Mental Health & Exercise Research Group (MHEX)

E: mhex@uwa.edu.au / bonnie.furzer@uwa.edu.au
W: https://www.thrivinginmotion.org/mhex / https://www.uwa.edu.au/projects/exercise-mental-health-research

Broadly, our research team explores the role of exercise to support physical and mental health outcomes for those living with, or at risk of, mental ill health. Physical activity and exercise can be health promoting across the lifespan, including physical, mental and psychosocial health benefits. But more work is needed to explore how to support people to be sustainably active, effectively improve health outcomes and build accessible exercise opportunities within health and community care pathways. Our work focuses on those who are at increased risk of inactivity, experience disadvantage and/or are underrepresented in research and care pathways.

Student Research Projects Available

Masters or Honours

Recovery-focused exercise programs within mental health services for people with disordered eating + maladaptive exercise behaviours

Eating Disorders | Mental Health | Implementation | Health services

Research Team: Bonnie Furzer, Kemi Wright, Exercise Physiology Team @Freo + collaborators
Collaborators: Fremantle Hospital Mental Health Service, and governance aspects of this project are in place.

Over one million Australians live with an eating disorder, with 40 – 80% reported to undertake maladaptive exercise (e.g., compulsive exercise, exercise dependence or addiction). When present alongside disordered eating, maladaptive exercise leads to significantly worse outcomes including poorer prognosis, lower quality of life, increased suicidality, longer hospitalisation and increased risk of relapse. In contrast, supervised and non-compulsive exercise can serve as a valuable tool in recovery by supporting affect regulation and emotional resilience.

Therapeutic exercise has the potential to restore physical health, reduce compulsive exercise behaviours, and foster a positive relationship with one's body. Presently lacking are models of care for embedding exercise professionals within the multidisciplinary mental health team to support recovery for those with disordered eating and maladaptive exercise behaviours.

Project options include:

- Evaluation of an exercise physiology led program to support treatment outcomes and safe exercise participation for adults within mental health services with disordered eating and exercise behaviours.
- Deliver and evaluate an advanced skills training module for AESs/AEPs working within private, public and community mental health services

Chest Binding, Physical Function, Activity + Health

Exercise Physiology | Respiratory Physiology | Performance | Experimental

Research Team: Bonnie Furzer (she/her), Brett Buist (he/him), Grant Landers (he/him), Peter Noble (he/him), Claire Munsie (she/her), Ben Kramer (he/him), Kai Schweizer (they/he), Felicity Austin (she/her), Ben Quick (they/he),
Collaborators: Thriving in Motion, Sock Drawer Heroes, The Kids Research Institute, Curtin University

Chest binding is the practice of compressing breast tissue to create the appearance and sensation of a flat chest. This is a very common practice amongst trans people registered female at birth. Binding is beneficial to the mental health of trans and gender diverse people by assisting to alleviate gender dysphoria and affirm their experienced gender.

Globally trans and queer organisations recommend that exercise should not be undertaken in a chest binder due to concerns around safety – reducing willingness to be active and increasing concerns related to activity and exertion for those who chest bind.
In 2025 the team has conducted one of the first global studies into the impact of chest binding during physical function and are looking to extend this work with future studies. The goal is to ensure there is robust evidence on which to base guidelines and recommendations in future.

Potential areas of investigation include:

- Long term impacts of chest binding on health, physical function and physical activity
- Thermoregulation response sand chest binding during exercise

Youth Centred Exercise Recovery Program within Adult Transdiagnostic Mental Health Service

Mental Illness | Youth | Clinical Exercise Physiology | Implementation

Research Team: Bonnie Furzer, Kemi Wright, Ben Kramer, Exercise Physiology Team @Freo + collaborators
Collaborators: Fremantle Hospital Mental Health Service

Mental health services are currently structured broadly based on ages, with 18-65 considered adult services. However, the needs and presentations of young people within services does not always align with that of adults who are older.

In collaboration with young people, objective/s include:

- Explore the needs and recommendations from young people and stakeholders for a youth-centred exercise recovery model within mental health care services
- Explore the feasibility of embedding and delivering a youth-centred recovery approach with adult mental health services

Developing a Peer-Based Exercise Model in AYA Cancer Survivorship: A Co-Design Approach*

Cancer | Youth | Clinical Exercise Physiology | Qualitative

Research Team: Claire Munsie, Bonnie Furzer + Collaborators
Collaborators: WA Youth Cancer Service, Curtin University, FightingFit

Objective/s: To co-design a peer-based exercise program with AYAs, and healthcare professionals, defining program content, structure, delivery methods, and peer roles.

Adolescent and young adult (AYA;15–25 years) cancer survivors often face long-term side effects post treatment including fatigue, physical deconditioning, and social isolation, which negatively affect recovery and quality of life (Adams et al. 2021). Exercise interventions have demonstrated efficacy in improving fitness, function and well-being across diverse cancer populations (Hayes et al. 2019). Emerging evidence now supports the role of exercise in AYA cancer survivorship; however, few programs are specifically designed by AYAs, with peer support is rarely embedded. Social connectedness is a critical motivator in this age group, with peer involvement shown to enhance engagement and psychosocial outcomes (Zebrack et al. 2014). Despite this, the optimal structure and acceptability of peer-based exercise models in AYAs remain unclear. Co-design approaches, such as experience-based co-design (EBCD), integrate survivor perspectives with clinical expertise to generate interventions that are contextually relevant, acceptable, and sustainable (Bate & Robert 2006). Applying co-design to exercise oncology in AYAs provides a developmentally appropriate strategy to establish peer-supported programs that address unmet survivorship needs and promote long-term health.

Long-Term Exercise Adherence in AYA Cancer Survivors

Cancer | Youth | Clinical Exercise Physiology | Longitudinal

Research Team: Claire Munsie, Bonnie Furzer, Jo Collins + Collaborators
Collaborators: WA Youth Cancer Service, Curtin University, FightingFit

Adolescent and young adult (AYA;15–25 years) cancer survivors often experience significant physical and psychosocial challenges as a consequence of their treatment. Post treatment this cohort face increased risk of chronic disease, persistent fatigue, cardiovascular complications, and elevated psychological morbidity compared with their healthy peers. Structured, supervised programs such as the AYA Life Now Exercise Program have demonstrated significant benefits in AYA survivors with respect to cardiorespiratory fitness, muscular strength, and psychosocial well-being (Munsie et al., 2025). However, there is limited understanding of whether these improvements are sustained beyond program completion, once direct supervision and clinical support are withdrawn.
Evidence suggests that some survivors reduce activity levels post-intervention, leading to a decline in physical and psychosocial outcomes, while others maintain or even build upon initial gains (Midtgaard et al., 2013). Understanding long-term adherence rates and predictors is critical to designing survivorship models that promote lasting physical activity.

Objectives

1. Measure physical activity adherence rates at least 12 months after completion of the Fighting Fit program.
2. Assess sustained changes in fitness, strength, fatigue, and quality of life.
3. Identify predictors of long-term adherence using existing cohort data.

Experiences of Exercise During Cancer Treatment in Adolescent and Young Adults

Cancer | Youth | Physical Activity | Qualitative

Research Team: Claire Munsie, Bonnie Furzer, Jo Collins + Collaborators
Collaborators: WA Youth Cancer Service

Adolescent and young adults (AYA;15–25 years) diagnosed with cancer represent a distinct population with unique developmental, psychosocial, and clinical needs. During active treatment, AYAs often face fatigue, deconditioning, and disruptions to education, employment, and social networks, all of which can compromise quality of life (Zebrack et al., 2014). Exercise is recognised as safe and beneficial across cancer cohorts, improving physical function, fatigue, and mental health (Hayes et al., 2019), yet little is known about the lived experience of AYAs engaging in exercise during treatment. Understanding motivations, barriers, and perceived outcomes is critical to inform developmentally appropriate, acceptable interventions that address both physical and psychosocial needs during this vulnerable period.

Objectives

1. To explore the lived experiences of exercise during treatment in AYA cancer patients.
2. To examine perceived physical, psychological, and social outcomes of exercise participation during treatment.
3. To identify motivations, barriers, and facilitators influencing exercise behaviour during treatment.

Bone, Muscle, and Balance (BoMB): Exploring high intensity and high impact training on health outcomes of community-based older adults

Healthy Ageing | Exercise Physiology | Exercise Prescription | Experimental | Implementation

Research Team: Brett Buist, Ben Kramer, Grant Landers, Bonnie Furzer, Kemi Wright + Collaborators

Age-related changes in our body's physiology and function, including declines in balance and changes in neuro-musculoskeletal health, are known to predispose adults to higher risk of injurious falls, impact their ability to engage in activities of daily living, and lead to reductions in quality of life. High intensity resistance and impact training has been shown to result in improvements musculoskeletal health, but limited research has explored how this translates to broader health and wellbeing, or how feasible it is to implement within the community. Broadly, this study aims to examine the feasibility of such training in a community setting, as well as the impact that this form of training may have on rates of injurious falls, activities of daily living, neuromusculoskeletal function, and quality of life.

Project options include:

- How much 'impact' is impact training?
- Getting out of the gym: feasibility and outcomes of high intensity and impact training in community (non-gym) settings.
- Barriers and facilitators of high intensity impact training in older adults.
- Feasibility of play-based impact training?