

Ageing and Aged Care publication list July 2020

(MACH Care of the Ageing Subcommittee members' **bolded**)

1. Effects of Land- vs Water-Walking Interventions on Vascular Function in Older Adults. *Medicine & Science in Sports & Exercise.* Jun 24, 2020.

A. Haynes., L.H. Naylor, A.L. Spence, E. Robey, K.L. Cox, B.A. Maslen, **N.T. Lautenschlager**, H.H. Carter, P.N. Ainslie, D.J. Green.

About the Research: PURPOSE: Endothelial dysfunction is an early and integral atherogenic event. Interventions that improve endothelial function also reduce cardiovascular risk. Due largely to the direct hemodynamic effects of repetitive exercise on the artery wall, exercise training has shown to enhance endothelial function. Land-walking (LW) and water-walking (WW) induce distinct hemodynamic responses, so comparison of their impacts provides an approach to study shear stress effects on endothelial function. We hypothesized that LW and WW training would have different impacts on peripheral artery endothelial function.

[Link to publication](#)

2. Development and testing of a guideline document to provide essential information for patient decision making regarding cancer clinical trials. *European Journal of Cancer Care,* 2020. Available online July 2020.

Kao, C.-Y., Aranda, S., **Krishnasamy, M.**, Hamilton, B.

About the Research: To develop and test a guideline document to advise the content of a summarised patient information form (SPIF) regarding cancer clinical trials.

[Link to publication](#)

3. *The perceptions of translation apps for everyday health care in healthcare workers and older people: A multi-method study.* *Journal of Clinical Nursing*, 2020. Available online July 2020.

Panayiotou A., Hwang K., Williams S., Chong T.W.H., LoGiudice D., Haralambous B., Lin X., Zucchi E., Mascitti-Meuter M., Goh A.M.Y., You E., **Batchelor F.**

About the Research: To understand the attitudes and perceptions of older people with limited English proficiency (LEP) and healthcare workers to using mobile translation technology for overcoming language barriers in the healthcare setting. Background: Australia's cohort of people aged 65 and over has a sizeable population with LEP. In healthcare settings, difficulties with communication may potentially result in inadequate care. Mobile language translation applications have been identified as a potential way to improve communication between patients and healthcare staff when used as an adjunct to professional interpreters in low-risk scenarios; however, the perceptions of the use of mobile translation applications for such communication is unknown.

[Link to publication](#)

4. *Fall Prevention in Community-Dwelling Older Adults.* *The New England journal of medicine* Volume 382, Issue 26, 25 June 2020, Page 2581

Kirk, B., Salech, F., **Duque, G.**

About the research: Letter to the editor

[Link to publication](#)

5. *Physical activity, a modulator of aging through effects on telomere biology.* *Aging*, 2020 Jun 23;12(13):13803-13823.

Maria Donatella Semeraro, Cassandra Smith, Melanie Kaiser, Itamar Levinger, **Gustavo Duque**, Hans-Juergen Gruber, Markus Herrmann.

About the research: Aging is a complex process that is not well understood but involves finite changes at the genetic and epigenetic level. Physical activity is a well-documented modulator of the physiological process of aging. It has been suggested that the beneficial health effects of regular exercise are at least partly mediated through its effects on telomeres and associated regulatory pathways.

[Link to publication](#)

6. Which preoperative screening tool should be applied to older patients undergoing elective surgery to predict short-term postoperative outcomes? Lessons from systematic reviews, meta-analyses and guidelines. *Internal and Emergency Medicine*, 2020

Aitken R., Harun N.-S., **Maier A.B.**

About the Research: Older surgical patients have a higher risk of postoperative mortality and morbidity compared to younger patients. Timely identification of high-risk patients facilitates comprehensive preoperative evaluation, optimization, and resource allocation to help reduce this risk. This review aims to identify a preoperative screening tool for older patients undergoing elective surgery predictive of poor short-term postoperative outcomes.

[Link to Publication](#)

7. Guidance about age-friendly outdoor exercise equipment and associated strategies to maximise usability for older people. *Health Promotion Journal of Australia*, 2020. Article available online July 2020.

Levinger P., Panisset M., Parker H., **Batchelor F.**, Tye M., Hill K.D.

About the Research: Outdoor exercise equipment has become popular as important environmental infrastructure to provide opportunities for physical activity and social connectedness in public settings. With higher sedentary behaviour and physical inactivity reported among older people, infrastructure changes and safe environments that promote older peoples' health and mobility are required. Due to ageing-related functional decline and health conditions associated with ageing, older adults may have special physical needs that require careful consideration when choosing outdoor equipment. However, limited information is available regarding the suitability of the types of exercise equipment for older people. This commentary provides further information on the type of equipment available, its functionality and suitability for older age populations and key considerations for the decision-maker involved in selecting, installing and supporting community use of outdoor exercise equipment.

[Link to Publication](#)

8. 'My relationships have changed because I've changed': biographical disruption, personal relationships and the formation of an early menopausal subjectivity. *Sociology of Health and Illness*, available online July 2020.

Johnston-Ataata K., Flore J., Kokanović R., **Hickey M.**, Teede H., Boyle J.A., Vincent A.

About the Research: Early menopause (EM) or premature ovarian insufficiency (POI) can disrupt gendered and age-related expectations associated with perceived 'normative' biographies for young adult women, with implications for subjectivity and relationships. While previous qualitative research has concentrated on the impacts of EM/POI on biography and sense of self, in this article, we examine the enmeshment of personal relationships with the formation of early menopausal

subjectivities. Drawing on research exploring concepts of 'biographical disruption' and personal relationships, and theoretical work on social norms and subject formation, we present findings from a narrative thematic analysis of 25 interviews with women diagnosed with spontaneous or medically induced EM/POI.

[Link to Publication](#)

9. Testosterone therapy considerations in oestrogen, progesterone and androgen receptor-positive breast cancer in a transgender man. *Clinical Endocrinology*, 2020. Available online July 2020.

Light M., McFarlane T., Ives A., Shah B., Lim E., Grossmann M., **Zajac J.D.**, Cheung A.S.

About the Research: Letter to the Editor

[Link to Publication](#)

10. Clinical determinants of low handgrip strength and its decline in the oldest old: the Leiden 85-plus Study. *Aging Clinical and Experimental Research*, 2020. Article available online July 2020.

Ling C.H.Y., Gussekloo J., Trompet S., Meskers C.G.M., **Maier A.B.**

About the Research: Age-related decline in muscle strength, dynapenia, is linked to serious adverse health outcomes. Evidence on the determinants of muscle strength decline in the oldest old is lacking. Aims: To identify clinical variables associated with handgrip strength and its change over a 4-year period in an oldest old cohort. Methods: We included 555 participants from the Leiden 85-plus Study, a prospective population-based study of 85-year-old inhabitants of Leiden, the Netherlands. Handgrip strength was assessed at age 85 and 89 years. Anthropometry, mental status, functional performance, and biochemical variables were obtained at baselines. Significant univariates were included into multivariable regression models to extract the final predictive variables.

[Link to publication](#)

11. Relationships Between Plasma Lipids Species, Gender, Risk Factors, and Alzheimer's Disease.

Journal of Alzheimer's disease : JAD, Volume 76, Issue 1, 2020, Pages 303-315

Lim W.L.F., Huynh K., Chatterjee P., Martins I., Jayawardana K.S., Giles C., Mellett N.A., Laws S.M., **Bush A.I.**, Rowe C.C., Villemagne V.L., Ames D., Drew B.G., Masters C.L., Meikle P.J., Martins R.N., AIBL research group.

About the Research: Lipid metabolism is altered in Alzheimer's disease (AD); however, the relationship between AD risk factors (age, APOE ϵ 4, and gender) and lipid metabolism is not well defined. **OBJECTIVE:** We investigated whether altered lipid metabolism associated with increased age, gender, and APOE status may contribute to the development of AD by examining these risk factors in healthy controls and also clinically diagnosed AD individuals.

[Link to publication](#)

12. Physical Activity and Exercise for Older People During and After the Coronavirus Disease 2019

Pandemic: A Path to Recovery. *Journal of the American Medical Directors Association, Volume 21, Issue 7, July 2020, Pages 977-979.*

Said C.M., Batchelor F., Duque G.

About the Research: Editorial

[Link to Publication](#)

13. Priorities for cancer caregiver intervention research: A three-round modified Delphi study to inform priorities for participants, interventions, outcomes, and study design characteristics.

Psycho-Oncology, 2020. Published online July 2020.

Ugalde A., Blaschke S.-M., Schofield P., Lambert S.D., Aranda S., Boltong A., Chambers S.K., **Krishnasamy M.**, Livingston P.

About the Research:

- A three-round modified Delphi study, guided by the PICO Framework, was conducted to ascertain cancer caregiver priorities in the areas of participants, interventions, outcomes, and study designs.
- Twenty-five Delphi participants, consisting of healthcare, allied health or academics with extensive clinical practice, or research experience in caregiver research, completed surveys over three rounds.

- Round 1 contributions were varied and extensive and 125 codes were generated, and over round 2 and round 3, 49 items were assessed for priority and consensus.
- High priorities included participants identified as minority groups or disadvantaged, those who are isolated and those identified as needing support; interventions that are sustainable and tailored; outcomes that are important to caregivers and studies that assess the long-term impact of interventions.
- Optimising approaches to conduct these studies, complementing these findings with qualitative data, and including caregiver perspectives are important avenues of future work.

[Link to Publication](#)

14. Differing Effects of Zoledronic Acid on Bone Microarchitecture and Bone Mineral Density in Men Receiving Androgen Deprivation Therapy: A Randomized Controlled Trial. *Journal of Bone and Mineral Research*, 2020.

Cheung A.S., Hoermann R., Ghasem-Zadeh A., Tinson A.J., Ly V., Milevski S.V., Joon D.L., **Zajac J.D.**, Seeman E., Grossmann M.

About the Research: Androgen deprivation therapy (ADT) given to men with prostate cancer causes rapid and severe sex steroid deficiency, leading to increased bone remodeling and accelerated bone loss. To examine the effects of a single dose of zoledronic acid on bone microarchitecture, we conducted a 2-year randomized placebo controlled trial in 76 men, mean age (interquartile range [IQR]) 67.8 years (63.8 to 73.9) with non-metastatic prostate cancer commencing adjuvant ADT; 39 were randomized to zoledronic acid and 37 to matching placebo.

[Link to Publication](#)

15. “The effect of hearing aid use hearing loss on cognitive function in older adults with hearing loss.” Victorian Medical Research Acceleration Fund grant awarded in Round 4 for **Julia Sarant**, David Harris, Peter Busby, Paul Maruff, Adrian Schembri, Dani Tomlin.

16. Hearing aid use in older adults: Effects on cognition after 18 months. *The Hearing Journal*, July 2020, 73(7), 40-41.

Julia Sarant, David Harris, Peter Busby, Paul Maruff, Adrian Schembri, Ulrike Lemke, and Stefan Launer.

About the Research: This research examines the use of hearing aids in older adults and the impact this has in cognition.

[Link to Publication](#)

17. Changes in ferrous iron and glutathione promote ferroptosis and frailty in aging

Caenorhabditis elegans. *eLife*, Volume 9, 21 July 2020.

Jenkins N.L., James S.A., Salim A., Sumardy F., Speed T.P., Conrad M., Richardson D.R., **Bush A.I.**, McColl G.

About the Research: All eukaryotes require iron. Replication, detoxification, and a cancer-protective form of regulated cell death termed ferroptosis, all depend on iron metabolism. Ferrous iron accumulates over adult lifetime in *Caenorhabditis elegans*. Here, we show that glutathione depletion is coupled to ferrous iron elevation in these animals, and that both occur in late life to prime cells for ferroptosis. We demonstrate that blocking ferroptosis, either by inhibition of lipid peroxidation or by limiting iron retention, mitigates age-related cell death and markedly increases lifespan and healthspan.

[Link to Publication](#)

18. Managing vasomotor symptoms effectively without hormones. *Climacteric*, 2020, Pages 1-7.

McCormick C.A., Brennan A., **Hickey M.**

About the Research: Vasomotor symptoms (hot flushes and/or night sweats) affect approximately 80% of women over the menopause transition and can affect quality of life, productivity, and relationships. Vasomotor symptoms are the main reason for seeking treatment during the menopausal transition. Although menopausal hormone therapy (MHT) is effective for symptom management, the majority of symptomatic women do not take MHT. In this article, we review the evidence for non-hormonal treatments for vasomotor symptoms, including pharmacological and non-pharmacological approaches, and provide a clinical algorithm for managing symptomatic women.

[Link to Publication](#)

19. The diagnostic value of the Short Physical Performance Battery for sarcopenia. *BMC Geriatrics*, Volume 20, Issue 1, 13 July 2020, Article number 242.

Phu S., Kirk B., Bani Hassan E., Vogrin S., Zanker J., Bernardo S., **Duque G.**

About the Research: Sarcopenia is defined as the age-related loss of muscle mass, strength, and physical performance. The original European Working Group on Sarcopenia in Older Persons (EWGSOP1) definition, and its revision (EWGSOP2), provide new cut-points and alternate measures for sarcopenia diagnosis. However, sarcopenia is rarely diagnosed in clinical settings owing to its labor-intensive diagnostic process. Given the Short Physical Performance Battery (SPPB) is a quick, easily administrable, and objective measure of muscle strength and physical performance, both of which are key components of sarcopenia, this study examined the diagnostic value of the SPPB for this muscle disease.

[Link to Publication](#)

20. Pathophysiological mechanisms explaining poor clinical outcome of older cancer patients with low skeletal muscle mass. *Acta Physiologica*, 2020. Available online July 2020.

Looijaard S.M.L.M., te Lintel Hekkert M.L., Wüst R.C.I., Otten R.H.J., Meskers C.G.M., **Maier A.B.**

About the Research: Low skeletal muscle mass is highly prevalent in older cancer patients and affects 5% to 89% depending on the type and stage of cancer. Low skeletal muscle mass is associated with poor clinical outcomes such as post-operative complications, chemotherapy toxicity and mortality in older cancer patients. Little is known about the mediating pathophysiological mechanisms. In this review, we summarize proposed pathophysiological mechanisms underlying the association between low skeletal muscle mass and poor clinical outcomes in older cancer patients including a) systemic inflammation; b) insulin-dependent glucose handling; c) mitochondrial function; d) protein status and; e) pharmacokinetics of anticancer drugs.

[Link to Publication](#)

21. Osteosarcopenia: beyond age-related muscle and bone loss. *European Geriatric Medicine*, 2020. Published online July 2020.

Fagundes Belchior G., Kirk B., Pereira da Silva E.A., **Duque G.**

About the Research: Aim: To summarize current evidence on osteosarcopenia.

Findings: Knowledge on osteosarcopenia as a geriatric syndrome is growing. This will facilitate the development of robust biomarkers and new treatments with dual effect on muscle and bone.

Message: When assessing older persons for osteoporosis, concomitant assessment for sarcopenia (and vice versa) should be included as an essential part of the comprehensive geriatric assessment.

[Link to Publication](#)

22. Differing Effects of Zoledronic Acid on Bone Microarchitecture and Bone Mineral Density in Men Receiving Androgen Deprivation Therapy: A Randomized Controlled Trial. *Journal of Bone and Mineral Research*, 2020. Published online July 2020.

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