

# 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  $9\text{mmol}^{-1}$ .

## 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

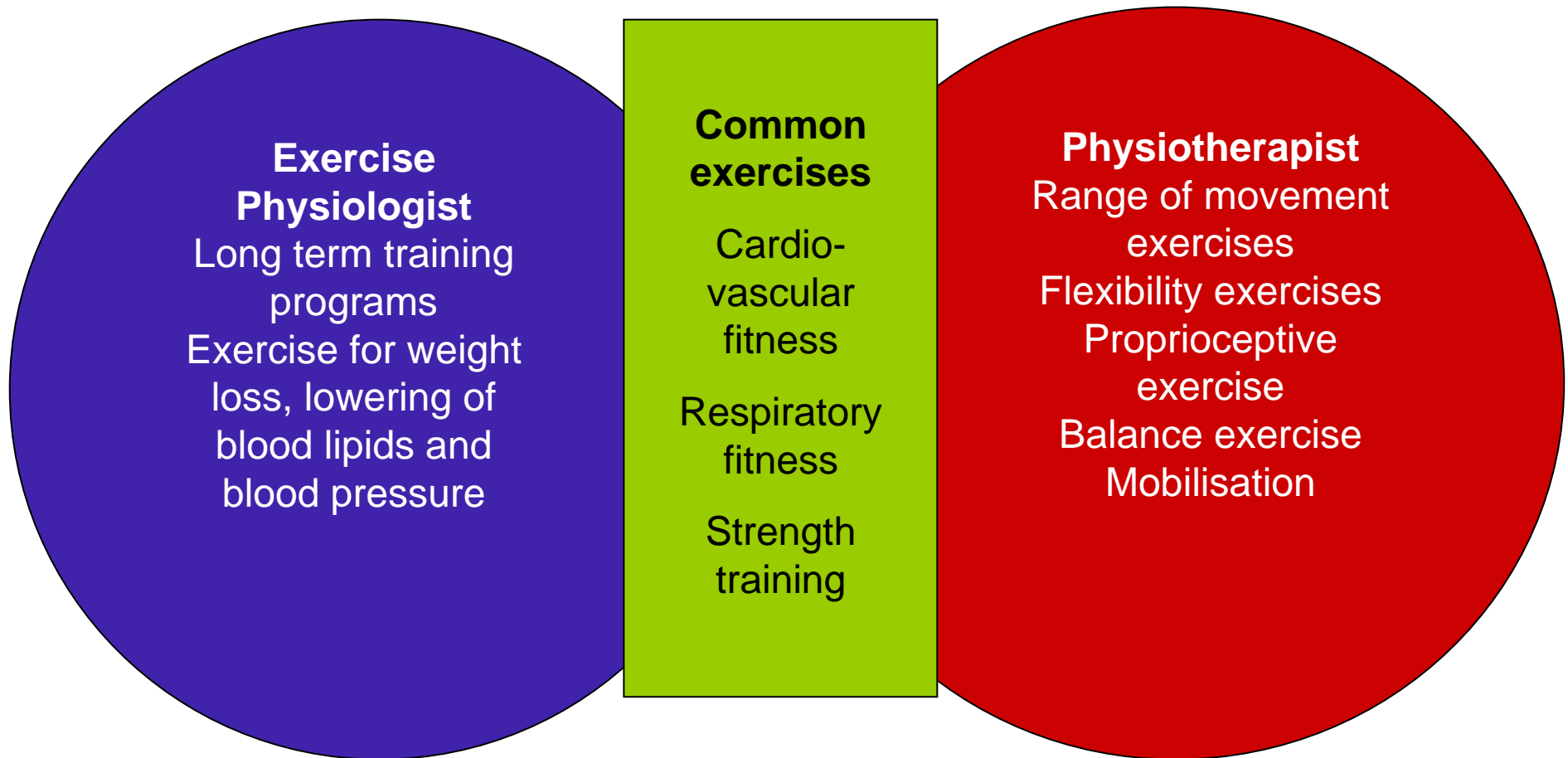
## ■ Differences

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

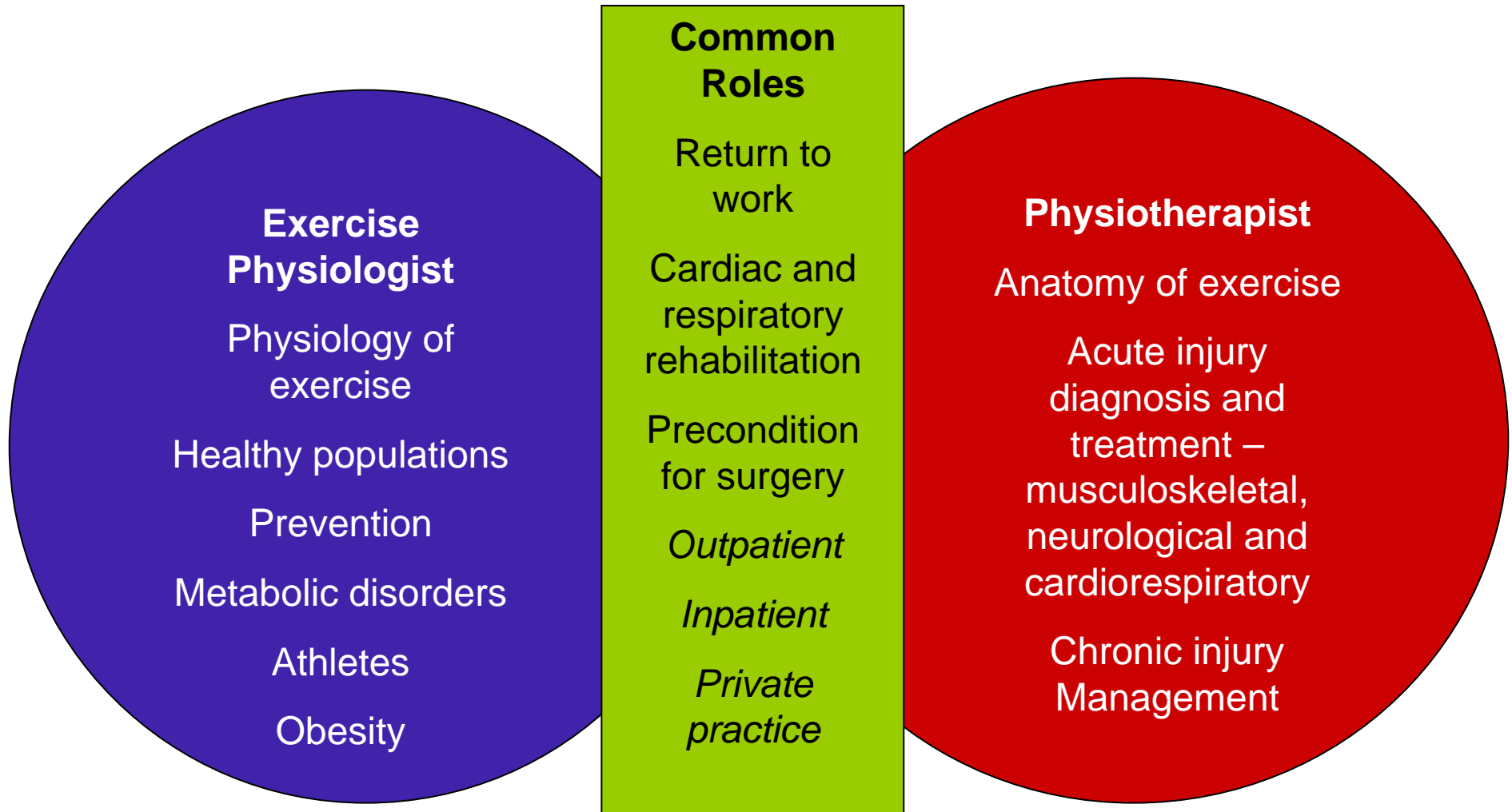
## ■ Similarities

- 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



## Similarities and Differences: populations





### **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.

## Prescriptions for exercise – exploring the boundaries

Patient

Insurer

Medical Practitioner

Physio

EP