

Physical Activity and Exercise for Wellbeing

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Physiology of Ageing

- Interaction of lifestyle and genetic factors
- ↑ Total blood cholesterol
- ↓ Respiratory and cardiac parameters
- ↓ Total body blood and water volume
- ↓ Immunocompetance
- ↑ Susceptibility to disability and disease

Muscle mass and normal ageing

- ↓ Muscle mass
- 25% ↓ in muscle cross-sectional area
 - ↓ muscle strength and muscle power
 - 50% ↓ in muscle strength and 75% ↓ in muscle power

- Frailty and Sarcopenia
- ↓ balance confidence
 - ↑ incidence of falls
- ↓ functional ability
 - ⇒ losses of independence

As well as contributing to:

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

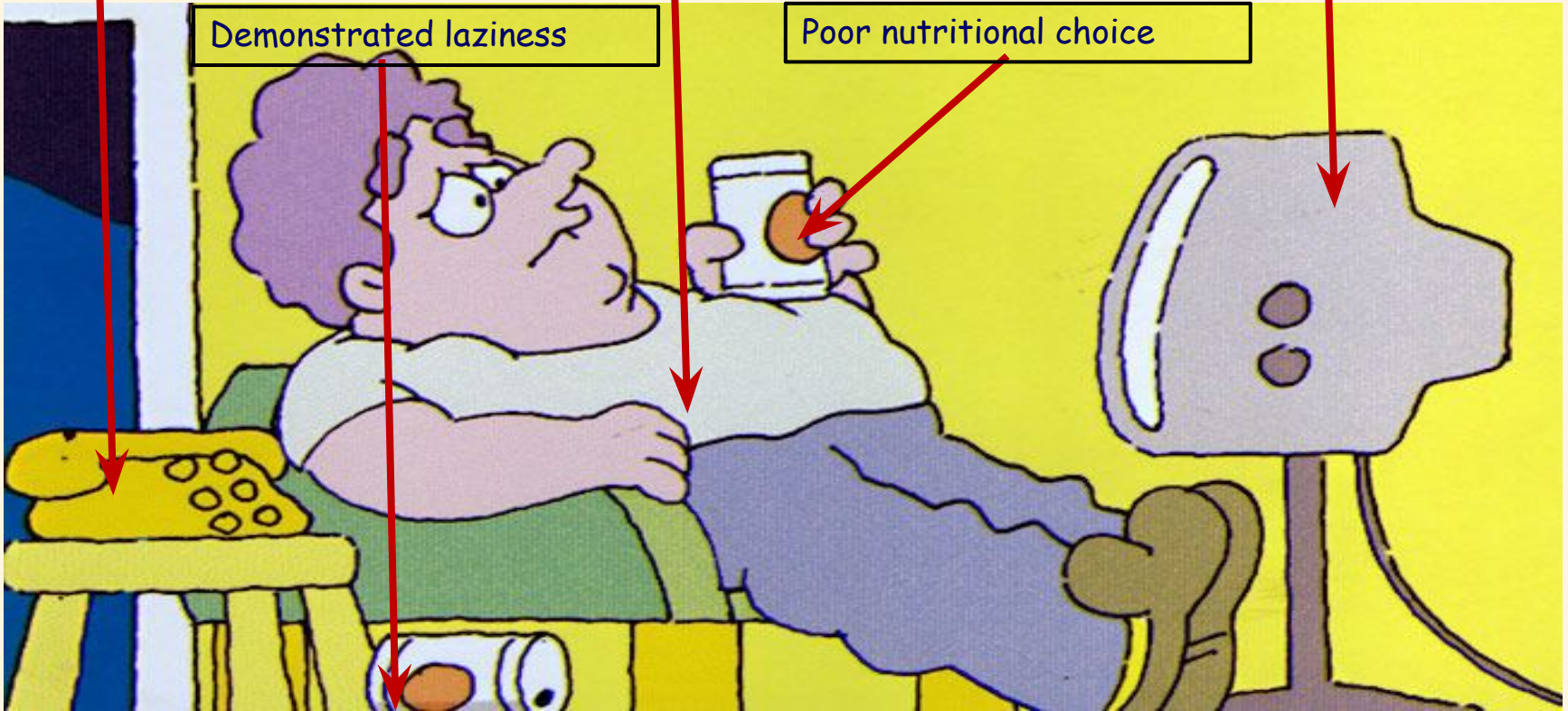
Convenient location of time saving devise

Obesity

Extended TV viewing

Demonstrated laziness

Poor nutritional choice



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The Benefits of Being or Becoming Physically Active

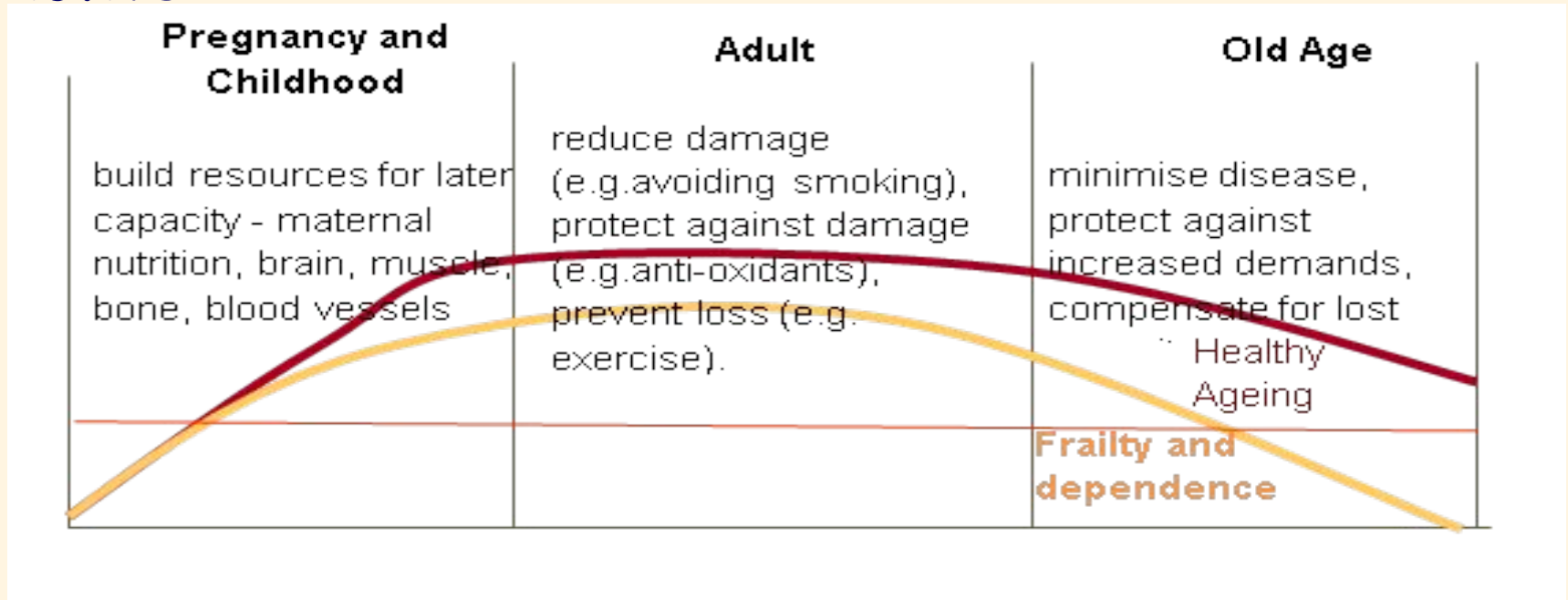


Figure: Health Promotion for Old Age. Adapted from Alexandre Kalache WHO

Exercise and the Older Adult - Benefits

- Improves cardiac and respiratory function
- ↑ Muscle parameters
 - ↑ Muscle mass
 - ↑ Muscle strength, muscle power and muscle endurance
 - ↑ Mitochondrial and capillary density
 - ↑ Functional ability
- ↓ Markers of inflammation
- Prevent further loss of bone mineral density

Exercise and the Older Adult - Benefits

- ↓ Body fat
- ↓ Symptoms of disease, depression and anxiety
- Improves sleeping patterns
- ↑ Balance, postural stability and flexibility
- ↑ Social interaction
- ↑ Quality of life
- ↑ Cognitive capacity
 - Prolonged independence

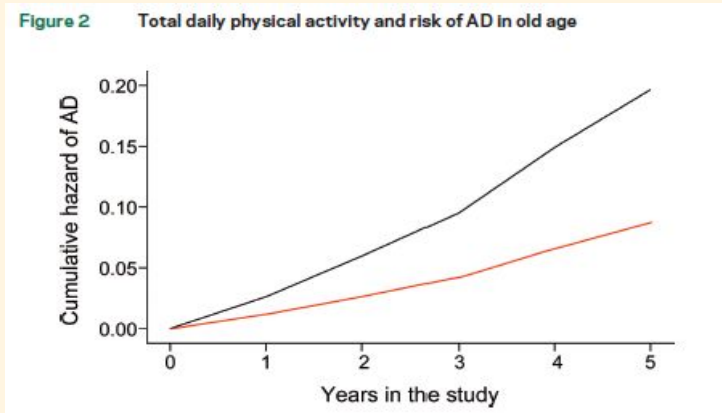
Exercise is Medicine



- <http://exerciseismedicine.org.au/public/factsheets>
- Preventative
- Symptom reduction

Dementia

Figure 2 Total daily physical activity and risk of AD in old age



Buchman et al. 2012

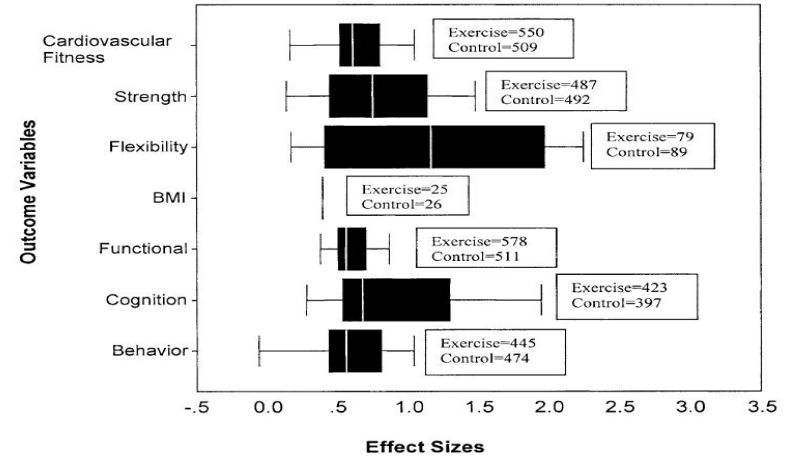


Fig 1. Exercise training outcome variables and ES values.

Heyn et al. 2004

Prehabilitation

Exercise undertaken by older adults pre-elective surgery:

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

EXERCISE PRESCRIPTION

- Mode/type
- Frequency
- Intensity
- Duration
- Environment
- Recovery
- Pain



Recommendations on physical activity for health for older Australians

Recommendation 1

- Older people should do some form of physical activity, no matter what their age, weight, health problems or abilities.

Recommendation 2

- 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.

Recommendation 3

- Older people should accumulate at least 30 minutes of moderate intensity physical activity on most, preferably all, days.

Recommendation 4

- 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.

Recommendation 5

- 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.



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"We don't stop playing because we grow old; we grow old because we stop playing." George Bernard Shaw 1856 - 1950



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