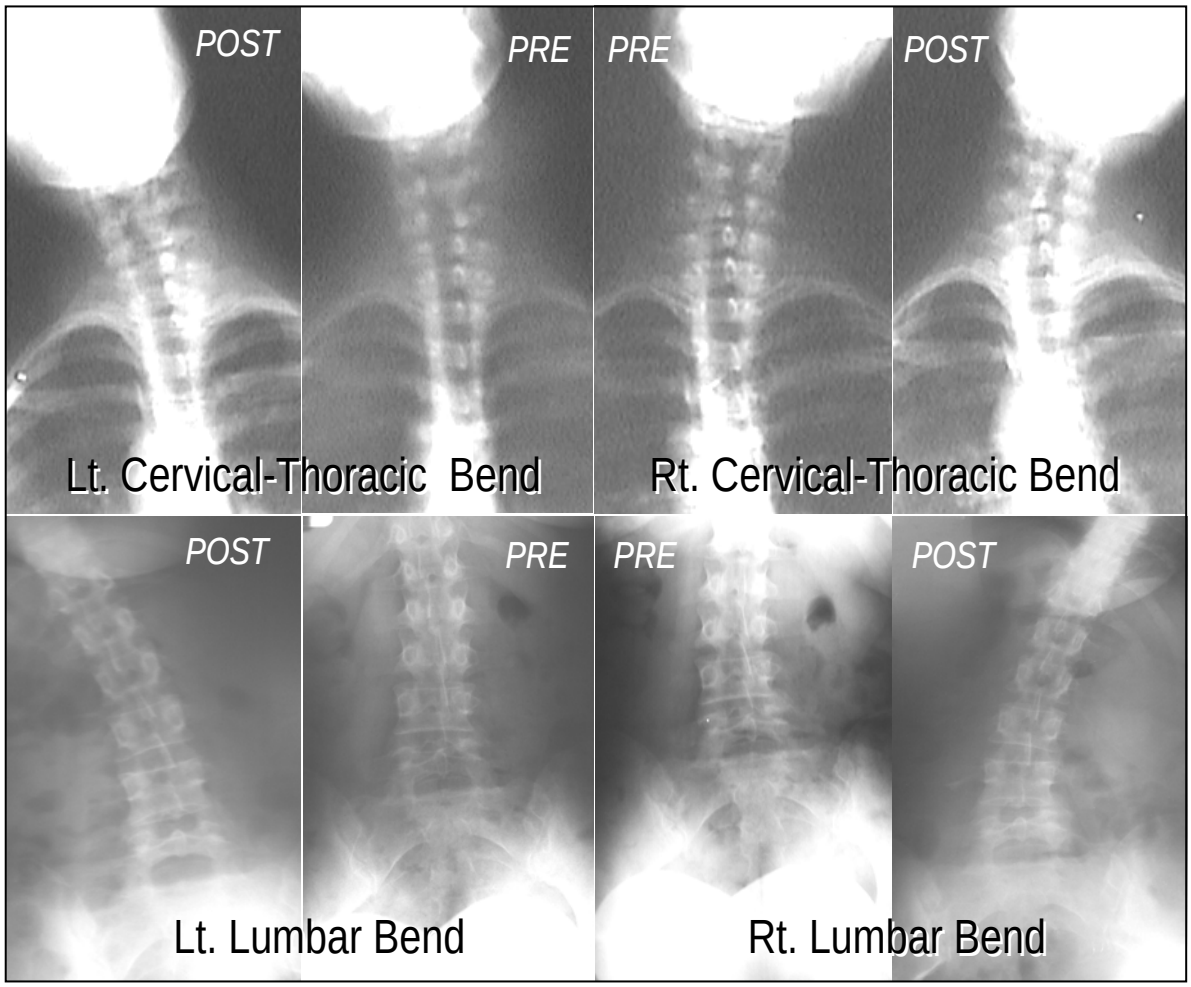
Fibrosis Release Procedures *including* Manipulation Under Anesthesia



A handbook defining the mobilization, myofascial release, and spinal adjustive procedures for the Primary and Secondary Doctor of Chiropractic

Edward Roberts, BSME, MBA, DC
Edward Cremata, DC, FAFICC
Stephen Collins, DC, FAFICC

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What is FRP-MUA...

Fibrosis Release Procedures, including Manipulation Under Anesthesia (FRP-MUA) are neither new nor experimental. They are multi-disciplinary outpatient procedures that take place in a controlled hospital or ambulatory surgical setting, usually over the course of three days. Using specialized chiropractic techniques supported by the expertise of MD's, and RN's, FRP-MUA achieves favorable results for properly selected patients. [3]

FRP-MUA procedures are a combination of specific spinal adjustments, muscular lengthening techniques, and articular mobilizations that are designed to release articular and myofascial adhesions and fibrosis that restrict articular and myofascial movements and interfere with the patient's ability to respond to in-office stretching, mobilization, and spinal adjustive procedures[1, 2] After medical clearance, the patient is anesthetized to achieve total relaxation.[3]

With follow-up stretches and other specific protocols, FRP-MUA can eliminate or greatly reduce pain and restore or greatly improve range of motion for patients who are not finding relief through conventional treatment.

Who may be a good candidate for FRP-MUA...

FRP-MUA procedures are medically necessary when painful and restricting muscular guarding interferes with the performance of manipulative procedures, mobilizations, and soft tissue release techniques in the acute patient, or when fibrosis-maintained articular and myofascial adhesions cannot be adequately released with a reasonable trial of chiropractic procedures in the chronic patient. FRP-MUA procedures are most commonly used for the management of chronic patients who have not adequately responded to a reasonable trial (two months minimum) of conservative management that has included spinal manipulation.

General indications that MUA could be effective include [7] :

- Herniated disc without fragmentation
- Chronic myofascitis
- Intractable pain from neuromusculoskeletal conditions
- Torticollis
- Chronic re-injury
- Failed back surgery
- Chiropractic patients who have reached a plateau.

The waiting time recommended to determine whether or not conservative in-office approaches will offer adequate improvement for a patient depends upon the severity of the patient's injuries, the amount of disability and functional impairments present, and the patients physical ability to participate in treatment programs. [3, 4]

FRP-MUA procedures should not be introduced so early in the patient's care that a reasonable time period has not been given for conservative in-office measures to improve the patient's condition. The physician must then balance this consideration with the risk of continuing with these conservative in-office measures, which are unlikely to adequately cure and relieve an injured worker's condition, as this may delay recovery and increase treatment costs.

Are there any Contraindications...

Generally speaking, contraindications to FRP-MUA procedures include those contraindications that apply to spinal manipulation and fibrosis release procedures for patients who are conscious. Additionally, the consulting medical physician must consider anesthesia risks to the patient. Contraindications include, but are not limited to [6] :

- Malignancy with metastasis to bone
- Tuberculosis of the bone or other infectious disease
- Recent fractures
- Acute arthritis
- Acute gout
- Uncontrolled diabetic neuropathy
- Syphilitic articular or periarticular lesions
- Gonorrheal spinal arthritis
- Excessive osteoporosis
- Disc fragmentation
- Direct nerve root impingement that would contradict spinal manipulative therapy
- Evidence of cord or caudal compression by tumor, ankylosis, or other space-occupying lesion. This includes severe spinal canal stenosis from any cause, which is considered to be the primary cause of the patient's symptoms and disability.

Expectations during the Procedure...

On the day of the FRP-MUA procedure, the patient must be accompanied by a responsible party to drive the patient home after the procedure. No patient will be allowed to drive following this procedure. The patient then consults with the anesthesiologist, is gowned and the appropriate drugs are administered to achieve the optimal level of anesthesia that makes treatment possible. [3]

If the full spinal procedure is performed, the FRP-MUA procedures begin with specialized techniques that first methodically start in the lumbar spine, then moves on to the thoracic spine, and finally into the cervical spinal regions. [3]

The flow chart is a recommended process flow based on experience and efficiency. Each step in the process has a specific goal to release adhesions, dramatically increase range of motion, and remove intersegmental fixations utilizing the spinal adjustment. Each procedure is performed two times with a four to six second hold. Following the process flow chart is a step-by-step description with pictures of the FRP-MUA process.

What are the Follow-up Procedures...

After the FRP-MUA procedures are complete, the patient is awakened and then taken to recovery where they are carefully monitored by the operating room nurse. Recovery is generally fifteen to thirty minutes. [3]

The follow-up articular and myofascial release procedures are one of the most important components of the FRP-MUA process and dramatically increase its effectiveness, tapering off over an eight-week period. These procedures improve alignment of collagen fibers (healing tissues) in the areas of original restriction (improperly healed tissues).

During regular office visits, the chiropractor repeats an identical set of release procedures, therapy, and spinal adjusting first made possible under anesthesia. Patients also perform stretches and other exercises on their own, to maintain and enhance pain relief and mobility long after the formal follow-up procedure.

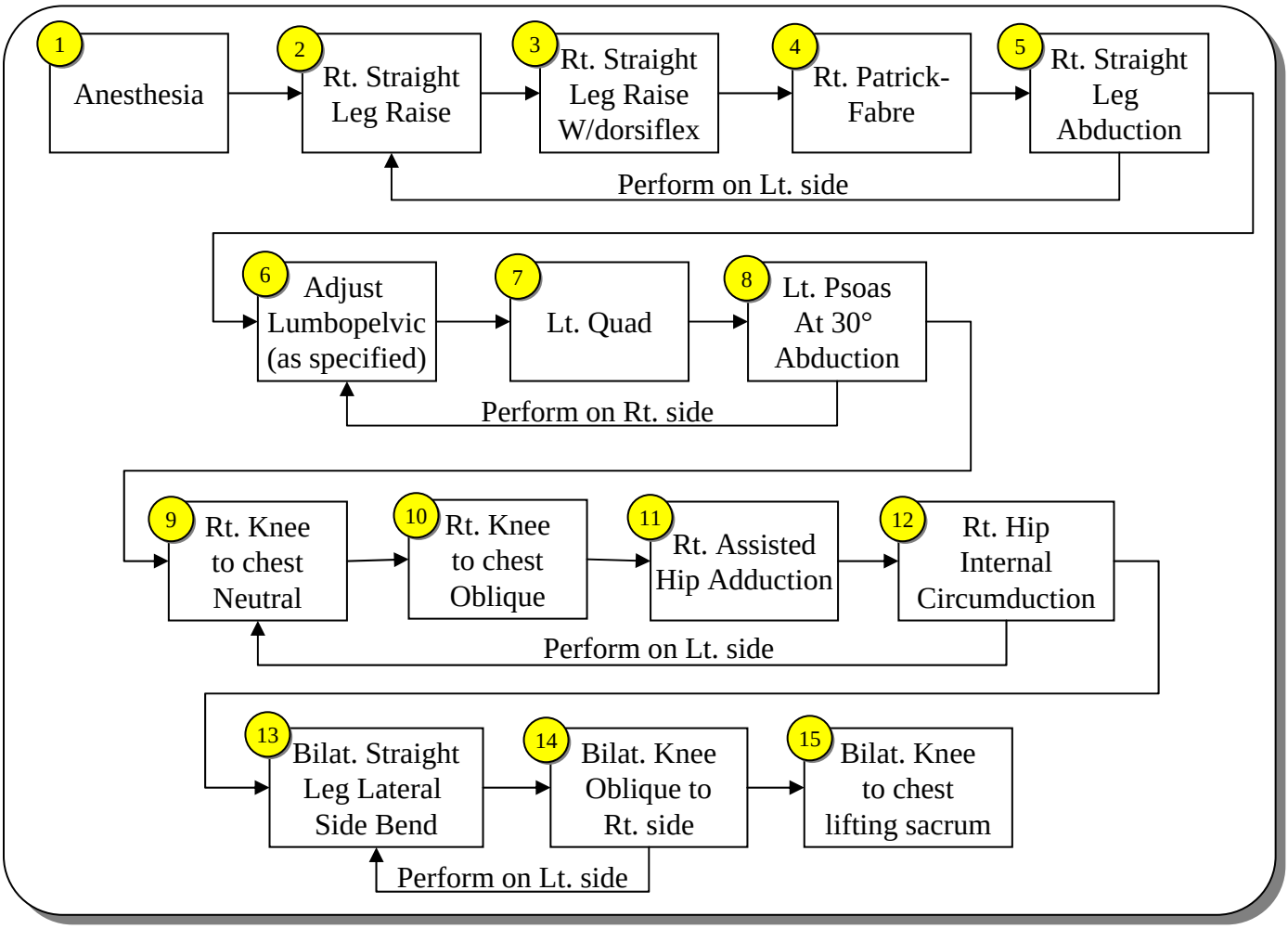
This regimented program of post-FRP-MUA therapy will help the patient regain both pre-injury strength and help prevent future pain and disability.[3] Astounding results are reported after two months; and after six months, major disabilities may be fully eliminated.

Who can Legally Perform FRP-MUA...

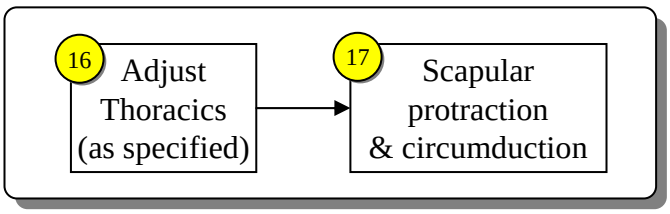
Chiropractors who perform FRP-MUA procedures in California must be certified by a CCE-accredited, Chiropractic College-sponsored certifying agency that has been approved by the Board of Chiropractic Examiners. [5]

FRP-MUA Process Flow

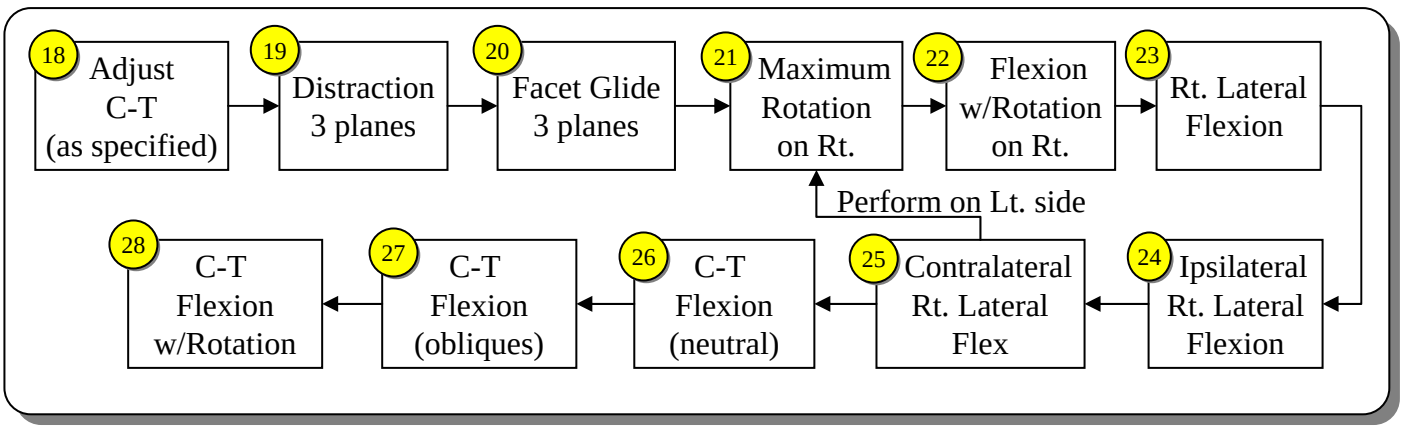
Lumbar/Pelvic Procedures



Thoracic/Scapular Procedures



Cervical/Thoracic (C-T) Procedures



1. Anesthesia

The anesthesiologist administers the necessary drugs to induce and maintain the analgesia, inhibit the ascending pain pathways in the CNS (brain & spinal cord), which usually provide an amnesia of the procedure.

Drugs commonly used (or equivalent): *Diprivan, Fentanyl, & Verced*

2. Straight Leg Raise

The primary doctor raises the ipsilateral leg on shoulder supporting below knee on thigh to keep leg straight. The secondary doctor holds contralateral thigh above knee on the table.

Goal: *to achieve the maximum end range for that patient*

Myorelease: *Secondary doctor releases Hamstrings*

3. Straight Leg Raise with Dorsiflexion

The primary doctor dorsiflexes the ipsilateral foot, then performs the straight leg raise as above. The secondary doctor holds contralateral thigh above knee on the table.

Goal: *to achieve the maximum end range for that patient*

Myorelease: *Secondary doctor releases gastrocnemius & soles (calf muscles)*

4. Patrick-Fabre

The primary doctor places the ipsilateral ankle on thigh or medial to knee on the table. While stabilizing the contralateral ilium the doctor pushes the ipsilateral leg towards the table.

Goal: *to achieve the maximum end range for that patient*

Myorelease: *Secondary doctor releases adductors (inner thigh muscles)*

5. Straight Leg Abduction

The primary doctor pulls the ipsilateral straight leg from above the knee into abduction. The secondary doctor holds contralateral thigh above knee and pelvis on the table.

Goal: *to achieve the maximum end range for that patient*

Myorelease: *Secondary doctor releases Adductors & Gracilis (inner thigh muscles)*

6. Lumbar/Pelvis Spinal Adjustment

Both doctors rotate the patient for side posture adjusting. The secondary doctor holds the patients foot in the popliteal fossa of the below leg and the primary doctor delivers the adjustment. The patient is adjusted from both sides.
Goal: *to remove intersegmental fixations*

7. Quadriceps Stretch

While the patient is on their side the secondary doctor pulls the top thigh and leg into extension. The primary doctor supports the pelvis and lower leg on the table.
Goal: *to achieve the maximum end range for that patient*
Myorelease: *Secondary doctor releases Quadriceps*

8. Psoas Stretch

While the patient is on their side the secondary doctor pulls the top straight leg into extension at a 30 degree angle being careful to pull above the knee. The primary doctor supports the pelvis and lower leg on the table.
Goal: *to achieve the maximum end range for that patient*

9. Single Knee-to-Chest (Neutral)

The primary doctor flexes the ipsilateral leg and thigh to the patients ipsilateral axilla. The secondary doctor holds contralateral thigh above knee and shoulder on the table.
Goal: *to achieve the maximum end range for that patient*
Myorelease: *Secondary doctor releases posterior thigh muscles distal to the ischial tuberosity*

10. Single Knee-to-Chest (Oblique)

The primary doctor flexes the ipsilateral leg and thigh across the patients chest obliquely. The secondary doctor holds contralateral thigh above knee and shoulder on table.
Goal: *to achieve the maximum end range for that patient*
Myorelease: *Secondary doctor releases posterior thigh muscles distal to the ischial tuberosity*

11. Assisted Hip Adduction (cross-body)

The secondary doctor pulls the patients contralateral thigh to the ipsilateral side contacting above the knee. The primary doctor supports across the patients trunk and medial thigh.

Goal: *to achieve the maximum end range for that patient*

12. Internal Hip Circumduction

With downward pressure of the primary doctor on the distal femur circumduct the hip with emphasis on internal rotation. The secondary doctor holds contralateral thigh above knee and shoulder on the table.

Goal: *to remove adhesions from the hip joint*

13. Bilateral Straight Leg Lateral Side Bend

The primary doctor crosses the patients contralateral leg on top and pulls above the knee the entire lower body to the ipsilateral side. The secondary doctor supports across the abdomen and has a forearm in the patients axilla. Important to keep contralateral hip on the table.

Goal: *to achieve the maximum end range for that patient*

14. Bilateral Knees Oblique Across Chest

The primary doctor flexes the ipsilateral legs and thighs obliquely to the patients ipsilateral shoulder. The secondary doctor supports across the abdomen and has a forearm in the patients axilla.

Goal: *to achieve the maximum end range for that patient*

15. Bilateral Knees to Chest with Sacral Lift

Both doctors flex the patients knees to their chest while lifting the patients sacrum. Caution should be used when patient has canal stenosis or spondylolisthesis.

Goal: *to achieve the maximum end range for that patient*

16. Thoracic Spinal Adjustment

Cross the patients arms with the ipsilateral arm on superior. The primary doctor places a cupped hand over the posteriorly misaligned segment and provides an A-P thrust into the table. The secondary doctor adds slight traction during the adjustment.

Goal: *to remove intersegmental fixations*

17. Scapular Protraction & Circumduction

With the patients contralateral arm crossed superior, the primary doctor reaches across the patient and moves the contralateral scapula in a circular and lateral direction. The secondary doctor stabilizes across the patients abdomen.

Goal: *to reduce articular and myofascial adhesions*

18. Cervical Spinal Adjustment

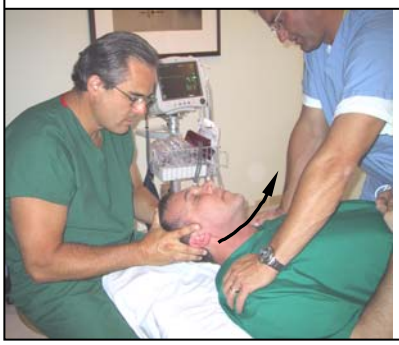
The primary doctor contacts the vertebral segment at level of fixation and provides a gentle thrust. Effort to reduce cervical extension and rotation should be made. The secondary doctor stabilizes across the shoulders.

Goal: *to release intersegmental fixations*

19. Distraction (three planes: neutral, left, & right)

The primary doctor, while cupping the occiput pulls the head cephalad, then moves obliquely to the right and left. The secondary doctor stabilizes across the shoulders.

Goal: *to release articular and myofascial adhesions*



20. Facet glide (three planes: neutral, left, & right)

The primary doctor glides the head through each facet plane in the neutral and oblique planes to the right and left. The secondary doctor stabilizes across the shoulders.

Goal: *to release articular and myofascial adhesions*

21. Maximum Rotation

The primary doctor maximally rotates the head right and left through its normal range of motion. The secondary doctor stabilizes across the shoulders.
Goal: *to achieve the maximum end range for that patient*

22. Maximum Rotation with Flexion

The primary doctor flexes the patients head forward, rotates the upper cervical segments to maximum rotation, then moves the head further into flexion. The secondary doctor stabilizes across the shoulders.
Goal: *to achieve the maximum end range for that patient*

23. Lateral Flexion

The primary doctor laterally flexes the head to the ipsilateral shoulder to its maximum lateral flexion. The secondary doctor stabilizes across the shoulders.
Goal: *to achieve the maximum end range for that patient*
Myorelease: *lateral cervical muscles*

24. Lateral Flexion with Ipsilateral Head Rotation

The primary doctor laterally flexes and rotates the head to the ipsilateral shoulder through its normal range of motion. The secondary doctor stabilizes across the shoulders.
Goal: *to achieve the maximum end range for that patient*
Myorelease: contralateral *neck musculature*

25. Lateral Flexion with Contralateral Head Rotation

The primary doctor laterally flexes and rotates head away from the ipsilateral shoulder through normal range of motion. The secondary doctor stabilizes across shoulders.
Goal: *to achieve the maximum end range for that patient*
Myorelease: contralateral *neck musculature*

26. Cervical-Thoracic (C-T) Flexion (neutral plane)

The primary doctor places flat palms crossed under patients upper thoracic spine and flexes the head forward. The secondary doctor stabilizes across the shoulders.

Goal: *to achieve the maximum end range for that patient*

Myorelease: *posterior cervical muscles*

27. Cervical-Thoracic Flexion (oblique plane)

With flat palms crossed under patients upper thoracic spine and flexed C-T region move with patient through an oblique plane. Secondary doctor stabilizes across the shoulders.

Goal: *to achieve the maximum end range for that patient*

Myorelease: *posterior cervical-thoracic muscles*

28. Cervical-Thoracic Flexion with Rotation

The primary doctor places flat palm under patients upper thoracic spine and flexes the head forward then maximum rotation. Secondary doctor stabilizes across the shoulders.

Goal: *to achieve the maximum end range for that patient*

Myorelease: *posterior cervical muscles*

What Does Scientific Evidence Say About FRP-MUA...

Numerous studies support the efficacy and safety of the FRP-MUA process for properly selected patients over the past several decades. The most recent review was published in THE SPINE JOURNAL in 2002. The authors, Frank Kohlbeck, DC and Scott Haldeman, DC, MD, PhD, did a literature review of "MUA" (49 articles) and concluded the following:

"Medication-assisted spinal manipulation therapies have a relatively long history of clinical use and have been reported in the literature for over 70 years. However, evidence for the effectiveness of these protocols remains largely anecdotal, based on a case series mimicking many other surgical and conservative approaches for the treatment of chronic pain syndromes of musculoskeletal origin.

If a clinician recommends or offers, and a payer reimburses, surgery, injections, epidurals, and certain physiological therapy approaches to patients without requiring substantial proof of effectiveness and safety, then it would be difficult to deny the use of medication-assisted manipulation or fail to reimburse for it." [7]

What Does the Patient Say about FRP-MUA... [3]

"I constantly had burning pain; it just never would go away, even with treatment, and after MUA it was gone."

"The best thing about MUA is it gives you your life back."

"I can live a much better life free of pain and I'm not constantly taking pain pills."

"The first day I could feel some improvement, but the second day is when I could feel a major difference . . . and the third day I remember saying to my wife when I woke up, 'I can't believe I'm actually getting out of bed without an ache' . . . and from there on out it's just gotten better."

Special Thanks to...

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References...

1. Centers for Medicare and Medicaid Services. Empire Medical Services: Medical Policy Bulletin Freedom of Information
2. National Academy of MUA Physicians. www.muainfo.com.
3. Industrial Medical Council, ad hoc committee for MUA consensus.
4. Texas Chiropractic College, Department of Continuing Education, MUA Certification Program, Robert Francis, DC, PhD, Director.
5. State of California, Board of Chiropractic Examiners Document; signed by Raymond Ursillo, DC, FICC, Board Consultant.
6. www.spine-health.com
7. The Spine Journal. 2(2002)288-302. Technical Report; Medication-Assisted Spinal Manipulation. Frank Kohlbeck, DC (UCLA), Scott Haldeman, DC, MD, PhD (UC Irvine).