/01/2018 - 06/30/2019
Direct Funds:	$50,000
Title:	Ischemic Conditioning Improves Leg Function Post Stroke

Source:	Marquette University Athletic and Human Performance Research Center Pilot Award
Role:	Principal Investigator
Dates:	11/01/2018 - 05/31/2019
Direct Funds:	$7,990

Title:	Ischemic Conditioning Improves Walking Function Post Stroke
Source:	American Heart Association Institutional Research Enhancement Award (AIREA)
Role:	Co-Investigator
PI:	Allison S. Hyngstrom
Dates:	01/01/2019 - 12/31/2020
Direct Funds:	$154,000

Title:	Ischemic Conditioning Improves Walking Function Post Stroke
Source:	American Heart Association Institutional Research Enhancement Award (AIREA)
Role:	Co-Investigator
PI:	Allison S. Hyngston, PT, Ph.D.
Dates:	01/01/2019 - 12/31/2020
Direct Funds:	$154,000

Title:	Role of Mitochondrial Dysfunction in Hyperoxia-Induced Pulmonary Vascular Endothelial Injury
Source:	VA Merit Review BX003833
Role:	Co-Investigator
PI:	Elizabeth Jacobs, MD
Dates:	04/01/2019 - 03/31/22
Direct Funds:	$656,311

Title:	Prehabilitation of Frail Surgical Cancer Patients using Remote Ischemic Preconditioning
Source:	NIH/NIA R21AG062933
Role:	Principal Investigator
Dates:	04/01/2019 - 12/31/2020
Direct Funds:	$275,000

Title:	Ischemic Conditioning and Sympathetic Activation in Chronic Stroke Survivors
Source:	CTSI of Southeastern Wisconsin
Role:	Principal Investigator
Dates:	10/01/2019 - 07/31/2020
Direct Funds:	$12,500

Title:	Mechanisms Contributing to Age-Induced Microvascular Dysfunction: An in vivo and ex vivo Approach
Source:	Research Pilot Award by the Cardiovascular Center at the Medical College of Wisconsin
Role:	Faculty Sponsor
PI:	William Hughes, Ph.D.

Dates:	09/01/2021 - 12/31/2022
Direct Funds:	$10,000

COMMITTEE SERVICE:

Medical College of Wisconsin

11/2015 - Present Research Administration Committee, Department of Physical Medicine and Rehabilitation

2015 - Present Member, Research Administration Committee, Physical Medicine and Rehabilitation, Medical College of Wisconsin

2016 - Present Member, Stroke Rehabilitation Center Executive Committee

06/2017 - 06/2018 Strategic Planning Committee, Department of Physical Medicine and Rehabilitation

12/2017 - Present Executive Committee, Department of Physical Medicine and Rehabilitation

2017 - Present Member, Executive Committee, Physical Medicine and Rehabilitation, Medical College of Wisconsin

05/2018 Keelan, Cullen, & Pre-PPG Grant Study Section, Cardiovascular Center

2018 - Present Chair, Research Administration Committee, Physical Medicine and Rehabilitation, Medical College of Wisconsin

07/2019 - 06/2022 Research Affairs Committee

2019 - Present Member, Research Affairs Committee, Medical College of Wisconsin

04/2020 - 08/2021 Neurosciences Institute Director, Search Committee

05/2020 Mini-Grants Study Section, Cardiovascular Center

11/2020 - Present Council on Collaboration, Clinical and Translational Sciences Institute of Southeastern Wisconsin

12/2020 - 06/2021 Neurosciences Research Workgroup

07/2021 Keelan and Cullen Grant Study Section, Cardiovascular Center

MEDICAL COLLEGE TEACHING ACTIVITIES:

Medical Student Education

2007 - 2010 Teaching Assistant - Student Laboratories: Medical Physiology Course, Skeletal Muscle, Smooth Muscle and Cardiovascular Physiology

2017 - Present Small Group Facilitator for the Molecular and Cellular Research (MCR) Physician Scientist Pathway

2021 Small Group Facilitator for the Clinical and Translational Research Pathway

2022 Small Group Facilitator for the Clinical and Translational Research Pathway

Resident and Fellow Education

2016 - Present Lecturer - Cardiopulmonary and Cancer Rehab Lecture Series

2017 - Present Course Director, Physical Medicine and Rehabilitation Resident Research Didactics Course

Graduate Student Education

2020 Lecturer, Translational Genomics

2021 Lecturer, Current Concepts in Cardiovascular Biology

2022 Lecturer, Translational Genomics

2023 Lecturer, Translational Genomics

EXTRAMURAL TEACHING:

Resident and Fellow Education

2017 - Present Physical Medicine and Rehabilitation, Course Director, Physical Medicine and Rehabilitation Resident Research Didactics Course

MCW STUDENTS, FACULTY, RESIDENTS AND CLINICAL/RESEARCH FELLOWS MENTORED:

Undergraduate Students

Oliver Newsom, Medical College of Wisconsin, 2014 Mentor

Medical Students

Cullen Buchanan, Medical College of Wisconsin, 2015 - 2017 Co-Mentor
Rory Loo, Medical College of Wisconsin, 2018 - 2020 Co-Mentor
Luisa Burgos, Medical College of Wisconsin, 2021 Co-Mentor
Austin Greenwood, Medical College of Wisconsin, 2021 Co-Mentor
Sarah Meeuwsen, Medical College of Wisconsin, 2022 Co-Mentor
Annie Tuman, Medical College of Wisconsin, 2024 Mentor

Residents

Erin Beddows, MD, Medical College of Wisconsin, 2018 - 2020 Co-Mentor

EXTRAMURAL STUDENTS, FACULTY, RESIDENTS, AND CLINICAL/RESEARCH FELLOWS MENTORED:

Undergraduate Students

Oliver Newsom, Lawrence University Mentored Research Program, 2013 Mentor

Medical Students

Daphne Blount, Medical College of Wisconsin, class of 2026, Mentor

Postdoctoral Students

Alicen Whitaker – Hilbig, DPT, Ph.D., MCW PM&R Resident, 2023 - Present Mentor

Residents

Gabriel Sotomayor, MD, MCWAH Transitional Year Resident, 2019 Gabriel Sotomayor, MD
Nick Donohue, MD, MCW PM&R Resident, 2020 - 2021 Mentor
Colton Sauer, MD, MCW PM&R Resident, 2021 - Present Mentor
Akash, Jindal, MD, MCW PM&R Resident, 2021 - 2023 Mentor
Hans Anderson, MD, Ph.D, MCW PM&R Resident, 2022 - Present Mentor

Faculty

Anne Castro, MD, Department of Anesthesiology, 2021 - Present Mentoring Team Member

COMMUNITY SERVICE ACTIVITIES:

2016 - Present Stroke Rehabilitation Center Community Academic Advisory Board

BIBLIOGRAPHY

Refereed Journal Publications/Original Papers

1. McEwen ST, Balus SF, Durand MJ, Lombard JH. Angiotensin II maintains cerebral vascular relaxation via EGF receptor transactivation and ERK1/2. Am J Physiol Heart Circ Physiol. 2009 Oct;297(4):H1296-303. PMCID: PMC2770770
2. Durand MJ, Moreno C, Greene AS, Lombard JH. Impaired relaxation of cerebral arteries in the absence of elevated salt intake in normotensive congenic rats carrying the Dahl salt-sensitive renin gene. Am J Physiol Heart Circ Physiol. 2010 Dec;299(6):H1865-74. PMCID: PMC3006280
3. Durand MJ, Raffai G, Weinberg BD, Lombard JH. Angiotensin-(1-7) and low-dose angiotensin II infusion reverse salt-induced endothelial dysfunction via different mechanisms in rat middle cerebral arteries. Am J Physiol Heart Circ Physiol. 2010 Oct;299(4):H1024-33. PMCID: PMC2957344
4. Durand MJ, Lombard JH. Introgression of the Brown Norway renin allele onto the Dahl salt-sensitive genetic background increases Cu/Zn SOD expression in cerebral arteries. Am J Hypertens. 2011 May;24(5):563-8. PMCID: PMC3285562
5. Raffai G, Durand MJ, Lombard JH. Acute and chronic angiotensin-(1-7) restores vasodilation and reduces oxidative stress in mesenteric arteries of salt-fed rats. Am J Physiol Heart Circ Physiol. 2011

Oct;301(4):H1341-52. PMCID: PMC3197355
6. Durand MJ, Gutterman DD. Diversity in mechanisms of endothelium-dependent vasodilation in health and disease. Microcirculation. 2013 Apr;20(3):239-47. PMCID: PMC3625248
7. Durand MJ, Lombard JH. Low-dose angiotensin II infusion restores vascular function in cerebral arteries of high salt-fed rats by increasing copper/zinc superoxide dimutase expression. Am J Hypertens. 2013 Jun;26(6):739-47. PMCID: PMC3697069
8. Gutterman DD, Durand MJ. Vascular dysfunction in diabetes mellitus: large conductance calcium-activated potassium channels as part of a subsarcolemmal signaling soiree. Circ Res. 2014 Feb 14;114(4):588-90.
9. Durand MJ, Phillips SA, Widlansky ME, Otterson MF, Gutterman DD. The vascular renin-angiotensin system contributes to blunted vasodilation induced by transient high pressure in human adipose microvessels. Am J Physiol Heart Circ Physiol. 2014 Jul 01;307(1):H25-32. PMCID: PMC4080172
10. Durand MJ, Gutterman DD. Exercise and vascular function: how much is too much? Can J Physiol Pharmacol. 2014 Jul;92(7):551-7. PMCID: PMC4398063
11. Beyer AM, Durand MJ, Hockenberry J, Gamblin TC, Phillips SA, Gutterman DD. An acute rise in intraluminal pressure shifts the mediator of flow-mediated dilation from nitric oxide to hydrogen peroxide in human arterioles. Am J Physiol Heart Circ Physiol. 2014 Dec 01;307(11):H1587-93. PMCID: PMC4255007
12. Durand MJ, Dharmashankar K, Bian JT, Das E, Vidovich M, Gutterman DD, Phillips SA. Acute exertion elicits a H2O2-dependent vasodilator mechanism in the microvasculature of exercise-trained but not sedentary adults. Hypertension. 2015 Jan;65(1):140-5. PMCID: PMC4268168
13. Durand MJ, Murphy SA, Schaefer KK, Hunter SK, Schmit BD, Gutterman DD, Hyngstrom AS. Impaired Hyperemic Response to Exercise Post Stroke. PLoS One. 2015;10(12):e0144023. PMCID: PMC4667998
14. Beyer AM, Freed JK, Durand MJ, Riedel M, Ait-Aissa K, Green P, Hockenberry JC, Morgan RG, Donato AJ, Peleg R, Gasparri M, Rokkas CK, Santos JH, Priel E, Gutterman DD. Critical Role for Telomerase in the Mechanism of Flow-Mediated Dilation in the Human Microcirculation. Circ Res. 2016 Mar 04;118(5):856-66. PMCID: PMC4772813
15. Gutterman DD, Chabowski DS, Kadlec AO, Durand MJ, Freed JK, Ait-Aissa K, Beyer AM. The Human Microcirculation: Regulation of Flow and Beyond. Circ Res. 2016 Jan 08;118(1):157-72. PMCID: PMC4742348
16. Durand MJ, Zinkevich NS, Riedel M, Gutterman DD, Nasci VL, Salato VK, Hijjawi JB, Reuben CF, North PE, Beyer AM. Vascular Actions of Angiotensin 1-7 in the Human Microcirculation: Novel Role for Telomerase. Arterioscler Thromb Vasc Biol. 2016 Jun;36(6):1254-62. PMCID: PMC4882242
17. Buchanan CE, Kadlec AO, Hoch AZ, Gutterman DD, Durand MJ. Hypertension during Weight Lifting Reduces Flow-Mediated Dilation in Nonathletes. Med Sci Sports Exerc. 2017 Apr;49(4):669-675. PMCID: PMC5357152
18. Freed JK, Durand MJ, Hoffmann BR, Densmore JC, Greene AS, Gutterman DD. Mitochondria-regulated formation of endothelium-derived extracellular vesicles shifts the mediator of flow-induced vasodilation. Am J Physiol Heart Circ Physiol. 2017 May 01;312(5):H1096-H1104. PMCID: PMC5451582
19. Durand MJ, Ait-Aissa K, Gutterman DD. Regenerative Angiogenesis: Quality Over Quantity. Circ Res. 2017 Apr 28;120(9):1379-1380.
20. Kadlec AO, Chabowski DS, Ait-Aissa K, Hockenberry JC, Otterson MF, Durand MJ, Freed JK, Beyer AM, Gutterman DD. PGC-1? (Peroxisome Proliferator-Activated Receptor ? Coactivator 1-?) Overexpression in Coronary Artery Disease Recruits NO and Hydrogen Peroxide During Flow-Mediated Dilation and Protects Against Increased Intraluminal Pressure. Hypertension. 2017 Jul;70(1):166-173. PMCID: PMC5485836
21. Lukaszewicz KM, Durand MJ, Priestley JRC, Schmit JR, Allen LA, Geurts AM, Lombard JH. Evaluation of Vascular Control Mechanisms Utilizing Video Microscopy of Isolated Resistance Arteries of Rats. J Vis Exp. 2017 Dec 5;(130). PMID: 29286398
22. Kadlec AO, Barnes C, Durand MJ, Gutterman DD. Microvascular Adaptations to Exercise: Protective effect of PGC-1alpha. Am J Hypertens. 2018 Jan 12;31(2):240-246. PMID: 29140431
23. Ma C, Beyer AM, Durand MJ, Clough AV, Zhu D, Norwood Toro L, Terashvili M, Ebben JD, Hill RB, Audi SH, Medora M, and Jacobs ER. Hyperoxia causes mitochondrial fragmentation in pulmonary endothelial cells by increasing expression of pro-fission proteins. Arterioscler Thromb Vasc Biol. 2018 Mar;38(3):622-635. PMID: 29419407

24. Hyngstrom AS, Murphy SA, Nugyen J, Schmit BD, Negro F, Gutterman DD, Durand MJ. Ischemic Conditioning Increases Strength and Volitional Activation of Paretic Muscle in Chronic Stroke: A Pilot Study. J Appl Physiol. 2018 Feb 8. PMID: 29420152
25. Freed JK, Durand MJ. There is No Way to Sugar Coat It, You are Getting Older. Am J Physiol Heart Circ Physiol. 2018 Jun 15. PMID: 29906230
26. Durand MJ and Gutterman DD. Exercise and Your Endothelium: Friends or Foes? Commentary on CrossTalk opposing view: Acute exercise does not elicit damage to the endothelial layer of systemic blood vessels in healthy individuals. J Physiol. 2018 Feb 15;596(4):541-544. PMID: 29355944 PMCID: PMC5813595
27. Murphy SA, Negro F, Farina D, Onushko T, Durand MJ, Hunter SK, Schmit BD, Hyngstrom AS. Stroke Increases Ischemia-related Decreases in Motor Unit Discharge Rates. J. Neurophysiol. J Neurophysiol. 2018 Dec 1;120(6):3246-3256. PMID: 30379629
28. Durand MJ, Ait-Aissa K, Levchenko V, Staruschenko A, Gutterman DD, Beyer AM. Visualization and Quantification of Mitochondrial Structure in the Endothelium of Intact Arteries. Cardiovasc Res. 2018 Nov 22. PMID: 30476208
29. Durand MJ, Boerger TF, Nguyen JN, Alqahtani SZ, Wright MT, Schmit BD, Gutterman DD, Hyngstrom AS. Two Weeks of Ischemic Conditioning Improves Walking Speed and Reduces Neuromuscular Fatigability in Chronic Stroke Survivors. J Appl Physiol (1985). 2019 Mar 1;126(3):755-763. PMID: 30653420. Selected for publication in APSselect.
30. Murphy S, Durand M, Negro F, Farina D, Hunter S, Schmit B, Gutterman D, Hyngstrom A. The Relationship Between Blood Flow and Motor Unit Firing Rates in Response to Fatiguing Exercise Post-stroke. Front Physiol. 2019;10:545. PMCID: PMC6524339
31. Patel JJ, Baruah D, Sobush D, Koester K, Aase J, Zellner S, Graf J, Durand MJ, Szabo A, Shahir K. Identifying High-Attenuating and Low-Attenuating Muscle Using Computerized Tomography and Exploring Its Impact on Physical Function and Muscle Strength in Obese Critically Ill Patients. Nutr Clin Pract. 2020 Feb;35(1):133-141. PMCID: PMC10515294
32. Hyngstrom AS, Nguyen JN, Wright MT, Tarima SS, Schmit BD, Gutterman DD, Durand MJ. Two weeks of remote ischemic conditioning improves brachial artery flow mediated dilation in chronic stroke survivors. J Appl Physiol (1985). 2020 Dec 01;129(6):1348-1354. PMCID: PMC7792845

Abstracts

1. Matthew J. Durand and Julian H. Lombard. Insertion of the Brown Norway Renin Gene onto the Dahl Salt Sensitive Genetic Background Restores Normal Vasodilation Mechanisms. FASEB J. 21:lb439. 2007.
2. Matthew J. Durand, Carol Moreno-Quinn and Julian H. Lombard. Restoration of Vascular Relaxation in Cerebral Arteries of Congenic Dahl Rats Receiving the Brown Norway (BN) Renin Gene. FASEB J. 22:1142.5. 2008.
3. I. Drenjancevic-Peric, M. Durand, C. Moreno-Quinn and J.H. Lombard. Dilations of Middle Cerebral Arteries of Salt Sensitive-Rats are Restored By Receiving Portions of Brown Norway Chromosome 13 Containing the BN Renin Allele. Pp 51-56 in Proceedings of the 25 Conference of the European Society on Microcirculation. A. Koller (ed.). Bulognia, Merimond S.r.l. 2008.
4. Matthew J. Durand and Julian H. Lombard. Suppressed Plasma Angiotensin II and Reduced Antioxidant Enzyme Expression Contribute to Impaired Vascular Relaxation in Dahl Salt-Sensitive Rats. FASEB J. 23:1017.14. 2009.
5. Matthew J. Durand, Gabor Raffai, and Julian H. Lombard. Angiotensin 1-7 Infusion Restores Endothelium-Dependent Vasodilation in Salt-Fed Sprague Dawley Rats. Hypertension 54 (4): e26. 2009.
6. Matthew J. Durand and Julian H. Lombard. Introgression of the Brown Norway Renin Gene onto the Dahl Salt Sensitive Genetic Background Restores Endothelium-Dependent Vascular Relaxation by Reducing Oxidative Stress in the Cerebral Vasculature. FASEB J. 24:776.1. 2010.
7. Matthew J. Durand and Julian H. Lombard. Role of the Renin-Angiotensin System in Restoration of Endothelium-Dependent Vascular Relaxation in Middle Cerebral Arteries of Congenic Rats Carrying the Brown Noray Renin Allele in the Dahl Salt-Sensitive Genetic Background. Hypertension 56 (5): e50. 2010.
8. Matthew J. Durand and David D. Gutterman. Angiotensin (1-7) Potently Dilates Human Adipose Microvessels from Normotensive Patients in a Hydrogen Peroxide-Dependent Manner. Hypertension 58 (5): e81. 2011.
9. Matthew J. Durand, Shane A. Phillips and David D. Gutterman. The Vascular Renin Angiotensin System Contributes to Endothelial Dysfunction Induced by Acute High Pressure in Human Adipose

Microvessels. FASEB J. 26:676.8. 2012.

10. Matthew J. Durand, Shane A. Phillips and David D. Gutterman. Plasticity in the Microvasculature of Conditioned Weight Lifters After Acute High Pressure Stress. FASEB J. 27:1136.1. 2013.
11. Julie K. Freed, Matthew J. Durand, Sushma Kaul, John C Densmore, David D Gutterman. Ceramide-Induced Endothelial Microparticles Alter the Mediator of Flow-Induced Dilation. Circulation (128):A11407. 2013.
12. Matthew J. Durand, Andreas M. Beyer, Joseph Hockenberry and David D. Gutterman Inhibition of the Vascular Renin-Angiotensin System Preserves Nitric Oxide-Mediated Vasodilation in Human Adipose Arterioles after Transient High Pressure Stress. FASEB J. 28:676.9. 2014.
13. Matthew J. Durand, Spencer Murphy, Meghan Kirking, David Gutterman, Sandra Hunter, and Allison Hyngstrom. Stroke-related Changes in the Hyperemic Response to Exercise and the Relationship to Neuromuscular Fatigue. Medicine and Science in Sports and Exercise. 45(5): 745. 2014.
14. Matthew J. Durand and David D. Gutterman. Mechanical Shear Stress Restores Mitochondrial Cytoarchitecture in Human Endothelial Cells Exposed to Angiotensin II by Modulating Activity of the Fission-Inducing Protein Dynamin Related Protein 1. Circulation (130):A12625. 2015
15. Matthew J. Durand, David D. Gutterman, and Andreas M. Beyer. Vasodilator and Vasoprotective Actions of Angiotensin 1-7 in the Human Microcirculation – Role of Telomerase. FASEB J. 29:789.3. 2015
16. Matthew J. Durand, Julie K. Freed, Joseph C. Hockenberry and David D. Gutterman. The DRP-1 Inhibitor Mdivi-1 Prevents Compensatory Mitochondrial H2O2-Mediated Vasodilation Induced by Ceramide Treatment in Human Adipose Arterioles. The Physiologist – In Press
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