

Ageing and Aged Care publication list March 2021

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

1. Factors associated with suicide attempts among Australian transgender adults. *BMC Psychiatry*, Volume 21, Issue 1, December 2021, Article number 81.

Zwickl S., Wong A.F.Q., Dowers E., Leemaqz S.Y.-L., Bretherton I., Cook T., **Zajac J.D.**, Yip P.S.F., Cheung A.S.

About the Research: Transgender, including gender diverse and non-binary people, henceforth referred to collectively as trans people, are a highly marginalised population with alarming rates of suicidal ideation, attempted suicide and self-harm. We aimed to understand the risk and protective factors of a lifetime history of attempted suicide in a community sample of Australian trans adults to guide better mental health support and suicide prevention strategies.

[Link to Publication](#)

2. Enablers to Exercise Participation in Progressive Supranuclear Palsy: Health Professional Perspectives. *Frontiers in Neurology*, Volume 11, 2 February 2021, Article number 635341.

Morris M.E., Slade S.C., Bruce C., McGinley J.L., Bloem B.R.

About the Research: People living with progressive supranuclear palsy (PSP) can experience considerable difficulties with movement, walking, balance, and oculomotor control. The role of exercises and physical activities in mitigating the motor and non-motor symptoms of PSP remains uncertain.

[Link to Publication](#)

3. Parathyroid hormone levels and aging: Effect on balance. *Vitamins and Hormones*, 2021. Published online March 2021.

Murthy L., **Duque G.**

About the Research: Falls result in multiple adverse health outcomes including mortality in older persons. Impaired balance is known to increase the risk of falls. Numerous factors play a role in the etiology of balance disturbance. Among the calciotropic hormones, the role of vitamin D in falls risk has been extensively studied. There is evolving interest in the role of parathyroid hormone (PTH) in this area. Elevated PTH hormone levels have been associated with age-related syndromes such as frailty, osteoporosis, and sarcopenia. Among the existing studies, most have focused on muscle strength with few studies evaluating its role in balance disturbances. In this chapter, we will summarize the aspects of PTH and aging, its biological effects on muscle, and the known associations between PTH and balance. © 2021 Elsevier Inc.

[Link to Publication](#)

4. Ophthalmology and the emergence of artificial intelligence. *Medical Journal of Australia, Volume 214, Issue 4, March 2021, Pages 155-157.e1.*

Scheetz J., He M., van Wijngaarden P.

About the Research: Ophthalmology is at the vanguard of the development and clinical application of AI. Advances in the field may provide useful insights into the application of this technology in health care more broadly.

[Link to Publication](#)

5. Care to the end: a retrospective observational study of aged care facility residents transferred to hospital in the last day of life. *Internal Medicine Journal, Volume 51, Issue 1, January 2021, Pages 27-32.*

About the Research: While transfer of aged care facility (ACF) residents to an acute hospital is sometimes necessary, for those at end of life this can cause fragmented care and disruption.

[Link to Publication](#)

6. Results from a double blinded, randomised, placebo-controlled, feasibility trial of melatonin for the treatment of delirium in older medical inpatients. *Internal Medicine Journal, Volume 51, Issue 1, January 2021, Pages 33-41.*

Lange P.W., Clayton-Chubb D.I., Watson R., Maier A.B.

About the Research: Delirium is common in elderly inpatients, causing distress, cognitive decline and death. No known intervention improves the course of delirium; current treatments are symptomatic, and limited by lack of efficacy and adverse effects. There is an urgent need to find an effective treatment for delirium.

[Link to Publication](#)

7. Does Exercise Influence Kynurenine/Tryptophan Metabolism and Psychological Outcomes in Persons With Age-Related Diseases? A Systematic Review. *International Journal of Tryptophan Research, Volume 14, 2021.*

Lim A., Harijanto C., Vogrin S., Guillemin G., **Duque G.**

About the Research: The kynurenine (KYN) pathway has been implicated in many diseases associated with inflammation and aging (“inflammaging”). Targeting the kynurenine pathway to modify disease outcomes has been trialled pharmacologically, but the evidence of non-pharmacological means (ie, exercise) remains unclear.

[Link to Publication](#)

8. Targeting impaired nutrient sensing with repurposed therapeutics to prevent or treat age-related cognitive decline and dementia: A systematic review. *Ageing Research Reviews, Volume 67, May 2021, Article number 101302.*

Kioussis B., Tuttle C.S.L., Heard D.S., Kennedy B.K., **Lautenschlager N.T., Maier A.B.**

About the Research: Dementia is a debilitating syndrome that significantly impacts individuals over the age of 65 years. There are currently no disease-modifying treatments for dementia. Impairment of nutrient sensing pathways has been implicated in the pathogenesis of dementia, and may offer a novel treatment approach for dementia.

[Link to Publication](#)

9. Can anthropometric measures be used as proxies for body composition and physical function in geriatric outpatients? *Archives of Gerontology and Geriatrics. Volume 94, 1 May 2021, Article number 104379.*

Ling C.H.Y., Meskers C.G.M., **Maier A.B.**

About the Research: The study aimed to evaluate the associations between anthropometric measures with body composition, in particular skeletal muscle mass, and with physical function in a cohort of geriatric outpatients.

[Link to Publication](#)

10. QSMART: Quantitative susceptibility mapping artifact reduction technique. *NeuroImage*, Volume 231, 1 May 2021, Article number 117701.

Yaghmaie N., Syeda W.T., Wu C., Zhang Y., Zhang T.D., Burrows E.L., **Brodtmann A.**, Moffat B.A., Wright D.K., Glarin R., Kolbe S., Johnston L.A.

About the Research: Quantitative susceptibility mapping (QSM) is a novel MR technique that allows mapping of tissue susceptibility values from MR phase images. QSM is an ill-conditioned inverse problem, and although several methods have been proposed in the field, in the presence of a wide range of susceptibility sources, streaking artifacts appear around high susceptibility regions and contaminate the whole QSM map. QSMART is a post-processing pipeline that uses two-stage parallel inversion to reduce the streaking artifacts and remove banding artifact at the cortical surface and around the vasculature.

[Link to Publication](#)

11. Sleep-wake parameters can be detected in patients with chronic stroke using a multisensor accelerometer: A validation study. *Journal of Clinical Sleep Medicine*, Volume 17, Issue 2, 1 February 2021, Pages 167-175.

Gottlieb E., Churilov L., Werden E., Churchward T., Pase M.P., Egorova N., Howard M.E., **Brodtmann A.**

About the Research: Sleep-wake dysfunction is bidirectionally associated with the pathogenesis and evolution of stroke. Longitudinal and prospective measurement of sleep after chronic stroke remains poorly characterized because of a lack of validated objective and ambulatory sleep measurement tools in neurological populations. This study aimed to validate a multisensor sleep monitor, the SenseWear Armband (SWA), in patients with ischemic stroke and control patients using at-home polysomnography.

[Link to Publication](#)

12. The prevention of osteoporosis and sarcopenia in older adults. *Journal of the American Geriatrics Society, 2021. Published online March 2021.*

Coll P.P., Phu S., Hajjar S.H., Kirk B., **Duque G.**, Taxel P.

About the Research: Osteoporosis and sarcopenia are common in older adults. Osteoporosis is a systemic skeletal disease characterized by low bone mass and microarchitectural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture. Bone fractures can result in changes in posture, pain, the need for surgical repair and functional impairment. Sarcopenia is the progressive and generalized loss of skeletal muscle mass, strength and/or physical performance. Older adults with sarcopenia experience increased risk of frailty, disability, hospitalizations, mortality, and a reduced quality of life. In this narrative review we provide guidance regarding the prevention of both osteoporosis and sarcopenia, including interventions that prevent both conditions from occurring, recommended screening and treatment to prevent progression.

[Link to Publication](#)

13. Association between malnutrition and stages of sarcopenia in geriatric rehabilitation inpatients: RESORT. *Clinical Nutrition, 2021.*

Verstraeten L.M.G., van Wijngaarden J.P., Pacifico J., Reijnierse E.M., Meskers C.G.M., **Maier A.B.**

About the Research: Malnutrition and sarcopenia coexist in older adults, yet they remain largely undiagnosed and untreated, despite available interventions. This study aimed to assess the prevalence, the coexistence of, and the association between malnutrition and sarcopenia in geriatric rehabilitation inpatients.

[Link to Publication](#)

14. Pre-stroke physical activity and admission stroke severity: A systematic review. *International Journal of Stroke, 2021. Published online March 2021.*

Hung S.H., Ebaid D., Kramer S., Werden E., Baxter H., Campbell B.C.V., **Brodthmann A.**

About the Research: Admission stroke severity is an important clinical predictor of stroke outcomes. Pre-stroke physical activity contributes to stroke prevention and may also be associated with reduced stroke severity. Summarizing the evidence to date will inform strategies to reduce burden after stroke.

[Link to Publication](#)

15. A survey of clinicians on the use of artificial intelligence in ophthalmology, dermatology, radiology and radiation oncology. *Scientific Reports, Volume 11, Issue 1, December 2021, Article number 5193.*

Scheetz J., Rothschild P., McGuinness M., Hadoux X., Soyer H.P., Janda M., Condon J.J.J., Oakden-Rayner L., Palmer L.J., Keel S., **van Wijngaarden P.**

About the Research: Artificial intelligence technology has advanced rapidly in recent years and has the potential to improve healthcare outcomes. However, technology uptake will be largely driven by clinicians, and there is a paucity of data regarding the attitude that clinicians have to this new technology.

[Link to Publication](#)

16. The association of objectively measured physical activity and sedentary behavior with skeletal muscle strength and muscle power in older adults: A systematic review and meta-analysis. *Ageing Research Reviews, Volume 67, May 2021, Article number 101266.*

Ramsey K.A., Rojer A.G.M., D'Andrea L., Otten R.H.J., Heymans M.W., Trappenburg M.C., Verlaan S., Whittaker A.C., Meskers C.G.M., **Maier A.B.**

About the Research: Engaging in physical activity (PA) and avoiding sedentary behavior (SB) are important for healthy ageing with benefits including the mitigation of disability and mortality. Whether benefits extend to key determinants of disability and mortality, namely muscle strength and muscle power, is unclear.

[Link to Publication](#)

17. Systematic Review: Quantitative Susceptibility Mapping (QSM) of Brain Iron Profile in Neurodegenerative Diseases. *Frontiers in Neuroscience, Volume 15, 18 February 2021, Article number 618435.*

Ravanfar P., Loi S.M., Syeda W.T., Van Rheenen T.E., **Bush A.I.**, Desmond P., Cropley V.L., Lane D.J.R., Opazo C.M., Moffat B.A., Velakoulis D., Pantelis C.

About the Research: Iron has been increasingly implicated in the pathology of neurodegenerative diseases. In the past decade, development of the new magnetic resonance imaging technique, quantitative susceptibility mapping (QSM), has enabled for the more comprehensive investigation of iron distribution in the brain. The aim of this systematic review was to provide a synthesis of the findings from existing QSM studies in neurodegenerative diseases.

[Link to Publication](#)

18. Associations of Cytomegalovirus Infection With All-Cause and Cardiovascular Mortality in Multiple Observational Cohort Studies of Older Adults. *The Journal of infectious diseases*. Volume 223, Issue 2, 3 February 2021, Pages 238-246.

Chen S., Pawelec G., Trompet S., Goldeck D., Mortensen L.H., Slagboom P.E., Christensen K., Gussekloo J., Kearney P., Buckley B.M., Ford I., Jukema J.W., Westendorp R.G.J., **Maier A.B.**

About the Research: Whether latent cytomegalovirus (CMV) infection in older adults has any substantial health consequences is unclear. Here, we sought associations between CMV-seropositivity and IgG titer with all-cause and cardiovascular mortality in 5 longitudinal cohorts.

[Link to Publication](#)

19. Tablet-based apps for phonics and phonological awareness: Protocol for evidence-based appraisal of content, quality, and usability. *JMIR Research Protocols*, Volume 10, Issue 2, February 2021, Article number e23921.

Furlong L., Serry T., Erickson S., **Morris M.E.**

About the Research: The use of mobile apps to manage and promote health is becoming increasingly popular. Mobile apps are gaining popularity particularly in educational and interventional settings owing to their perceived advantages including support for and engagement of individuals with reading difficulties. In the context of COVID-19, the need for technology-based tools has increased. For practitioners and educators who wish to use apps in their practice or recommend apps to individuals with reading difficulties, it is challenging to identify high-quality apps in app stores.

[Link to Publication](#)

20. Iron accumulation in skeletal muscles of old mice is associated with impaired regeneration after ischaemia–reperfusion damage. *Journal of Cachexia, Sarcopenia and Muscle*, 2021. Published online March 2021.

Alves F.M., Kysenius K., Caldow M.K., Hardee J.P., Crouch P.J., Ayton S., **Bush A.I.**, Lynch G.S., Koopman R.

About the Research: Oxidative stress is implicated in the insidious loss of muscle mass and strength that occurs with age. However, few studies have investigated the role of iron, which is elevated during ageing, in age-related muscle wasting and blunted repair after injury. We hypothesized that iron accumulation leads to membrane lipid peroxidation, muscle wasting, increased susceptibility to injury, and impaired muscle regeneration.

[Link to Publication](#)

21. How do health professionals prioritize clinical areas for implementation of evidence into practice? A cross-sectional qualitative study. *JBI evidence implementation, Volume 18, Issue 3, 1 September 2020, Pages 288-296.*

Wenzel L.-A., White J., Sarkies M.N., **Morris M.E.**, Carey L., Williams C., Taylor N.F., Martin J., Bardoel A., Haines T.P.

About the Research: The current study aimed to identify and understand the reasons why allied health professionals think certain areas of healthcare service provision are a high priority for implementation of evidence into practice.

[Link to Publication](#)

22. Imaging Markers of Brain Frailty and Outcome in Patients With Acute Ischemic Stroke. *Stroke, Volume 52, Issue 3, 1 March 2021, Pages 1004-1011.*

Bu N., Khlif M.S., Lemmens R., Wouters A., Fiebach J.B., Chamorro A., Ringelstein E.B., Norrving B., Laage R., Grond M., Wilms G., **Brodtmann A.**, Thijs V.

About the Research: Functional outcome after stroke may be related to preexisting brain health. Several imaging markers of brain frailty have been described including brain atrophy and markers of small vessel disease. We investigated the association of these imaging markers with functional outcome after acute ischemic stroke.

[Link to Publication](#)

23. Estimating malignancy risk of melanocytic choroidal tumours detected in the Australian National Eye Health Survey. *Clinical and Experimental Optometry, 2021. Published online March 2021.*

Salehi O., **van Wijngaarden P.**, Keel S., Foreman J., Dirani M., Damato B., O'Day R.

About the Research: The malignant potential of choroidal melanocytic tumours detected incidentally in the community is thought to be low, but this has not been assessed using a validated screening tool. An accurate characterisation of the malignant potential of these lesions has implications for resource allocation, service provision, education, and training.

[Link to Publication](#)

24. Effectiveness of health consumer representative involvement in implementation of interventions to change health professional behaviour. *International journal for quality in health care : journal of the International Society for Quality in Health Care. Volume 33, Issue 1, 20 February 2021.*

Oakman J., Cahill L.S., Clune S., Neilson C., Shields N., Tse T., O'keefe S., Frederico M., Graco M., Holland A.E., Jolliffe L., Carey L., Lewis V., Brown G., Cox N., **Morris M.E.**, Lannin N.A.

About the Research: The adoption of research evidence to improve client outcomes may be enhanced using the principles of implementation science. This systematic review aimed to understand the effect of involving consumers to change health professional behaviours and practices. The barriers and enablers to consumer engagement will also be examined.

[Link to Publication](#)

25. The impact of the first three months of the COVID-19 pandemic on the Australian trans community. *International Journal of Transgender Health, 2021. Published online March 2021.*

Zwickl S., Angus L.M., Qi A.W.F., Ginger A., Eshin K., Cook T., Leemaqz S.Y., Dowers E., **Zajac J.D.**, Cheung A.S.

About the Research: Trans and gender diverse individuals (people who identify with a gender different to what was presumed for them at birth) are one of the most medically and socially marginalized groups in our community. The COVID-19 pandemic may compound preexisting depression and thoughts of self-harm or suicide. Aim: We aimed to explore the impact of the COVID-19 pandemic on the Australian trans community.

[Link to Publication](#)

26. Approach to Interpreting Common Laboratory Pathology Tests in Transgender Individuals. *The Journal of clinical endocrinology and metabolism, Volume 106, Issue 3, 8 March 2021, Pages 893-901.*

Cheung A.S., Lim H.Y., Cook T., Zwickl S., Ginger A., Chiang C., **Zajac J.D.**

About the Research: As the number of transgender (trans) people (including those who are binary and/or nonbinary identified) seeking gender-affirming hormone therapy rises, endocrinologists are increasingly asked to assist with interpretation of laboratory tests. Many common laboratory tests such as hemoglobin, iron studies, cardiac troponin, and creatinine are affected by sex steroids or body size. We seek to provide a summary of the impact of feminizing and masculinizing hormone therapy on common laboratory tests and an approach to interpretation.

[Link to Publication](#)

27. Risk Factors of Readmissions in Geriatric Rehabilitation Patients: RESORT. *Archives of Physical Medicine and Rehabilitation, 2021. Published online March 2021.*

Wan C.S., Reijnierse E.M., **Maier A.B.**

About the Research: To evaluate the risk factors associated with 30- and 90-day hospital readmissions in geriatric rehabilitation inpatients. Design: Observational, prospective longitudinal inception cohort.

[Link to Publication](#)