

## The Maitland Approach to Orthopedic Management

Treating disorders of the spine with clinical reasoning

## Goals For Today

- To understand contributions of Geoff Maitland to modern orthopedic physical therapy practice.
- To understand the scope of the courses, PT720-721 in this semester and what are the expectations of faculty and tutors

## Definitions

- **Sign:** any finding in a joint or structure which is 'abnormal'
- **Symptom:** Something which the patient complains of
- **Clear:** Without signs. No signs means painless movement, but maybe not full movement

## Definitions

- **Active Physiological Movement:** movement performed by the patient
- **Passive Physiological Movement:** Physiological movement which are performed by the therapist

## Definitions

- **Passive Accessory Movement:** Movements available in joints which are performed passively by the therapist but which the patient cannot perform actively

## Australian/Maitland

Clinical Decision Making process that is assessment oriented following the meticulous acquiring of data from the patient's subjective examination and the physical therapist's objective assessment

## Australian/Maitland

- The development of a hypothesis related to the acquired applied treatment.
- Primarily, but not exclusively, the treatment approach utilizes passive accessory movements to normalize function

## Maitland's Contribution

<http://www.netspot.unisa.edu.au/pt/ajp.html>

- Articulations are graded
- Pain is treated with joint oscillations (I & II)
- III-IV Used to restore joint play
- Dysfunction is result of decreased ROM in a hypomobile joint.



## Principles of Treatment

Biomedical knowledge is mandatory to understand which structures are potentially relevant to the patient's symptoms

### HOWEVER

Specific techniques of assessment and treatment are chosen using Clinical Reasoning and the presenting signs and symptoms

## Maitland's Key Principles

- Clinical Assessment
- Mode of Thinking
- Irritability and Nature
- Pathology
- Role of Diagnosis (Diagnostic tests and procedures)
- Role of Theories
- Treatment of Pain and Stiffness

## Simple Steps to Remember

1. Collection of data (Examination)
2. Interpretation of data (Assessment)
3. Development of a treatment plan
4. Carry out the plan
5. Re-assess the results of treatment

## Clinical Examination

- An unremitting process where the patient is the most valuable source of information
- Focus of Examination is **DAILY**, **ANALYTICAL** and **DIFFERENTIAL**
- Focuses on the behavior of the patient's **COMPARABLE SIGN** and **SYMPTOMS**
- Follows an organized format to allow input of a variety of clinical data

## Clinical Assessment

- **HYPOTHESIS** generation and testing
- Lateral thinking enhances the process
- Vertical thinking may inhibit the flow of essential clinical information

## Clinical Assessment

- **DAILY** – in the clinic, or at home by the patient
- **ANALYTICAL** – ‘driving home’ – assessing your findings at a later date to more fully analyze the presenting condition
- **DIFFERENTIAL** – assessment has to determine the site of the lesion by testing any suspect areas and if appropriate, hypothesizing the tissues involved.

## Comparable Sign

- **Joint Sign**
  - Abnormal joint movement (may be observed or felt) i.e. stiffness, spasm, instability
- **Comparable Sign**
  - Joint sign (felt by therapist) that reproduce the patient’s symptoms, i.e. pain, instability, headache
- A joint cannot be considered clear or normal unless firm overpressure can be applied without pathological signs

## Hypothesis Generation

- **Site of the disorder** – joint, disc, ligaments, neurological, muscular
- **Mechanisms** – periph/central/autonomic
- **Management** – prior treatment and effects
- **Prognosis** – certain indicators exist
- **Precautions and/or Contraindications**
- **Predisposing factors** – over/disuse and posture

## K.I.S.S (Keep It Simple Stupid)

State the problem  
Prove it  
Do something about it

## Mode of Thinking

- Biomedical Knowledge
  - Anatomy
  - Physiology
  - Pathology
  - Biomechanics
  - Theories
  - What is known
  - What is believed
  - What may remain to be proven or is currently questioned

## Mode of Thinking

- Clinical Presentation
  - History
  - Signs
  - Symptoms
  - The patient
  - What you HEAR, SEE and FEEL
  - Clinical reasoning

## Irritability and Nature

- Irritability
  - How much activity?
  - Causes how much symptom provocation?
  - How long does it take to settle back to baseline?
- Nature
  - Mechanical vs Inflammatory vs Sinister

## The Irritable Disorder

- Characterized by
  - Constant pain or severe intermittent pain
  - Easily provoked
  - Long time to settle
- Examples – stages of whiplash, severe trauma, active nerve root irritation

## The Irritable Disorder

- Rest plays a important role
- Appropriate movement may:
  - Be beneficial for symptom relief
  - Lessen the chances of post inflammatory scar formation

## Irritability and Pathology

- Relationship between irritability and pathology
- The dominance of pathophysiological and pathomechanical responses to assessment and treatment

## Irritability

How vigorous can you be with your patient?

### •Irritable

- GR I and II
- Brief bouts
- Few bouts
- Short of barriers
  - Position of comfort
  - Preferred direction
- Early to mid range

### •Non-Irritable

- GR III, IV and V
- Longer bouts
- Numerous bouts
- Into barriers
- End of range

## Pathology

- Biomedical knowledge is mandatory for a thorough understanding of the importance of the patient's pathology, including:
  - Stage of pathology
  - Past and present history of pathology
  - Progression of the pathology
  - Mechanism of injury

## Pathology

- Pathological information may lead you to suspect certain tissues which may be involved but seldom in isolation
- Multi-factorial nature of pathology
- Beware of this diagnostics trap which may lead you to tissue based treatment
- Need to continue to use clinical reasoning skills

## Pathology

- The vast majority of our patients are multifactorial in nature:
  - Rehabilitation of an ACL rupture involves numerous tissues – ligaments, joints, menisci, muscles
  - Lumbar spine pathology is no different

## The Role of Diagnosis, Diagnosis Tests and Protocols

- Diagnosis must be respected, however, of itself is of limited value
  - If correct, it gives no indication of the stage of the disorder/pathology
  - Seldom describes other crucial tissue pathologies

## Diagnostic Tests

- Not all 'Gold Standard' tests are that 'Golden'
- Even if you can visualize tissue abnormalities, it may not be symptomatic and pain generating
- 30% of 30 yr olds have at least one asymptomatic bulging disc that shows on MRI

## Theories Play a Small Role (Added Perspectives)

- Theories of biomechanics (proven/unproven and questioned)
  - Seldom consider multiple tissues
  - Often lack in vivo studies
  - Lack of RCT's
  - Questioned: roll/spin/glide in shoulder, coupled in spine

## Theories Play a Small Role (Added Perspectives)

- Research theories (that are clinically unproven) may not apply
- If the theory fits the clinical presentation it may prove useful in the management of THAT patient

## Treatment of Pain and Stiffness

- Kind of dominant disorder determined from clinical assessment
- **PAIN**
  - Reduce, centralize and eliminate the pain
  - Grades I and II
- **STIFFNESS**
  - Produce the pain of the stiff dominant disorder, respect the pain, to move pain further out in range and use it to increase range (reduce stiffness)
  - Grades III and IV

## Patient Evaluation

- Obtain history
- Interpret data from history (Subjective Exam)
- Conduct physical examination
- Review of systems and special tests and measures (Objective examination)
- Interpret data from physical examination (Clinical decision-making)

## Design Plan of Care

- Establish treatment goals
- Choose assessment measures
- Determine treatment priorities (Education)
- Plan treatment approach
- Plan treatment strategy (Within health insurance of patient)

## Implement Plan of Care

- Patient education
- Procedure administration
- Assessment/Re-evaluation
- Assess treatment response
- Determine significance of changes
- Repeat, modify, or discard plan of care
- Evaluate and confirm/modify goals

## Questions?



