

Appendix 1: Complete Members Contributions between May 1, 2021- April 30, 2022

Ali Abdul- Sater

Funding Received:

2021/11 – 2023/11 *Identifying novel biomarkers of balanced inflammation*

Funding Sources: Minor Research Grant, Faculty of Health, York University
Principal Applicant, Total Funding - \$3,000

2021/10 *The influence of dairy consumption on systemic and leukocyte inflammation following high-intensity exercise – A Pilot Study*

Funding Sources: Collaborative Research Grant, Muscle Health Research Centre (MHRC)
Co-Applicant, Total Funding - \$5,000

Publications

1. Safoura Zangiabadi and Ali A. Abdul-Sater. Regulation of the NLRP3 Inflammasome by Posttranslational Modifications. *The Journal of Immunology*, 15, 2022, 208 (2) 286-292; DOI: <https://doi.org/10.4049/jimmunol.2100734>
2. Ali Akram, Safoura Zangiabadi and Ali A. Abdul Sater. Detection of ASC Oligomerization by Western Blotting. *Methods in Molecular Biology*, 2022;2459:73-78. doi: [10.1007/978-1-0716-2144-8_7](https://doi.org/10.1007/978-1-0716-2144-8_7)
3. Mayoorey Murugathasan and Ali A. Abdul Sater. Measurement of Inflammasome-Induced Mitochondrial Dysfunction by Flow Cytometry. *Methods in Molecular Biology*, 2022;2459:65-72. doi: [10.1007/978-1-0716-2144-8_6](https://doi.org/10.1007/978-1-0716-2144-8_6)
4. Maria I Edilova, Jaclyn C Law, Safoura Zangiabadi, Kenneth Ting, Achire Mbanwi, Andrea Arruda, David Uehling, Methvin Isaac, Michael Prakesch, Rima Al-awar, Mark D Minden, Ali A. Abdul-Sater, and Tania H. Watts. (Abdul-Sater and Watts are joint senior authors). The PKN1- TRAF1 signaling axis as a potential new target for chronic lymphocytic leukemia. *Oncoimmunology – Volume 10, 2021 - Issue 1* <https://doi.org/10.1080/2162402X.2021.1943234>

Olasunkanmi Adegoke:

Guest Editor:

Guest editor for a collection on a research topic in *Frontiers in Physiology* (Nutrition in the Regulation of Muscle Development and Repair. *Frontiers in Physiology*, 2021-22 (<https://www.frontiersin.org/research-topics/14688/nutrition-in-the-regulation-of-muscle-development-and-repair#articles>).

New Publications:

Olasunkanmi A. J. Adegoke, Yan Huang, Xing Fu and Stephen Mora. (2022). Editorial: Nutrition in the Regulation of Muscle Development and Repair. *Frontiers in Physiology*. 13(853007): 1-4. <https://doi.org/10.3389/fphys.2022.853007>.

Gagandeep Mann, Stephen Mora, Glory Madu, Olasunkanmi A J Adegoke. (2021). Branched-chain Amino Acids: Catabolism in Skeletal Muscle and Implications for Muscle and Whole-body Metabolism. *Frontiers in Physiology*. 12(702826): 1-25. <https://doi.org/10.3389/fphys.2021.702826>.

Stephen Mora and Olasunkanmi A.J. Adegoke. (2021). The Effect of a Chemotherapy Drug Cocktail on Myotube Morphology, Myofibrillar Protein Abundance and Substrate Availability. *Physiol Rep*. 2021 Jul;9(13):e14927. doi: 10.14814/phy2.14927.

Funding Received:

NSERC Discovery Grant (2021-2026), \$140k

Peter Backx:

Awards

April 2022 Grant Pierce Award for Excellence in Cardiovascular Sciences,
International Academy of Cardiovascular Science

Editorial Boards/Journal Activities/Review

Editorial Board, *Circulation Research*
Editorial Board, *Current Topics in Cardiovascular Medicine*
Editorial Board, *Journal of Molecular and Cellular Cardiology*
Editorial Board, (KBM) *Journal of Cardiovascular Research*
Associate Editor *PLOS One*
Editorial Board, *Heart Rhythm Society*
Associate Editor, *Frontiers in Physiology*
Reviewer *CSB*, Canadian Institutes for Health Research

Grant Awards

CIHR Project Grant (5 years, 749k) "Understanding the role of atrial stretch in promoting atrial fibrillation.

Papers

Oh Y, Yang S, Liu X, Jana S, Izaddoustdar F, Gao X, Debi R, Kim DK, Kim KH, Yang P, Kassiri Z, Lakin R, Backx PH. [Transcriptomic Bioinformatic Analyses of Atria Uncover Involvement of Pathways Related to Strain and Post-translational Modification of Collagen in Increased Atrial Fibrillation Vulnerability in Intensely Exercised Mice.](#) *Front Physiol*. 8:677727, 2021.

Lakin R, Debi R, Yang S, Polidovitch N, Goodman JM, Backx PH. Differential negative effects of acute exhaustive swim exercise on the right ventricle is associated with disproportionate hemodynamic loading. *Am J Physiol Heart Circ Physiol*. 320(4):H1261-1275, 2021. \

Zheng S, Tan W, Li X, Li B, Gong B, Pyle WG, Wu J, Li L, Luo T, Zou Y, Yang FH, **Backx PH**. Aged Monkeys Fed a High-Fat/High-Sugar Diet Recapitulate Metabolic Disorders and Cardiac Contractile Dysfunction. *Cardiovasc Transl Res*. 2021 Feb 16. doi: 10.1007/s12265-021-10105-z. Online ahead of print. PMID: 33591467

Wang Y, Liu L, Lakin R, Polidovitch N, Liu G, Yang H, Yu M, Yan M, Zhao D, **Backx PH**, Sun H, He Y, Yang FP. [Revisiting right anterior oblique projections for the triangle of Koch: implications from computed tomography](#). *BMC Cardiovasc Disord*. 20(1):383-86, 2020.

Kim KH, **Backx PH**. *Cardiovasc Res*. Understanding the Role of Iroquois Homeobox Transcription Factor 5 (IRX5) in Cardiac Function: Getting to the (Human) Heart of the Matter. 2021 Mar 19:cvab098. doi: 10.1093/cvr/cvab098. Online ahead of print.

Tan W, Li X, Zheng S, Li X, Zhang X, Pyle WG, Chen W, Wu J, Sun H, Zou Y, **Backx PH**, Yang FH. A Porcine Model of Heart Failure with Preserved Ejection Fraction Induced by Chronic Pressure Overload Characterized by Cardiac Fibrosis and Remodeling. *Front Cardiovasc Med*. 8:677727, 2021.

Barazi N, Polidovitch N, Debi R, Yakovov S, Lakin R, **Backx PH**. Dissecting the Roles of the Autonomic Nervous System and Physical Activity on Circadian Heart Rate Fluctuations in Mice. *Front Physiol*. 2021 Oct 18;12:692247. doi: 10.3389/fphys.2021.692247.

Kim, KH, Oh Y, Liu J, Dababneh S, Xia Y, Kim RY, Kim DK, Ban H, Husain M, Hui, CC, **Backx PH**. Irx5 and transient outward K⁺ current (I_{to}) contribute to transmural contractile heterogeneities in the mouse ventricle. In press: *Am J Physiology*

Wauchop M, Rafatian N, Gagliard M, Massé S, Protze S, Laksman Z, Keller G, Radisic M, Nanthakumar N, **Backx PH**. Biowires of induced pluripotent stem cell-derived cardiomyocytes provide insight into R222Q-SCN5A associated dilated cardiomyopathy. In press: *Biomaterial*.

Invited Talks

“Regulation of Ca²⁺ kinetics by transient outward K⁺ currents: Making an Efficient Heart Pump”, Virginia Tech, USA, May, 2021.

“Measuring cardiac contractility in engineered cardiac tissue”, Advancing iPSC-derived Cardiomyocyte Translation Workshop, Stem Cell Network, May, 2021, Toronto-Ottawa.

"Relationship between atrial stretch and atrial fibrillation, The Smidt Heart Institute at Cedars-Sinai Medical Center, Los Angeles, USA, Jan 2022.

Olivier Birot

FUNDING

2021	Natural Science and Engineering Council of Canada (NSERC)	COVID-19 extension for DG (2022-2023)	Principal Investigator	\$28,000
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PUBLICATIONS

Trembley J, Patrician A, Birot O, Howe C, Simsonson T, Ainslie P High altitude acclimatization and adaptation in humans. *Comprehension Physiology* (Invited Review). Submission pending

Lemieux P & **Birot O**. Altitude, exercise, and skeletal muscle angio-adaptive responses to hypoxia: A complex story. *Front. Physiol.* 229, 2020.

Lam B, Nwadozi E, Haas TL, **Birot O**, Roudier E. High glucose treatment limits Droscha protein expression and alters AngiomiR maturation in microvascular primary endothelial cells via an Mdm2-dependent mechanism. *Cells* 27, 2021.

INVITED ORAL COMMUNICATIONS

Université Claude Bernard Lyon, France. Impact of cellular and ambient hypoxia on physiological skeletal muscle angio-adaptation, October 27th 2021.

Università di Corsica, Corte, France. “From Toronto to Corte : Insight into the impact of physical activity and environmental stressors on tissue angio-adaptation », October 7th, 2021.

Rolando Ceddia

1. [Distinct mechanisms involving diacylglycerol, ceramides, and inflammation underlie insulin resistance in oxidative and glycolytic muscles from high fat-fed rats.](#)

Jani S, Da Eira D, Hadday I, Bikopoulos G, Mohasses A, de Pinho RA, Ceddia RB. *Sci Rep.* 2021 Sep 27;11(1):19160. doi: 10.1038/s41598-021-98819-7.PMID: 34580412.

2. [Obesogenic and Ketogenic Diets Distinctly Regulate the SARS-CoV-2 Entry Proteins ACE2 and TMPRSS2 and the Renin-Angiotensin System in Rat Lung and Heart Tissues.](#)

Da Eira D, Jani S, Ceddia RB. *Nutrients.* 2021 Sep 25;13(10):3357. doi: 10.3390/nu13103357.

Arthur Cheng

Funding received:

- Junior Faculty Fund/Minor Research Grant - York University (Sole principal investigator), Amount: \$5000, Project title: Investigating the role of interstitial glucose levels on neuromuscular fatigue
- Industry Grant - Supersapiens (Sole principal investigator), Amount: \$4000, Project title: The effect of interstitial glucose levels on neuromuscular fatigue

Peer-reviewed publications:

- Chaillou, T., Treigyte, V., Moseley, S., Brazaitis, M., Venckunas, T., **Cheng, A.J.** (2022) Functional impact of post-exercise cooling and heating on recovery and training adaptations: application to resistance, endurance, and sprint exercise. *Sports Medicine - Open*. 8(37):1-26. <https://doi.org/10.1186/s40798-022-00428-9>
- Jordan, A.C., Perry, C.G.R., **Cheng, A.J.** (2021). Promoting a pro-oxidant state in skeletal muscle: Potential dietary, environmental, and exercise interventions for enhancing endurance-training adaptations. *Free Radical Biology and Medicine*. 176: 189-202. <https://doi.org/10.1016/j.freeradbiomed.2021.09.014>
- Mader, T., Chaillou, T., Santos Alves, E., Jude, B., **Cheng, A.J.**, Kenne, E., Mijwel, S., Kurzejamska, E., Vincent, C.T., Rundqvist, H., Lanner, J.T. Exercise reduces intramuscular stress and counteracts muscle weakness in mice with breast cancer. *Journal of Cachexia, Sarcopenia and Muscle*. <https://doi.org/10.1002/jcsm.1294>

Michael Connor:

1. Desai AV, Agarwal R, Epstein AS, Kuperman GJ, Michael CL, Mittelstaedt H, Connor M, Bernal C, Lynch KA, Ostroff JS, Katz B, Corrigan KL, Kramer D, Davis ME, Nelson JE. Needs and Perspectives of Cancer Center Stakeholders for Access to Patient Values in the Electronic Health Record. *JCO Oncol Pract*. 2021 Oct;17(10):e1524-e1536. doi: 10.1200/OP.20.00644. Epub 2021 Feb 8. PMID: 33555928.

Janessa Drake:

1. Johnston HA, Drake JDM. Multivariate shoulder and spine relationship using planar range of motion assessment. *Musculoskelet Sci Pract*. 2021 Aug;54:102398. doi: 10.1016/j.msksp.2021.102398. Epub 2021 May 14. PMID: 34045171.

Heather Edgell

1. Habib K, Fallah B and **Edgell H** (2022) Effect of upright posture on endothelial function in women and men. Accepted by *Front. Physiol*. Invited submission to “Rising Stars in Environmental, Aviation, and Space Physiology” edition.
2. Solve ME/CFS (2021) - **\$45,000 USD** - Physiological and cognitive function in patients with Post Acute Sequelae of SARS-CoV-2 (PASC) or myalgic encephalomyelitis (ME) before and after inspiratory muscle training
3. Khan D, Rotondi M, **Edgell H**, and Tamim H (2022) The association between shift work exposure and the variations in age at natural menopause among adult Canadian workers: Results from the Canadian Longitudinal Study on Aging (CLSA). Accepted by *Journal of Menopause*.
4. CFI Infrastructure operating funds (2022) - **\$2,800**

5. Conference oral presentation: Pereira TJ, Wasef S, Assadpour E, Ivry I, Adeyinka BO and Edgell H. The influence of menstrual cycle and oral contraceptives on cerebrovascular dynamics during chemoreflex activation (2022 Okanagan Cardiovascular and Respiratory Symposium)

William Gage:

1. Stone RC, Gage WH, Baker J. The Intersecting Influence of Age and Performance Stereotypes on Physical and Psychological Aspects of Stair Navigation in Older Adults. *J Appl Gerontol*. 2021 Dec;40(12):1865-1875. doi: 10.1177/0733464820965340. Epub 2020 Oct 22. PMID: 33090074.
2. Sidhu R, Gage WH. Enhancing the odds of adopting e-learning or community-focused experiential learning as a teaching practice amongst university faculty. *Heliyon*. 2021 Apr 16;7(4):e06704. doi: 10.1016/j.heliyon.2021.e06704. PMID: 33898828; PMCID: PMC8060549.

Sherry Grace:

1. Served on WHO's development group for their Package of Rehabilitation Interventions for Ischemic Heart Disease – to be released this year and implemented by member states
2. # 1 most productive author in bibliometric review that came out on cardiac rehab literature (see table 1 <https://www.frontiersin.org/articles/10.3389/fcvm.2021.672913/full#F2>)
3. #1 expert in the world in cardiac rehab research: <https://expertscape.com/ex/cardiac+rehabilitation>
4. On stanford list of top 2% of cited researchers across all disciplines globally
5. Couple grants:
 - a) **Grace, S.L.**, Turk-Adawi, K., Alhashemi, M., & Abrahamyan, L. (2022). Realist multi-method evaluation of referral and access to heart function clinics. *Qatar University International Research Collaboration Co-Fund*. Role: lead principal investigator, partner institution (i.e., co-PI). \$186,394USD (~\$237,340CAD) for 2 years.
 - b) Gagliardi, A., Nerenberg, K., **Grace, S.L.**, O'Keefe-McCarthy, S., Neil-Sztramko, S., Colella, T., Dayan, N., Dobbins, M., & Murray-Davis, B. (2022). Evaluating a culturally appropriate question prompt tool about heart disease risk and prevention after hypertensive pregnancy. *CIHR Project Grant*. 2 years. Role: co-investigator.

Tara Haas

Peer reviewed Publications:

Nwadozi, E. and T.L. Haas. Emerging roles of pericytes in co-ordinating skeletal muscle functions: implications and therapeutic potential. *Current Tissue Microenvironment Reports*, July 2021; DOI: 10.1007/s43152-021-00029-w

Lam B, Nwadozi E, Haas TL, Birot O, Roudier E. High glucose treatment limits Droscha protein expression and alters angiomiR maturation in microvascular primary endothelial cells via an Mdm2-dependent mechanism. *Cells*. 2021; 10(4):742. doi: 10.3390/cells10040742

Editorial Comment:

Rudnicki, M. and Haas, T.L. Exploring risk factors at the molecular level. *eLife*. 2021; 10:e68271; DOI: 10.7554/eLife.68271

Book chapter:

Rudnicki, M., A. Pislaru and T.L. Haas. “**Quantitative Methods to Assess Adipose Vasculature**” *In*: Benest A.V. (ed) *Angiogenesis. Methods in Molecular Biology*, vol 2441, pp. 201-221. Humana, New York, NY January 2022; ISBN 978 1-0716-2058-8 10.1007/978-1-0716-2059-5_16

Conference presentations:

Nader, G., E. Nwadozi, T.L. Haas. Influences of high fat diet and ischemia on skeletal muscle pericytes. *Experimental Biology (virtual)* April 2021.

Pislaru, A., M. Rudnicki, O. Rezvan, T.L. Haas. Sex-related differential gene expression underlies distinct responses of adipose endothelial cells under a high fat diet. *Experimental Biology (virtual)* April 2021.

Invited seminars:

April 2022: Invited speaker: University of Missouri, USA (April; host: Steven Segal); “*Capillary remodeling in skeletal muscle: influence by environmental stressors*”

April 2022: Invited speaker: University of Toronto (April; host: Amira Klip); “*FoxO1 and sex in the regulation of adipose tissue angiogenesis*”

March 2022: Invited speaker, Dept. of Clinical Physiology, Karolinska Institute, Sweden (March; host: Thomas Gustafsson); “*Non-invasive and histological monitoring of ischemic myopathy in PAD patients*”.

Thomas Hawke:

Publications:

1. Dial AG, Grafham GK, Monaco CMF, Voth J, Brandt L, Tarnopolsky MA, Hawke TJ. Alterations in skeletal muscle repair in young adults with type 1 diabetes mellitus. *Am J Physiol Cell Physiol*. 2021 Nov 1;321(5):C876-C883.
2. Monaco CMF, Tarnopolsky MA, Dial AG, Nederveen JP, Rebalka IA, Nguyen M, Turner LV, Perry CGR, Ljubcic V, Hawke TJ. Normal to enhanced intrinsic mitochondrial respiration in skeletal muscle of middle- to older-aged women and men with uncomplicated type 1 diabetes. *Diabetologia*. 2021 Nov;64(11):2517-2533.
3. Dial AG, Monaco CMF, Grafham GK, Patel TP, Tarnopolsky MA, Hawke TJ. Impaired Function and Altered Morphology in the Skeletal Muscles of Adult Men and Women With Type 1 Diabetes. *J Clin Endocrinol Metab*. 2021 Jul 13;106(8):2405-2422.

Funding:

4. CIHR Project Grant: \$875,985
Targeting vascular and skeletal muscle health to improve the quality of life in males and females with Type 1 Diabetes
NPI: Hawke, T.J. Co-PI: MacDonald M
Co-investigator(s): Dr. Zubin Punthakee, Dr. Christopher G.R. Perry, Dr. Baraa K. Al-Khazraji

5. NFRF Explorations Grant: \$250,000
Biofabrication technologies for cultured meat products
NPI: Selvaganapathy, R
Co-investigator(s): Dr. Thomas Hawke, Dr. Devashish Pujari

Mazen Hamadeh

AWARDS, FELLOWSHIPS, DISTINCTIONS AND RESEARCH GRANTS

2022 Dean's Award for Excellence in Service and Engagement Impact (Established Career), Faculty of Health, York University

2021 Offered the inaugural Provostial Fellowship (declined; due to assuming the role of Associate Dean for Students, Faculty of Health), Office of the Provost, York University

WORK EXPERIENCE

Sept 2021-present **Interim Associate Dean for Students**, Faculty of Health, York University

TEACHING EXPERIENCE

Winter 2022 Nutritional Aids in Sport and Exercise (KINE 4120 3.0; 9 students; 4th year), KAHS, York U

Oct 2020-Apr 2021 **Hiring Committee for the Head of Bethune College**, Faculty of Science, York University

David Hood

Funding:

2021-26 Natural Science and Engineering Research Council of Canada Discovery Grant entitled: "Mitochondrial Biogenesis in Skeletal Muscle" (\$55,000 per year).

2021-22 Natural Science and Engineering Research Council of Canada Research Tools and Instruments Grant entitled: "Multi-mode plater reader" (\$145,283)

Publications:

179. Triolo, M, M. Slavin, N. Moradi and D.A. Hood. Time-dependent changes in autophagy, mitophagy and lysosomes in skeletal muscle during denervation-induced disuse. *J. Physiol.* doi: 10.1113/JP282173, 2022.

178. Memme, J.M., A.N. Oliveira and D. A. Hood. The importance of TP53/p53 in regulating the mitophagy-lysosomal machinery in muscle following disuse. Autophagy Rep. (in press, 2022)
177. Richards, B.J., M. Slavin, A.N. Oliveira, V.C. Sanfrancesco and D.A. Hood. Mitochondrial protein import and UPR^{mt} in skeletal muscle remodeling and adaptation. Semin. Cell Develop. Biol. doi.org/10.1016/j.semcdb.2022.01.002, 2022.
176. Memme, J.M., A.N. Oliveira and D. A. Hood. p53 regulates skeletal muscle mitophagy and mitochondrial quality control following denervation-induced muscle disuse. J. Biol. Chem. 298: 101540-101558, 2022.
175. Oliveira, A.N., B. Richards and D.A. Hood. Measurement of protein import capacity of skeletal muscle mitochondria. J Vis Exp. 179. doi: 10.3791/63055, 2022.
174. Triolo, M. and D.A. Hood. Manifestations of age on autophagy, mitophagy and lysosomes in skeletal muscle. Cells 10(5):1054. doi: 10.3390/cells10051054, 2021.
173. Memme, J.M, M. Slavin, N. Moradi and D.A. Hood. Mitochondrial Bioenergetics and Turnover During Chronic Muscle Disuse. International Journal of Molecular Sciences 22(10):5179. doi: 10.3390/ijms22105179, 2021.
172. Bonafiglia J.T., H. Islam, N. Preobrazenski, A. Ma, M. Deschenes, A.T. Erlich, J. Quadrilatero, D. A. Hood and B.J. Gurd. Examining interindividual differences in select muscle and whole-body adaptations to continuous endurance training. Exp Physiol. doi: 10.1113/EP089421,2021.
171. Picca, A., S.K. Saini, R.T. Mankowski, G. Kamenov, S.D. Anton, T.M. Manini, T.W. Buford, S.E. Wohlgemuth, R. Xiao, R. Calvani, H.J. Coelho-Junior, F. Landi, R. Bernabei, D.A. Hood, E. Marzetti and C. Leeuwenburgh. Altered expression of mitoferrin and frataxin, larger labile iron pool and greater mitochondrial DNA damage in skeletal muscle of older adults. Cells. 9:2579. doi: 10.3390/cells 9122579, 2021.
170. Oliveira, A.N., B. Yanagawa, S. Verma and D.A. Hood. Blunted stress response with age in right atrial tissue following ischemia-reperfusion. J. Card Surg. doi: 10.1111/jocs.15807, 2021.
169. Cheema, N., J.M. Cameron and D.A. Hood. Mitochondrial dysfunction in fibroblasts with mtDNA defects is attenuated with rapamycin treatment. Am. J. Physiol. Cell Physiol. 321:C176-C186, 2021.
168. Oliveira, A.N., B. Richards, M. Slavin and D.A. Hood. Exercise is mitochondrial medicine for muscle. Exerc. Sport Sci. Reviews 49:67-76, 2021.
- Cheema, N., M. Triolo and D.A. Hood. Exercise training, mitochondrial adaptations and aging. In Tiidus, P. et al. (Eds.) Rutledge Handbook of Biochemistry of Exercise, Chpt 27, 2021.

Loriann Hynes

2022 King CD, **Hynes LM**. An Action Research Approach to Designing the Athletic Therapy Interactive

Concussion Educational Tool. *In Press: The International Journal of Technology, Knowledge, and Society.*

2022 Smeha N, Kalkat R, Sergio LE, **Hynes LM**. Sex-related differences in visuomotor skill recovery

following [concussion in working-aged adults](#). *BMC Sports Science, Medicine and Rehabilitation*. April 2022, <https://doi.org/10.1186/s13102-022-00466-6>
2021 King CD & Hynes LM. An Exploration of Concussion Assessment and Management Knowledge in a Sample of Athletic Therapy Students. *International Journal for the Scholarship of Teaching and Learning*, Nov. 2021, Vol. 15, Issue 2, p1-9.

REFEREED PAPERS UNDER REVISION/SUBMITTED

2021 Migotto BDJ, Gill S, Sem M, Macpherson AK, Hynes LM. Sex-related differences in sternocleidomastoid muscle morphology in healthy young adults: A magnetic resonance imaging measurement study. *Submitted: Musculoskeletal Health and Rehabilitation*

2021 Henderson LD, Kalkat R, Drew TM, Sergio LE, Acai A, Hynes LM. “The effect of osteopathic manual treatment on concussion recovery”. *Under revision: International Journal of Osteopathic Medicine*

PAPERS IN PREPARATION

2021 Kalkat R, Macpherson AK, Hynes LM. Sex-specific Differences in the Association Between History of Concussion and Cerebral Blood Flow Volume. *Final Editing*

2021 Hurtubise JM, Gorbet D, Hughes C, Hynes L, Macpherson A, Sergio L. Cortical and cerebellar structural correlates of cognitive-motor integration performance in females with post-concussion syndrome.

2021 Modica MJ, Sergio LE, Hynes LM. Sex-related Differences in Oculomotor and Cognitive Control in Asymptomatic Varsity Athletes With and Without a History of Concussion.

2021 Pierias A, Gorbet DJ, Prieur A, Hynes LM, Sergio LE. “Cognitive-motor integration performance and emotionality recover differently in males and females following concussion injury.

2021 Pierias A, Gorbet DJ, Prieur A, Hynes LM, Sergio LE. “Hormone levels impact concussion recovery assessment metrics in female varsity athletes.

2021 Henderson LD, Kalkat R, Sergio LE, Gill S, Hynes LM. “The effect of osteopathic manual treatment on cerebral hemodynamics after concussion injury.”

ABSTRACTS

2022 King CD & **Hynes LM**. “Exploring the Impact of the Athletic Therapy Interactive Concussion Educational (AT-ICE) Tool in Athletic Therapy Education. *Accepted*: Canadian Athletic Therapists Association Annual Conference 2022, Winnipeg, MB, Canada, May 2022.

2022 McAllister JR, Lafave LMZ, **Hynes LM**, Lafave MR. “Evidence Informed Practice Knowledge in Athletic Therapy. *Accepted*: Canadian Athletic Therapists Association Annual Conference 2022, Winnipeg, MB, Canada, May 2022.

2021 Register-Mihalik JK, Guskiewicz KM, Marshall SW, McCulloch KL, Mihalik JP, Mrazik M, Murphy I, Naidu D, Ranapurwala SI, Salmon D, Schneider K, Gildner P, Kostogiannes V, McCrea M and **Active Rehab Consortium Investigators**. “Symptom provocation during early-stage concussion rehabilitation: a randomized control trial of two protocols in professional, collegiate/university, and interscholastic athletes”. National Athletic Trainer’s Association annual conference (Virtual), June 2021.

2021 Smeha N, Kalkat R, **Hynes LM**, Sergio LE. “Sex-related difference in rule-based visuomotor performance during concussion recovery”. Neural Control of Movement Society annual meeting, USA (Virtual), April 2021.

2021 King CD & **Hynes LM**. “Athletic Therapy Innovative Concussion Education Tool”. Seventeenth International Conference on Technology, Knowledge, and Society, Melbourne, Australia, (Virtual), April 2021.

2021 Kalkat R, Prieur A, Macpherson A, **Hynes LM**. “Blood Flow Differences Between Sexes in Athletes with History of Concussion”. Canadian Concussion Centre 8th Annual Concussion Research Symposium, (Virtual), February 2021.

2021 Amaral CA, Hurtubise JM, Prieur A, Sergio LE, **Hynes LM**. “An On-Field Assessment of Cognitive- Motor Integration (HurtSHynesTM Test) in Varsity Athletes with No Prior History of Concussion”. Canadian Concussion Centre 8th Annual Concussion Research Symposium, (Virtual), February 2021.

2021 Modica M, Sergio LE, **Hynes LM**. “Sex-Related Differences in Oculomotor and Cognitive Control in Asymptomatic Varsity Athletes”. Canadian Concussion Centre 8th Annual Concussion Research Symposium, (Virtual), February 2021.

2021 Hurtubise JM, Gorbet DJ, **Hynes LM**, Macpherson AK, Sergio LE. “Reduced cerebellar volume is related to self-reported symptoms in females with post-concussion syndrome”. Canadian Concussion Network 1st Annual Research & Community Engagement Meeting, (Virtual) January 2021.

FUNDING

2021 **SSHRC Institutional Grant (\$3,000)** “Exploring the Impact of the Athletic Therapy Interactive Concussion Education (AT-ICE) Tool in Athletic Therapy Education.” Co-Investigator (CD King)

Andrea Josse:

Funding:

1. **Awarded as Co-Investigator:** Dairy Farmers of Canada Grant. **Principal Investigator:** Dr. Jenna B. Gillen, University of Toronto. **TITLE:** Influence of post-exercise Greek yogurt consumption on 24 h glycemic control in women with overweight/obesity - a crossover study. **Awarded:** \$110,000 CAD over 2 years. September 2021.
2. **Awarded as Principal Investigator:** York University, Muscle Health Research Centre (MHRC) Collaborative Research grant. **Collaborator:** Dr. Ali Abdul-Sater. **TITLE:** The influence of dairy consumption on systemic and leukocyte inflammation following high-intensity exercise – A Pilot Study. **Awarded:** \$5000 over 1 year. October 2021.
3. **Awarded as Principal Investigator:** CFI-JELF Infrastructure Grant. **TITLE:** Novel Targets of Whole-food Dairy Products for Human Musculoskeletal and Cardiometabolic Health. **Awarded:** \$125,000 (the CFI portion of \$340,639 CAD total cost). February 2022.
*ORF portion applied for/submitted in November 2021.

Publications – original research articles:

1. McKinlay B, Wallace PJ, Olansky S, Woods S, Roy BD, **Josse AR**, Falk B, Klentrou P. Intensified Training in Adolescent Female Athletes: A Cross-Over Study of Greek Yogurt Effects on Indices of Recovery. *Journal of the International Society for Sports Nutrition* MS#: JISN-D-21-00076. *Accepted Nov 2, 2021, In Press.*
2. Chouinard-Watkins R, Calleja M, Bazinet RP, **Josse AR**. Dairy product consumption is associated with a lowering of linoleic acid within serum triglycerides in adolescent females with overweight or obesity: a secondary analysis. *Br J Nutr.* 2021 May 24;1-30.
3. Skelly LE, Barbour-Tuck EN, Kurgan N, Calleja M, Klentrou P, Falk B, **Josse AR**. Neutral effect of increased dairy product intake, as part of a lifestyle modification program, on cardiometabolic health in adolescent girls with overweight/obesity: a secondary analysis from a randomized controlled trial. *Frontiers in Nutrition.* 2021 May 21;8:673589.

Abstract Publications/presentations (participation in graduate student competitions):

1. Fraschetti EC, Skelly LE, Abdul-Sater AA, **Josse AR**. The acute effects of post-exercise milk consumption on systemic inflammation after combined resistance and plyometric exercise in young females. (*Virtual oral presentation*). Canadian Society for Exercise Physiology (CSEP) annual conference, October 13-16, 2021.

2. Prowting JL, Skelly LE, Kurgan N, Klentrou P, **Josse AR**. Acute Effects of Milk vs Carbohydrate Beverages on Bone Turnover Biomarkers following Combined Plyometric and Resistance Exercise in Adult Females. (*Virtual poster presentation and poster presentation competition finalist*). Canadian Society for Exercise Physiology (CSEP) annual conference, October 13-16, 2021.
3. Brown JK, Perry CGR, Prior T, Phillips SM, Skelly LE, **Josse AR**. Differential postprandial amino acid responses following the consumption of isonitrogenous doses of Greek Yogurt and Skim Milk. (*Virtual oral presentation and oral presentation competition finalist*). Canadian Society for Exercise Physiology (CSEP) annual conference, October 13-16, 2021.

Jennifer Kuk:

Funding Received

1. Training platform in diabetes, obesity and cardiometabolic health (CIHR Health Research Training Platform - 2021/22 Pilot - Co-Applicant - \$2,400,000)

Peer – Reviewed Publications

1. Adil O, **Kuk JL**, Ardern CI: Associations Between Weight Discrimination and Metabolic Health: a Cross Sectional Analysis of Middle Aged Adults (Obesity Research & Clinical Practice – In Press)
2. **Kuk JL**, Christensen RAG, Kamran Samani E, Wharton S. Predictors of Weight loss and weight gain in weight management patients during the COVID-19 pandemic. (J Obesity – in Press)
3. Swayze S, Rotondi M, **Kuk JL**: The associations between blood and urinary concentrations of metal metabolites, obesity, hypertension, type 2 diabetes, and dyslipidemia (J Environ Public Health. 2021 Oct 25;2021:2358060. doi: 10.1155/2021/2358060. eCollection 2021.)
4. Christensen RAG, High S, Wharton S, Kamran E, Dehlehosseinzadeh M, Fung M, **Kuk JL** Sequential diets and weight loss: Including a low-carbohydrate high-fat diet with and without time-restricted feeding. Nutrition. 2021 Nov-Dec;91-92:111393. doi: 10.1016/j.nut.2021.111393. Epub 2021 Jun 24. PMID: 34399399
5. Oye-Somefun A, **Kuk JL** Ardern CI: Associations between Elevated Kidney and Liver Biomarker Ratios, Metabolic Syndrome and All-Cause and Coronary Heart Disease (CHD) Mortality: Analysis of the U.S. National Health and Nutrition Examination Survey (NHANES) (BMC Cardiovascular Disorders 21, 352 (2021). <https://doi.org/10.1186/s12872-021-02160-w>)
6. Christensen RAG, **Kuk JL**, Wharton S, Brooks JG, Bondy SJ: The Association of Sex and Calendar Month with Changes in Weight: A Retrospective Cohort Study of a Community-Based Weight Management Clinic (Obesity Research & Clinical Practice. 2021 Sep-Oct;15(5):515-517. doi: 10.1016/j.orcp.2021.07.002. Epub 2021 Jul 17. PMID: 34281794)
7. Yu WW, Lee SJ, Arslanian S, Tamim H, **Kuk JL**: Effects of exercise on resting metabolic rate in adolescents with overweight and obesity (Childhood Obesity - 2021 Jun;17(4):249-256. doi: 10.1089/chi.2020.0280. Epub 2021 Mar 18.).

John McDermott:

- 1) MEF2 in cardiac hypertrophy in response to hypertension. Cornwell JD, McDermott JC. **Trends Cardiovasc Med**. 2022 Jan 11:S1050-1738(22)00004-4. doi: 10.1016/j.tcm.2022.01.002.

2) [TAZ exhibits phase separation properties and interacts with Smad7 and \$\beta\$ -catenin to repress skeletal myogenesis.](#) Tripathi S, Miyake T, Kelebeev J, McDermott JC. **J Cell Sci.** 2022 ;jcs.259097. doi:10.1242/jcs.259097. PMID: 34859820

3) [Nucleolar localization of c-Jun.](#) Miyake T., and McDermott JC. **FEBS J.** 2022. Feb;289(3):748-765. doi: 10.1111/febs.16187. PMID: 34499807

4) Member of CIHR College of Reviewers: Peer Review Panel –Member. Cardiovascular System - A: Cells and Tissues. November 2021

5) Frontiers in Cell and Developmental Biology - Editor

Christopher Perry:

1. Grant received: Muscular Dystrophy Canada (\$100,000)
2. Grant received: Co-applicant, CIHR (\$875,925). PI: Thomas Hawke, McMaster University
3. Grant received: MITACS (\$15,000)
4. Book chapter: Bellissimo CA, [Perry CGR](#); Regulation of skeletal muscle reactive oxygen species during exercise. In Tiidus P, LeBlanc P, Macpherson R, Josse A (Eds.) The Routledge Handbook on Biochemistry of Exercise: 1st edition. UK: Routledge, Ch. 4, 2021.
5. Appointed to CIHR peer reviewer, MOV committee

Michael Riddell

Previously Held Grants/Contracts as Principal Investigator

1. Canadian Glycomics Network (GlycoNet) Strategic Initiatives Grant: DO-19, “Elucidating the role of somatostatin in dysglycemia in a rodent model of type 2 diabetes”. \$69,047.00/ year for one year. April 1 2019- November 31st 2021.

Previously Held External Grants as Co-applicant

1. Untethered Insulin Regimen Using Insulin Degludec and CSII in Avidly Exercising T1D. NovoNordisk Investigator Initiated Study: U1111-1203-2569 Total: \$700,000 CAN
2. Optimal Insulin Correction Factor in Post- High Intensity Exercise Hyperglycemia in Adults with Type 1 diabetes: The FIT Study. Aronson, R & Riddell, MC. LMC Diabetes and Manna Research. Sanofi Investigator Initiated Study. €461,689.00.

knowledge & technology translation: Publications and research contributions

Summary Table (excluding abstracts)	
Books	1
Book Chapters	27
Technical Reports	1
Refereed Journal Articles	195
Editorials	4
Professional/Popular	7
Total	235

Peer-Reviewed (*trainees under my direct supervision are underlined*)

Book Chapters

27. Sam N. Scott, Matt Cocks, Anton J. M. Wagenmakers, Sam O. Shepherd and **Michael C. Riddell**. Biochemistry of Exercise Training and Type 1 Diabetes. The Routledge Handbook on Biochemistry of Exercise. 2021. Editors: Peter M. Tiidus, Rebecca E.K. MacPherson, Paul J. LeBlanc, Andrea R. Josse. Routledge/CRC Press; Taylor & Francis Group, ISBN 9780367223830,
26. **Michael C. Riddell**, Rubin Pooni, Federico Y. Fontana, and Sam N. Scott Diabetes Technology and Exercise. In Technology in Diabetes, An Issue of Endocrinology and Metabolism Clinics of North America, Volume 49-1 Editor Grazia Aleppo. ISBN: 9780323697613
25. Irl B. Hirsch, David D'Alessio, Nicole Ehrhardt, Alison Evert, Lisa K. Gilliam, and **Michael Riddell**. Management of Type 2 Diabetes. In Endocrinology: Adult and Pediatric, 2-Volume Set , 8th Edition. Editors: J. Larry Jameson and Leslie J. De Groot (in press).

Papers in Refereed Journals

Published or In Press (*underline denotes trainees*)

Paldus B, Morrison D, Zaharieva DP, Lee MH, Jones H, Obeyesekere V, Lu J, Vogrin S, La Gerche A, McAuley SA, MacIsaac RJ, Jenkins AJ, Ward GM, Colman P, Smart CEM, Seckold R, King BR, **Riddell MC**, O'Neal DN. A Randomized Crossover Trial Comparing Glucose Control During Moderate-Intensity, High-Intensity, and Resistance Exercise With Hybrid Closed-Loop Insulin Delivery While Profiling Potential Additional Signals in Adults With Type 1 Diabetes. Diabetes Care. 2022 Jan 1;45(1):194-203. doi: 10.2337/dc21-1593. PMID: 34789504.

Brockman NK, Sigal RJ, Kenny GP, **Riddell MC**, Perkins BA, Yardley JE. Afternoon aerobic and resistance exercise have limited impact on 24-h CGM outcomes in adults with type 1 diabetes: A secondary analysis. Diabetes Res Clin Pract. 2021 Jul;177:108874. doi: 10.1016/j.diabres.2021.108874. Epub 2021 May 28. PMID: 34052249.

Riddell MC, Shakeri D, Scott SN. A Brief Review on the Evolution of Technology in Exercise and Sport in Type 1 Diabetes: Past, Present, and Future. Diabetes Technol Ther. 2021 Nov 30. doi: 10.1089/dia.2021.0427. Epub ahead of print. PMID: 34809493.

Paldus B, Morrison D, Zaharieva DP, Lee MH, Jones H, Obeyesekere V, Lu J, Vogrin S, La Gerche A, McAuley SA, MacIsaac RJ, Jenkins AJ, Ward GM, Colman P, Smart CEM, Seckold R, King BR, **Riddell MC**, O'Neal DN. A Randomized Crossover Trial Comparing Glucose Control During Moderate-Intensity, High-Intensity, and Resistance Exercise With Hybrid Closed-Loop Insulin Delivery While Profiling

Potential Additional Signals in Adults With Type 1 Diabetes. *Diabetes Care*. 2022 Jan 1;45(1):194-203. doi: 10.2337/dc21-1593. PMID: 34789504

Braune K, Lal RA, Petruželková L, Scheiner G, Winterdijk P, Schmidt S, Raimond L, Hood KK, **Riddell MC**, Skinner TC, Raile K, Hussain S; OPEN International Healthcare Professional Network and OPEN Legal Advisory Group. Open-source automated insulin delivery: international consensus statement and practical guidance for health-care professionals. *Lancet Diabetes Endocrinol*. 2022 Jan;10(1):58-74. doi: 10.1016/S2213-8587(21)00267-9. Epub 2021 Nov 13. Erratum in: *Lancet Diabetes Endocrinol*. 2022 Jan;10(1):e1. PMID: 34785000; PMCID: PMC8720075.

Wilson LM, Jacobs PG, **Riddell MC**, Zaharieva DP, Castle JR. Opportunities and challenges in closed-loop systems in type 1 diabetes. *Lancet Diabetes Endocrinol*. 2022 Jan;10(1):6-8. doi: 10.1016/S2213-8587(21)00289-8. Epub 2021 Nov 8. PMID: 34762835.

Invited scholarly lectures, conference keynotes and scientific sessions

SPORT- Challenges for patients with diabetes type 1. 9th Congress of the Polish Society of Pediatric Endocrinology and Diabetology - 25 th Symposium of the Polish Society of Pediatric Endocrinology and Diabetology. October 22, 2021 (remote lecture)

Insulin@100: insulin and exercise. EASD Annual Meeting 2021, September 29th, 2021 (virtual)

Carbohydrate Intake and Its Impact on Athletics and Health—A Debate (session chair and moderator). American Diabetes Association Scientific Sessions, June 25th, 2021 (virtual)

Webinar on Diabetes and Physical Exercise. Portuguese Society for Pediatric Endocrinology and Diabetology, June 17th, 2021

Advances in Exercise and Nutrition as Therapy in Diabetes. ATTD Advanced Technologies & Treatments for Diabetes Conference 2–5 June, 2021–VIRTUAL

Monitoring the elite athlete with type 1. ATTD Advanced Technologies & Treatments for Diabetes Conference 2–5 June, 2021–VIRTUAL

Prescription to a healthy lifestyle for patients with diabetes. Novo Nordisk Virtual Global Diabetes Summit 2021 May 14th, 2021 (virtual)

Exercise and Type 1 Diabetes. Endocrine Society Annual Meeting March 20th-23rd. Endocrine Fellows: Type 1 Diabetes; live Q&A session Day May 5th, 2021 (virtual)

Anthony Scime:

Funding Received: MHRC grant \$5,000

Peer – Reviewed Publications: p107 mediated mitochondrial function controls muscle stem cell proliferative fates", Bhattacharya, D., Shah, V, Oresajo, O, and Scimè, A., *Nature Communications* 12.

Gary Sweeney:

1. Sung HK, Mitchell P, Gross S, Marette A & Sweeney G.

ALY688 elicits adiponectin-mimetic signaling and improves insulin action in skeletal muscle cells
American Journal of Physiology (Cell) (2022) 322(2):C151-C163

2. da Silva Rosa SC, Liu M, & Sweeney G.

Adiponectin synthesis, secretion and extravasation from circulation to interstitial space
Physiology (2021) 36(3):134-149

3. Botta A, Forest A, Daneault C, Pantopoulos K, Tantiworawit A, Phrommintikul A, Chattipakorn S, Chattipakorn N, Des Rosiers C & Sweeney G.

Identification of circulating endocan-1 and ether phospholipids as biomarkers for complications in thalassemia patients

Metabolites (2021) 11(2):70.

4. MITACS Accelerate Award (intern to be named).

5. Invited speaker: Kwanak International Symposium on Metabolic Diseases (online)