

HealthStyle

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“We know of no single intervention with greater promise than physical exercise to reduce the risk of virtually all chronic diseases simultaneously”

Booth et al MJA 2000

"If exercise could be put into a pill, it would be the single most prescribed medication in the world."

***Dr. Robert Butler, Former director
US National Institute on Ageing***

Exercise Physiologists

- **Specialist knowledge in therapeutic exercise prescription and instruction – particularly chronic disease prevention and mgt, but also post-acute musculo-skeletal, neurological, etc.**
- **3 - 4 year university degree qualified health professionals**
- **Accredited through professional body – Australian Association of Exercise and Sports Science (www.aaess.com.au).**
- **Eligible for Medicare allied health referrals through EPC care planning.**

Screening/Risk stratification

- **Basis for safe and effective exercise prescription – particularly type and intensity of exercise.**
- **Generally based on assessed likelihood of cardiovascular events/death – ie. risk factors and known CV/metabolic disease.**
- **Requires specialist knowledge/protocols.**
- **Indication for referral for specialist exercise advice:**
 - **Low risk – Referral generally not necessary**
 - **Moderate – Consider referral**
 - **High risk – Referral indicated**

Contraindications to exercise:

- Unstable angina
- Uncontrolled hypertension
- Severe aortic stenosis
- Uncontrolled diabetes
- Complicated acute MI within 3 months
- Untreated HF or cardiomyopathy
- Chest discomfort or dyspnoea at low intensity
- RHR > 100 BPM

Principles of exercise prescription

F.I.T.T

- ***Frequency*** – How many sessions?
- ***Intensity*** – How hard to exercise?
- ***Type*** – What exercise modality?
- ***Time*** – How long per session?

Intensity rating

$$\%APMHR = 220 - \text{age}$$

$$\%HRR = APMHR - RHR$$

Low <45% Moderate 45% - 65% High 65%+

Borg RPE Scale

Low 6-10 Mod 11-13 High 15+

Talk test

Low - slight increase in breathing

Mod - Deeper breathing and HR – but conversational

High – Much faster and deeper breathing

National Physical Activity Guidelines (for Adults)

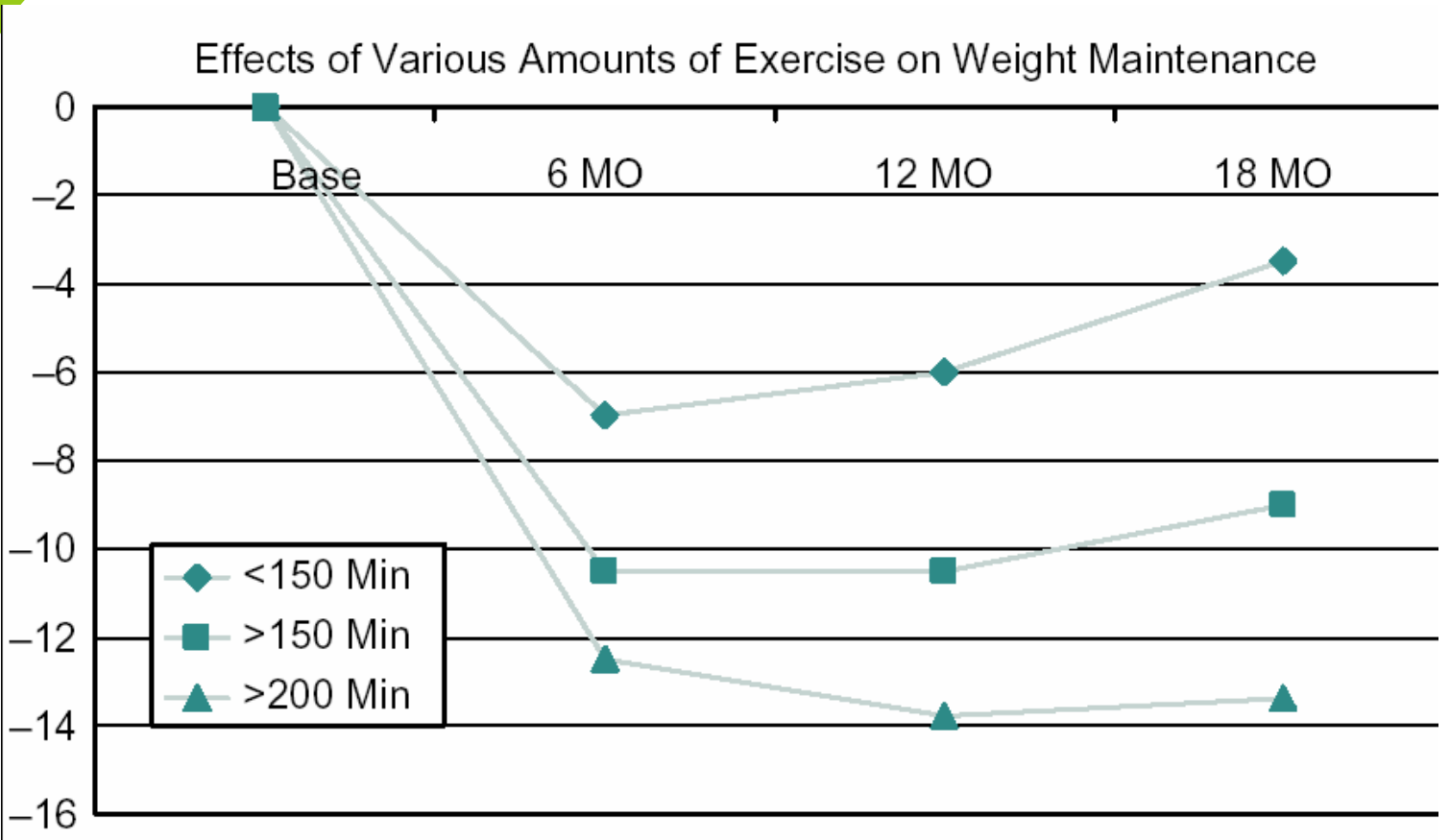
- View exercise as an opportunity not an inconvenience.
- Accumulate 30 minutes of moderate intensity activity on most, if not all days of the week.
- If possible try to undertake more vigorous activity

Weight management

- Intermittent exercise similar to continuous for weight management (3 x 10 minutes).
- Consensus is currently lacking on a specific exercise recommendation for weight loss and/or weight maintenance.
 - Weight loss 30 to 60mins moderate intensity per day
 - Weight maintenance 30 to 90mins per day.
 - Dose response - more exercise = more weight loss and greater weight maintenance.

Donnelly et al 2004 The role of exercise for weight loss and maintenance. Best Practice & Research Clinical Gastroenterology

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Adapted from Jakicic et al. [6]

Figure 5. Effects of various amounts of exercise on weight maintenance.

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Resistance training for weight loss

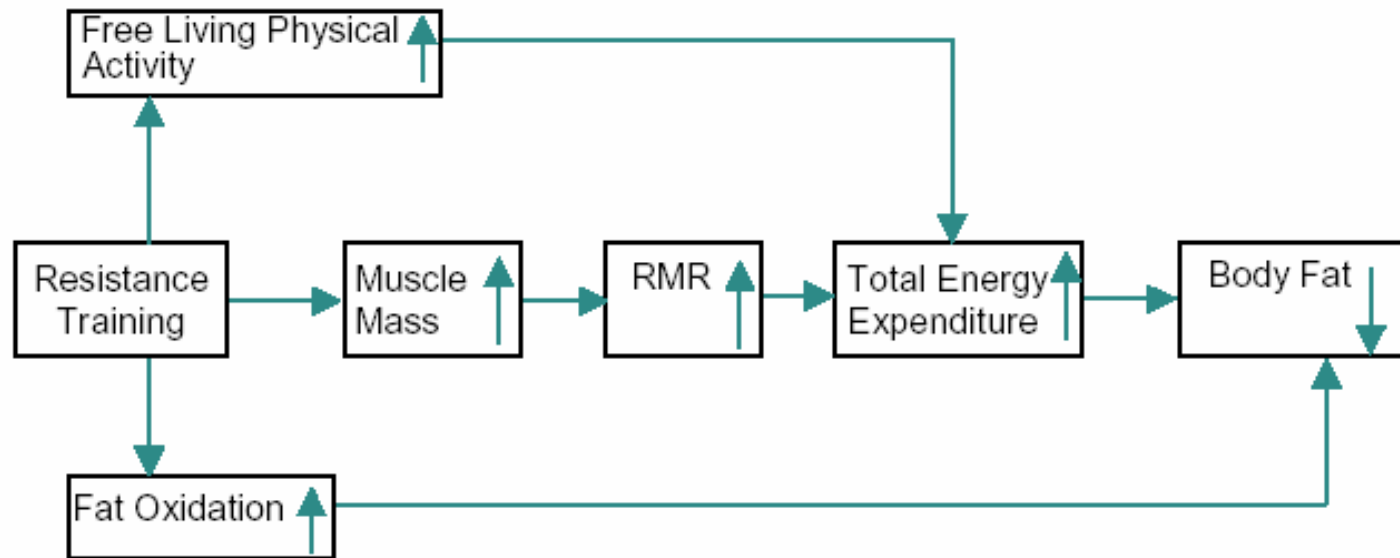


Figure 8. Conceptual model of resistance training and the potential effects on energy expenditure that includes both the energy expenditure from increased muscle mass and the potential energy expenditure from increased activities of daily living. RMR, resting metabolic rate.²¹

Depression

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SANE Research Bulletin 2: Mental illness and keeping well

What are the main health concerns of people with a mental illness?

	%
Stress and anxiety	73
Weight management	64
Physical inactivity	54
Smoking	37
Drug use	30
Sexual concerns	30

What do people with a mental illness do to keep well?

	%
Counselling	74
Exercise	57
Vitamins/ supplements	35
Yoga and relaxation	32
Dietitian	22
Natural therapies	20

physically active. This may reflect concerns about being overweight, associated with antipsychotic medication as a side-effect, as well as with poor diet and physical inactivity.

The use of self-prescribed vitamins and alternative therapies was also high, in line with their popularity in the general population.

How effective are these strategies?

	Ranking
Counselling	1
Exercise	2
Yoga and relaxation	3
Dietitian	4
Vitamins/ supplements	5
Natural therapies	6

After counselling, exercise was ranked as the most helpful strategy for keeping well.

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Recommendation 2: Referral by clinical services

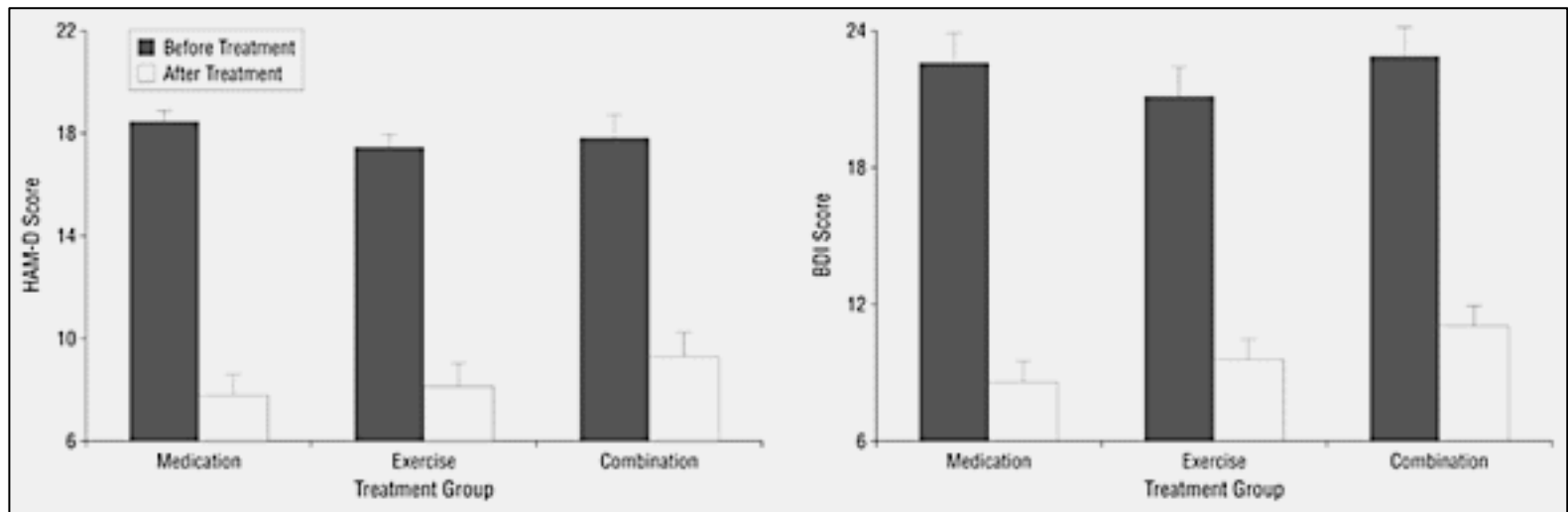
The most effective way to help people with a mental illness keep well is referral by health professionals to programs and services which promote an active, healthy lifestyle.

(www.sane.org Jan 2006)

Effects of Exercise Training on Older Patients With Major Depression

Blumenthal, J. A. et al. Arch Intern Med 1999;159:2349-2356.

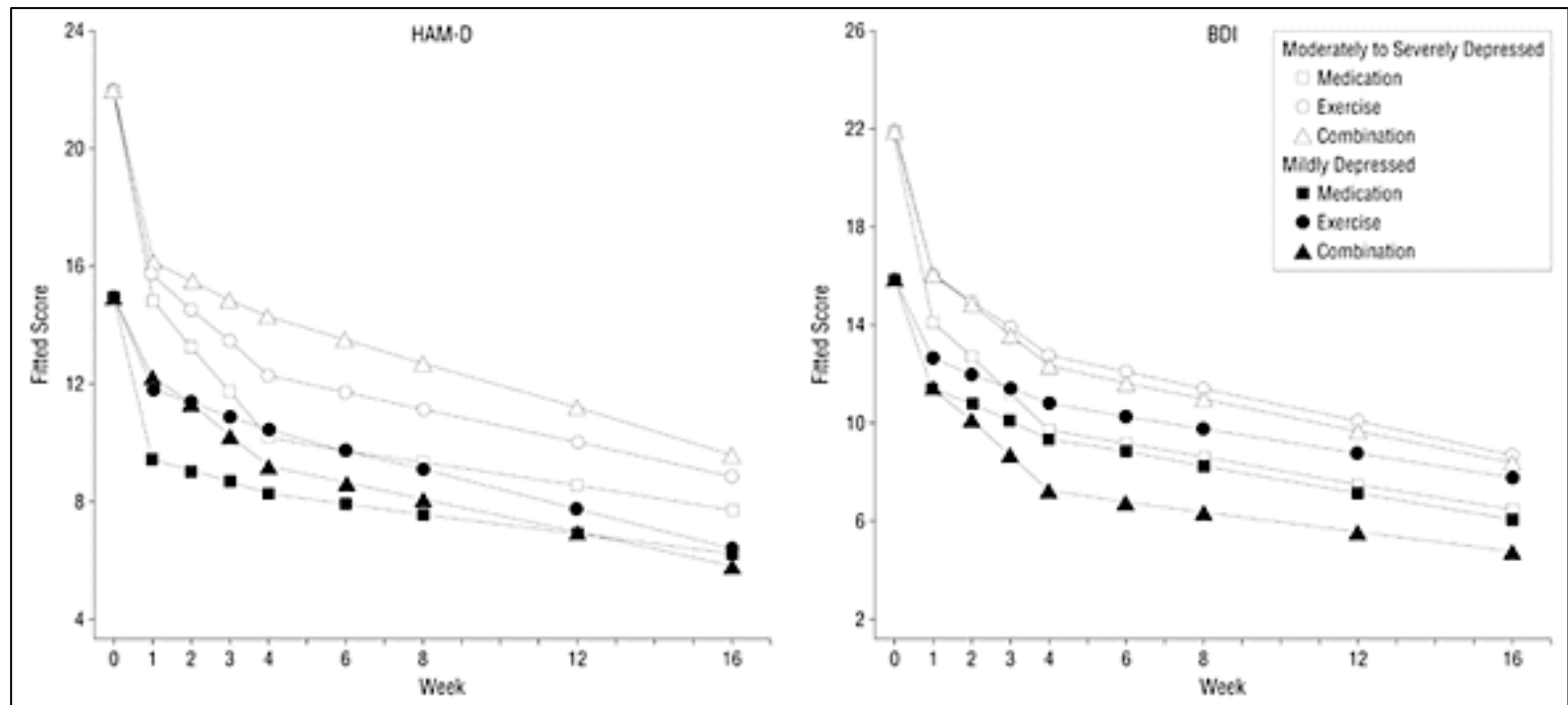
Observed mean depression scores before and after treatment



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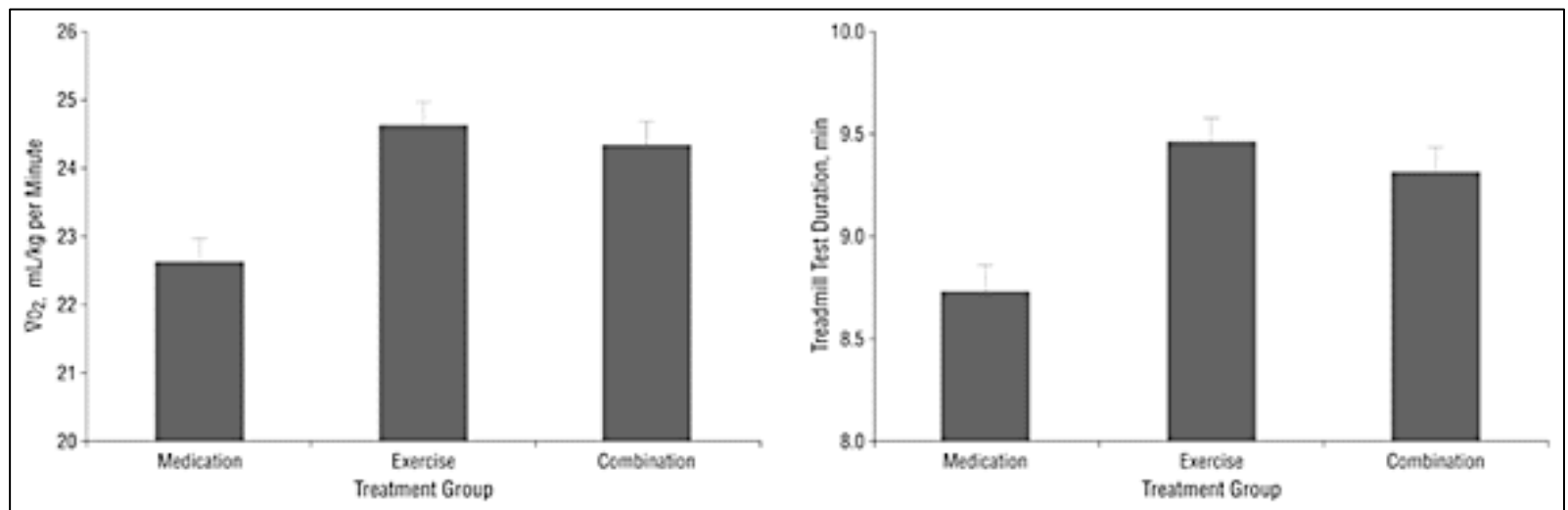
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Fitted values for Hamilton Rating Scale for Depression (HAM-D) (left) and Beck Depression Inventory (BDI) (right) across 16 weeks of treatment



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Mean aerobic capacity and exercise tolerance for each treatment group, adjusting for pretreatment levels of depression



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Coronary Heart Disease

Hambrecht et al. Percutaneous coronary angioplasty compared with exercise training in patients with stable coronary artery disease. *Circulation* 2004. 109: 1371-1378

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- 101 stable angina patients randomised to PCI or 12 months exercise.
- CV fitness improved 16%.
- Exercise \$3529 vs PCI \$6956.

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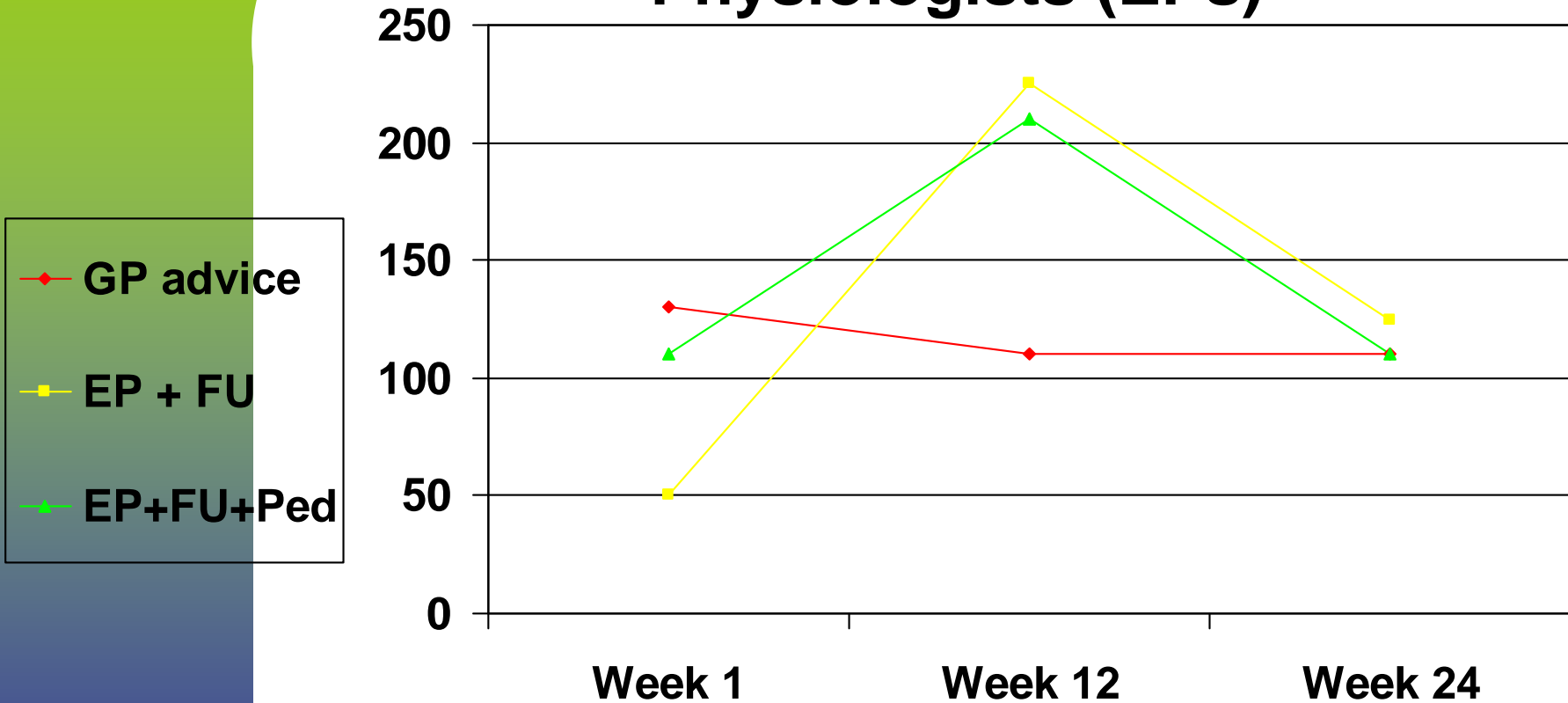
- Exercise training group had higher event free survival (88% vs 70%).
- Reduced hospitalisation and revascularisations.
- PCI faster angina relief - but 2x ↑ mortality or MI

***Impaired Glucose Tolerance/
Type 2 Diabetes***

Diabetes Prevention Program

- 3000+ people with IGT**
- Metformin vs Intensive lifestyle program**
- Lifestyle change individual and groups sessions over 24 weeks**
- Metformin – 31% reduction**
- Lifestyle program - 58% reduction**
- Medicare soon to fund individual and group interventions for T2D**

Links between GPs and Exercise Physiologists (EPs)



Armitt et al JSAMS Dec 2005 Promoting physical activity to older adults

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Evidence for prescribing exercise as therapy in chronic disease

Pedersen & Saltin Scand J Med Sci Sports 2006: 16 (Suppl. 1): 3 – 63

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<i>Insulin resistance</i>	Strong evidence	Moderate evidence	Limited evidence	No evidence
Patho-genesis				
Symptoms				
Physical fitness				
QoL				

Pedersen & Saltin Scand J Med Sci Sports 2006: 16 (Suppl. 1): 3 – 63

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COPD	Strong evidence	Moderate evidence	Limited evidence	No evidence
Patho-genesis				
Symptoms				
Physical fitness				
QoL				

Pedersen & Saltin Scand J Med Sci Sports 2006: 16 (Suppl. 1): 3 – 63

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