

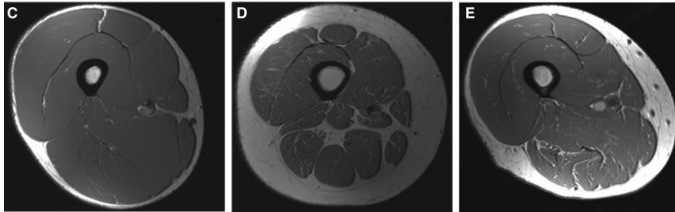
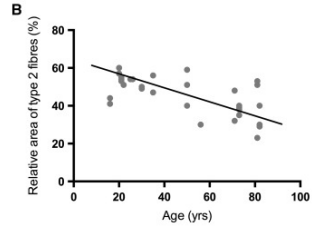
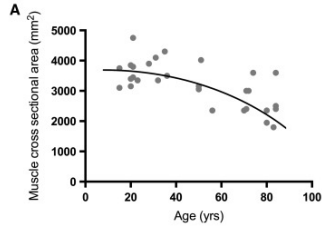
Muscle health in later life: Pushing back on disability

Dr Tim Henwood

Group Manager, Community Wellness & Lifestyle
Southern Cross Care (SA, NT & VIC)



Disability



C
Male – 24 yrs
Body mass – 76kg
Fat mass – 10kg
Fat free mass – 57kg

D
Male – 66 yrs
Body mass – 81kg
Fat mass – 57kg
Fat free mass – 13kg
Average daily steps = 3141
PA >3MET per/day = 22mins

E
Male – 66 yrs
Body mass – 79kg
Fat mass – 34kg
Fat free mass – 36kg
Average daily steps = 12445
PA >3MET per/day = 130mins

- ↓↓ Muscle mass
- 50% ↓↓ in muscle strength
- 75% ↓↓ in muscle power

Contributing to:

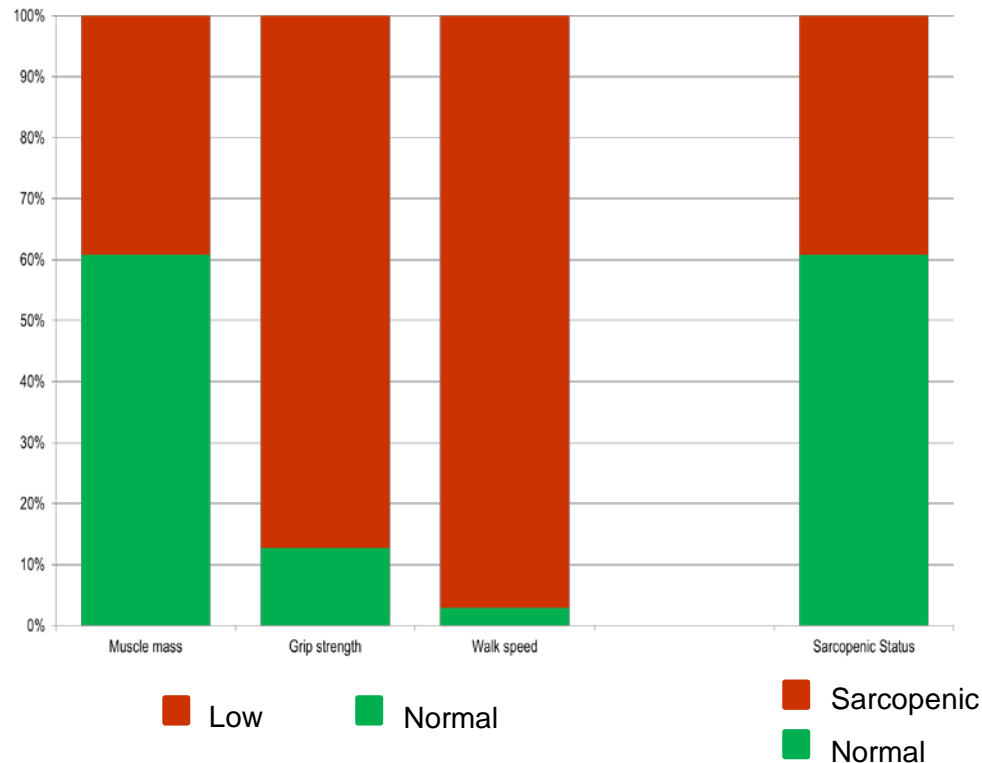
- ↓↓ aerobic capacity
- ↓↓ metabolic rate
- ↓↓ total blood volume
- ↑ body fat
- ↓↓ bone mineral density
- ↓↓ quality of life

Leading to:

- ↑ Sedentary behaviour
- Post-surgery complications
- ↑ Risk of dementia
- ↓ balance confidence
- ↑ incidence of falls
- ↓ functional ability
- Frailty/Sarcopenia

Culminating in => Dependent care needs

Sarcopenia: In the Australian context



Assessing sarcopenic prevalence and risk factors in residential aged care: methodology and feasibility

Timothy R. Henwood · Justin W. Keogh · Natasha Reid · Will Jordan · Hugh E. Senior

Maturitas 83 (2015) 418–421



Contents lists available at ScienceDirect

Maturitas

journal homepage: www.elsevier.com/locate/maturitas



Prevalence and risk factors of sarcopenia among adults living in nursing homes



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Community dwelling older adults

- ≥ 80 years - 31.6% women and 17.4% males (Volpato et al 2013)
- In-patient acute care – 25.3% (Smoliner et al 2014)
- In-patient acute care – 1 in 4 (Rossi et al 2014)

Residential aged care

- Geriatric nursing hospital - 32.8% (Landi et al 2011)

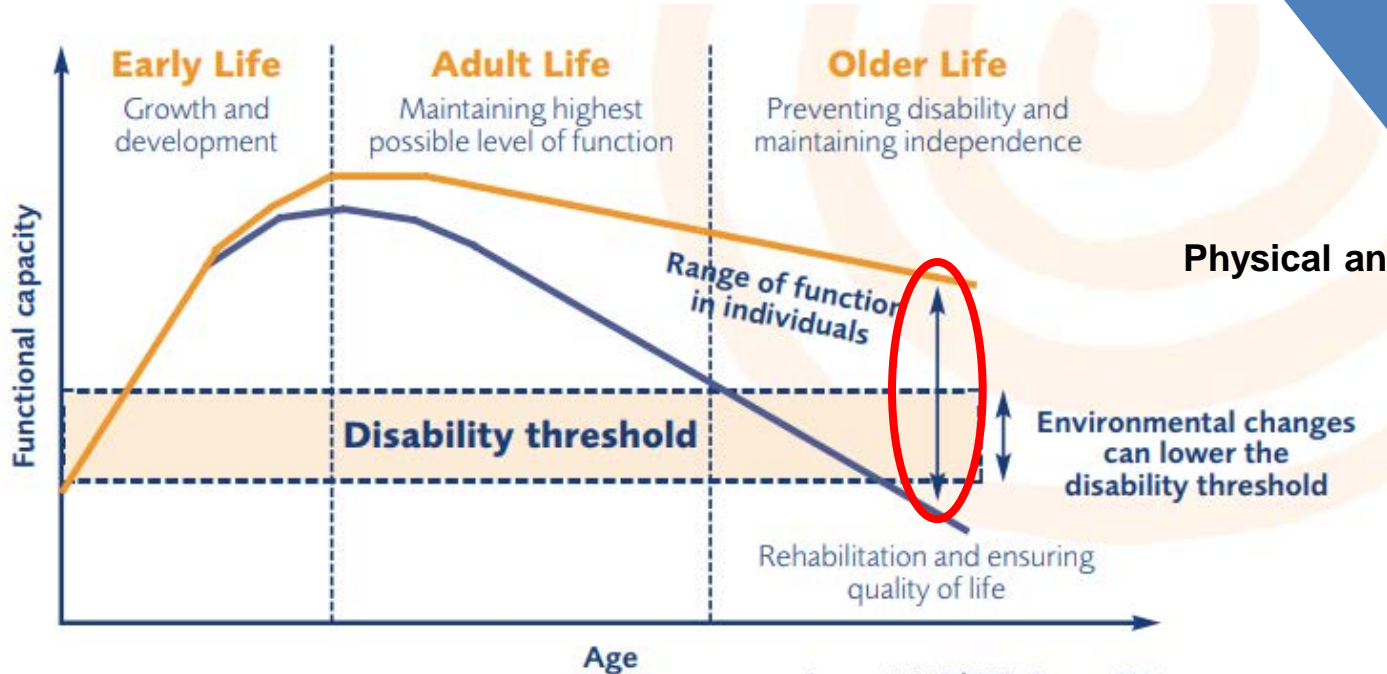
Pushing back on disability

Exercise and physical activity

Age

Level of disability

Disease Status



Physical and mental health benefits

Source: WHO/HPS, Geneva 2000

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However, some exercise is better than other in battling disability

Progressive resistance and weight bearing exercise

- Muscle mass & strength
 - Bone mineral density
 - Sleep profile
 - Capacity in ADL's
- } ↑
- Symptoms of disease
 - physical
 - mental
 - Falls risk
- } ↓
- Residual impact of training
 - => Reduced dependant care needs
 - => Prolonged independence



Falls prevention

Table 1. Summary of meta-analysis results: reductions in falls from exercise programs with different components

Component	Reduction in falls in studies with this component			Reduction in falls in studies without this component			Variability explained (%)
	Reduction %	95% CI	Studies n	Reduction %	95% CI	Studies n	
Exercise that aims to provide a moderate or high challenge to balance	22	14–30	43	0	0–14	17	15
Exercise that aims to provide a high challenge to balance	25	15–34	30	6	0–17	30	16
Total exercise dose more than 50 hours	23	13–32	30	7	0–8	30	19
Inclusion of walking training	10	0–22	30	23	11–32	30	8
A high risk study population	10	0–20	39	27	14–37	21	15

CI = confidence interval.

Table 2. Summary of meta-analysis results: reductions in falls from exercise programs with different combinations of components

Component	Reduction in falls in studies with this combination of components		
	Reduction %	95% CI	Studies n
Balance training, no walking training and a higher exercise dose	38	27–46	8
Balance training, walking training and a higher exercise dose	21	11–30	14

CI = confidence interval.

Recommendations

1. Moderate to high balance challenge
2. Sufficient dose to have an effect
3. Ongoing
4. General community and those at greater risk
5. Group or home based
6. Not walking alone
7. Inclusive of strength training
8. Beware of (other) risk factors

Community-dwelling, healthy adults

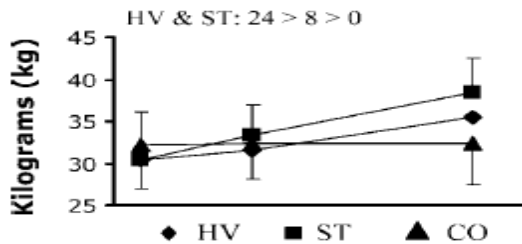
Journal of Gerontology: MEDICAL SCIENCES
2008, Vol. 63A, No. 1, 83-91

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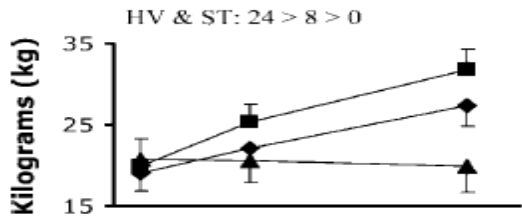
Strength Versus Muscle Power-Specific Resistance Training in Community-Dwelling Older Adults

Tim R. Henwood, Stephan Riek, and Dennis R. Taaffe

School of Human Movement Studies, The University of Queensland, Brisbane, Australia.

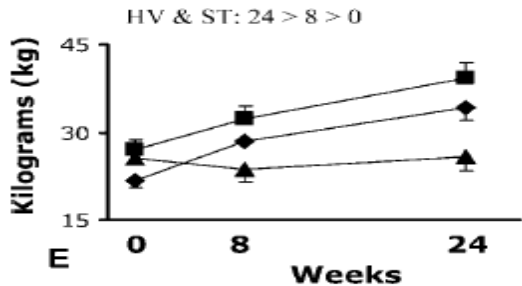


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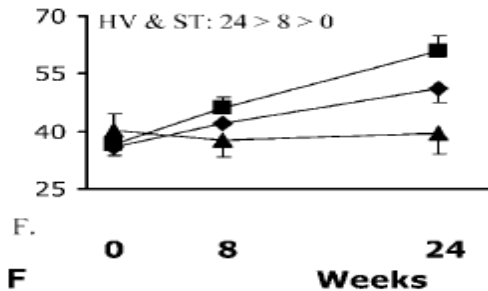
B

C



E

D



F.

F

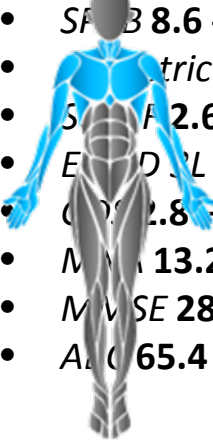
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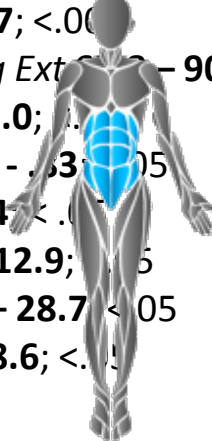
Program – 26 weeks of twice weekly Resistance training + balance exercise for adults with aged care needs.

Outcomes


Exercise:

- **SF B 8.6 - 9.7; <.00**
 - **Electric Leg Ext 92.2 – 90.5 kg; <.00**
 - **SF F 2.6 - 2.0; <.00**
 - **EM D L .79 - .63; <.05**
 - **CO 2.8 - 2.4; <.00**
 - **MV 13.2 – 12.9; <.05**
 - **MV SE 28.4 – 28.7 <.05**
 - **AL 65.4 - 68.6; <.00**
- 

↑ +166%



↑ +360%



↑ +219%



Residential aged care: The SUNBEAM Project

16 RAC facilities
221 participants
86.04 ± 6.77 years, 26.07 ± 24.60 months in care

Adverse events:

- Nil serious,
- Minor muscle aches/pains only

Adherence:

- High

Falls

- **55% less falls** at 12 month follow-up
- Multiple falls
 - 2 – 4: 27% Con v 16% Ex
 - >5: 19% Con v 8% Ex
- Incident ratio: 2.91 Con v 1.31 Ex person yrs



Original Study

Progressive Resistance and Balance Training for Falls Prevention in Long-Term Residential Aged Care: A Cluster Randomized Trial of the Sunbeam Program

Jennifer Hewitt BAppSc, MHealthSc^{A,*,}, Stephen Goodall PhD^{B,}, Lindy Clemson PhD^{A,}, Timothy Henwood PhD^{A,}, Kathryn Refshauge PhD^A

^AHealth Sciences, University of Sydney, East Street, Lidcombe, New South Wales, Australia


^BCentre for Health Economic Research and Evaluation, University of Technology Sydney, New South Wales, Australia


^CUniversity of Queensland, Brisbane Street, St Lucia, Queensland, Australia



Active@Home

Personal care worker led in-home exercise program






phn
BRISBANE NORTH
An Australian Government Initiative

Weight-bearing exercises


Aim to achieve
3 sets of 12 repetitions




Chair stand




Standing calf raise



Theraband seated rows



Seated leg extension




Wall push-ups


Balance exercises



Tight rope walk
10 steps



Single leg stand
20 seconds per leg




Side-to-side step
10 steps per leg

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active@home

CHSP* participants benefit from 18-week in-home exercise program




39


PERSONAL CARE WORKERS
trained to deliver the exercise program


RANGE

0-12


PHYSICAL PERFORMANCE
measured by the Short Physical Performance Battery (SPPB)








EXERCISE ADHERENCE
(sessions per week)



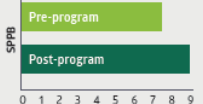
47%

REDUCTION
in health service utilisation




19%


REDUCTION
in people classified as frail





19% IMPROVEMENT
in physical performance




- Programs offering cost-effective, supervised in-home exercise for older people are **important at a national level**.
- active@home shows promise as a **model that could be delivered nationally** with wide-reaching benefits.
- active@home **adds value to service delivery** by up-skilling personal care workers in wellness and reablement.










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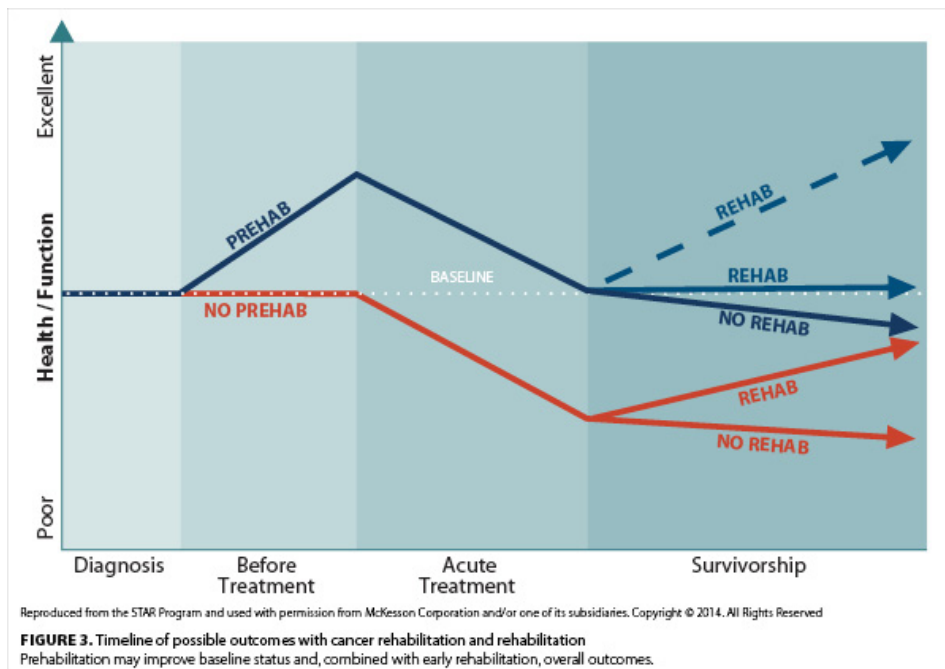


Prehabilitation

Exercise undertaken by older adults prior to extended hospitalisation:

- ⇒ Shortened recovery time and hospital stay
- ⇒ Increased quality of life during recovery
- ⇒ Decreased post-operative complications
- ⇒ Increased functional ability post-departure from hospital

(Carli & Zarosky 2005)



Silver J. 2014 Oncology Nurse Advisor

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Community Wellness & Lifestyle model of care

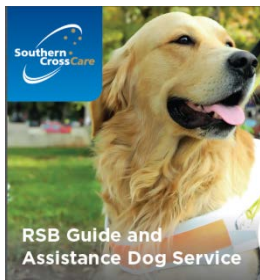
Engagement options



Social options



Educational options



Entry referral



1^o Health Assessment



M-D Planning & referrals



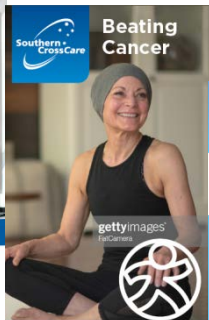
Continued wellbeing & Stimulating activities



Customer Support



Caring for the Carer



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The cinema is a great place to make memories with friends and family, and as the years pass it can be a great place to reminisce.

Please join SCC for our dementia friendly cinema screenings. Doors open at 8:00am with screenings starting at 8:00pm. The first screening is FREE.

Where: Capri Theatre, 141 Goodwood Road, Goodwood.

Wednesday 6 June - Greatest Showman (Skip along version) (FREE)

Wednesday 5 September - La La Land (Attend this show for \$5* and the White Christmas screening is free)

Wednesday 5 December - White Christmas (FREE)**

Wednesday 6 March 2019 - Singin' in the Rain (55 each)*

To book - visit the Eventbrite website at <https://www.eventbrite.com.au/> and search for Dementia Friendly Cinema. If you are a Southern Cross Care resident, contact your site manager for more information. Or phone The Street Health & Lifestyle Centre on 8678 6020.

*Adult cost with booking fee & GST is \$6.36

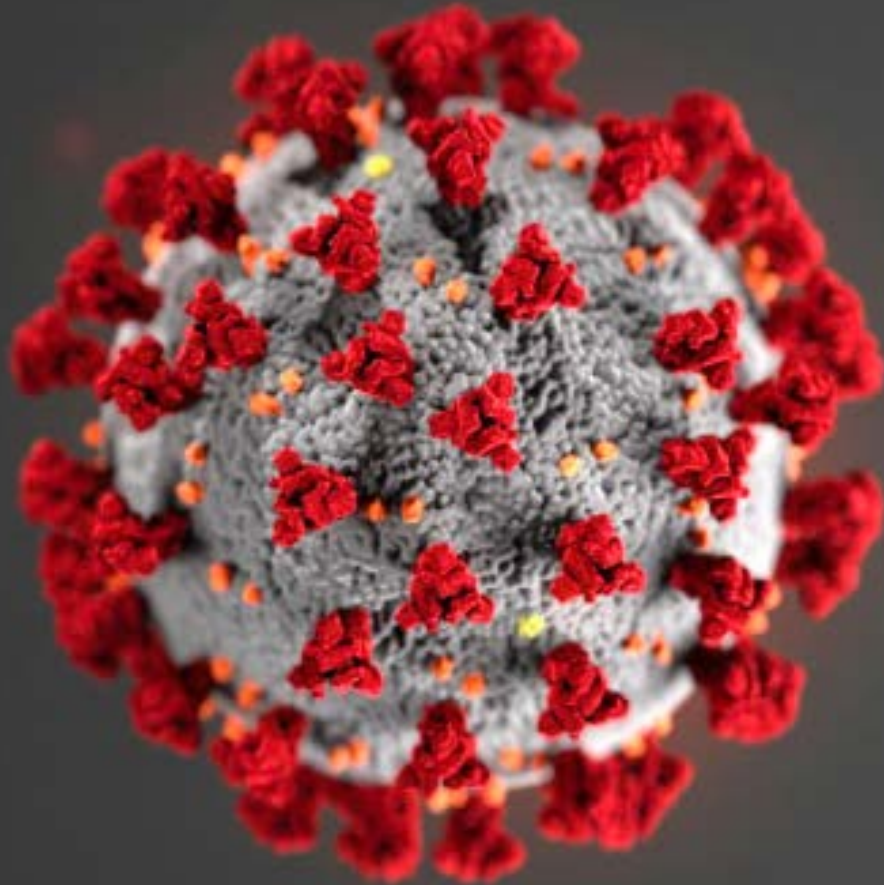
** White Christmas tickets are \$5.36 if you haven't purchased a ticket to La La Land

Facebook Twitter Instagram

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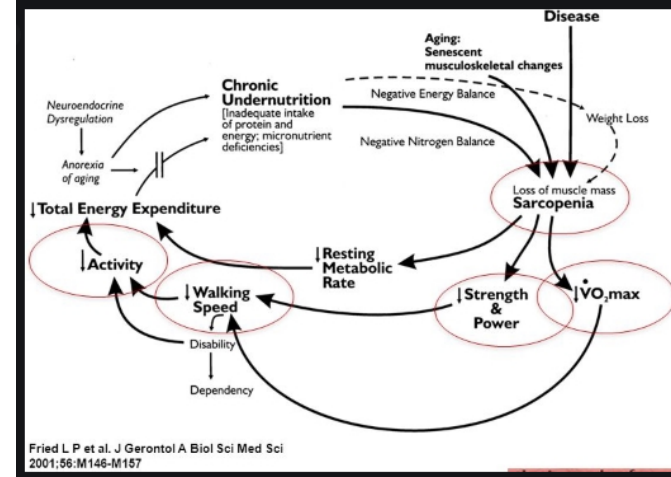
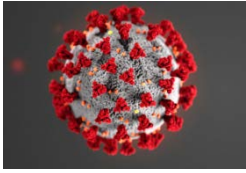


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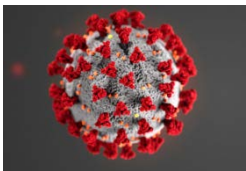
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Why SCC kept offering services

- Replacing activity, exercise and therapy with sedentary behaviour can lead to accelerated losses in function, strength and balance (>10% per week)
- Increased sedentary behaviour reduces functional reserves and increases the risk of infection and the escalation of new and existing disease markers
- Self-isolation and the removal of social contacts can have significant mental health implications
- Isolation and withdrawal among older adults is directly related to loneliness, depression, anxiety and a reduced quality of life.
- That 4 months of self isolation, as is being advised by some GP's, where people are sedentary for this period would significantly compromised physical, social and cognitive health and wellbeing.



What CH&W service looked/look like

- Community Health & Wellness Clinics are open
 - On-site - One 2 one services continue as per normal,
 - On-site – Group exercise sessions changed to:
 - 1 to 2 clients ratio in-doors, and 1– 4 clients outdoors
 - Then increased slowly.
 - Off-site - Allied health & therapy services were offered at a reduced rate
 - Our on-site social activities continued with no more than 10 including the clinicians.
 - Offered a telehealth options



Did you know that a week of no exercise can reduce your muscle strength and balance by as much as 10%?

Our Community Health & Wellness team wants to help you stay strong and healthy during this period of COVID-19 uncertainty. We have taken every step possible to make sure you are safe to visit our Community Health & Wellness Centres to undertake your group exercise and therapy services, and spend time with other people who are proactive about their health and wellbeing. Your safety is our number one priority, and to protect your safety we've taken the following steps:



Infection Control

If clients or staff are unwell in any way and/or have travelled overseas in the past 14 days, they are not permitted to attend our classes, services or sites.



Training

Our staff have undergone mandatory training about how to manage infection control and COVID-19. They are being updated daily about government and organisational policy to prevent the spread of this virus.



Hygiene

Everyone is being instructed to wash their hands or use the provided alcohol-based hand rub regularly when at our centres.



Extra Protection

Our staff receive daily temperature checks, are on a strict regime of cleaning our exercise machines and equipment with antibacterial wipes frequently through the day, and will run capped class sizes to maintain social distancing.

In your home

By employing the same safety provision listed above, our highly trained staff can also provide your Health & Wellness service in your own home too.

For more information,
call your Community Health & Wellness Centre:

Carmelite	8179 6825
The Pines	8242 2985
The Philip Kennedy Centre	8443 0475

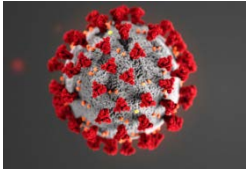
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What we need to do

- Embrace the new normal and roll with the punches
- Be resilient and focused
- Look for opportunity (fund/CHSP relaxation)
- Work together
- Embrace innovation and new practice
- Accept things may never be the same





Thank you

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