



Ageing and Aged Care Publication List April 2020

(MACH Care of the Ageing subcommittee members - **bolded**)

1. Rationale and protocol for the 7- And 8-year longitudinal assessments of eye health in a cohort of young adults in the Raine Study

Lee S.S.-Y., Lingham G., Yazar S., Sanfilippo P.G., Charng J., Chen F.K., Hewitt A.W., Ng F., Hammond C., Straker L.M., Eastwood P.R., MacGregor S., Rose K.A., Lucas R.M., Guggenheim J.A., Saw S.-M., Coroneo M.T., **He M.**, MacKey D.A., BMJ Open, Volume 10, Issue 3, 25 March 2020, Article number e033440

Overview: Introduction Eye diseases and visual impairment more commonly affect elderly adults, thus, the majority of ophthalmic cohort studies have focused on older adults. Cohort studies on the ocular health of younger adults, on the other hand, have been few. The Raine Study is a longitudinal study that has been following a cohort since their birth in 1989-1991.

[Link to publication](#)

2. The use of a portable metabolic monitoring device for measuring resting metabolic rate in healthy adults

Yeung S.S.Y., Trappenburg M.C., Meskers C.G.M., **Maier A.B.**, Reijniere E.M., British Journal of Nutrition, 2020. Published Online April 2020.

About the research: Objective measurement of resting metabolic rate (RMR) may be important for optimal nutritional care but is hindered by the price and practicality of the metabolic monitoring device. This study compared two metabolic monitoring devices for measuring RMR and oxygen consumption (VO₂) and compared the measured RMR with the predicted RMR calculated from equations.

[Link to publication](#)

3. A core outcome set for future endometriosis research: an international consensus development study

Duffy J.M.N., Hirsch M., Vercoe M., Abbott J., Barker C., Collura B., Drake R., Evers J.L.H., **Hickey M.**, ... Cook L.A et al., endo:outcomes - an International Collaboration Harmonising Outcomes and Outcome Measures for Endometriosis Research, BJOG: An International Journal of Obstetrics and Gynaecology, 2020. Published Online April 2020.

About the research: Objective: To develop a core outcome set for endometriosis. Results: The final core outcome set includes three core outcomes for trials evaluating potential treatments for pain and other symptoms associated with endometriosis: overall pain; improvement in the most troublesome symptom; and quality of life.

[Link to publication](#)



4. Pulse transit time as a proxy for vasoconstriction in younger and older adults

Mol A., Meskers C.G.M., Niehof S.P., **Maier A.B.**, van Wezel R.J.A., *Experimental Gerontology*, Volume 135, 1 July 2020, Article number 110938

Aim: Changes of vasoconstriction may be measured non-invasively using pulse transit time. This study assessed the sensitivity, test-retest reliability and validity of pulse transit time during vasoconstriction provocation and active standing, and the predictive value of pulse transit time for blood pressure drop.

URL: [Link to publication](#)

5. Multimodal Monitoring of Cardiovascular Responses to Postural Changes

Mol A., **Maier A.B.**, van Wezel R.J.A., Meskers C.G.M., *Frontiers in Physiology*, Volume 11, 3 March 2020, Article number 168

Background: In the poorly understood relationship between orthostatic hypotension and falls, next to blood pressure (BP), baroreflex sensitivity (BRS) and cerebral autoregulation (CAR) may be key measures. The posture- and movement dependency of orthostatic hypotension requires continuous and unobtrusive monitoring. This may be possible using simultaneous photoplethysmography (PPG), electrocardiography (ECG), and near-infrared spectroscopy (NIRS) signal recordings, from which pulse wave velocity (PWV; potentially useful for BP estimation), BRS and CAR can be derived. The PPG, NIRS and PWV signal correlation with BP and BRS/CAR reliability and validity need to be addressed.

URL: [Link to publication](#)

6. A systematic review of the impact of delirium on allied health interventions: A surprising lack of data

Johnson D., Maylin E., Hayes L., Hair C., Kraemer T., Lau M., **Brodthmann A.**, Sahathevan R., *Neurology Asia*, Volume 25, Issue 1, March 2020, Pages 1-5

Background & Objectives: There is increasing interest in the impact of delirium on mortality and morbidity in stroke patients. Whilst there are published studies assessing this impact, they are primarily focused on the short/long-term physical and cognitive outcomes of stroke survivors. We conducted a systematic review of the literature to determine the impact of delirium on participation in allied health interventions and measurable outcomes immediately following a stroke.



7. Blood pressure drop rate after standing up is associated with frailty and number of falls in geriatric outpatients.

Mol A., Slangen L.R.N., Trappenburg M.C., Reijnierse E.M., van Wezel R.J.A., Meskers C.G.M., **Maier A.B.**, Journal of the American Heart Association, Volume 9, Issue 7, 2020, Article number e014688

Abstract: The relationship between orthostatic hypotension and clinical outcome in older adults is poorly understood. Blood pressure drop rate (ie, speed of blood pressure drop) may particularly reflect the imposed challenge to the baroreflex and the associated clinical outcome (ie, frailty and number of falls). This study aimed to compare orthostatic blood pressure drop rate and drop magnitude with regard to their association with frailty and number of falls.

[Link to publication](#)

8. Prevalence of malnutrition comparing the GLIM criteria, ESPEN definition and MST malnutrition risk in geriatric rehabilitation patients: RESORT

Clark A.B., Reijnierse E.M., Lim W.K., **Maier A.B.**, Clinical Nutrition, 2020. Published online April 2020.

About the research: The Global Leadership Initiative on Malnutrition (GLIM) has developed new criteria for the diagnosis of malnutrition. This study aimed 1) to determine and compare malnutrition prevalence and risk using the GLIM criteria, European Society for Clinical Nutrition and Metabolism (ESPEN) definition of malnutrition and the Malnutrition Screening Tool (MST) in patients admitted to subacute geriatric rehabilitation wards, 2) to explore the agreement of malnutrition prevalence determined by each definition, and 3) to determine the accuracy of the MST against the GLIM criteria and ESPEN definition as references.

[Link to publication](#)

9. Modelling the early expressive communicative trajectories of infants/toddlers with early cochlear implants

Bavin E.L., **Sarant J.**, Hackworth N.J., Bennetts S.K., Buzhardt J., Jia F., Button E., Busby P., Leigh G., Peterson C., Journal of Child Language, 2020. Published online April 2020.

About the research: For children with normal hearing (NH), early communication skills predict vocabulary, a precursor to grammar. Growth in early communication skills of infants with cochlear implants (CIs) was investigated using the Early Communication Indicator (ECI), a play-based observation measure. Multilevel linear growth modelling on data from six ECI sessions held at three-monthly intervals revealed significant growth overall, with a non-significant slower growth rate than that of children with NH (comparison age centred at 18 months). Analyses of gesture use and of nonword vocalisations revealed the CI group used significantly more of each, with more rapid growth. In contrast, the CI group used significantly fewer single words and multiword utterances, and with slower growth. Maternal education and time to achieve consistent CI use impacted significantly on growth for the CI sample. The results indicate that progression to vocabulary by young CI users can be supported by encouraging their use of prelinguistic communication



[Link to publication](#)

10. Frailty, Sarcopenia, and Malnutrition Frequently (Co-)occur in Hospitalized Older Adults: A Systematic Review and Meta-analysis

Ligthart-Melis G.C., Luiking Y.C., Kakourou A., Cederholm T., **Maier A.B.**, de van der Schueren M.A.E., Journal of the American Medical Directors Association, 2020. Article Published online April 2020.

About the research: The purpose of this systematic review and meta-analysis was to summarize the prevalence of, and association between, physical frailty or sarcopenia and malnutrition in older hospitalized adults

[Link to publication](#)

11. Positioning immobile critically ill patients who are at risk of pressure injuries using a purpose-designed positioning device and usual care equipment: An observational feasibility study

Sousa I., **Kapp S.**, Santamaria N., International Wound Journal, 2020. Published online April 2020.

About the research: The prevalence of pressure injuries in the intensive care unit (ICU) setting is high with rates ranging from 13.1% to 45.5%. Evaluation of interventions to prevent pressure injuries should be informed by preliminary research to identify factors that should be considered during the design of future trials. The study objectives were to evaluate the process of participant recruitment and monitoring in the ICU; measure the maintenance of body angle (in the side-lying lateral tilt position) and head and neck alignment angle (in the supine position) among immobile critically ill patients when using a purpose-designed positioning device and usual care equipment, and; ascertain the time required to position patients with the purpose-designed positioning device and the usual care equipment. A prospective, observational, feasibility study was conducted in an ICU in Victoria, Australia.

[Link to publication](#)

12. "Build Rapport, Otherwise No Screening Tools in the World Are Going to Help": Frontline Service Providers' Views on Current Screening Tools for Elder Abuse

Brijnath B., Gahan L., Gaffy E., **Dow B.**, The Gerontologist, Volume 60, Issue 3, 2 April 2020, Pages 472-482

About the research: Without an effective screening tool, accompanied by clear guidelines of what to do when elder abuse is suspected, health workers may face challenges when asking questions about elder abuse. This study aimed to find the most effective and acceptable existing elder abuse screening tool and to create guidelines for using the tool.

[Link to publication](#)



13. Intestinal Pseudo-Obstruction and Livedo Reticularis: Rare Manifestations of Catecholamine Excess

Frydman A.S., Nolan B.J., **Zajac J.D.**, American Journal of Medicine, 2020. Published online April 2020.

[Link to publication](#)

14. Five-year changes in anterior segment parameters in an older population in urban southern China: The Liwan Eye Study

Jiang Y., Wang D., Wang W., Chen F., Wang L., Scheetz J., Huang W., Huang S., **He M.**, Journal of Ophthalmology, Volume 104, Issue 4, 1 April 2020, Pages 582-587

Aim: To investigate the 5-year changes in static and dynamic anterior segment optical coherence tomography (AS-OCT) parameters and their predictors. **Methods:** This was a prospective, population-based cohort study of people aged 50 years and older residing in the Liwan District, Guangzhou, China.

[Link to publication](#)

15. The heterogeneous functional architecture of the posteromedial cortex is associated with selective functional connectivity differences in Alzheimer's disease

Author: Khan W., Amad A., Giampietro V., Werden E., De Simoni S., O'Muircheartaigh J., Westman E., O'Daly O., Williams S.C.R., **Brodtmann A.**, for the Alzheimer's Disease Neuroimaging Initiative, Human Brain Mapping, Volume 41, Issue 6, 15 April 2020, Pages 1557-1572

About the research: The posteromedial cortex (PMC) is a key region involved in the development and progression of Alzheimer's disease (AD). Previous studies have demonstrated a heterogeneous functional architecture of the region that is composed of discrete functional modules reflecting a complex pattern of functional connectivity. However, little is understood about the mechanisms underpinning this complex network architecture in neurodegenerative disease, and the differential vulnerability of connectivity-based subdivisions in the PMC to AD pathogenesis. Using a data-driven approach, we applied a constrained independent component analysis (ICA) on healthy adults from the Human Connectome Project to characterise the local functional connectivity patterns within the PMC, and its unique whole-brain functional connectivity.

[Link to publication](#)

16. Osteosarcopenia: epidemiology, diagnosis, and treatment—facts and numbers

Kirk B., Zanker J., **Duque G.**, Journal of Cachexia, Sarcopenia and Muscle, 2020. Published online April 2020.

Background: Osteosarcopenia, the presence of osteopenia/osteoporosis and sarcopenia, is an emerging geriatric giant, which poses a serious global health burden.



[Link to publication](#)

17. Relationship of established cardiovascular risk factors and peripheral biomarkers on cognitive function in adults at risk of cognitive deterioration

Lai M.M.Y., Sharman M.J., Ames D.J., Ellis K.A., Cox K.L., Hepworth G., Desmond P., Cyarto E.V., Martins R.N., Masters C.L., **Lautenschlager N.T.**, Journal of Alzheimer's Disease, Volume 74, Issue 1, 2020, Pages 163-171

Background: There is a paucity of information on the role of microvascular and inflammatory biomarkers in cognitive dysfunction. **Objective:** This study sought to evaluate the relationships between established and a number of peripheral biomarkers on cognitive patterns in 108 older adults with memory complaints.

[Link to publication](#)

18. The ENIGMA Stroke Recovery Working Group: Big data neuroimaging to study brain–behavior relationships after stroke

Liew S.-L., Zavaliangos-Petropulu A., Jahanshad N., Lang C.E., Hayward K.S., Lohse K.R., Juliano J.M., Assogna F., Baugh L.A., Bhattacharya A.K., Bigjahan B., Borich M.R., Boyd L.A., **Brodtmann A.**,...Thompson P.M., et al., Human Brain Mapping, 2020. Published online April 2020.

About the research: The goal of the Enhancing Neuroimaging Genetics through Meta-Analysis (ENIGMA) Stroke Recovery working group is to understand brain and behavior relationships using well-powered meta- and mega-analytic approaches. ENIGMA Stroke Recovery has data from over 2,100 stroke patients collected across 39 research studies and 10 countries around the world, comprising the largest multisite retrospective stroke data collaboration to date. This article outlines the efforts taken by the ENIGMA Stroke Recovery working group to develop neuroinformatics protocols and methods to manage multisite stroke brain magnetic resonance imaging, behavioral and demographics data.

[Link to publication](#)

19. Preferential Neurodegeneration in the Dentate Gyrus by Amyloid β 1–42-Induced Intracellular Zn²⁺Dysregulation and Its Defense Strategy

Tamano H., Takiguchi M., Tanaka Y., Murakami T., Adlard P.A., **Bush A.I.**, Takeda A., Molecular Neurobiology, Volume 57, Issue 4, 1 April 2020, Pages 1875-1888

About the research: On the basis of the evidence that rapid intracellular Zn²⁺ dysregulation by amyloid β 1–42 (A β 1–42) in the normal hippocampus transiently induces cognitive decline, here we report preferential neurodegeneration in the dentate gyrus by A β 1–42-induced intracellular Zn²⁺ dysregulation and its defense strategy.

[Link to publication](#)



20. Clinical determinants of resting metabolic rate in geriatric outpatients

Yeung S.S.Y., Reijnierse E.M., Trappenburg M.C., Meskers C.G.M., **Maier A.B.**, Archives of Gerontology and Geriatrics, Volume 89, July - August 2020, Article number 104066. Published online April 2020.

Purpose: Accurate estimation of the energy requirements including resting metabolic rate (RMR) is important for optimal nutritional care, yet its clinical determinants are unknown. This study examined the associations between clinical determinants of the Comprehensive Geriatric Assessment (CGA) domains with RMR among geriatric outpatients.

[Link to publication](#)