Joint Mobilization –Shoulder Saturday, March 24, 2018

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Joint Mobilization

THE TREATMENT OF MUSCULOSKELETAL DISORDERS BY PASSIVE MOVEMENT: AN INTRODUCTION

What is joint mobilization?

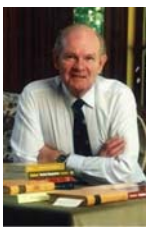
- Skilled passive movements performed in such a manner and speed that at all times they are within the control of the patient so that movement can be prevented if the patient so chooses.
- Can be used to describe both passive physiological and passive accessory movements

Treatment by passive movement vs. joint mobilization

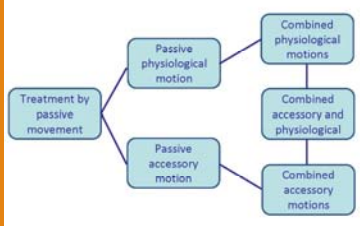
- Don't let the terminology limit your treatment options
- Often joint mobilization is thought of only as arthokinematic movements/accessory motions
- Treatment by passive movement allows for more options, creativity

"A technique is the brainchild of ingenuity"

Geoffrey Maitland



Treatment by passive movement: What are our options?



Accessory vs. Physiological Movement

Physiological movement – those movements that a person can carry out actively
- Also referred to as osteokinematic motion
- Flexion, extension, external rotation

Accessory movement – movements that a person cannot perform independently but can be performed on them by someone else
- Also referred to as arthrokinematics, joint play
- Glide, slide, roll, spin
- Compression, distraction

Selection of Technique - Considerations

- Diagnosis
- Arthrokinematic "rules"
- Recognition of clinical patterns
- Aspects of the technique itself
- Experience

Selection of Technique

Diagnosis

- A diagnostic label alone is of limited value when selecting passive movement techniques
- We must recognize that the same diagnosis can exhibit many different clinical presentations
- A definitive diagnosis is not always possible
- Etiology is often multifactorial

Staged Approach for Rehabilitation Classification: Shoulder Disorders (STAR–Shoulder)

Philip W. McClure, Lori A. Michener

Shoulder disorders are a common musculoskeletal problem causing pain and functional loss. Traditionally, diagnostic categories are based on a pathoanatomic medical model aimed at identifying the pathologic tissues. However, the pathoanatomic model may not provide diagnostic categories that effectively guide treatment decision making in rehabilitation. An expanded classification system is proposed that includes the pathoanatomic diagnosis and a rehabilitation classification based on tissue irritability and identified impairments. For the rehabilitation classification, 3 levels of irritability are proposed and defined, with corresponding strategies guiding intensity of treatment based on the physical stress theory. Common impairments are identified and are used to guide specific intervention tactics with varying levels of intensity. The proposed system is conceptual and needs to be tested for reliability and validity. This classification system may be useful clinically for guiding rehabilitation intervention and provides a potential method of identifying relevant subgroups in future research studies. Although the system was developed for and applied to shoulder disorders, it may be applicable to classification and rehabilitation of musculoskeletal disorders in other body regions.

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[McClure PW, Michener LA. Staged approach for rehabilitation classification: shoulder disorders (STAR-Shoulder). Phys Ther. 2015;95:791–800.]

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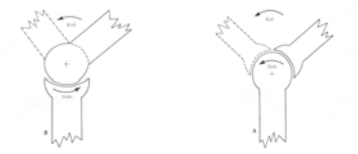
Concave – Convex rule

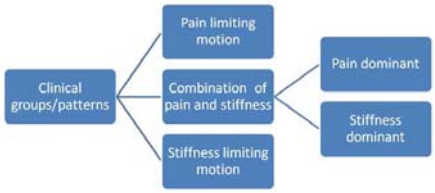
- Convex moves on concave, roll and glide in opposite directions
- Concave moves on convex, roll and glide in same direction



Convex – Concave Rule

- It doesn't always work
- Johnson AJ, Godges JJ, Zimmerman GJ, et al. The effect of anterior versus posterior glide joint mobilization on external rotation range of motion in patients with shoulder adhesive capsulitis. J Orthop Sports Phys Ther. 2007;37:88-99.

Selection of technique guided by clinical presentation



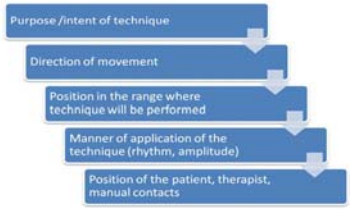
Assessment: S I N S

- Severity
- Irritability
- Nature
- Stage

Assessment – S I N S

- Driving concept for much of what we do
  - Type of examination – provoke symptoms, not to provoke symptoms
  - Intervention – selection of technique
  - prognosis

Aspects of the Technique

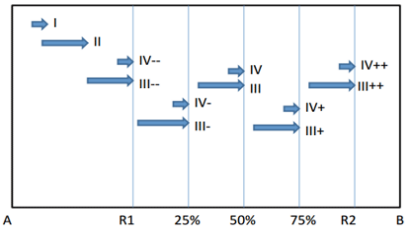


Selection of Technique

Grades of Movement Used to Describe:

- The amplitude of the technique
- The position in the range where the technique is performed
- The vigor of the technique
- Can be uses to describe accessory or physiological motions

Grades of Movement



Grades of Movement

Grade 1 – a small amplitude movement in the resistance free portion of range

Grade 2 – a large amplitude movement in the resistance portion of range

Grade 3 – a large amplitude movement into resistance

Grade 4 – a small amplitude movement into resistance

Grade 5 – a high velocity, small amplitude thrust

Selection of Technique: Pain Dominant Presentation

Pain through range and pain is to be avoided

- Least painful position
- Technique comfortable and comforting
- Amplitude as large as possible without provoking pain or increasing baseline pain
- Begin with passive accessory motion, as pain eases progress to passive physiological motion

Selection of Technique: Pain Dominant Presentation

- Smooth rhythm
- Short duration
- Slow speed

Pain dominant – recommended techniques

- Posteroanterior movement – arm by the side
- Longitudinal movement, arm by the side
- Glenohumeral rotation

Pain dominant presention

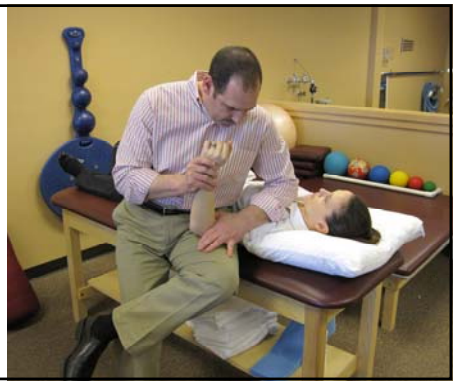
Posterior to anterior movement – arm by the side

Pain dominant presentation

Longitudinal caudad, arm by the side

Pain dominant presentation

Glenohumeral rotation through pain free range



Stiffness Dominant

- Passive physiological movements – flexion, abduction, external rotation
- Passive accessory motion – inferior glide, anterior glide, posterior glide
- Combined motions – passive glides with passive physiological

Selection of Technique

End of range, stiffness dominant
- Quicker, staccato movement
- Respect discomfort based on SINS
- Longer duration

Selection of Technique

Stiffness dominant presentation
- End of range position
- Firm technique
- Small amplitude
- Combined motions

Stiffness dominant presentation

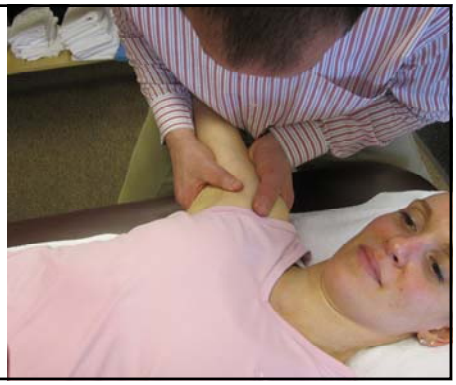
Passive physiological motion, grade IV

Stiffness dominant presentation

Passive physiological grade IV, external rotation

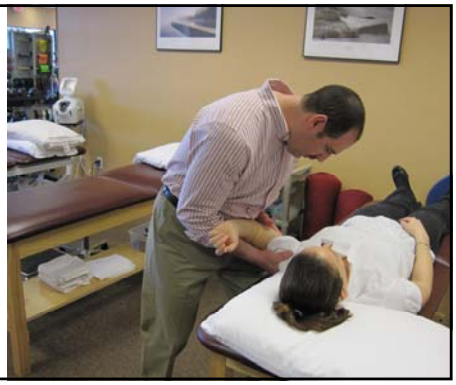
Stiffness dominant presentation

Passive accessory, inferior glide in abduction



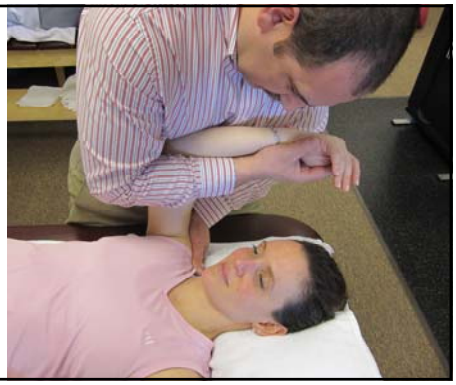
Stiffness dominant presentation

Combined passive physiological rotation with anterior glide



Stiffness dominant presentation

Combined physiological flexion/external rotation with accessory motion/glide



Stiffness Dominant

How firm can you be?

- The "vigor" of the technique - how far into resistance are you willing to push?
- Relationship between pain and resistance on movement testing
- Irritability response from the previous treatment
- The history of the disorder, stability/stage

Treatment Planning Worksheet

What do you think you will be treating?

- Pain
- Resistance/stiffness
- Pain and stiffness, pain dominant
- Stiffness and pain, resistance dominant

Treatment Planning Worksheet

Pain dominant

- How quickly to you think you will progress to treating resistance?

Resistant dominant

- To what extent do you intend to respect pain?

Treatment Planning Worksheet

What is your first choice of treatment?
- Type of movement
- Direction of movement
- Grade
- Duration

Treatment Planning Worksheet

What do you anticipate the response being over the next 24 hours?

How do you expect the patient to present on day two?
- Symptoms
- Signs

Treatment Planning Worksheet

What treatment will you choose if…

- The patient is worse as a result of the initial treatment
- The patient is the same
- Symptoms are improved, no change is signs
- Symptoms are worse, signs are improved

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