Muscle Balancing:

TREATMENT OF THE SHOULDER COMPLEX

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Muscle Balancing (MB) is a manual therapy technique that focuses on treating protective muscle spasm by inhibiting muscle spindle activation, thereby decreasing afferent impulses to the brain. By interrupting this pathway, the muscle resumes a normal resting tone thus relieving muscle tenderness, protective muscle spasm, fascial tension, joint hypomobility and pain.

Since MB treats protective muscle spasm in as little as 90 seconds, every massage therapist should consider utilizing this efficient technique to improve pain free range of motion and function. MB is very easy to perform and can be easily integrated into any treatment session. Below is an example of how to use information from a criterion based assessment to successfully incorporate MB into your massage practice.

When we first meet a client, the question we all face as practitioners is where do I treat? Do I treat locally at the site of pain, or do I search more globally for the cause of dysfunction? Then, once we decide where to treat, we need to decide which manual therapy technique to use, and that depends what on what is causing the pain and dysfunction. Is it muscle, joint, facia, fluid or from an energetic emotional problem? Treating with an inappropriate technique in an inappropriate area is not only inefficient for our clients, but could even be harmful. Without some type of criteria, how can we as practitioners discern what the patient needs?

Before we can decide which manual therapy technique to use, including MB, we need to have a clear understanding of the source of the problem. To do that, each session should begin and end with an assessment. At the D'Ambrogio Institute (DAI), the preferred treatment approach begins with a patient history and a Total Body Evaluation (TBEV) to determine lines of tension throughout the body that may be influencing the area of complaint. Through this assessment, we can identify certain criteria to determine an effective and safe treatment approach.

Shoulder Dysfunction Case Study

Client: Male

Age: 32

Chief complaint: Right shoulder pain 6/10 with activity and limited shoulder abduction 110 degree.

History: Lifting heavy wife's suitcase while on vacation

Evaluation consists of ARTS:

- **The A stands for Asymmetry:** Evaluate for Postural Asymmetry in the sagittal, frontal and transverse planes in both standing and sitting positions.

- **The R stands for Range of Motion:** Evaluate the active and passive range of motion (AROM/PROM) of the cervical, thoracic and lumbar spine, rib-cage, diaphragms, upper and lower extremities. Assess for any restrictions.

- **The T stands for Tension Tests:** Evaluate for tension in the cervical, thoracic and lumbar spine, rib-cage, upper and lower extremities looking for a soft, supple and springy end-feel. A hard and restrictive end-feel indicates a local lesion.

- **The S stands for Special Tests:** Evaluate using specific orthopedic and dynamic tests to confirm findings.

If lines of tension are found during the TBEV that contribute to the local area of complaint, then Total Body Balancing (TBB) treatment is indicated. If there are no lines of tension found during the TBEV that contribute to the local area of complaint, then a Specific Local Evaluation (ARTS) is indicated to determine the appropriate local treatment approach.

In this case, the assessment did not reveal any other lines of tension except for the right shoulder. Therefore, he did not meet the criteria for a TBB and a more specific shoulder assessment is indicated.

Specific Local Evaluation (ARTS)

- Asymmetry of Local Bony Landmarks of the shoulder in all three planes. Compare affected and non-affected side
  - In this case, the right shoulder appeared depressed compared to the left.
- Range of Motion (ROM) Tests. Evaluate AROM first then PROM of the shoulder complex, looking and feeling for asymmetry and limited motion.
  - In this case, the client demonstrated limited shoulder abduction 100 degrees.
- Tension Tests: Evaluate by performing a tension test on the joints that affect the shoulder complex. Joint hypomobility or stiffness indicates a positive test.
  - In this case, there was minimal tension found in the joints of the shoulder complex.
- Tissue Texture Changes: Evaluate the affected arm looking for bogginess. A positive test indicates swelling.
  - In this case, there were minimal tissue texture changes detected.
- Tissue Tenderness: Palpate the muscles of the shoulder complex and evaluate for tenderness using a Numeric Pain Rating (NPRS) Scale (0-10). A reported 7-10/10 level of tenderness on palpation would indicate protective muscle spasm in the muscle.
  - In this case, a reported tenderness of 8/10 was found in the right subscapularis muscle.
- Special Tests: Special Tests are used to help clarify the cause or source

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> of local dysfunction. Usually, they are specific to an area or tissue being tested.

- Perform a Fascial Glide Test for fascial tension.
- Perform a Nodal Evaluation Techniques and a Limb Weight Test for swelling.
- Orthopedic Tests
- In this case, no significant results were found.

Criteria for the use of MB technique with shoulder dysfunction

MB is indicated when:

• No lines of tension are found during the TBEV that contribute to the local area of complaint.

• Asymmetry found in one of the 3 planes of the joint complex.

• Decreased AROM and PROM of the involved joint.

• Positive Tender Point Evaluation with one or more muscles with significant tenderness rated at least a 7/10 on a 0-10 Numeric Pain Rating Scale.

• Minimal Tension Test of the involved joint.

• Minimal Tissue Texture changes of the involved area.

• Minimal Fascial Glide Test of the involved area.

If we apply the above criteria to the client in this case:

• There were no lines of tension found during the TBEV that contributed to the shoulder pain and dysfunction.

• The right shoulder was depressed compared to the left.

• The client had limited right shoulder abduction to 100 degrees.

• The client reported an 8/10 level of pain and tenderness using an NPRS.

• Other tests demonstrated minimal findings: minimal Tension Test, minimal Tissue Texture change and minimal fascial tension detected.

• No significant results on Special Tests.

Based on the above findings, this client meets the criteria for MB of the right subscapularis muscle.

Once you have determined that the area of dysfunction (shoulder dysfunction) is a local dysfunction not influenced from elsewhere in the body AND identified the appropriate tissue involved (protective muscles spasm), then MB is indicated for this case. If there is more than one muscle involved, and there typically is, you would need to determine and prioritize the muscle with the greatest tenderness.

To perform the MB Technique

• Identify and palpate the Tender Pont (TP) of the most involved muscle. In this case, the TP reported in the subscapularis as an 8/10 on the NPRS.

• Once the TP is identified, maintain very little pressure on the point.

• Position the involved muscle/body part in a position of comfort that reduces the TP to a rating of 0/10. For the subscapularis muscle, the shoulder should be positioned in adduction with slight extension and internal rotation.

• Once positioned, re-evaluate the tender point. If the position is correct, the client should report a pain rating of 0/10. However, if there is still slight tenderness, fine tune the position with very small movements into adduction, extension & internal rotation.

• Once the client reports a pain level of 0/10, hold the position of comfort for 90 seconds, or until a release is felt. Signs of release are heat, vibration, pulsation, sense of motion, and a feeling of relaxing and lengthening.

• Once the release is complete, slowly take the client out of the position of comfort and re-evaluate. If successful, the tender point should be at least 70% better, even possibly reported as a 0/10 pain rating.

Placing the involved body part in a position of comfort for approximately 90 seconds relieves tenderness and pain by reducing and arresting inappropriate proprioceptor activity in the muscle. As a result, MB alleviates both soft tissue and articular dysfunctions in the body, thus restoring proper pain-free movement. In this case, the client received a MB treatment to his subscapularis muscle and demonstrated improved R shoulder abduction (165 degrees) and decreased pain after his session.

Generally, MB helps reduce muscle tenderness, protective muscle spasm, fascial tension and pain. Accordingly, MB helps increase joint mobility, decrease swelling, restore proper joint biomechanics, functional ROM and postural alignment. You will see an immediate decrease in complaints of pain and an increase in functional level. MB can be used to treat back pain, sciatica, neck pain, headaches, rib pain, upper and lower extremity orthopedic dysfunctions and postural deformities. Because of the gentleness and effectiveness of MB, it is appropriate for the following patient populations: pediatrics, geriatrics, sports injuries, auto accidents, general orthopedic conditions, amputees, respiratory and neurological patients.

Muscle Balancing is taught as three courses at DAI (upper, lower quadrant & the intensive).

• MBUQ: This course will teach you how to evaluate and treat protective muscle spasm in the muscles of the cranium, cervical, and thoracic spine, the rib cage, shoulder, elbow wrist, and hand.

• MBLQ: This course will teach you how to evaluate and treat protective muscle spasm in the muscles of the lumbar spine, pelvis, hips, lumbo-sacral and sacro-iliac joints, knee, ankle, and foot.

• MBI: This course will focus on teaching you the principles of muscles balancing and how to how to evaluate and treat protective muscle spasm. You will learn to apply this technique to common areas of both the upper and lower quadrant.

Courses consist of a combination of theory, demonstration, and hand-on practice. Evaluation and treatments are performed by each participant using the criteria outlined above. Plenty of time is allotted for hands-on practice as well as questions, discussion and review. Each course also includes a highly illustrated study guide outlining each evaluation and treatment technique for future reference.