

Exercise Right: Tips about Exercise, Aging and Your Health



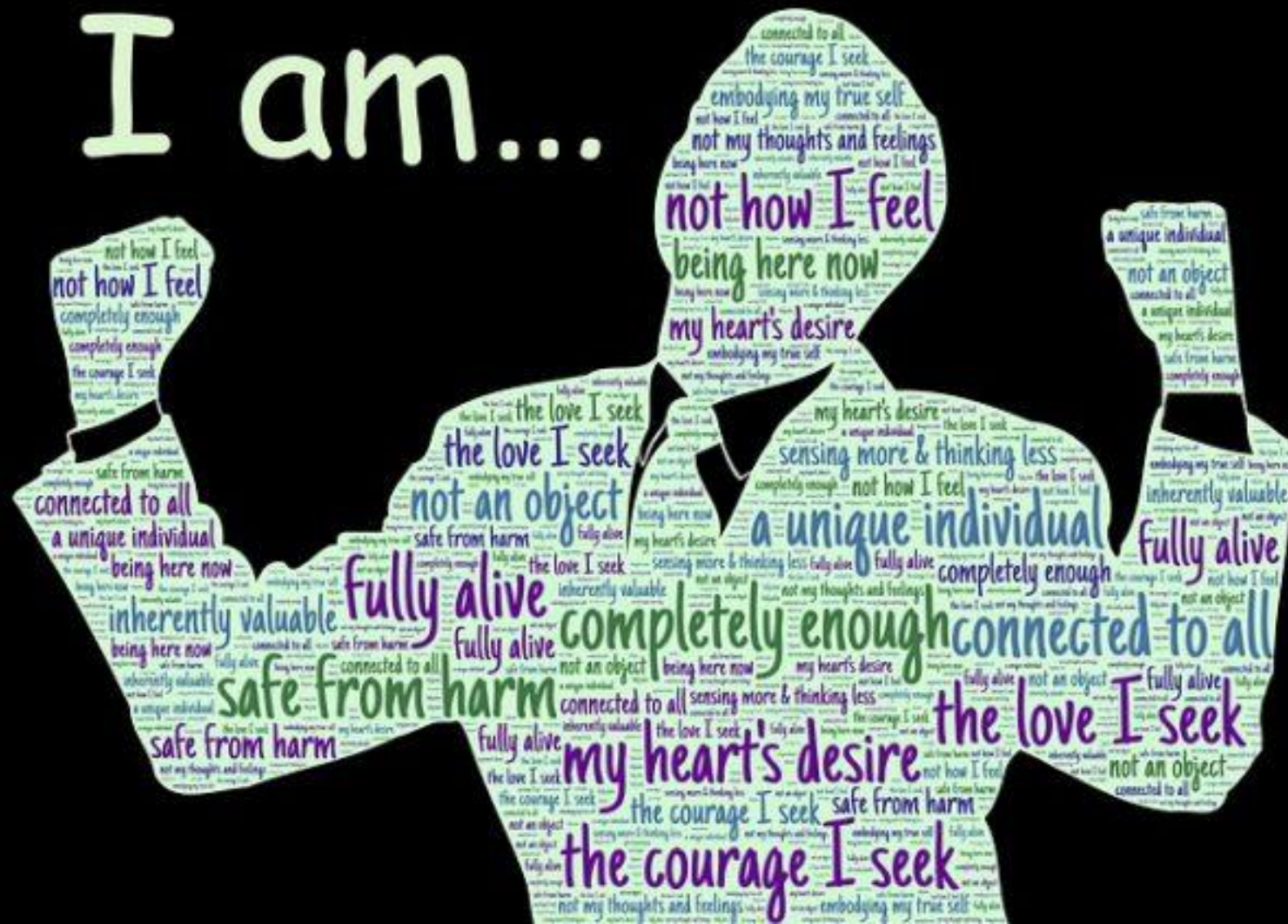
“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”



Robert Robergs, PhD, ESSAM, AEP, EPC, FASEP

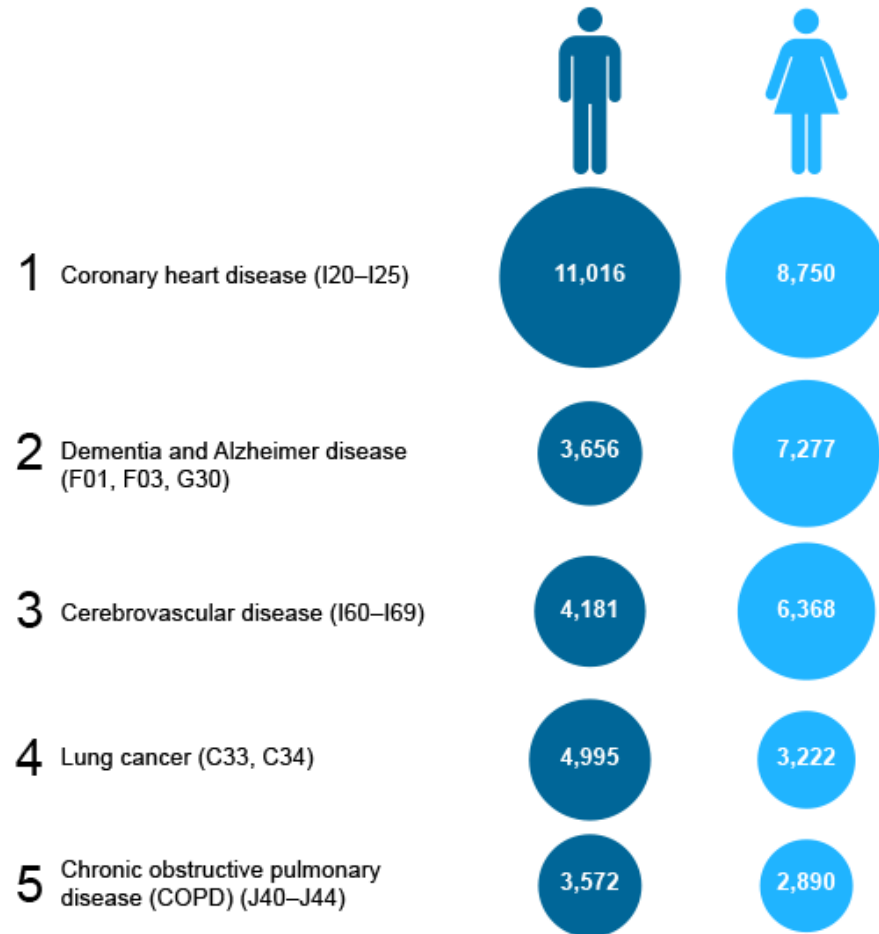
Associate Professor: Exercise Science
School of Exercise & Nutrition Sciences
Faculty of Health
QUT

What is your most valuable possession?



Current Killers. What do we know?

Figure 1: Leading underlying causes of death by sex, 2013



“Eat less, exercise more and alter your genetic code with the DNA of thin parents.”

<http://www.aihw.gov.au/deaths/leading-causes-of-death/#leading-age>

Bigger Picture

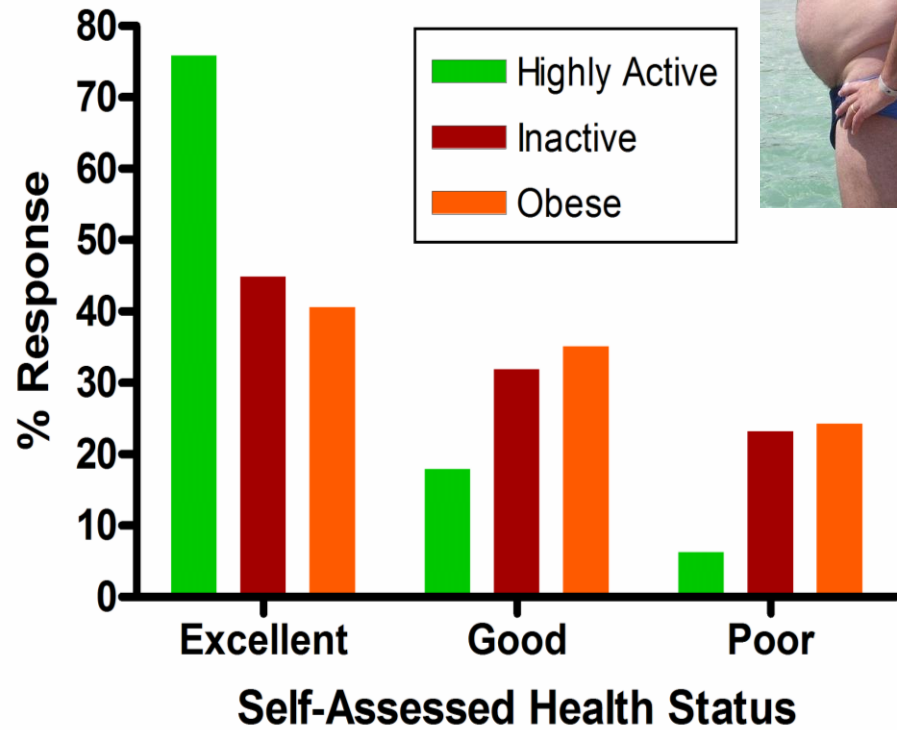


Figure 2: Leading underlying causes of death in Australia by age group, 2011–2013

	1st	2nd	3rd	4th	5th
Age < 1	Other Perinatal & congenital	Other SIDS	Other Ill-defined causes	External Accidental threats to breathing	Other Selected metabolic disorders
Age 1–14	External Land transport accidents	Other Perinatal & congenital	Cancer Brain cancer	External Accidental poisoning	Other Cerebral palsy & related
Age 15–24	External Suicide	External Land transport accidents	External Accidental poisoning	External Assault	External Event of undetermined intent
Age 25–44	External Suicide	External Accidental poisoning	External Land transport accidents	Circulatory Coronary heart disease	Cancer Breast cancer
Age 45–64	Circulatory Coronary heart disease	Cancer Lung cancer	Cancer Breast cancer	Cancer Colorectal cancer	External Suicide
Age 65–74	Circulatory Coronary heart disease	Cancer Lung cancer	Respiratory COPD	Circulatory Cerebrovascular disease	Cancer Colorectal cancer
Age 75–84	Circulatory Coronary heart disease	Circulatory Cerebrovascular disease	Other Dementia & Alzheimer disease	Cancer Lung cancer	Respiratory COPD
Age 85–94	Circulatory Coronary heart disease	Other Dementia & Alzheimer disease	Circulatory Cerebrovascular disease	Respiratory COPD	Circulatory Heart failure
Age 95+	Circulatory Coronary heart disease	Other Dementia & Alzheimer disease	Circulatory Cerebrovascular disease	Circulatory Heart failure	Respiratory Influenza & pneumonia

Are You Gambling With Your Life?



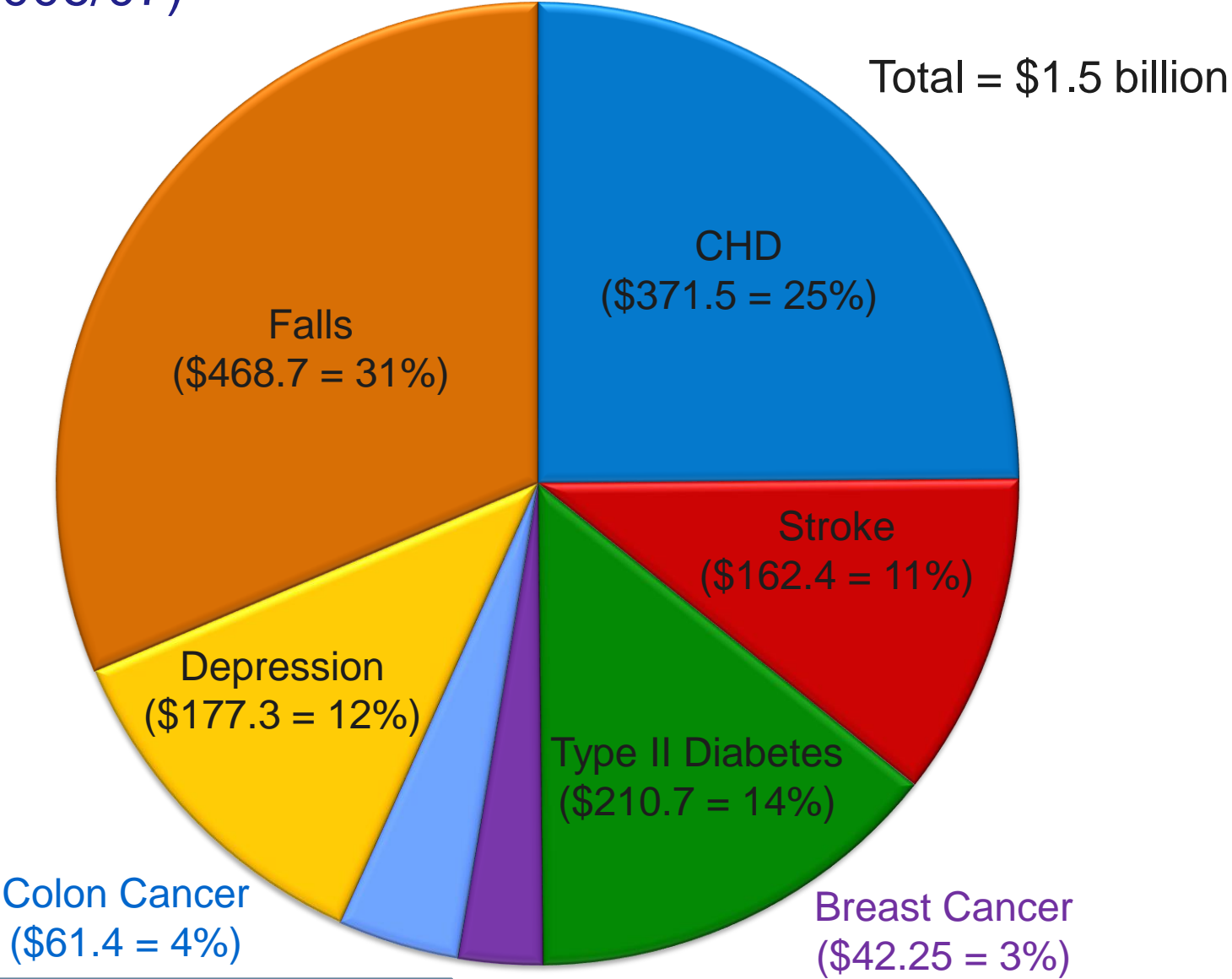


Table 1: Risk factors for developing CVD, type 2 diabetes or CKD

	CVD	Type 2 diabetes	CKD
Behavioural risk factors			
Tobacco smoking	✓	✓	✓
Insufficient physical activity	✓	✓	✓
Excessive alcohol consumption	✓		?
Inadequate fruit and vegetable consumption	✓	✓	✓
Biomedical risk factors			
→ Overweight and obesity	✓	✓	✓
→ High blood pressure	✓	✓	✓
→ Dyslipidaemia	✓	✓	
→ Impaired glucose regulation	✓	✓	✓

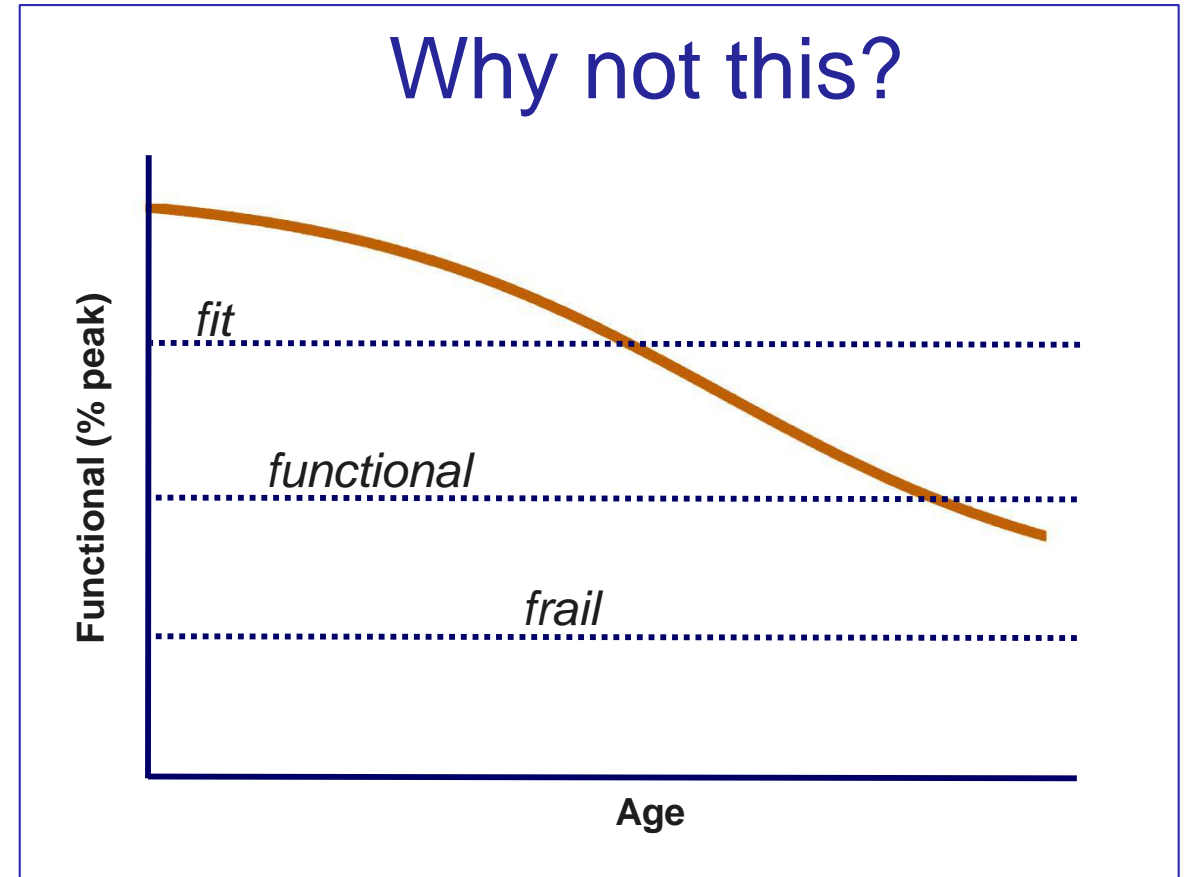
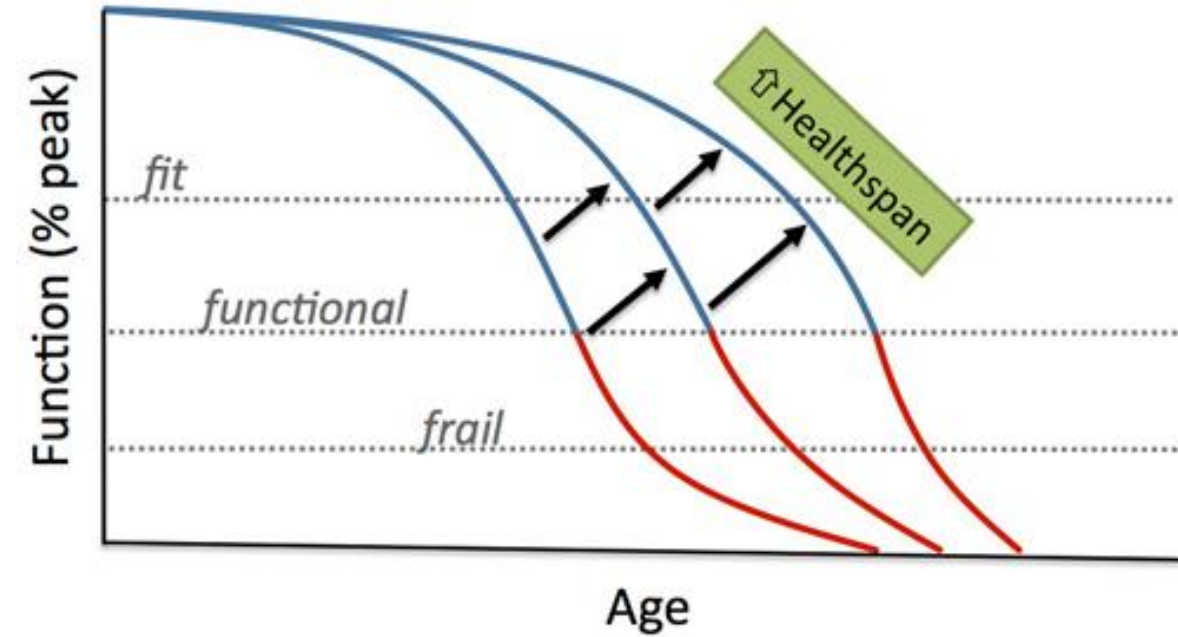
Impact of Physical Inactivity to Gross Costs Across Common Medical Conditions (2006/07)

(\$millions)

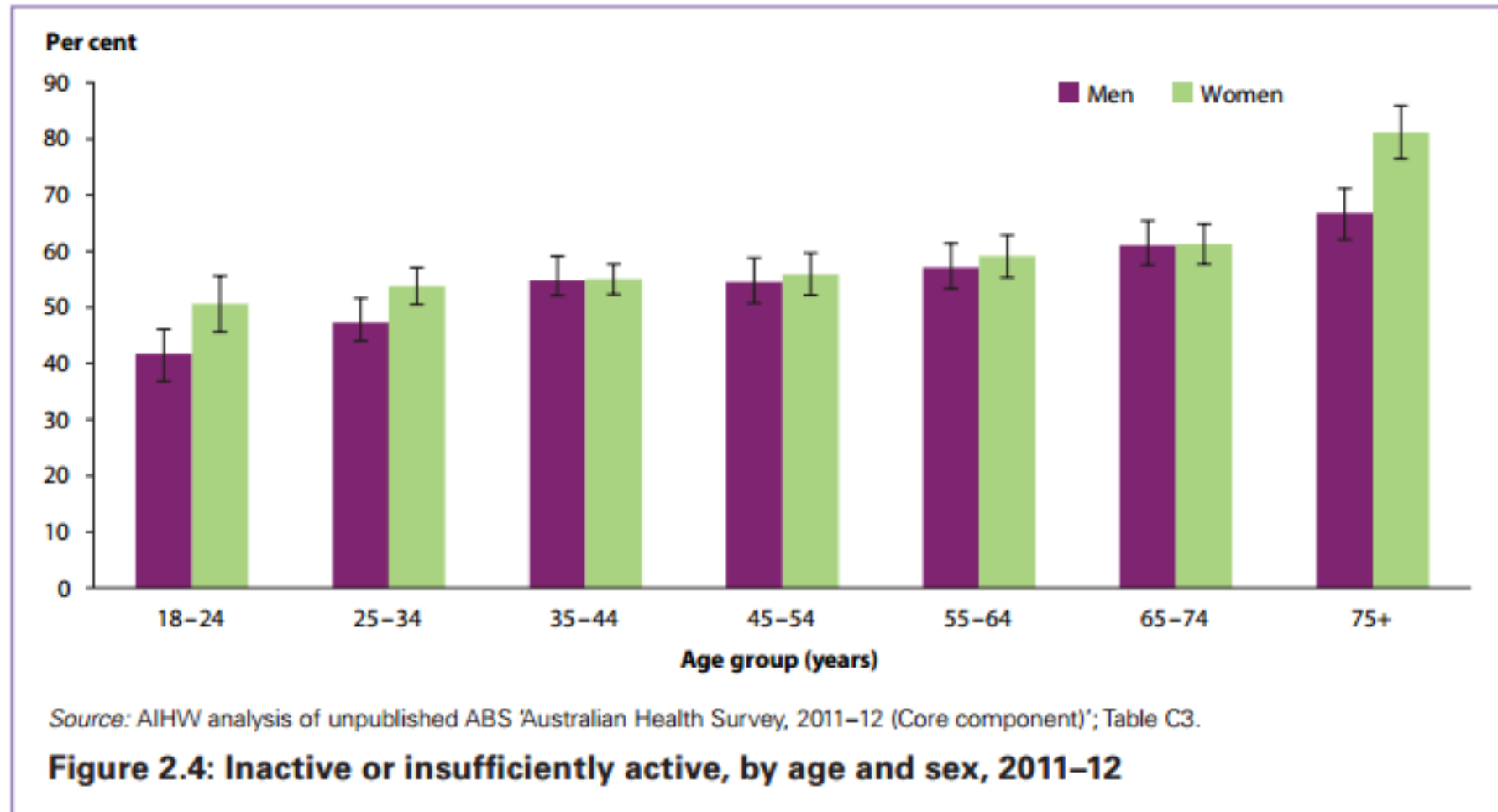


Total = \$1.5 billion

What is the rate of our demise?



Why does aging coincide with sedentary living?



Exercise Training

<http://www.health.gov.au/internet/main/publishing.nsf/content/health-publth-strateg-phys-act-guidelines#apaadult>

What do we know?

Australia's Physical Activity and Sedentary Behaviour Guidelines

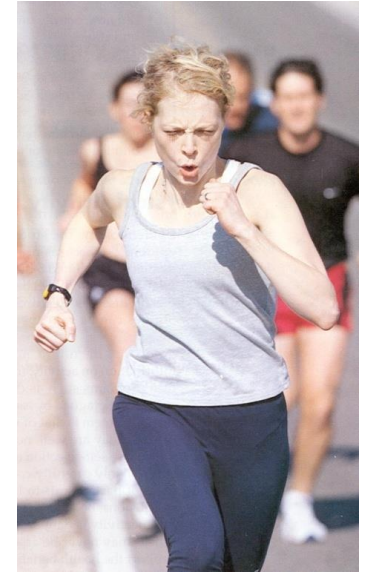
18-64 years

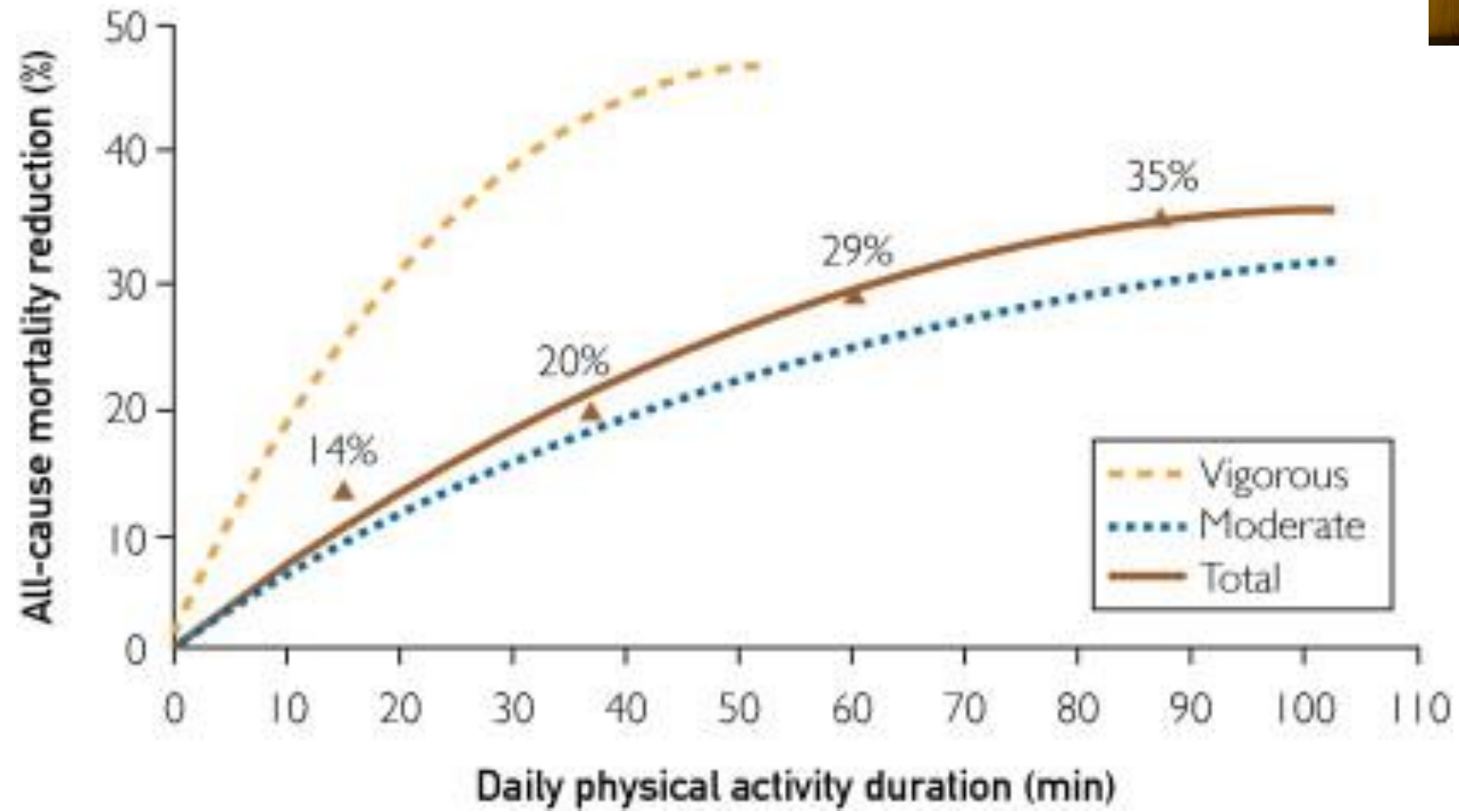
- Doing any physical activity is better than doing none. If you currently do no physical activity, start by doing some, and gradually build up to the recommended amount.
- Be active on most, preferably all, days every week.
- Accumulate 150 to 300 minutes (2 ½ to 5 hours) of moderate intensity physical activity

Or

75 to 150 minutes (1 ¼ to 2 ½ hours) of vigorous intensity physical activity, or an equivalent combination of both moderate and vigorous activities, each week.

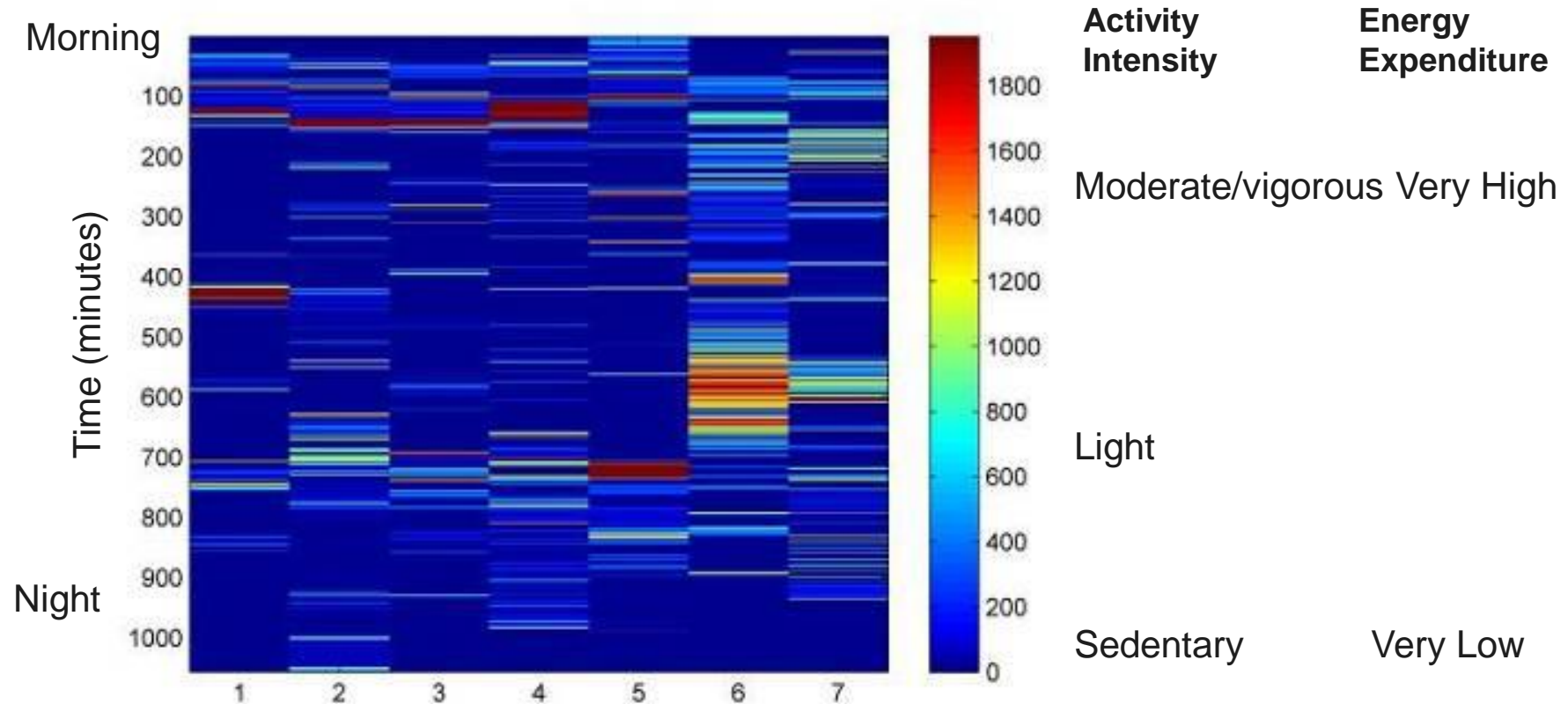
- Do muscle strengthening activities on at least 2 days each week.
- Minimise the amount of time spent in prolonged sitting.
- Break up long periods of sitting as often as possible.





You can be 'active', but also highly sedentary!

The 'Active' Couch Potato



Mean mod-to-vigorous time = 31 mins/day
% Waking hours spent in Sedentary = 71%

Exercise Training

<http://www.health.gov.au/internet/main/publishing.nsf/content/health-publth-strateg-phys-act-guidelines#apaadult>

What do we know?

Australia's Physical Activity and Sedentary Behaviour Guidelines

>64 years

- Older people should do some form of physical activity, no matter what their age, weight, health problems or abilities.
- Older people should be active every day in as many ways as possible, doing a range of physical activities that incorporate fitness, strength, balance and flexibility.
- Older people should accumulate at least 30 minutes of moderate intensity physical activity on most, preferably all, days.
- Older people who have stopped physical activity, or who are starting a new physical activity, should start at a level that is easily manageable and gradually build up the recommended amount, type and frequency of activity.
- Older people who continue to enjoy a lifetime of vigorous physical activity should carry on doing so in a manner suited to their capability into later life, provided recommended safety procedures and guidelines are adhered to.

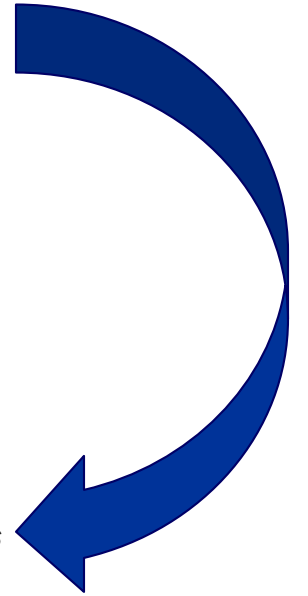
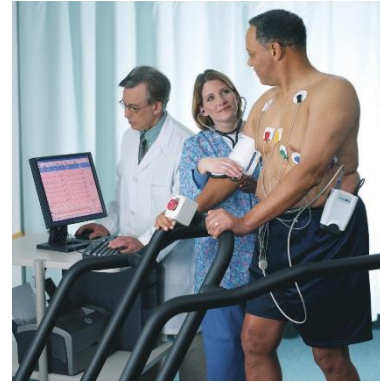


What You Need To Do

See your doctor



Request medical tests



Set realistic goals



Dietician



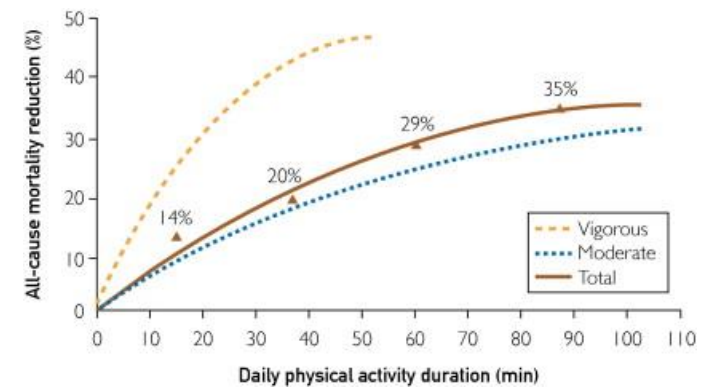
**Podiatrist ?
Physiotherapist ?**



Request allied health referrals

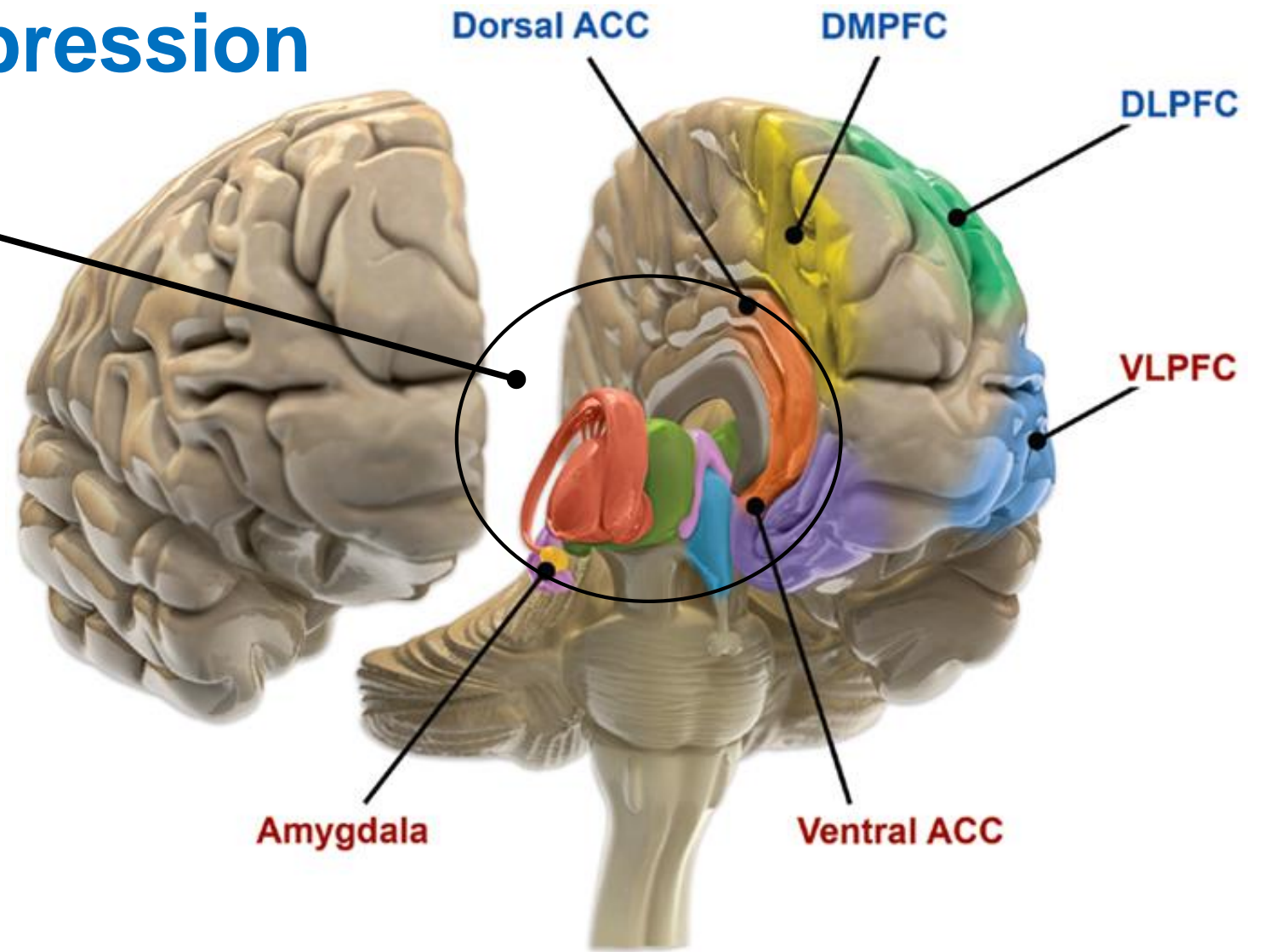


Accredited Exercise Physiologist (AEP)



Neuro-Biology Of Depression

Limbic System



DLPFC: Dorsolateral prefrontal cortex
VLPFC: Ventrolateral prefrontal cortex

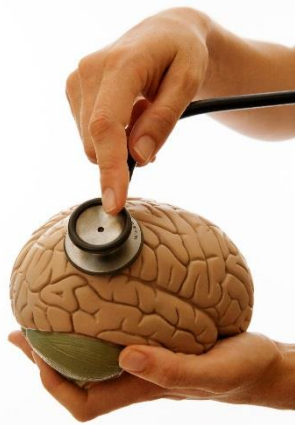
DMPFC: Dorsomedial prefrontal cortex
ACC: Anterior cingulate cortex

The Realities Of Mental Health

- 👉 One in 5 Australians (20%) aged 16-85 years experience a mental health episode in any year!
- 👉 The most common mental illnesses are depression, anxiety and substance abuse.
- 👉 Almost one half (45%) of all Australians will experience a mental illness in their lifetime!
- 👉 In Australia, mid- to late adolescence youth (18-24 years) have the highest incidence of mental illness.
- 👉 Estimates are that 54% of all individuals with mental illness do not receive treatment.
- 👉 But 74% of people who receive treatment experience dramatic improvement.
- 👉 Suicide is the leading cause of death in Australia for individuals aged 15-44 years!
- 👉 65,300 Australians attempt suicide every year!



Physical Disease vs. Mental Health



Physical damage?

Hypertension

Sedentary Living

Stress

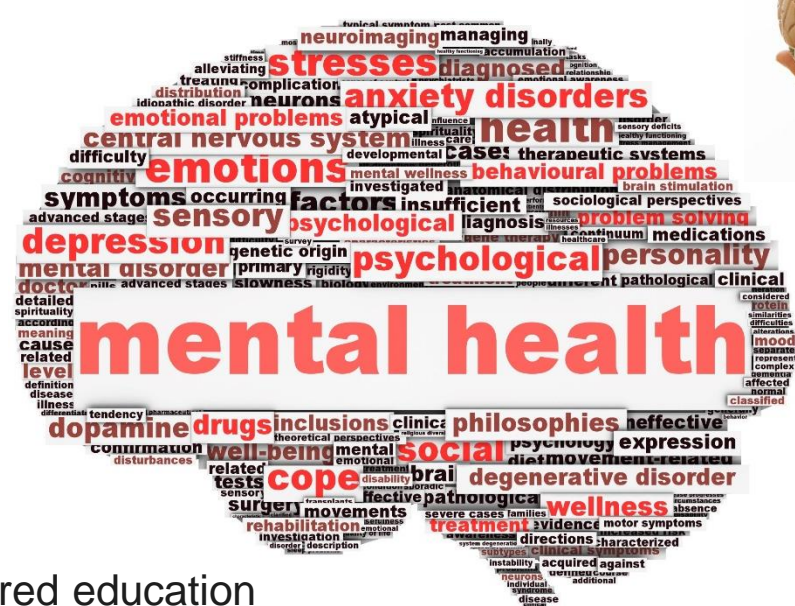
Genetics

Obesity

Smoking

Elevated Cholesterol & Blood lipids

Type II Diabetes



Risk factor education

Screening

Early Diagnosis

Interventions → ↓ Incidence & severity

Unstructured education

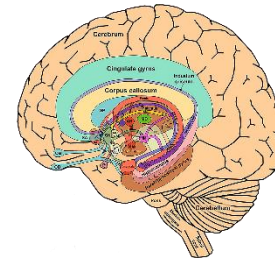
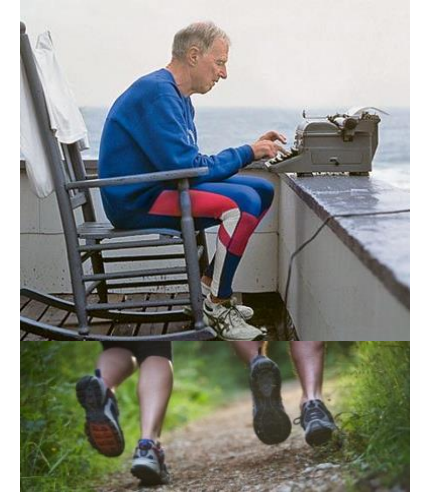
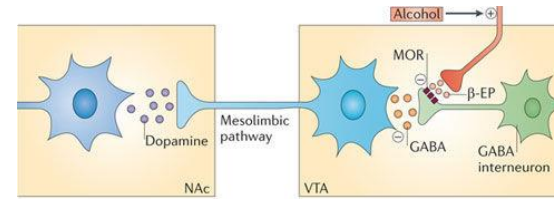
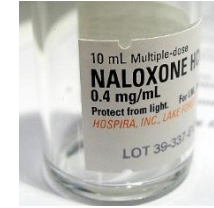
No screening

Diagnosis = Mental illness event

Interventions

The Messy Development Of The Distraction-Relief Theory

- My education
- My early research career
- Playing squash
- 1980's: George Sheehan's Runner's World column
- 1980-1990's: Endogenous opioid theory for exercise and mood
- Tim Noakes' Central Governor Theory
- October, 2013: My own experience with mental health
- The neurobiology of the limbic system
- Colleagues' and friends' children with autism
- 2015: Acute movement therapy at Bathurst Hospital Panorama Clinic
- 2017: ABC radio documentary: "The Source of Consciousness"



My Movement Therapy Program At Panorama Clinic



- Don't just walk!
- Move more vigorously if you can
- If not, move more complexly
- Incorporate mindfulness as a “cool down”
- Aim – to alter consciousness



Movement Recommendations



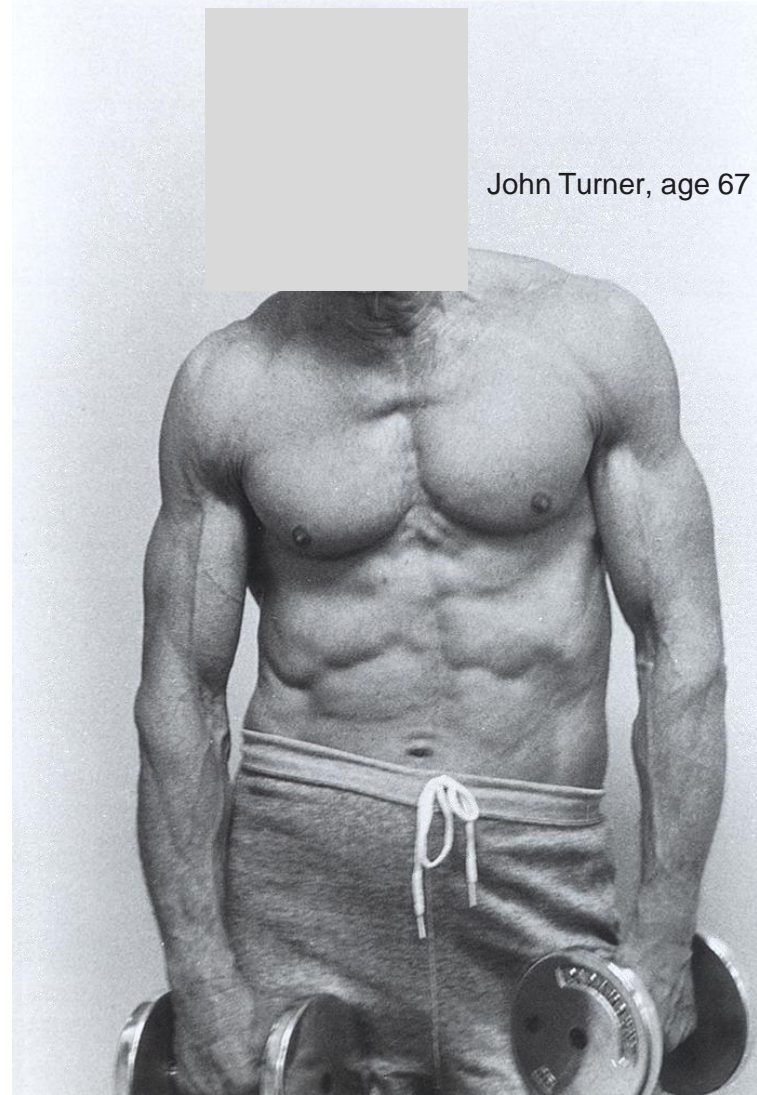
- 👉 Any foreign, or complex movement would be beneficial
- 👉 Exercise would also oppose sedentary lifestyle disease risk factors.
- 👉 If exercise is chosen, perform more complex movement.
- 👉 If exercise is chosen, and the individual's medical status is suitable, perform more intense exercise.
- 👉 The more acute the mental health condition, the less intense and more complex/foreign/sensory the movement should be.
- 👉 Unusual activities that have worked well for me?



Aging Can Be Active & Healthy!



What is your decision?



QUESTIONS ?



It is not how old you are, but how you are old!

Jules Renard