PHYSICAL ACTIVITY CREATES ENERGY

Pace health management

Chronic Disease Management • Rehabilitation • Health & Wellbeing

A Healthy PACE

Movement is Medicine

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Welcome

Welcome to the latest edition of "A Healthy PACE". We strive to bring the very latest information on exercise and health, updates from our industry and the very best news from our wonderful community of clients.

Since the advent of COVID-19, community has become even more important to us, as the old saying goes – you don't know what you've got until it's gone? Well this saying couldn't be truer. Our lives and business were turned on its head, but of course in the interest of public health it was a step that had to be taken. Lockdown brought a raft of different challenges for everyone involved in PACE Health Management. Luckily for us, we introduced several new changes to our clinic that meant we could continue to connect with our community.

In this issue of our magazine we wanted to bring you a range of different information on how exercise can support your health whether you are at home, the office, a sports field or starting a journey of movement to support or manage a chronic condition.

We thank you for your continued support and are honoured to be here keeping our locals active, happier and healthier!

As always, if you'd like to hear more from us, there are a few ways you can stay in touch with us.

- You can visit our new website (www.pacehm.com.au) and sign up to our monthly e-news.
- You can follow us on Instagram and Facebook @pacehm.
- We hope you find something of value in this magazine, which can help you to lead an active life.

Happy reading, The PACE Team

PACE Baby News

We've been delighted to have two new PACE Community Members join! Welcome to the gorgeous Oak and Ivy!

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WORKPLACE HEALTH

Keeping Healthy at Work!

Gone are the days where we have a sole desk that we work from. Now, we are working from home, the office, and anywhere in between. Let's not forget offices that promote hotdesking! This continual change to our workspace means that we no longer have the ability to create 'perfect' desk ergonomics or we don't have easy access to people that can provide advice.

WILL YOU GET ONGOING PAIN FROM NOT HAVING THE 'PERFECT' DESK POSTURES?

The short answer is no but you may find that you experience more aches or become uncomfortable quicker than usual. When it comes to desk ergonomics there is no 'one size fits all' approach but there are guidelines to help. It is important to consider individual factors such as the type of work performed, past injuries, frequency of activities performed etc.

WHAT CAN YOU DO TO MANAGE YOUR DIFFERING DESK SETUPS?

Movement

"The best posture is the next posture." Movement is key to any healthy work setting. The latest research suggests that moving from sitting to standing at regular intervals helps to reduce episodes of lower back pain. However, what we don't know is how often this should be occurring...the research is still out on that topic. This is most likely the result of individual variation and everyone responding to situations differently to each other.

From a health perspective, we should be aiming to move for 100 seconds every 30 minutes. This has a positive impact on our metabolic health and is more effective than one bout of 30-minute exercise!

Moving frequently and changing position regularly helps to reduce sustained postures. This means altering from seated to standing workstations as well as incorporating "micro-break" exercises to help offset sustained positions of work.
This may include activities such as:

- Making calls while walking around the house
- Switching between sitting and standing every 30 - 60 minutes
- Completing 1-2 exercises every 60 minutes of work

SETTING YOURSELF UP

Generally speaking, all desks should be set up with a few key areas that are common across all scenarios whether it be standing, working from home, or sitting in the office. This also includes whether you are working on a desktop, laptop, or tablet. If you are setting up a standing desk, then the hip position doesn't matter as it would for seated setups.

EYES	Inline or looking slightly down at the top of the screen
HIPS	Hips higher than knees (90-120 degrees)
BACK	Neutral posture (erect posture)
SHOULDERS	In a relaxed position, minimise reaching forwards or sideways with arms (keep keyboard within 15cm of edge of desk and mouse close to key-board)
ELBOWS	Close by side, with a bend >90° when operating mouse and keyboard
WRISTS	In a relaxed and supported position
FEET	Flat on floor or footrest provided

DOES A LAPTOP NEED TO BE SET UP DIFFERENTLY?

Yes, the convenience of laptops has made it possible to work with far greater flexibility. That convenience comes at a price, which means that we often don't have an ideal setup for our laptops. Just think about how many times you have completed your work while on the couch in front of the tv!

For those using a laptop, inclining the surface of your laptop by 12-25% creates a more erect posture reducing the strain placed on your neck and brings the screen closer to you by 4.5-9cm making it easier to see, straining your eyes less. This can be achieved either by using a laptop stand or making one out of accessible objects at home such as a ringed binder.

It is important to ensure that you have the knowledge to set up your office space depending on where you are working. You might not have access to all the fancy, expensive ergonomic equipment but with knowledge and some creative thinking, you can adjust your setup to be ergonomically efficient, using everyday items or modifying the equipment you currently own.

If you need further advice, speak to a health professional specialising in ergonomics. A good health professional will be able to teach you all the necessary skills so that you can look after yourself for years to come.

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WORKPLACE HEALTH CHECKS WITH PACE HEALTH MANAGEMENT

WHO IS PACE OCCUPATIONAL HEALTH?

PACE Occupational Health exists to assist organisations in reducing the risk of workplace injuries and chronic disease, via the implementation of specific preventative intervention programs. We reduce the rates of workplace injuries and improve the health of your workforce via; assessment at an individual and organisational level, education and accountability and specific self-management strategies to empower your people to live their happiest & healthiest life.

WHAT ARE TEAM HEALTH CHECKS?

Team Health Checks are designed to provide participants with an overview of their current health and wellbeing. Participants leave with a report card of their scores, and an understanding of their risk factors for Type 2 Diabetes, Stroke & Cardiovascular Disease. Participants will develop a personal action plan, with specific strategies, to reduce their risk of chronic disease and allow them to live their happiest and healthiest life.

The Health Check Consultation involves a Lifestyle Questionnaire (Sleep, Stress, Fatigue, Nutrition, Physical Activity, etc) & Physical Assessment (Blood Pressure, Blood Glucose, Cholesterol, BMI, Waist: Hip Ratio) being completed, before a Health Coaching consultation. The Health Checks are being conducted by Accredited Exercise Physiologists.

If you would like to know more about PACE Occupational Health or our Team Health Checks - get in touch with the team at PACE today!

OUR TEAM OF ACCREDITED EXERCISE PHYSIOLOGISTS WORK ACROSS A WIDE SCOPE OF PRACTICE.

We exist to foster behaviour change to help develop long term sustainable outcomes and better facilitate self-management of your chronic disease or condition.

Keeping Active in the Workplace:

A KEY TO SUCCESS!

Ever been stuck in a confined office space whether it be at home or at the workplace and feel the need to stretch, move or just go for a walk? These could be signs that maybe you've been sitting for too long. Does your neck, upper back or shoulders ache at the end of the day? Has this been persisting for longer than a week?

Perhaps a regular structured mobility plan can be incorporated into your working day to help increase productivity without leaving your office environment!

We all know that regular exercise keeps you healthy, but regular exercise can also increase productivity in all aspects of your working life. Exercise has been shown to reduce stress, combat fatigue, improve performance and reduce annual workplace absences.

Exercise, a natural stress reducer, is a great tool to utilise for those who work in stressful environments. It can also improve your sleep quality, which in turn allows you to wake well rested and refreshed to conquer your day ahead.

Big companies like Nike and Google have scheduled exercise breaks and workplace gyms so their employees who spend a large amount of time at a desk are more active. The results of this change have been outstanding, with results showing a boost productivity and reduction in sick days.

The reason for this success can be explained on a more scientific level. Exercise excites the part of your brain known as the hippocampus. Not only does exercise moderate blood sugar levels and keep oxygen levels high, feeding the brain, it releases endorphins into the body giving your mood a boost. Low intensity exercise has shown to change the size and area of the brain involved in memory and learning.

> ***"Exercise, a natural stress reducer, is a great tool to utilise for those who work in stressful environments."***

When it comes to the topic of the greatest complaint by desk workers, it's always a pain in the neck! The human head weighs up to 5kgs and when leaning forward at a 45 degree angle (think about looking at your laptop) there is up to 23kgs of pressure on the cervical spine. Regular movement and or exercise to help keep the neck, shoulders and spine mobile has proven to reduce symptoms of stiffness and achiness.

So what exercise is best at improving workplace productivity and reducing overall discomfort of sedentary working behaviour?

Yoga, walking and low intensity aerobic exercises are the recommended options. Not to say other forms of exercises don't have benefits, but keep in mind the office environment is limited!

QUICK DESK POSTURE CHECKLIST

1	**Eyes**	In line or looking slightly down at the top of the monitor when sitting with good posture
2	**Hips**	Higher than knees (90-120 degrees)
3	**Back**	Neutral posture with chair adjusted to support the curve of your back
4	**Shoulders**	In a relaxed position, minimise reaching forwards or sideways with arms (keep keyboard within 15cm of edge of desk and mouse close to keyboard)
5	**Elbows**	Close by side, with a bend >90° when operating mouse and keyboard
6	**Wrists**	In a relaxed and supported position
7	**Feet**	Flat on floor or foot rest provided
8	**Vary Tasks**	100 second micro-movement break exercises every 30 minutes

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Breaking up your sitting time

The health risks of sedentary behaviour and your total sitting time throughout the day is becoming increasingly understood by health professionals. Research suggests that prolonged sitting may increase your risk for cardiovascular disease, metabolic diseases and overall health outcomes. These diseases are becoming increasingly prevalent in Australia, so what can we do to ensure we are not increasing our risks?

A recent study reported that one-hour increments of TV sitting time can increase your risk of cardiovascular disease mortality by 18%[1]. This is a concerning figure as statistics show Australians aged 75 and over sit down to watch TV for an average of 19 hours per week and working Australians spend 51 hours of their week sitting down. It's not all bad news, there are things we can do to significantly decrease these risks and improve our health!

Although physical activity has shown to offset some of the health risks of sitting, research shows that to maximise the reduction in these risks, you must aim to reduce your actual sitting time rather than just increasing your physical activity[2].

Therefore, it is important to include intermittent movement breaks when you find yourself sitting for long periods of time. Such times may include when we are sitting at our desks for work or study, watching TV and even our daily commute. There are currently no specific guidelines in relation to how often you need a break from sitting, however it is clear the more you break up your sitting time, the more your health will benefit.

THE SUMMARY OF RESEARCH:

- Sitting for 8 hours a day with regular breaks has a decreased risk of adverse health outcomes when compared to someone sitting for the same length of time with no breaks[3]
- A break can be as small as 30 seconds involving standing up and stretching
- Intermittent standing breaks have shown to decrease fatigue and musculoskeletal pain
- Standing without moving is classified as sedentary behaviour; you should include movement breaks even if you are using a standing desk
- Aside from your physical health, studies show that frequent breaks from sitting can boost your mood as well!

TIPS TO REDUCE YOUR SITTING TIME:

- Set an alarm every hour at work to move
- Stand up for a stretch during every TV commercial break
- Complete chores whilst watching TV - for example ironing and/or folding clothes
- Stand up when talking on the phone
- Stay standing when on public transport
- Meet a friend at a café and go for a walk rather than sitting down for a coffee

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Schizophrenia:

THE BENEFITS OF A CLINICAL EXERCISE INTERVENTION

Schizophrenia is a complex mental health disorder that can lead to a range of deficits in physical, mental, and social functioning (Suetani and Vancampfort, 2018). For those living with Schizophrenia, improvement in quality of life is thought to enhance a person's ability to cope with the disorder (Gorczynski and Faulkner, 2010).

Exercise has been shown to have the potential to help reduce the chance of death and morbidity (change of subsequent disease) gaps suffered by people with Schizophrenia (Suetani and Vancampfort, 2018). This point is critical, stating simply that those with Schizophrenia that take on ongoing exercise have a chance for meaningful improvement of both mental and physical improvements and even decreases the chance of death.

Those with the condition are more likely to move less than the general population, this means they are at greater risk of developing chronic medical conditions such as obesity and cardiovascular disease (Moore et al., 2015). This combined with the impact anti-psychotic medications have on weight management, creates multiple challenges.

With respect to mental health, exercise may support in reducing secondary symptoms of Schizophrenia such as depression, low self-esteem and social withdrawal (Gorczynski and Faulkner, 2010). These benefits enable a much greater quality of life.

Exercise for those with Schizophrenia clearly shows multiple health benefits, however, those with the condition often struggle to engage in exercise. This highlights the benefit of an exercise physiologist in providing ongoing support, guidance and motivation to ensure those with Schizophrenia complete the correct types and amounts of exercise for their individual needs and are able to enjoy the benefit, maximising their health both mentally and physically.

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A FOCUS ON

Multiple Sclerosis

PATIENT JOURNEYS WITH PACE HEALTH MANAGEMENT

Multiple sclerosis (MS) is a neurological condition within the central nervous system where nerve impulses within the brain, spinal cord and optic nerves are affected (demyelination). Due to this demyelination, symptoms of MS include muscle weakness, muscle spasm, pain, fatigue, vision disturbances, reduced mobility, bladder/bowel issues and cognitive impairments. MS is generally progressive in nature, but this rate of progression is different for everyone.

Exercise plays an important role in managing these levels of fatigue and pain and can assist to generally help mental health. Benefits of participating in regular exercise include improved muscular strength and endurance, mobility and cardiovascular function and bone mineral density. The role of exercise can help to manage general MS symptoms, decrease risk of secondary complications and improve overall quality of life.

There is also research to suggest that exercise may have the ability to slow down the rate of progression in MS patients!

MEET SUE BUGEJA:

"Hello, my name is Sue and I have MS and I was diagnosed 10 years ago. I have been attending PACE since June 2018 after receiving NDIS Funding. To say PACE has changed my life is nothing short of an understatement, as I am feeling stronger, fitter and more confident than ever since my MS diagnosis!

PACE has enabled me to lose weight, improve my balance, which is impaired due to MS, and feel healthier than ever. My MS certainly leaves me very fatigued but working out at PACE has assisted in controlling that tiredness and therefore adding more productivity to my daily routines.

My cognitive fog is still present, but exercising has seen a shift in that area. Spasticity in my legs and feet has also improved with continual exercise and movement.

One thing I have definitely learned through this MS journey, is that exercise and moving your body is fundamentally the most important ingredient in maintaining stability with MS. PACE is the perfect tool to achieve this in your life and the exercise physiologists are absolutely inspirational."

MEET DEANNA DUNLOP:

"My name is Deanna, I'm 30 years old and I have been living with Multiple Sclerosis for the last 13 years. Having such a debilitating illness with a magnitude of varying symptoms such as pain, fatigue, muscle cramps and weakness coupled with balance and coordination issues made staying fit and healthy a challenge.

Not exercising regularly also negatively impacted my mental health and fatigue levels. So last year I joined PACE and with the help of their exercise physiologist, I slowly started to build up my strength, endurance and confidence. I have regularly attended PACE, between one and three times a week for the last year and a half and have seen major improvements in my fitness levels, overall quality of life and mental health.

PACE has been great adapting to COVID-19 restrictions offering Telehealth and tailored online fitness programs to keep me engaged during social distancing. I would highly recommend the team at PACE Health Management and praise their continued care of my chronic illness."

Down Syndrome and Exercise

WHAT IS DOWN SYNDROME?

Down Syndrome also known as Trisomy 21 is the most common chromosomal disorder, with the cause unknown. Down Syndrome is characterised by an extra chromosome 21, bringing the total number of chromosomes to 47. Due to the extra chromosome there causes delays in physical and intellectual development which affects their everyday life.

Like most conditions there is not one presentation that depicts individuals living with Down Syndrome, rather there are varying effects ranging from mild to severe with every individual presentation differently.

Common physiological characteristics:

- Reduced aerobic capacity
- Reduced bone mineral density
- Reduced muscular strength, agility and balance
- Increased body mass index
- Muscle hypotonia, hypermobility and joint laxity (increased flexibility in muscles and joints)
- Overweight or obesity
- Associated comorbidities (Type 2 diabetes, Cardiovascular complications, thyroid issues, osteoporosis etc.)

HOW ACCREDITED EXERCISE PHYSIOLOGISTS CAN HELP?

Exercise has proven to be beneficial amongst individuals with Down Syndrome. This is because research has shown, as individuals age, there is a reduction in activity levels resulting in a reduction in overall health and quality of life.

Exercise benefits include:

- Improve independence
- Improve self-esteem, confidence and quality of life
- Improve muscular strength and endurance to assist in performing activities of daily living (walking up and down stairs, rising from a chair etc)
- Improve function and efficiency of the heart
- Improve overall cardiovascular and respiratory fitness
- Weight management

Exercise Physiologists have the understanding and knowledge that allows individuals living with Down Syndrome to exercise confidently, safely and most importantly, enjoyable. The team at PACE are ready to support you!

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WE EXIST TO HELP YOU

CREATE YOUR HAPPIEST & HEALTHIEST VERSION OF YOURSELF...

We appreciate that every body is different, and each client presents with individual goals and circumstances.

We aim to get a clear picture of where you are now (Point A), and where you want to be (Point B) in the fastest, and most efficient way.

Osteoporosis and exercise

WHAT IS OSTEOPOROSIS?

Affecting over 1 million Australians, osteoporosis is a chronic condition that results in a loss of bone minerals, size and density (Osteoporosis Australia Medical & Scientific Advisory Committee, 2014). The World Health Organisation (WHO, 2020) characterises osteoporosis by low bone mass and micro-architectural deterioration of bone tissue, leading to bone fragility.

> ***"There is a greater risk for women to develop osteoporosis due to the rapid reduction in oestrogen levels during menopause"***

What does all this mean? If you are osteoporotic you may be at a risk of bone fracture, that is a complete or partial break in the bone. If you fall into this category or are curious on what you can do to reduce risk, then keep reading. If you are not, keep reading as you may be one of the 6.3 million Australians with low bone density and not even know it!

WHAT CAUSES OSTEOPOROSIS AND WHAT ARE THE RISK FACTORS?

Family history and a tendency to lose bone density as we age are the primary causes of osteoporosis. Gradual bone loss begins around early middle age. There is a greater risk for women to develop osteoporosis due to the rapid reduction in oestrogen levels during menopause - a reduction in oestrogen will lead to bone mineral loss. So, ladies pay special attention!

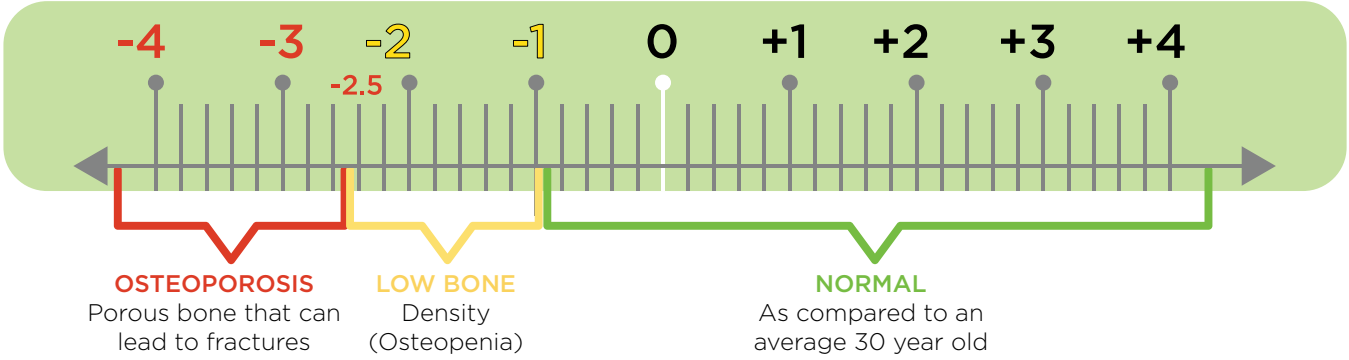
It is possible that some people may be predisposed to developing osteoporosis or experiencing a bone fracture due to the following risk factors:

1. Family history
2. Calcium and vitamin D levels
3. Medical conditions that can impact bone health
4. Lifestyle factors such as weight, alcohol intake, smoking etc.

HOW IS OSTEOPOROSIS DIAGNOSED?

The standard method to diagnose osteoporosis is a bone density scan through the use of a dual-energy x-ray absorptiometry (DEXA or DXA). This scan usually provides a T-score of the hip and spine. A T-score indicates an individual's bone mass compared to a database and will determine your bone health range. It only takes 10-15 minutes so if you are unsure, speak to your local doctor.

A bone mineral density (BMD) T-score that falls between -1.0 and-2.5 SD is classified as osteopenia (low bone mass) and a BMD <-2.5 is classified as osteoporosis (Beck, Daly, Singh & Taaffe, 2017).



WHY SHOULD I CONSIDER EXERCISE?

But how will exercise change my bone structure you might ask?

Your bone is a dynamic tissue and has the ability to adapt and protect itself from damage. Exercise as a stimulus will allow for bone strength development. This is because an increase in load can alter bone density, shape size and the future ability for the bone to bend. So yes, exercise is a form of medicine! Although just like medicine some time the dose needs to be changed. Without a change in load or dose development will plateau. Therefore, it is important to vary loads and modes of exercise (Exercise is Medicine Australia, n.d.).

WHAT TYPE OF EXERCISE IS BEST SUITED FOR OSTEOPOROSIS AND HOW MUCH SHOULD I DO?

Your program should include high intensity progressive resistance training, moderate to high impact weight bearing activities, as well as balance training (Beck, Daly, Singh & Taaffe, 2017).

Keep in mind that when incorporating balance training into your program the goal is to improve lower extremity neuromuscular function and help with falls prevention, it is unlikely to change bone mass. (Exercise is Medicine Australia, n.d.). A program can be designed by an exercise physiologist so that your exercise is individualised to your needs.

MODE OF EXERCISE	INTENSITY	VOLUME	FREQUENCY	EXERCISE EXAMPLES
Progressive resistance training (PRT)	High to very high (80-85% 1RM, ≥16 on Borg, 6–20 point RPE scale.	2-3 sets of 8 repetitions including 8 exercises	2-3 days a week	Barbell exercises: Deadlift, squat, bridge cable exercises: push and pull free weight exercises: push and pull
Impact training	**Low risk osteoporosis:** High impact (>4x body weight) **Moderate risk osteoporosis:** Moderate-to-high impact activities (>2 body weight) **High risk osteoporosis:** Moderate impact activities (2-3 x body weight), within the limits of pain, increasing as tolerated. Frail individuals will require a period of PRT to develop adequate strength to perform some impact activities.	**Low and moderate risk osteoporosis:** 50 jumps per session (3–5 sets of 10–20 repetitions with 1–2 min rest between sets **High risk osteoporosis:** Aim to work up to 50 repetitions over time (5 sets of 10 repetitions with 1–2 min rest between sets). Frail individuals should be supervised and exercise within reach of a railing or other stable support	**All levels of risk:** 4-7 days a week	Vertical and multidirectional jumping, bounding, hopping, skipping rope, drop jumps and bench stepping.
Balance training	With stable support if required otherwise without.	2 hours' worth of balance exercise a week.	2 hours split across 7 days. Eg: approx. 15-20mins per day.	Tai chi, line and ballroom dancing, heel-to-toe walking on foam mats raising the arms above the head, stepping sideways over objects, walking on tip toe and dual tasking (e.g. standing in tandem stance and catching a ball or saying the alphabet backwards).

TABLE 1: (BECK, DALY, SINGH & TAAFFE, 2017)

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MOVEMENT TO SUPPORT

Intellectual and Developmental Disabilities

Intellectual and developmental disabilities include a range of different disorders, which are generally characterised by limitations in intellectual function and adaptive behaviours. Those diagnosed with an intellectual or developmental disability have an increased risk of developing secondary health conditions, which are often associated with sedentary behaviours.

In saying this, exercise can play a protective role in reducing secondary health risks such as heart disease, type 2 diabetes, osteoporosis, depression, and obesity. Benefits of exercise include improved physical health, intellectual functioning, behaviour, self-confidence and improves mental health and wellbeing.

We also see that exercise helps to improve motor control patterns, balance and coordination skills. Participation is physical activity promotes the development of social skills, encourages independence improves sleep, concentration, academic performance, self-esteem and helps to maintain a healthy body weight.

MEET CATHERINE BONTORNO:

"Hi, my name is Catherine and I started attending PACE in 2018 to help with my Cerebral Palsy and intellectual delay. My mum did her research and chose for me to do it at PACE and I am very happy that she did!

I have weekly enjoyable 45 minute one on one sessions with Sinead who works me very hard but is lovely and caring. I have got a lot of benefits from following her programs, including; increased walking capacity with less pain, feeling fitter and more energetic experiencing less fatigue from exercise.

This has increased my motivation to do my programs because Sinead keeps them interesting and gives me heaps of encouragement. Because I am consistent with my exercises, I have become a lot stronger, particularly on my right side. This helps me in my day to day life to function better, bending to pick things up and working.

Over time my balance and coordination have significantly improved, which has not only improved my confidence but has decreased any trips or falls I may have. Without so much pain, I am happier and able to think more clearly as well as needing less osteopathic support from Allied Health Providers. Exercise Physiology has allowed me to have so much more confidence in my everyday life.

The NDIS has been a great help in supporting me to attend PACE. It supports me in reaching my skills of independence by allowing a support worker to attend sessions with myself. This means my mum does not have to take time off work to help me. Because my support worker is familiar with my exercises, she is also able to supervise and encourage me doing the in-home exercise program that Sinead has given me to do."

HOW EXERCISE CAN SUPPORT THE MANAGEMENT OF Autism Spectrum Disorder (ASD)

Autism Spectrum Disorder (ASD) refers to a variety of cognitive and neurobehavioural disorders, typically involving deficiencies in three areas: social interaction, communication skills and motor performance with presence of repetitive patterns of behaviour (e.g. hand flapping, body rocking, repetitive finger movements, non-contextual repeated vocalisations).

These symptoms can interfere with physical, social and psychological health, leading to reduced participation in daily activities, increased sedentary activity and greater risk of associated conditions including heart disease, diabetes and weight gain.

> ***"research has shown that vigorous types of exercises have a greater effect for reducing stereotypical behaviours, hyperactivity, aggression and self-injury."***

Research has shown that exercise is an effective therapeutic intervention with those with ASD, with the following benefits:

- Reducing stereotypic behaviours
- Improved verbal and nonverbal communication skills
- Improved academic engagement
- Improving cardiovascular fitness
- Improve strength, balance, flexibility

Physical activity programs for children and adolescents with ASD should involve a combination of:

- Aerobic (such as walking, running, cycling, swimming, exergames)
- Resistance (such as calisthenics, sport specific movements, body weight, free weight and TheraBand exercises) and
- Flexibility and neuromuscular exercises (stretching, therapeutic horseback riding, yoga, tai chi).

It is recommended that all activity be gradually progressed in their frequency, duration and intensity. However, research has shown that vigorous types of exercises have a greater effect for reducing stereotypical behaviours, hyperactivity, aggression and self-injury.

It is important to remember that the characteristics of ASD can vary greatly between individuals and therefore will have a different therapy and exercise needs. However, when implemented appropriately, exercise can have profound benefits for those living with ASD. An Accredited Exercise Physiologist can assist by prescribing a suitable and tailored exercise plan to increase physical activity, reduce sedentary activity and adopt healthy living behaviours!

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ACCREDITED EXERCISE PHYSIOLOGISTS

work across a wide scope of practice, including musculo-skeletal rehabilitation, chronic disease management, health & wellbeing, disability, occupational health and athletic development. The role of an Accredited Exercise Physiologist is to help empower you to reach your goal (health, rehabilitation, performance) via the development of self-management strategies, best practice exercise prescription, education and behaviour change.

EXERCISE PHYSIOLOGY FOR Cerebral Palsy (CP)

Cerebral Palsy refers to a group of childhood-onset neurological disorders that occur from damage to the brain, either during fetal development, or during/ shortly after birth. Cerebral Palsy presents as a motor disorder, with problems in producing, controlling or preventing movement, however symptoms will vary depending on the type of Cerebral Palsy and the site of brain damage.

Cerebral Palsy often results in walking and movement difficulty, tight and stiff muscles (spasticity), tremor, seizures, impaired hearing, vision and speech, and intellectual disability. While there is no cure for Cerebral Palsy, there are a range of treatments available to assist in managing the associated disabilities, increasing independence and quality of life. While antiepileptic and antispastic medications, and orthopaedic surgery, are cornerstones of Cerebral Palsy treatment, exercise is also an effective treatment modality.

Research has shown that individuals with Cerebral Palsy have reduced aerobic capacity, muscular strength and endurance compared to individuals without Cerebral Palsy. These findings are suggested to occur due to a number of factors including reduced muscle volume, mechanical inefficiency (due to spasticity, involuntary movements and impaired coordination) and increased energy demand of locomotion. Exercise interventions for individuals with Cerebral Palsy commonly encompass strength, power, flexibility and cardiovascular training, and are able to produce significant results in all these areas.

Specifically, exercise interventions have been found to:

- Increase peak aerobic capacity and cardiovascular fitness
- Improve mobility and ambulation skills, specifically increase walking capacity, walking velocity and dynamic balance
- Improve muscular strength, with no detriment to spasticity during or after training (sometimes spasticity can even be improved!)
- Increase flexibility and joint range of motion
- Reduce blood lipid levels
- Body weight maintenance
- Improve health related quality of life

Importantly, longer-duration interventions appear to be associated with increased improvements.

Exercise Physiologists play an important role in developing exercise interventions for individuals with Cerebral Palsy, as there are numerous factors to consider in the development of a safe and effective exercise program. Factors such as medication use and timing, location of spastic muscles, fatigue levels and the need to assistive equipment such as wraps and straps, will be considered by an exercise physiologist in the development of a safe exercise intervention. Get in touch with the team at PACE today to see if we can support you.

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EXERCISING YOUR WAY TO

Better Mental Health

Mental health is becoming increasingly prevalent in our country with 1 in 5 of us experiencing a mental health disorder every 12 months. This includes 1 million Australians living with depression and as many as 2 million coping with anxiety right now. With the introduction of COVID-19, these numbers are likely to rise which makes it important to check-in with others and our own mental health. The good news is that there is increasing research in this field that can assist people with these health conditions!

HOW CAN EXERCISE HELP?

> *"1 million Australians living with depression and as many as 2 million coping with anxiety right now"*

The benefits of exercise on your physical health is well understood, however physical activity can also benefit our mental health!

Research has shown that physical activity can boost your mood and reduce anxiety symptoms in those with anxiety disorders. This is also seen in those with depression in which exercise has an antidepressant effect. Studies also show that active individuals have a decreased risk of developing mental health disorders in the future.

Physical activity has also shown to have a positive effect in those with other mental health disorders such as Schizophrenia and Alzheimer's. Being active can improve cognitive function and mitigate side effects of medication such as weight gain in those with schizophrenia. In those with Alzheimer's, physical activity has shown to delay the progression of this disease and maintain physical independence.

HOW DOES EXERCISE IMPROVE OUR MOOD?

When our bodies are exercising, our brain signals for the release of endorphins which increase our feeling of well-being. These chemicals can assist in improving mood, reducing stress, boosting our energy levels and much more. Research has even shown that it can have the same effect as antidepressants, if not better!

Many reports that exercise increases their self confidence and gives them a higher sense of control.

WHAT EXERCISE IS BEST FOR MENTAL HEALTH?

Many studies show that at least 20 minutes of aerobic exercise can have an immediate effect at reducing anxiety and depressive symptoms. Participating in this activity up to five times a week can allow for a continual reduction in anxiety and depressive symptoms.

Aerobic exercise includes activities that increase your heart and breathing rate, this can include walking or running. Similar results are seen in those that participate in resistance training or alternative exercise modes such as tai chi or yoga.

We recommend finding something that you enjoy!

WHERE DO I BEGIN?

- Start with something realistic for you. Even if that means a five minute walk a few times a week and build up from there.
- Try to set a time specifically for 'you time' and plan what you are going to do ahead.
- If time is a concern, include some incidental exercise throughout your day. For example, getting off the bus a stop early, or parking one block away from your workplace.
- Make a commitment to a family member or friend to exercise together if this means you will enjoy it more.

The main point to understand is that exercise can play a key role in reducing your mental health symptoms and can even prevent it occurring in the first place.

Accredited Exercise Physiologists are trained experts in prescribing the right amount and types of exercise, so please talk to one of the friendly staff at PACE Health Management for a confidential chat about how we can support you.

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INTRODUCING THE

Life! Program

The Life! Program is a government funded Lifestyle Modification Program (LMP), which aims to decrease the risk of Type 2 Diabetes, Heart Disease & Stroke. The program was launched in 2007 and is the biggest prevention program of its type in Australia. Since 2007, over 80,000 Australians have conducted an AUSDRisk Test (Australian Type 2 Diabetes Risk Assessment) and over 54,000 participants have completed the program.

280 Australians develop Type 2 Diabetes every day, with an estimated 1.7million Australians currently diagnosed and a further 2 million at high risk. Type 2 Diabetes increases the risk of co- morbidities such as heart disease and stroke by 200-400%, and has an estimated cost of $14.6 Billion to the Australian economy, including health care costs, sick days, etc.

Research has shown that healthy employees are nearly three times more productive than their unhealthy counterparts and that the chances of achieving a healthy workplace are significantly increased when an organisational approach is taken.

The Life! Program has the below goals for each participant;

- Decrease Total Fat Intake
- Decrease Trans & Saturated Fat Intake
- Decrease Sodium Intake
- Increase Fibre Intake
- Increase Physical Activity Levels
- Decrease Weight

Life! Program Facilitators are Allied Health professionals, who have completed program training with Diabetes Australia - Victoria to deliver this standardised program. Achievements are made via facilitating behaviour change and health coaching.

People who completed the 6-month Life! Program made significant improvements to their;

- Healthy eating behaviours (Over 70% achieved fat and fibre intake goal)
- Physical activity levels (Average increase of 10-15 minutes per day/ over an hour per week)
- Body Mass index (BMI) and Weight (Average weight loss of 2-3kg)
- Waist Circumference (Average reduction of 2-4cm)
- Type 2 Diabetes Risk Reduction of 25-43%

Further information can be found at www.lifeprogram.org.au or www.pacehm.com.au/life-program

KEEPING OUR KIDS Active

Physical activity and exercise are an important contributing factor to maintaining a healthy lifestyle and reducing the risk of chronic disease. Developing healthy exercise habits is crucial for children as physical activity has many health benefits including:

- Improved cardiorespiratory fitness, muscle and bone strength.
- Improved motor development, balance, coordination and reflexes.
- Reduced risk of developing lifelong chronic diseases, including cardiovascular disease, cancer and type 2 diabetes.
- Improved social and emotional well-being, including improved confidence and concentration, reduced anti-social behaviours.
- Improved anxiety and depressive symptoms.

The National Physical Activity Guidelines recommend that children aged 2-5 engage in at least 180-minutes of physical activity per day, while children aged 5-17 engage in at least 60-minutes of physical activity per day and engage in muscle strengthening activities 3 times per week.

The most recent data from the Australian Institute of Health and Welfare indicates that only 30% of children aged 2-17 met these physical activity guidelines, with the percentage of children meeting these guidelines reducing as age increases.

HOW CAN YOU GET YOUR KIDS MORE ACTIVE?

- Choose activities that are fun!
- Get the whole family involved (pets too!)
- Try new things! Variety can prevent boredom and increase engagement
- Be a role model! Show your children why physical activity is important and how fun it can be
- Keep exercise positive! Don't use exercise as a punishment - offer praise and encouragement
- Be patient and find the right activity. Some children won't be interested in some of the activities below, however, stay patient and be adventurous with trying new activities.

PACE'S FAVOURITE KIDS ACTIVITIES

- **Active Transport:** instead of driving to school or the shops, take an active approach such as walking, riding your bike, skating or rollerblading. Take the stairs instead of the lift or escalator.
- **Social and Competitive Sports:** There are a multitude of team and individual sports available to try! Speak to your local sporting clubs to decide which sports are right for your kids.
- **Home Based Exercise Programs:** Home exercise programs can be a great way to keeping kids active without needing to leave the house. There are many strength exercises that need no equipment – including squats, push-ups and lunges. You can also use household items such as water bottles and bags of rice as weights to make exercises even harder. You can also include things like dancing, obstacle courses and games such as tiggy and follow the leader.
- **Family Time:** Instead of watching TV or a movie, try an activity - playing active games, visiting the local park or oval, or taking the dog for a walk.

If you need more support in getting your kids active, PACE has dedicated programs for youngsters so get in touch!

GOING FOR GOLD

Support our Junior Athletes

Our role as Accredited Exercise Physiologists is to help people move better, feel better and perform better. This simple goal summarises the work we put into each and every client, whether they are seeing us for rehabilitation, health, fitness or performance goals. Junior athletes present us with a unique opportunity to teach good movement patterns at a developmental age as they have the ability to learn new skills or movement patterns at a rapid rate. Not only does this decrease injury risk in the short term, but lays the movement foundations for success later in life. Once an athlete has developed competent movement patterns, they can then load these same patterns via resistance training in adolescent years and beyond.

SO WHAT IS A JUNIOR ATHLETE?

Put simply, a junior athlete is anyone from 8-16 years of age who is regularly participating or competing in one or multiple sports at any level. It's important to note that there are many stages of development that occur across this age range, and as a result the specific advice varies, this article will cover general advice which is suitable for all junior athletes. Additionally, the key movement competencies discussed in this article apply to athletic development at every level, so would be suitable to implement for a 17-30+ year old who is commencing a training program with no background in Strength & Conditioning.

Developing competent movement patterns as a skill is more important for long term injury reduction & performance optimisation than strength development alone, we term this "***Learning before Loading***".

SO, WHAT ARE THESE KEY MOVEMENT PATTERNS?

Development of the below key movement competencies in junior athletes helps to decrease risk of both acute and overuse injury. These movements should be viewed as a skill, which need to be learned, as opposed to an exercise to simply get stronger or fitter. An example of this is the ability to land on a single leg with good control, which significantly

reduces the risk of knee and ankle injuries. The best way to improve this is via skill acquisition, i.e. Practice makes Perfect.

The below outlines a few key movement patterns, which we believe every junior athlete should develop. Whilst there are other important areas of development, these fundamentals are seen across the majority of programs. Additionally, these can be easily implemented at home or your local junior sports club.

MOVEMENT PATTERNS

Squat
- Feet slightly wider than hips
- Hands in front/ keep chest up
- Sit hips down & back
- Maintain knee alignment with middle toes
- Strong movement on way up

Jump & Land
- Hands up, tall posture
- Hands down, sit into squat, keep chest high
- Explode Up, using arm swing to produce force
- Land on toes, bending hips & knees to absorb force
- Practice sticking the landing/pause at bottom

Single Leg Jump & Land
- As above
- Place additional focus on maintaining knee alignment with middle toe

Single Leg Hip Hinge
- Single leg with soft bend in knee
- Broomstick along back
- Hinge forward on hip
- Maintain broomstick contact on head, spine & hips
- Maintain knee alignment with middle toe

TO FIND OUT MORE SPECIFIC STRATEGIES TO IMPLEMENT A JUNIOR ATHLETE DEVELOPMENT PROGRAM OR TO ARRANGE A FREE WORKSHOP FOR YOUR SPORTING CLUB, PLEASE CONTACT US ON INFO@PACEHM.COM.AU OR 9770 6770.

WHY FORREST GUMP HAD IT RIGHT

Just Keep on Running!

Walking and running are great ways to stay fit, get outdoors and socialise especially during the current pandemic! If you're new to running or itching to get back into it, the below programs are an idea of how to achieve goal distances of 5, 10 and 21km.

If you would like some more specific individualised advice our team at PACE Health Management are equipped with the knowledge, tools and strategies that can take you from the couch to 5km or longer!

Remember to listen to your body, be kind to yourself (especially if you're just starting to get back into running again) and quality always outweighs quantity!

Also, the great news is there are many benefits associated with both walking and running such as:

- Increased cardiovascular fitness
- Weight management
- Reduced risk of chronic disease
- Management of chronic diseases (e.g. cardiovascular disease, type 2 diabetes, hypertension etc.)
- Socialisation
- Improves mood
- Builds self-esteem/confidence
- Reduces stress and improved mental wellbeing
- Improved sleep quality

BEGINNER COUCH TO 5KM RUN

WEEK	SESSION 1	SESSION 2	SESSION 3
Week 1	Walk 15min	Walk 20min	Walk 25min
Week 2	Walk 90sec, Run 30sec, alternating for 15min	Walk 30min	Walk 60sec, Run 30sec, alternating for 15min
Week 3	Walk 90sec, Run 60sec, alternating for 20min	Walk 10min, Run 5min, Walk 10min	Walk 90sec, Run 60sec, alternating for 20min
Week 4	Walk 2min, Run 90sec, alternating for 20min	Walk 9min, Run 6min, Walk 9min	Walk 2min, Run 90sec, alternating for 20min
Week 5	Run 90sec, Walk 90sec, Run 3min, Walk 3min	Walk 8min, Run 7min, Walk 8min	Run 90sec, Walk 90sec, Run 3min, Walk 3min
Week 6	Run 3min, Walk 90sec, Run 5min, Walk 3min, Run 3min, Walk 90sec, Run 5min	Walk 7min, Run 8min, Walk 7min	Run 3min, Walk 90sec, Run 5min, Walk 3min, Run 3min, Walk 90sec, Run 5min
Week 7	Run 5min, Walk 3min Repeat 3 times	Walk 6min, Run 9min, Walk 6min	Run 15min
Week 8	Run 5min, Walk 3min, Run 8min, Walk 3min, Run 5min	Walk 5min, Run 10min, Walk 5min, Run 5min	Run 15min
Week 9	Run 5min, Walk 3min, Run 8min, Walk 3min, Run 5min	Walk 5min, Run 15min, Walk 5min, Run 10min	Run 20min
Week 10	Run 10min, Walk 3min, Run 10min, Walk 3min	Run 20min	Run 22min
Week 11	Run 10min, Walk 3min, Run 10min, Walk 3min	Run 25min	Run 28min
Week 12	Run 10min, Walk 3min, Repeat 3 times	Run 30min	Run 30min

DISTANCE KEY (AIM FOR THIS DISTANCE IN THE TIME GIVEN)

TIME	DISTANCE
90 seconds	200 metres
3 minutes	400 metres
5 minutes	800 metres
8 minutes	1.2 kilometres
20 minutes	3.2-3.5 kilometres
25 minutes	3.8-4 kilometres
30 minutes	5 kilometres

INTERMEDIATE 10KM RUN

WEEK	SESSION 1	SESSION 2	SESSION 3
Week 1	Run 3km	Jog 10min, Run 3x 1.5km with 5min Recovery Walk Between	Run 5km
Week 2	Run 3.5km	Jog 5min, Run Hard 8min, Jog 2min, Run Hard 5min, Repeat 3 Times	Run 6km
Week 3	Run 4km	Jog 10min, Run 3x 1.5km with 5min Recovery Walk Between	Run 7km
Week 4	Run 4.5km	Jog 5min, Run Hard 8min, Jog 2min, Run Hard 5min, Repeat 4 Times	Run 7km
Week 5	Run 5km	Jog 5min, Run Hard 5min x8	Run 8km
Week 6	Run 5.5km	Run 3km, Jog 500m x3	Run 8km
Week 7	Run 6km	Jog 5min, Run Hard 5min x10	Run 8km
Week 8	Run 6.5km	Run 3km, Jog 500m x4	Run 9km
Week 9	Run 7km	Jog 5min, Run Hard 5min x10	Run 9km
Week 10	Run 7.5km	Run Hard 5km, Walk/Jog 5min, Run Hard 5km	Run 9km
Week 11	Run 8km	Light Session Jog 5km	Run 10km
Week 12	Run 8.5km	Light Session Jog 5km	Run 10km

ADVANCED HALF MARATHON (21KM)

WEEK	SESSION 1	SESSION 2	SESSION 3
Week 1	Run 5km Moderate Pace	Run 3km Fast Pace	Run 8km Easy Pace
Week 2	Run 6km Moderate Pace	Run 4km Fast Pace	Run 8km Easy Pace
Week 3	Run 7km Moderate Pace	Run 5km Fast Pace	Run 10km Easy Pace
Week 4	Run 8km Moderate Pace	Jog 5min, Run Hard 5min x8	Long Run 12km
Week 5	Run 9km Moderate Pace	Run 5km, Jog 500m x3	Long Run 15km
Week 6	Run 10km Moderate Pace	Jog 5min, Run Hard 5min x10	Long Run 15km
Week 7	Run 11km Moderate Pace	Run 7km, Jog 500m x2	Long Run 15km
Week 8	Run 12km Moderate Pace	Jog 5min, Run Hard 10min x10	Long Run 16km
Week 9	Run 13km Moderate Pace	Run Hard 8km, Walk/Jog 5min, Run Hard 8km	Long Run 17km
Week 10	Run 14km Moderate Pace	Run 7km, Walk 5min x3	Long Run 19km
Week 11	Run 15km Moderate Pace	Light Session Jog 10km	Long Run 20km
Week 12	Run 16km Moderate Pace	Light Session Jog 10km	Long Run 21km

TOP 5 TIPS FOR RUNNING SUCCESS

1. Begin with a warmup walk for 3-5 minutes before every session along with a few stretches to get your body moving and prevent injury.
2. Important to include 1-2 strength-based sessions per week focusing on core, glute and lower limb strength to prevent injury.
3. Scheduling is key, make a plan and stick to it; it's easy to put your session off when you get busy.
4. Find yourself a running buddy to keep you accountable and to have fun with – in the current climate you could download Strava or another running app that allows you to see your friends running progress and is a good way to keep you both motivated!
5. Ensure you are fuelling your body with plenty of carbohydrates for energy and recovery both before and after your workout, examples include toast with a nut butter or avocado, bananas, or muesli and yoghurt.

FUN RUNS TO STRIVE TOWARDS IN 2020/21

- 30th August 2020 **de Castella Run** (Yarra Boulevard, Kew) - 5, 10, 15km events
- 13th September 2020 **Connor's Run** (Alexandra Gardens) – 9.6 and 18.8km events
- 4th October 2020 **Melbourne Marathon** – 3, 5.7, 10, 21 and 42km events
- 8th November 2020 **Arthurs Seat Challenge** – 6.7km event
- 8th January 2021 **Lorne Mountain to Surf** – 8km event

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HOW TO BOOST YOUR Immunity Naturally Through Exercise

When you go online you will see various articles, blogs and vlogs around the importance of boosting immunity during these uncertain times. COVID-19 has impacted a larger proportion of people's health and wellbeing and finding facts on how to boost immune function is vital.

> ***"Incorporating regular physical activity into your daily routine can significantly aid in boosting immune function"***

It was shown through scientific studies that there is not just one thing to boost your immune function [1], rather a cluster of factors. These factors include; adequate sleep and diet, regular physical activity, reduced stress, adequate water intake and maintaining/ attaining ideal weight. [1]

It was shown incorporating regular physical activity into your daily routine can significantly aid in boosting immune function. Research has shown that partaking in moderate exercise, greatly benefits one's immune function. [1,2] Individuals already taking part in physical activity have been advised not to increase their activity levels too much, as this may have an adverse effect and not contribute to increasing immunity. [1,2,] Rather if already currently active there should be an increased focus on adequate sleep, water intake, and diet. [1]

You can complete any to most types of activity that can be classed as 'moderate'. Examples of what moderate exercise can look like- 30-minute walk with the family or pets, cycling, going to the gym, shooting hoops, kicking a football - the list is endless. With regards to drinking adequate water, the recommendations are variant depending on our age and gender. [3] Traditionally speaking for adults, water intake should be 8-10 cups of water, which equates to 2.1L-2.6L per day. [3]

The National Sleep Foundation suggests maintaining adequate sleep an adult should have at least 7-9 hours, explaining less than 6 hours and more than 10 hours does not promote adequate sleep habits/ function. [4] All of these factors contribute to boosting immune function and all are equally important.

As there are many different factors, identifying which factor is more relevant for you will greatly aid in boosting your individual immunity, as we are all different.

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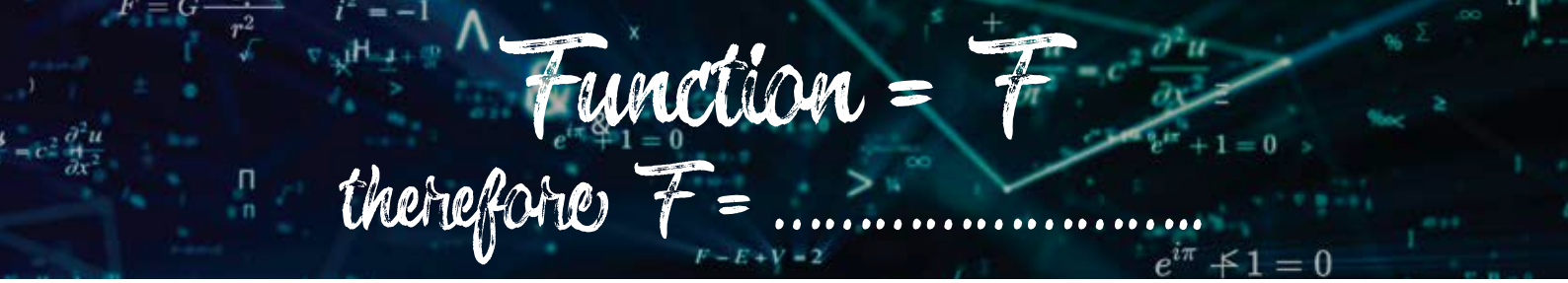

Over thousands of years, humans have been seeking answers and developing formulas to try to unlock and understand the mysteries and components underpinning human behaviour and function.

One thing we do understand is that humans are individuals and a product of nature (genetics) and nurture (environment). In our current world the environment is forever changing.

At PACE we combine our clinical and non-clinical skills as Exercise Physiologists to engage clients in a specifically designed program that provides the necessary blend of education, support, biomechanical/motor retraining, conditioning, progression to achieve the best possible outcome we can for you – Your OPTIMAL FUNCTION.

But it's still not that simple – skilful decision making is imperative in determining the mix of ingredients or tools which will underpin an improvement in your function. For some people this will mean a greater focus on breathing which in turn can affect cortisone levels and muscle tension. Or it may be a focus on improving how you are sitting, standing or walking to reduce the load on some areas of the body or activate muscle groups which can help improve your body's function and capacity. (see end of article for relevant statistics on the impact of various behaviours on our function).

For the purposes of this article, I have decided to look at one recommendation, guideline or strategy from multiple areas underpinning function that you could set a goal or action plan to meet or move towards.

There are obviously many things that we can do to improve our function – but for now perhaps try to achieve, move towards or implement one of the strategies or actions (see column in the right-hand side of the table below). After 9 weeks you will be a long way towards optimising your function and working towards, meeting or exceeding relevant researched guidelines or recommendations for health and function.

A PATHWAY TO IMPROVING YOUR FUNCTION – TAKE SMALL STEPS

AREA OF FUNCTION	GUIDELINE/RESEARCH	ONE STRATEGY OR ACTION YOU COULD TAKE
Sleep	Every individual needs a different amount of sleep a Sleep Foundation Survey in 2016 found the average was 7 hours, typically 7-9 hours is recommended in the literature but quality of sleep is important. Excessive Daytime Sleepiness (EDS) which impacts on your capacity is a better subjective measure to use on the adequacy of your sleep than the number of hours.	Quality trumps Quantity, if you are not sleeping well, try making your bedtime later and waking earlier. Slowly stretch out the quantity once the quality is there.
Nutrition	5 serves of vegetables and two pieces of fruit per day. *(National Healthy Eating Guidelines)*	Prepare salad and fruit portions for the coming days/week on a Sunday or day before commencing working week
Physical Activity	30 minutes of moderate (5-7/10 effort) physical activity per day. *(National Physical Activity Guidelines)*	Start by focusing on frequency, aim for 5-10 minutes per day, build the duration up by 10% each week until you reach 30 minutes and then you can focus on intensity.
Lifestyle	2 standard drinks per day (2 pots of beer, 200ml wine, 2 shots) At least 1 Alcohol free day per week No more than 4 standard drinks in 1 session *(Australian Guidelines for Alcohol Consumption)*	Be specific with the days and amounts you will drink when setting goals around alcohol.
Mindfulness	A study in 2017 found a reduction of cortisol levels of 24% after an 8-week course of diaphragmatic/ parasympathetic breathing.	Try parasympathetic breathing -Inhale for 4 seconds -Exhale for 8 seconds -Hold for 4 seconds -Repeat for 6 minutes
Sedentary Time	Move for 100 seconds every 30 minutes	You can set a timer on your computer or phone; this can be completing PACE Microbreaks exercise sheet (which can be done from your desk)

AREA OF FUNCTION	GUIDELINE/RESEARCH	ONE STRATEGY OR ACTION YOU COULD TAKE
Movement Quality	Sitting was a kyphotic (rounded posture) was measured to increased intradiscal pressure by 25% compared to sitting with a slightly reclined posture (backrest 90-110%). Whilst we understand that poor posture doesn't cause pain, poor posture can reduce the amount of muscles we use to support our bodies and the balance in direction of forces on the joint. This can then contribute to reducing function when we get up and move.	The way we move, or don't move impact on the load and tension in our muscles and joint which then can impact on our function. By correcting movement, we can improve function. For example, when sitting at your workstation ensure you are not rounding through the upper back (having top of your monitor at or just below eye level will help), hips are slightly higher than your knees, your back rest is positioned between 90-110%, your knees are not flexed (bent) at a more acute angle than 90% (right angles) and your feet are applying gentle pressure to the floor or footrest.
Attitude	Psychologist's believe that If you can change the way you think, you can change the way you act, which will then change the way you think (over time). This improves function and capacity. See the reference article below for ideas on how to change your thinking.	Try to notice of any cognitive distortion or negative predictions and then reframe a situation and then create an affirmation. i.e. "I used to be able to do 10 push ups my body just lets me down now" to ""My upper body strength allows me to do most things, I am building my strength each time I exercise."
Goal Setting	A study by clinical psychologist Dr. Gail Matthews from the Dominican University in California found in her research that those who wrote down their goals were 43% more likely to achieve them than those who did not.	People can mistake goal setting for wishes! When setting goals try to focus on a goal that is achievable in the next month and always set the actions which underpin that goal. For example, if the goal is to be able to walk 3 kilometres in 30 minutes – the actions need to be daily walk, take runners to work so I can walk on way home, ask a friend to walk with on the weekend.
Relationships	Up to 45% of people will experience mental illness in their lifetime. Our relationships are critical to our mental, physical health and function. See Beyond Blue website link for further mental health and relationship resources.	Take time each day to focus on nurturing one of your relationships by asking that person – Are you Ok?

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STORIES FROM THE PACE COMMUNITY

Kay Clark

Meet Kay Clark! Kay was born with Cerebral Palsy and Spina Bifida Occulta and was referred to PACE by her NDIS support coordinator.

Kay's goals are to improve mobility and strengthen her body to maintain independence and the ability to complete everyday activities such as going for a walk (without being exhausted after a short distance). Kay also wanted to manage or reduce her nerve pain related to her back.

> ***"I wish to thank everyone at PACE for their love and support"***

"Through PACE, the remarkable exercise physiologists like Ash, are continually persevering with various strengthening exercises to help me be stronger. It is a process where we work together, and exercises are modified and adjusted according to how I respond. The program adapts to me and I will not give up. It is, and will be, a lifelong goal to maintain my independence," said Kay.

Kay has achieved some of her goals already and is now going for afternoon walks up and down her street, across to the beach and up and down the hill where she lives. Her upper and lower body strength measure have all substantially improved. Kay's results can be put down to her hard work, positive attitude and working with her exercise physiologist and allied health team (Kay also works with a physiotherapist, orthotist, myotherapist and occupational therapist).

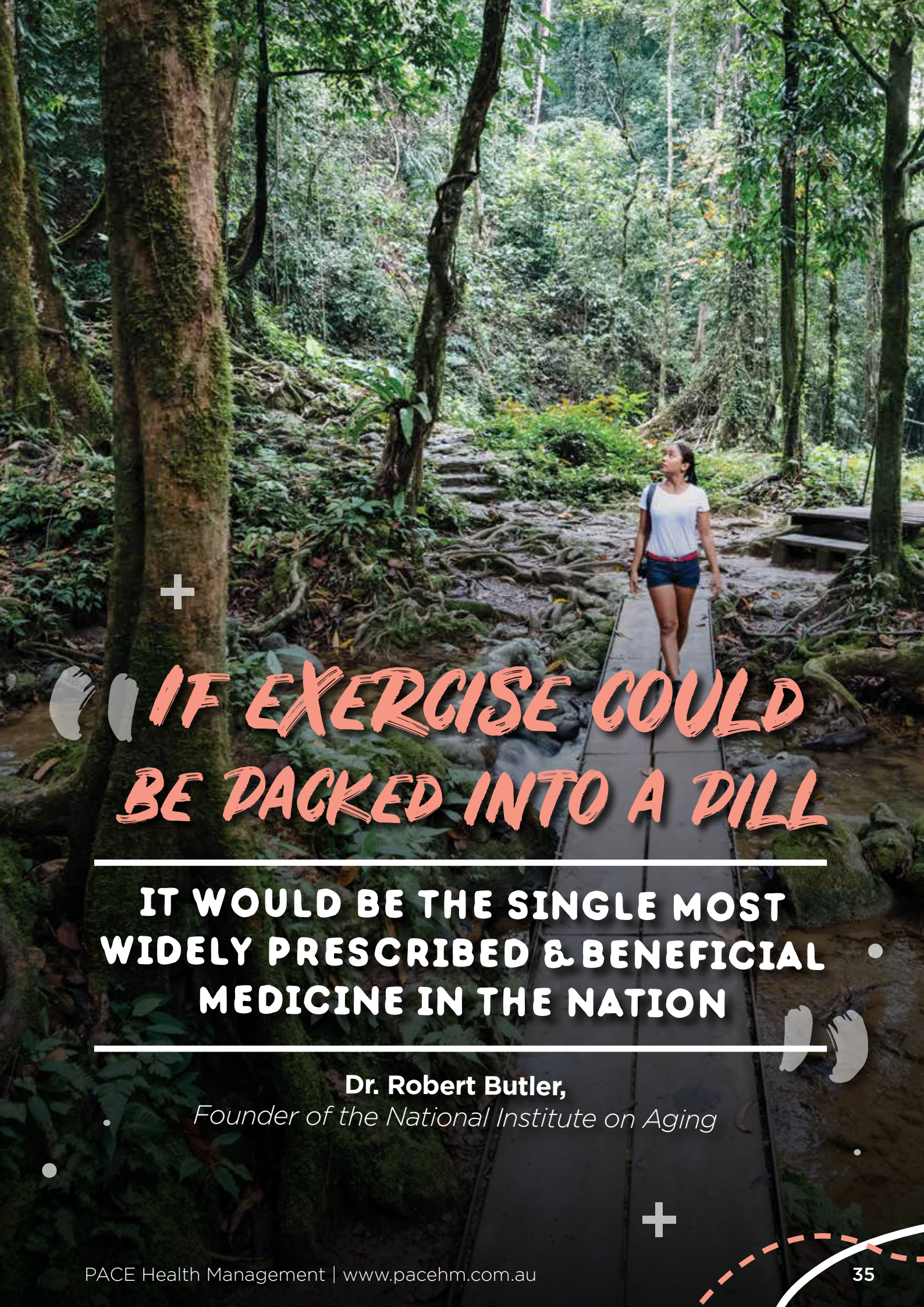
"I wish to thank everyone at PACE for their love and support. I truly appreciate everything you all do for my health and well-being. One final word – if you are reading this and have a disability or condition, I would encourage you to include an exercise physiologist as part of your health professional team, so you can improve as I have done!"

Patrick Silveira

Patrick Silveira came along to PACE in 2018, unfortunately Patrick struggled with weight and had found it difficult to manage his Type 2 Diabetes. His goals were to reduce his weight, specifically the midsection and improving his control over this condition.

"I received a referral through my doctor for a management plan and worked with PACE. PACE creates a strong "patient focus". My experience with PACE and how I would describe it would be a two-way street. With the guidance of the exercise physiologists at PACE, I feel like I've been provided with the tools required to manage my diabetes independently. PACE has allowed me to work towards goals specific to me and my lifestyle and have guided, supported and encouraged me along the whole journey so far, and continue to do so.

Moving forward I want to continue with progressive weight loss and enjoy the process! My weekly classes at PACE have become an essential part of my week, which I very much look forward to!"



"IF EXERCISE COULD BE PACKED INTO A PILL

IT WOULD BE THE SINGLE MOST WIDELY PRESCRIBED & BENEFICIAL MEDICINE IN THE NATION"

Dr. Robert Butler,
Founder of the National Institute on Aging

PACE EXERCISE PHYSIOLOGY IS A 'REGISTERED NDIS PROVIDER'.

We are experts at delivering evidence based clinical exercise prescription and lifestyle modification guidance. We skilfully and respectfully combine our expertise to inspire, educate and motivate our clientele as they face new obstacles and strive for change to get the most out of their lives.

CONTACT US TODAY TO FIND OUT HOW WE CAN SUPPORT YOU.

Melanie Morton

Meet Melanie Morton, Melanie came to see PACE with Sarcoidosis. Sarcoidosis is a condition in which abnormal nodules, called sarcoid granulomas, appear in the body's tissues. Sarcoidosis can involve any organ in the body but affects the lungs or the lymph nodes of the chest in about 90 per cent of cases. It can develop at any age, but mostly affects people in their late 20s to early 40s.

Sarcoidosis is not cancer, and is not related to tuberculosis, which is a serious and potentially fatal bacterial infection of the lungs.

"I was finally on the mend after being unable to exercise for around 4 years and wanted to start the work to gain back my fitness prior to getting sick. I needed guidance for this as I'd never been in this position and my illness was not in remission so needed to be factored into anything I did," says Melanie.

"My income protection insurer (MLC) gave me a rehabilitation consultant. He was an accredited exercise physiologist and explained who they are and what they do. He suggested it would be beneficial working with one in addition to other ways to remediate my health issues. I then spoke to my GP and she recommended PACE!"

Melanie ended up working with the lovely Lisa and saw some great outcomes!

"I'd still be doing small walks around the block if it wasn't for Lisa! She has been very thorough in her planning of my sessions resulting in very well thought out increases in activity for someone in my position. This allowed me to come back into exercise in the safest and most effective manner.

Lisa's knowledge on both the anatomy and function of the body is invaluable as I learn best when things are explained, and it gives me confidence knowing I am learning the correct and safe method of doing each exercise. This is also particularly useful when I'm experiencing any pain from my illness, as Lisa is able to change exercises to alleviate said pain.

I find Lisa to be so incredibly kind, patient and supportive which makes the task at hand feel so much more achievable. I won't be leaving PACE anytime soon!"

Craig Jarrett

Born with Spina Bifida, Craig Jarrett is working hard to reach his goals of becoming a Paralympian in shot put and discus.

Craig started exercise physiology sessions in August 2019 after hearing about PACE through his NDIS Support Coordinator. His current health goal is to reduce his body weight and strengthen his core and back to improve his discus and shot-put throws. Craig adds that his long-term goal is to "one day compete in the Olympics to represent my country and my people." Although Craig has not yet achieved his end goal, he is eager to continue his hard work to improve his health and overcome the obstacles he has faced for quite some time.

According to his Exercise Physiologist, Craig arrives at every session with a proactive and can-do approach. He is always up for the challenge and very focused on his end goal of being an elite athlete. We look forward to following Craig on his journey as a hopeful Paralympian in his chosen events.

Kerrie Mc Fadden

"I was diagnosed with Multiple Sclerosis in 2016, at the unusually late age of 56. My life was active in that I enjoyed gardening, bushwalking etc . My form of MS is progressive, and my balance, coordination, strength and mobility are impacted. I am no longer able to bushwalk or garden, which meant I wanted to maintain a1s much physical function as I could. I also wanted to remain well enough to continue working as a teacher; a job I love

"I was fortunate enough to be in the first round of NDIS support packages. My neurologist suggested joining a gym or getting a personal trainer to work on my strength and core. I have never been a fan of formal exercise and was in no way interested in joining a gym. I had money in my plan for this sort of exercise and was attending clinical Pilates once a week. I was looking for more formal NDIS support and literally stumbled upon PACE as I walked past and saw the NDIS sticker. I also had never heard of Exercise Physiology and was impressed with how individualised it is to support my specific needs.

"I know I would not be nearly as active and able without EP. I am stronger and whilst it is a progressive condition, we seem to be able to keep on top of the progression and I am still mobile and working. It is also excellent for my mental health. My previous experience was quite distressing, I was part of a group of three in the Clinical Pilates group and felt I was just given very generalised activities. I was not really included in the conversation and very much felt like an old, disabled person.

The respect at PACE is outstanding. As much as I dislike formal exercise, I can see the benefit and am able to have informed conversations with my EP about what and why we are doing various exercises. She is also able to respond to whatever issue my body has thrown at me each week. I leave each session feeling physically better from the exercise!"

John Wood

John came to PACE after walking past a clinic and came to see us to support his Parkinson's and somatosensation.

> ***"I wish to thank everyone at PACE for their love and support"***

"I wanted to learn how to exercise well, improve my strength and been able to practice and feel more comfortable completing tasks of daily living such as walking upstairs, in the future I'd love to run 40m, walk further unassisted and ride a bike! Since joining PACE, I have noticed I have stronger legs and arms and don't fatigue as quickly, also my heart and lungs don't have to work as hard both when I am exercising and in everyday life. I used to find that my heart would race and would be short of breath very quickly but now it's a lot better!" The biggest improvement he has seen is being able to walk without the frame and everyday activities which he can now do unassisted, such as opening doors not using his frame, washing dishes, taking his washing out of the machine, making his bed and using a key to open his door.

John has seen immense improvements from when he first started at PACE. He is most proud of being able to march across the room for two laps (including some backwards walking!) whereas when he first started, he used to struggle to march on the spot holding onto the treadmill. He has also recently been able to do a few step ups onto the bench and complete all his step ups on the level 2 step whereas he used to only be able to tap the lowest step. His proudest cardiovascular exercise achievement is his bike riding as he can now ride for 10 minutes non-stop!

WHETHER YOU ARE LOOKING TO RETURN TO WORK, GET BACK TO SPORT OR JUST ENJOY LIFE FOLLOWING AN INJURY.

By including an Accredited Exercise Physiologist in your team will help to improve long term outcomes and help you live a longer, better life.

We are Victoria's Leading Accredited Exercise Physiologists delivering evidence based Clinical Exercise Prescription and Lifestyle Modification Guidance.

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