

## **440 – Rethinking Movement Efficiency**

With Steven Bruce Helen Hall and Daniel Collis

### **Overview**

This discussion focused on the assessment and rehabilitation of dysfunctional movement patterns. The session included recorded illustrations of the use of a high-tech gait analysis system, as well as a live demonstration with a real patient. It explored the interpretation of functional testing, movement analysis, and the prescription of corrective strategies

---

### **Objectives of the Discussion**

- Introduce a repeatable observational system for functional movement analysis.
  - Demonstrate real-time application of clinical reasoning to patient presentation.
  - Encourage critical thinking about biomechanical interpretation.
  - Reinforce communication strategies for explaining findings to patients.
  - Highlight the value of movement-based assessment in musculoskeletal care.
- 

### **The Assessment Framework**

#### **Components**

- Observation of global movement
- Comparison between sides.
- Tracking of joint control and sequencing.
- Identification of driver segments (e.g. pelvis, ankle).

The method was used to examine a patient performing standing and dynamic movements, identifying dysfunctions in control, particularly involving the pelvis and foot.

---

### **Patient Examination**

Recordings of an assessment of a patient using motion analysis technology were used to illustrate the speaker's full examination process.

An abbreviated live assessment was conducted in the studio of a male patient using simple equipment (including a normal treadmill).

The findings were used to guide a functional diagnosis and form the foundation for targeted exercise prescription. Exercises using a rope and textured mats were demonstrated.

---

## **Rehabilitation Strategy**

The discussion explored how the findings translated into rehabilitation:

- Neurofeedback mechanisms were used to desensitise the feet.
- Foot stability/flexibility training was demonstrated.

## **Clinical Reasoning**

Emphasis was placed on:

- Avoiding overloading the patient with too many cues.
- Choosing exercises that are meaningful and tolerable.
- Recognising when dysfunctions are symptoms versus primary drivers.

---

## **Clinical Communication**

The speaker discussed how to:

- Explain complex biomechanics to patients using relatable language.
- Motivate adherence by connecting exercises to function and goals.
- Create shared understanding of findings and treatment expectations.

The importance of building patient confidence through positive reinforcement and achievable progression was stressed.

---

## **Relevance to Clinical Practice**

- Enhanced assessment skills: Viewers gain a model for structured movement analysis.
- Refined reasoning: Understanding the interplay between regional function and compensation patterns.
- Improved exercise prescription: Matching interventions to dysfunction origin and patient capacity.
- Communication skills: Translating findings into actionable language for patient buy-in.

---

## **Educational Takeaways**

- Functional assessments reveal meaningful patterns that may be missed with static or segmental exams.
- Biomechanical inefficiencies often present upstream or downstream from the area of reported symptoms.
- Care must be individualised, avoiding generic exercise routines in favour of task-specific rehabilitation.
- Real-time video analysis can augment clinical decision-making and help with patient explanation.
- Clinical improvement depends as much on engagement and communication as on technical skill.