The SFMA consists of 10 fundamental movement patterns that help identify meaningful impairments seemingly unrelated to the primary complaint. 1

**Interventions**

- Interventions were performed using a reset, reinforce, reload structure for a given pattern when it was dysfunctional.
- **Reset**: decrease pain or restore mobility
- **Reinforce**: therapeutic exercise to protect reset
- **Reload**: integrate new gains into functional strengthening pattern

**Results**

- SFMA movement patterns

**Figure 12.** Hamstring stretch (HS) to restore hip mobility

**Figure 13.** Heel elevated toe touch reinforces HS length and promotes posterior hip shift

**Figure 14.** Deadlift with posterior hip shift strengthens movement in the corrected pattern

**Figure 15.** Interventions focused on symptoms first before progressing to mobility, then stability exercises

**Discussion**

- The SFMA helped identify subtle impairments remote to the site of pain which may have been missed with a uniplanar.
- **RI**: identified by the SFMA, surfaced in this patient as impairments at the shoulder, thoracic spine and hip and were determined to be contributors to the patient's LB.
- A joint-by-joint pattern emerged and guided intervention as therapists believe that limited ROM at the hip, thoracic spine and shoulder were leading to compensation at the lumbar spine which is designed for stability and doesn’t tolerate excessive movement.
- Resolution of mobility and stability impairments with a focus on motor control resulted in improved functional movement patterns.
- According to Cook, these basic functional movements are the foundation for higher skills and athletics such as weight lifting and soccer in this patient’s case.
- Without a foundation for proper movement, even young active athletes are susceptible to injury.

**Figure 20.** Emphasis should be placed on gaining a foundation of proper functional movement before a focus shifts to performance and skill, especially in an athlete.

**Conclusion**

The SFMA is a useful tool to qualitatively analyze movement and identify dysfunction at, and remote to, the site of pain in order to effectively develop a plan of care and guide treatment in a youth athlete with LB. It would be beneficial to continue to explore its application, validity and associated outcomes in various musculoskeletal injuries.

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**References**


**Figure 1.** The joint-by-joint theory by Mike Boyle

**Figure 7.** Schematic of the SFMA with movements performed when inverted:

- **Cervical Flexion**: The patient could not flex his neck because his ribs were restricted. The patient could not reach his chin to his chest.
- **Cervical Extension**: The patient could not extend his neck because he couldn't reach his chin to his chest.
- **Cervical Rotation**: The patient could not rotate his neck because he couldn't reach his ear to his shoulder.
- **Lateral Rotation Abduction (LRA)**: The patient could not rotate his neck because he couldn't reach his ear to his shoulder.

**Figure 17.** Special tests from initial exam to discharge:

- **Joint Mobility**
  - Thoracic Spine: 2/6
  - Ribs: 2/6
- **Pain Rating**
  - Best: 2/10
  - Worst: 7/10
- **Modified Thomas Test**
  - Positive
- **Patrick’s Test (FABER)**
  - Positive

**Figure 18.** At discharge, the only SFMA pattern that remained DN was right MRE. The patient was never able to reach the inferior angle of his scapula.

**Figure 19.** The MRE pattern was functional on the left at the time of discharge.