Physiotherapy and Exercise Physiology – where are the boundaries for exercise prescription?
Case presentation history

- Tom, a 25yo, 90kg welder, smoker, fell 3m at work and fractured his L tibia and R pelvis. Immed Management: Traction for 12 weeks in bed for fractured pelvis. At 6 weeks he developed basal pneumonia. His fasting blood glucose was 9mmol⁻¹.
Benefits of exercise – ‘The need is great’

- Disease prevention
- Physiological effects
  - Immediate
  - Long term
- Functional and Psychological
- Specific rehabilitation
People involved in recommending exercise

- Personal trainers
- Health professional and educators
- Occupational therapists
- Physiotherapists
- Exercise physiologists
- General practitioners
- Specialist medical practitioners
- Psychologists
- Coaches
Prescribing – requires advanced knowledge of the field

- Not a recipe/book/brochure
- Understanding of the context of both health and exercise domains
- Population (needs) specific
- Profession specific
Differences

- Anatomical vs physiological
- First contact/diagnosis
- Different tools in the toolbox
  - Electrotherapy
  - Nutritional training
  - Metabolic vs. neuromuscular

Similarities

- Specific university training
- Work environment (private practice, hospital, community, sporting groups….)
- Can work with similar populations
- Similar tools in the toolbox
  - Assessment: sit to stand, 6-min walk
  - Treatment: cardiopulmonary
Similarities and Differences: exercise

**Exercise Physiologist**
- Long term training programs
- Exercise for weight loss, lowering of blood lipids and blood pressure

**Physiotherapist**
- Range of movement exercises
- Flexibility exercises
- Proprioceptive exercise
- Balance exercise
- Mobilisation

**Common exercises**
- Cardiovascular fitness
- Respiratory fitness
- Strength training
Similarities and Differences: populations

Exercise Physiologist
- Physiology of exercise
- Healthy populations
- Prevention
- Metabolic disorders
- Athletes
- Obesity

Common Roles
- Return to work
- Cardiac and respiratory rehabilitation
- Precondition for surgery
- Outpatient
- Inpatient
- Private practice

Physiotherapist
- Anatomy of exercise
- Acute injury diagnosis and treatment – musculoskeletal, neurological and cardiorespiratory
- Chronic injury Management
Tom was confined to bed  PT
• organised hand weights for him to exercise his arms,
• foot and ankle exercises for his circulation for his R leg while the left was immobilised
• isometric leg exercises to maintain muscle mass.
• was shown breathing and coughing exercises for pneumonia.

When pelvis stable  PT
• organised mobilisation out of bed, with appropriate support
• had specific treatment for ankle stiffness and core stability (Pilates reformer)

Before discharge  EP
- Tom started a gym program with the Exercise Physiologist (EP), which continued as an outpatient. EP focused on resistance training to increase muscle mass for strength and improved glucose tolerance, and whole body exercise to improve cardiovascular fitness.
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