

ESSA policy position

Role of exercise physiology in the safe use of GLP-1 medications

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Executive summary

The rapid uptake of GLP-1 receptor agonists and other pharmacological weight-loss medications represents a major shift in the management of obesity and metabolic disease in Australia and globally. These medications can produce clinically meaningful weight reduction in many individuals with obesity and related chronic conditions when used appropriately. However, treatment responses vary, and a proportion of patients may experience limited or no response to treatment. Pharmacological weight loss alone does not address the complex behavioural, metabolic, musculoskeletal and psychological determinants that underpin long-term health outcomes.

Significant weight loss, whether achieved through pharmacological treatment, dietary restriction or bariatric surgery, can be accompanied by substantial loss of lean body mass, alongside reduced strength and functional capacity. Current evidence suggests that approximately 15–40% of total weight lost during weight-reduction interventions may occur from lean tissue, including skeletal muscle, although the magnitude and composition of this loss can vary depending on the intervention and individual characteristics^{1,2}. Because skeletal muscle plays a critical role in metabolic regulation, strength and physical function, preservation of muscle mass during weight loss is increasingly recognised as an important clinical consideration.

While the long-term functional implications of pharmacologically assisted weight loss continue to be investigated, substantial reductions in skeletal muscle during rapid weight loss may have implications for physical capacity and metabolic health, particularly among older adults or individuals with chronic disease^{3,4}. In individuals with pre-existing low muscle mass or strength, rapid reductions in skeletal muscle may contribute to sarcopenia and increased frailty risk⁵, with potential consequences for mobility, independence and overall health outcomes. Structured exercise interventions can therefore play an important role in helping preserve muscle mass, strength and functional capacity during weight reduction.

With oral weight-loss medications expected to become available in Australia, access to and utilisation of these weight-management pharmacotherapies are likely to expand further across primary care and community settings. In some individuals, particularly older adults or those with chronic disease, rapid weight loss without structured exercise support may contribute to declines in strength and functional capacity, increasing the risk of early frailty and loss of independence.

Exercise & Sports Science Australia (ESSA) supports the use of weight-loss medications, when prescribed and managed under appropriate medical supervision, within a framework of comprehensive, multidisciplinary models of care that include clinical exercise physiology, behaviour change, and other supports.

Weight-loss medications are prescribed as part of the medical management of obesity and related chronic diseases, often in individuals with multimorbidity and complex medication regimens. Consistent with their therapeutic indication, these pharmacological treatments for



obesity should be used in conjunction with prescribed physical activity and dietary modification as part of chronic weight management. In this context, Accredited Exercise Physiologists (AEPs) play a critical clinical role in safeguarding patient outcomes by delivering clinically appropriate and individually prescribed exercise interventions that help maintain skeletal muscle mass and strength, support physical function, and promote long-term metabolic health while accounting for contraindications, comorbidities and medication-related risks, including polypharmacy and treatment-related physiological changes.

For individuals receiving pharmacological treatment for obesity, exercise should therefore be recognised as an essential clinical component of multidisciplinary clinical management rather than a lifestyle activity. It is well established that distinct exercise prescriptions have different physiological and health impacts in clinical populations, and that individuals may respond in unique and highly variable ways. In this context, personalised exercise testing, prescription and supervision should be undertaken by an appropriately qualified exercise professional, such as an AEP, to optimise changes in muscle mass and strength, and to maintain physical function and support long-term health.

Policy and regulatory frameworks should ensure that pharmacological weight management occurs within coordinated care pathways that integrate medical, nutritional and exercise expertise.

Background

Overweight and obesity represent significant public health challenges in Australia and internationally. Approximately two-thirds of Australian adults are classified as overweight or obese⁶, contributing substantially to the national burden of chronic disease and healthcare expenditure. Obesity is also estimated to cost the Australian economy more than \$60 billion annually through direct healthcare costs, reduced productivity and broader societal impacts⁶.

Obesity is a major risk factor for a wide range of chronic conditions, including^{6,8,9}:

- cardiovascular disease
- several types of cancer
- type 2 diabetes
- musculoskeletal disorders
- mental health conditions
- non-alcoholic fatty liver disease (NAFLD)

The development of modern obesity pharmacotherapies, including GLP-1 receptor agonists, has introduced a new pharmacological option for the treatment of obesity and metabolic disease. These medications act through multiple physiological mechanisms, including the regulation of appetite, satiety and glucose metabolism, enabling significant reductions in body weight for many patients. Recent evidence



suggests that many of the important benefits related to the prevention of adverse cardiovascular events (e.g. heart attack, stroke) may occur through mechanisms that are partly independent of weight loss.

As access to these medications expands, including through private prescribing and public subsidy arrangements under the Pharmaceutical Benefits Scheme (PBS), their use is likely to increase substantially across primary and specialist care settings. The anticipated introduction of oral weight-loss medications in Australia is also expected to further expand accessibility and uptake, potentially accelerating the use of pharmacological weight-management therapies across broader patient populations.

These medications are indicated as adjuncts to reduced-energy dietary intake and increased physical activity as part of chronic weight management⁷. Consistent with this indication, pharmacological therapy should be implemented alongside structured interventions rather than as a stand-alone treatment approach. Clinical evidence consistently demonstrates that sustainable improvements in metabolic health require integrated management strategies that include dietary modification, structured physical activity and ongoing clinical support⁸.

Importantly, pharmacologically induced weight loss may involve reductions in lean body mass as well as fat mass¹⁻³. Skeletal muscle is not only critical for strength, mobility and physical independence, but also plays a central role in metabolic and endocrine regulation. Muscle tissue is a primary site of glucose uptake and insulin sensitivity and functions as an endocrine organ through the release of myokines that influence metabolic health, inflammation and systemic energy balance. Loss of muscle mass during weight reduction can therefore have important consequences for metabolic regulation, physical function and long-term health outcomes. Equally importantly, loss of muscle function and strength (which may or may not be associated with changes in muscle mass) is strongly linked to the risk of sarcopenia, frailty and falls.

The optimal preventative health intervention in the context of overweight and obesity decreases fat mass, while maintaining or increasing lean (muscle) mass, enhancing physical function and decreasing chronic disease risk. Ensuring that loss of fat mass during pharmacotherapy occurs without excessive loss in muscle mass and function ensures that management translates into meaningful improvements in health.

Clinical care

The role of Accredited Exercise Physiologists in pharmacological obesity and weight management

Accredited Exercise Physiologists (AEPs) are university-qualified allied health professionals specialising in the prescription of exercise for individuals with chronic disease and complex health conditions. The use of weight-loss medications for obesity management represents a pharmacological intervention medically prescribed for individuals, often in the context of



multimorbidity including diabetes, cardiovascular disease, musculoskeletal disorders and mental health conditions.

AEPs are specifically trained to assess clinical risk, safely perform exercise testing in clinical populations, manage exercise prescription in the presence of chronic disease, identify and manage the impacts of comorbidities, drug interactions and polypharmacy that may impact exercise participation, adherence, function and adaptation. Within pharmacologically assisted weight loss, AEPs play a critical role in safeguarding patient outcomes by prescribing individualised exercise programs that are safe and optimise muscle mass, physical function and metabolic health, whilst also managing fatigue, strength, cardiovascular responses and treatment tolerance. Appropriate clinical exercise management may also reduce the risk of functional decline, musculoskeletal complications and cardiometabolic deterioration that can contribute to avoidable healthcare utilisation, including hospital presentations and long-term health system burden.

Integrating AEPs into pharmacotherapy-assisted weight-loss treatment pathways ensures that pharmacological weight loss occurs within clinically appropriate care frameworks and that weight reduction translates into meaningful improvements in health rather than weight loss alone.

Within the context of pharmacological weight management, AEPs play essential clinical roles, including:

- assessment of functional capacity and cardiometabolic risk
- prescription of tailored exercise programs to reduce the rate of loss of muscle mass and strength during weight loss
- monitoring of fatigue, strength, mobility and physical capacity
- prioritise safe exercise programs and monitor for changing risk factors
- modification of exercise interventions for individuals with chronic disease comorbidities, including musculoskeletal limitations (e.g. osteoarthritis or injuries of concern) and complex presentations
- supporting sustained behaviour change and long-term weight maintenance.

Given the physiological changes associated with pharmacologically assisted weight loss, clinical exercise prescription delivered by AEPs is an important safeguard for patient safety, functional independence, and for optimising long-term health outcomes.

Policy priorities

The expansion of pharmacological weight-loss therapies raises important policy and regulatory considerations. Health systems must ensure that innovation in pharmacotherapy is matched by appropriate clinical governance, multidisciplinary care pathways and safeguards that support



long-term health outcomes and enable these therapies to be implemented as intended within comprehensive models of care.

Key policy priorities include:

1. Integrate Accredited Exercise Physiologists (AEPs) within pharmacological obesity management pathways

Weight-loss medications should be prescribed within coordinated care models that include clinical exercise assessment and program planning. Individuals prescribed weight-loss medications should have concurrent access to AEPs as part of a multidisciplinary care team to support safe weight loss, preservation of muscle mass and functional capacity, and the sustainability of medication-assisted and lifestyle-based changes.

2. Recognise preservation of muscle mass and functional capacity as core clinical objectives of pharmacological weight management

Preserving lean body mass, muscle strength, mobility and functional capacity should be recognised as core clinical objectives during pharmacological weight management to avoid future risks of sarcopenia, frailty and falls.

3. Establish national clinical guidance and referral pathways for multidisciplinary pharmacological obesity management

Policy frameworks should encourage referral pathways to qualified allied health professionals, including AEPs, to support safe and effective treatment and reduce risks associated with pharmacologically assisted weight loss.

4. Align funding and health system incentives with integrated models of obesity care

Pharmacological treatment approaches should complement broader national strategies focused on physical activity, preventive health and chronic disease management. Funding and reimbursement mechanisms should support integrated care models rather than medication-only approaches.

5. Ensure consumers prescribed weight-loss medications receive clear clinical guidance

Consumers prescribed weight-loss medications should receive clear, evidence-based guidance from healthcare providers and dispensers regarding the importance of clinically supervised exercise, nutrition support and ongoing monitoring to support safe weight loss and preserve muscle and functional health. Consumers must be empowered to make informed choices. An understanding of risks, consequences, clinical care and self-management is critical to effective use of weight loss interventions.

6. Support long-term weight maintenance through structured exercise and lifestyle interventions

Policies should support structured exercise and lifestyle programs that help individuals maintain weight loss and metabolic health after pharmacotherapy is reduced



or discontinued. Exercise plays a critical role in preserving muscle mass, supporting metabolic regulation and preventing rebound weight regain, ensuring that treatment benefits are sustained over time.

Further research and data collection are required to understand the long-term physiological, psychological and functional impacts of pharmacological weight management.

Regulatory implications for Australian Health Policy

As the use of weight-loss pharmacotherapy for weight management expands, regulatory and funding frameworks must ensure that pharmacological treatment occurs within safe, coordinated multidisciplinary models of care. Weight-loss pharmacotherapy can produce significant physiological changes, including reductions in muscle mass and functional capacity if not actively and effectively managed.

Policy settings across the Pharmaceutical Benefits Advisory Committee (PBAC), Therapeutic Goods Administration (TGA) and Medicare should therefore support multidisciplinary care pathways that integrate medical oversight with clinical exercise physiology and other required supports. Embedding AEPs within treatment pathways will help safeguard patient outcomes, improve long-term treatment effectiveness, prevent relapse and ensure responsible and cost-effective use of health system resources.

Conclusion

Pharmacological treatments for obesity represent an important breakthrough in the treatment of obesity and related chronic and complex diseases. However, medication alone cannot address the complex drivers of chronic disease or ensure sustainable health outcomes. Weight reduction should not be the sole measure of treatment success. The optimal preventative health intervention in the context of overweight and obesity decreases fat mass, while maintaining or increasing lean muscle mass, enhancing physical function and decreasing chronic disease risk. Ensuring that loss of fat mass during pharmacotherapy occurs without excessive loss in muscle mass and function ensures that management translates into meaningful and sustainable improvements in health.

Embedding Accredited Exercise Physiologists within pharmacological weight-management pathways will ensure that advances in obesity pharmacotherapy translate into sustainable improvements in health, physical function and quality of life for Australians.

ESSA calls on policymakers, regulators and healthcare leaders to support multidisciplinary models of care that integrate pharmacotherapy with clinical exercise so that advances in obesity pharmacotherapy are matched by appropriate clinical safeguards and long-term health outcomes.



References

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