



The Role of an Exercise Physiologist and tailoring an exercise plan for wellness

Your Presenter is Mr Eric Morales
Your Facilitator is Ms Jen East

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Housekeeping



Thanks for joining us for this webinar – welcome!

You will be able to:

- hear the presenter
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- see the presenter

You do not need to have camera or microphone.

We cannot see you or hear you today, but our system tells us
that you are online.

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Control Panel



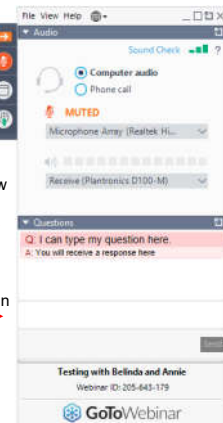
Control panel appears on the right of screen

Click to minimize or maximise →

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Handouts



Handouts have been sent separately.
This contains a copy of the slides presented today and possibly other relevant reading material depending on the topic

The webinar will be recorded and will be available on our website: www.ms.org.au via the Webinar library



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The Role of an Exercise Physiologist and tailoring an exercise plan for wellness

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Acknowledgement



We acknowledge and pay respect to the traditional custodians past and present on whose lands we meet today.

We acknowledge the deep feelings of attachment and the relationship of Aboriginal people to country and respect the cultural authority of the elders in each community.

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Introduction to Presenter



- Eric Morales has been an exercise physiologist at MS Lidcombe for 1 year.
- Completed bachelor of exercise and sport science degree and then went on to complete masters exercise physiology degree
- Interests: Enjoy staying active and on the move, passionate about exercise in my own life, but also as a way of assisting those with MS improve their function and outlook in life.
- He loves the positive and 'can do' attitude of all clients despite the many barriers clients with MS face.

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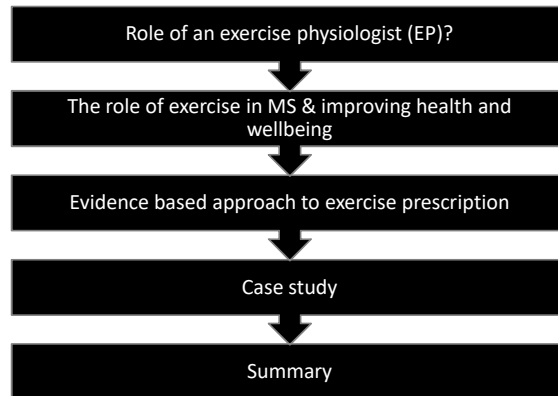


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OUTLINE



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The role of an Exercise Physiologist

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What is an Exercise Physiologist (EP)



An EP is an allied health professional equipped with the knowledge and skills to evaluate, design and deliver effective exercise interventions for a wide range of medical conditions, injuries and disabilities.

To gain accreditation as an EP:

- 4 years of university study
- 500 hours of clinical placement in a wide range of populations eg neurological, musculoskeletal, respiratory...

Exercise and Sport Science Australia (ESSA) are the peak professional body for EP's



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Exercise Physiologist and Physiotherapist relationship



Exercise Physiologist:

Knowledge, skills and competencies to design, deliver and evaluate safe and effective exercise interventions.

Interventions include exercise, physical activity education and support.

Physiotherapist:

Assessment, diagnosis, planning and management of patients case.

Interventions include massage, exercise, manipulation, assistive technology and education.

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Exercise Physiologist and Physiotherapist relationship



Important to acknowledge each professions skill set and utilise this within a multidisciplinary team, ultimately providing best patient care and outcomes.

At the MS clinic:

Exercise Physiologist:

Runs through individualised exercise programs in a group setting
Regular assessments focusing on program review
Modifies exercise program
Integral role in providing an uplifting environment

Physiotherapist:

Provides 1:1 physio assessments focusing on symptom management and assistive technology
Provides exercise program to EP team for all new clients

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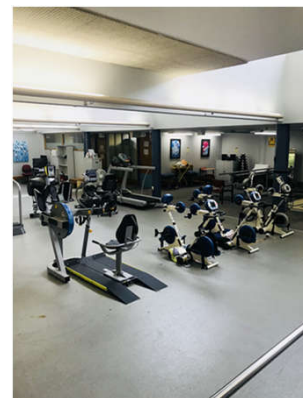
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EP role at the MS Clinic Lidcombe



Brief overview of MS clinic:

3 exercise physiologists, 150+ clients
Wide range of equipment to suit all clients goals
All exercise sessions are in a group setting, providing a vibrant, uplifting and positive environment



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Exercise Physiology & NDIS



Exercise Physiology services can be funded via one's NDIS plan under the categories:

- Improved Health and Wellbeing

OR

- Improved Daily Living



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Role of exercise in multiple sclerosis and general health and wellbeing



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"Regular physical activity is one of the most important things you can do for your health" - Centers for Disease Control and Prevention (CDC)

Role of exercise in general health and wellbeing

Exercise is medicine!
 MS is not the only health concern
 The risk of NOT exercising is too high,
 yet studies have consistently shown
 53-78% of people do not meet the
 recommended levels

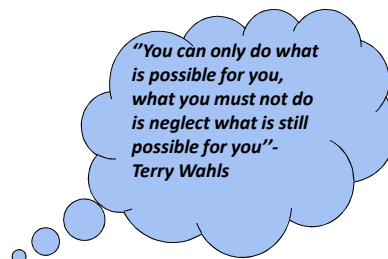
Rank	Cause of Death	Percent of Deaths
1	High Blood Pressure	12.8%
2	Tobacco Use	8.7%
3	High Blood Glucose	5.8%
4	Physical Inactivity	5.5%
5	Overweight & Obesity	4.8%
6	High Cholesterol	4.5%
7	Unsafe Sex	4.0%
8	Alcohol Use	3.8%
9	Childhood Underweight	3.8%
10	Indoor Smoke Solid Fuels	3.3%

Source: WHO

Role of exercise in general health and wellbeing

The double edged sword of exercise
 The benefits of exercise may include:

- Improved quality of life
- Reduced risk of metabolic syndrome, heart disease and stroke
- Improved psychological outlook
- Stronger bones and muscles
- Improved sleep
- Improved cognition and alertness

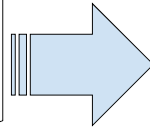


Role of exercise in MS symptom management



MS symptoms:

- Muscle weakness
- Spasticity
- Gait issues
- Decline in mobility
- Cognitive changes
- Fatigue
- Balance issues/falls
- Pain
- Psychological well being
- Speech and swallowing
- Heat sensitivity
- Bladder/bowel changes



- Symptoms depend on location of lesion on brain & spinal cord
- Exercise has been shown to benefit some MS symptoms

EXERCISE



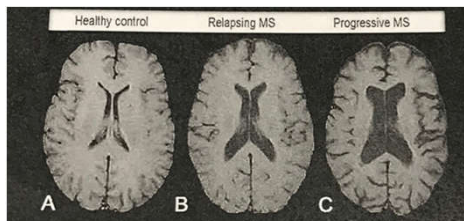
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Role of exercise in MS symptom management



Can't 'bank' exercise
MS leads to motor + cognitive changes...
Brain atrophy & MS



Jasperse et al., (2007)
Bergsland et al., (2018)
Dekker et al., (2019)

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Role of exercise in MS symptom management



Functional benefits:

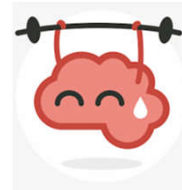
Strength, mobility, balance, cardiovascular fitness, psychological well being, bone density, secondary disease

Immunomodulation:

Anti-inflammatory

Brain health:

Neuroplasticity, neurological protection, neuroregeneration



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Evidence based approach to exercise prescription



Systematic review:

Summarises current research literature and provides a high level of evidence on the effectiveness of healthcare interventions

Bridging the gap:

There is a dire need to translate the results/findings into a clinical setting

Research findings + clinical reasoning = best practice and client outcomes



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Key findings from research



Systematic review conducted by Latimer-Cheung et al., (2013) concluded that exercise training 2x/week led to:

- Improved both aerobic capacity and muscular strength, ultimately leading to improvements in mobility, fatigue and quality of life

Systematic review conducted by Cruickshank et al., (2015) concluded that strength training in individuals with MS and parkinson's led to:

- Significant improvements in muscle strength (4.5-36%) and power (17.6%)
- Improvements in gait, mood, fatigue, disease progression, functional capacity, falls and quality of life

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Key findings from research



Cochrane review by Heine et al., (2015) reviewed the effect of exercise on fatigue in MS. Study concluded that:

- Significant effect on fatigue in favour of exercise intervention when compared to no exercise control.

Wens et al., (2014) studied the effect of 24 weeks resistance + endurance training on brain derived neurotrophic factor (BDNF) in MS:

- It was concluded that improvements in strength and aerobic fitness were evident but also increased in BDNF (crucial for brain health)

Alphonsus et al., (2019) conducted a systematic review on the effect of exercise in PwMS:

- Aerobic exercise was effective in physical, mental and social functioning
- Yoga and combination of exercises did not have a significant effect on QoL

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What can we conclude from the research?



Compelling evidence showing the benefit exercise can have in managing MS symptoms.....
Lack of high quality evidence (study design, outcome measures, type/intensity of modalities)
Exercise may ultimately lead to improved function, mobility and quality of life
Exercise did not lead to an increase in relapses or adverse events (Piatti et al., 2014)

What doesn't the research tell us ?

ENJOY IT !
Make it meaningful and specific to your needs



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Evidence based exercise prescription



Exercise is medicine
Resistance, stretching, aerobic and balance exercise form the core components of an exercise program
Supplementary components just as crucial....
WHY stretching, resistance, aerobic and balance ?



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Case Study- Lily

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Case Study- Lily



Client background: Lily is a 53 year old mother of two, diagnosed with relapsing remitting MS in 2001. Due to her current disability level, Lily has reduced her working days to 2x/week as an admin assistant. Lily is also very sedentary and mobilises using a walking aid.

Clinical presentation: Lily presents to the MS clinic quite eager to begin the EP exercise program. A lack of home support, social interaction and increased difficulty performing daily tasks were identified as having a huge toll on her psychological well being.

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Case Study- Lily



Identified issues:

1. Upper limb + lower limb muscular weakness, especially left lower limb weakness (MMT $\frac{3}{5}$)
2. Spasticity of L knee extensor
3. Poor static & dynamic balance (berg balance score of 35/56)
4. Gait impairments due to the above issues
5. Reduced grip strength (L:8kg, R:20kg)
6. Excessive fatigue
7. Psychological well-being

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1. Evaluate:

- Sedentary client who works 2x/week in a largely sedentary job
- Mobilises using a walking aid
- High level of motivation to commence regular exercise sessions
- External influences impacting clients overall health and wellbeing
- Physical + psychological issues identified...



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2. Design:

Identify main issues and extrapolate into the exercise program

Muscular weakness (UL + LL)	➔	Resistance training
Spasticity of L knee extensor	➔	PNF Stretching
Poor balance/falls risk	➔	Balance training
Gait dysfunction	➔	Gait training
Grip strength	➔	Dexterity/grip strength exercise
Psychological + social wellbeing	➔	Group exercise setting (?)

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3. Deliver:

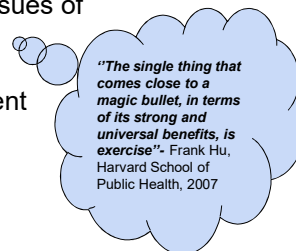
Individualised exercise program

Meaningful to clients goals & main complaints

Enjoyable!



1. Exercise is medicine!
2. EP's can play a significant role in symptom management and improving one's health and wellbeing
3. Exercise program should focus on core issues of clients MS symptoms
4. It's never too late to start moving!
5. You have the power to improve your current situation





Thank You for your time!

Questions?

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Questions



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1800 042 138

msconnect@ms.org.au

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Free E-books



Contact MS Connect to obtain login details
1800 042 138

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Peer Support Program



What is Peer Support?

The Program helps people with MS, their families and carers access practical and emotional support from people who also live with MS.

What is available?

- Face to Face support groups
- One to one telephone matching
- Telephone based groups
- Facebook for people with multiple sclerosis, carers & young carers.

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The National Disability Insurance Scheme



A major change to the way disability supports and services are funded and delivered

- Available to people who are: under 65, satisfy residency requirements and are able to demonstrate that their disability substantially affects daily living
- Promoting choice, control and social and economic participation
- Providing a whole-of-life approach
- It is not means tested
- Providing reasonable and necessary supports and services
- Ensuring equity of access

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We can help you to



- understand the eligibility requirements
- understand the pathways to access the NDIS
- prepare for a planning conversation
- understand your current supports and any unmet need
- develop your goals

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We are an NDIS 'Registered Provider'



MS is a registered NDIS provider in NSW, ACT, Vic and Tas. MS is approved to provide:

- Preplanning prior to your conversations (All areas)
- Support Coordination/Connection – assistance to help make your plan active (All areas)
- Short term accommodation (Vic)
- Community Participation (NSW)
- Exercise physiology and personal training (NSW)
- Specialist Continence Assessment (NSW and Vic)
- Physiotherapy and Occupational Therapy (NSW and Vic)
- Plan Management

Want to learn
more?
Please call
MS Connect
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My Aged Care



My Aged Care is an Australian Government initiative, website and phone line to help you find about aged care services.

Available to people who are 65 years of age and over.

Why Contact My Aged Care?

- ✓ Information
- ✓ Assistance in mapping out your needs
- ✓ An assessment for further supports

Phone: 1800 200 422 Free call Australia wide

Website: <https://www.myagedcare.gov.au>

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Thank you



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