SIPRO
Società Italiana di Proloterapia

EDUCATIONAL PROLOTHERAPY UPDATE

Functional Anatomy of the Shoulder and its Pathological Changes

1. What we all need to understand is, why our body talks to us with **PAIN** when there are pathological functional changes.

2. What actually happens? Well, when the anatomy changes because there has been either an injury or disfunction, like in the SHOULDER JOINT, this will cause a bio-tensegrity disfunction. This functional anatomy changes will cause PAIN and disfunction to the joint until corrected.

3. The SHOULDER JOINT is rich in ligamental structures and when the shoulder is injured, the tendons and ligaments respond with anatomy changes causing PAIN. This happens because the body needs to protect us from future damage.

4. Example: The rotator cuff tendons are very sensitive to injury and the most frequent injured is the superspinatus tendon. What happens? The humerus starts to move out of its central position as he tends to go superior causing a bio-tensegrity tension change. Why? Well to protect the tendon from getting worse causing PAIN and REDUCTION in RANGE OF MOTION, which will cause the capsule to tighten. (Not in all cases..)
   So now we have a Frozen Shoulder (Adhesive Capsulitis).
   With an Acute Capsulitis we have a complete different ANATOMY PICTURE: the major stabilizing ligaments in the shoulder are ALL OUT OF FUNCTION or disfunctional because they are being pulled at an abnormal tension causing PAIN.

5. TREATMENT to the bio-tensegrity anatomy disfunction:
   First we need to focus on bringing back down the humeral head to where it belongs. So, we need to strengthen the LATISSISI DORSI MUSCLE. These patients always complain of NIGHT PAIN.

6. Second, we need to treat the SHOULDER NIGHT PAIN: this is coming from the anatomy change of the gleno-humeral ligaments (Inferior and superior - anterior and posterior). Also many times the acromion and the coracoid are involved in this bio-tensegrity tension change. The best treatment is PROLOTHERAPY after a good clinical evaluation to these ligamental structures. Never forget to treat the glenohumeral capsule including a GH joint injection.

7. Third, once the humerus starts descending into his physiological habitat, then the patient will start to feel less pain and sleep better.
   This is when the Clinicial Prolotherapist can start treating the other structures, especially the rotator cuff tendons that are clinically injured and painful.

8. Forth, don't forget the MAGIC INJECTION: the superspinatus tendon in the scapula fossa. 3cc at 15% , this will also improve the healing because this injection fundamentally treats the superscalular nerve.
   This injection will release muscle tendon tightness and relieve pain immediately (Neuromodulation).This nerve is so important because it innervates the superspinatus and infraspinatus tendon and especially the acromioclavicular joint. These structure are all connected and when the shoulder is injured, always look at the A/C joint and the Coracoid. Many times physicians underestimate these IMPORTANT BIOTENSEGRITY BRIDGES that make the SHOULDER JOINT STRONG when functioning correctly.

9. If we understand BIO-TENSEGRITY and that the structure that make us strong are our ligaments , then we then can understand what needs to be treated first. The SHOULDER JOINTS AND LIGMENTS are very much complicated and difficult to heal if clinically there are many structures involved. The healing will happen and it takes time.

10. TREATMENTS: every 3 – 4 weeks and can take months to become pain free, especially in patients that are very much compromised.

I HOPE YOU ALL UNDERSTAND THE BIO-TENSEGRITY CONCEPT IN FUNCTIONAL ANATOMY AND WHY OUR BODY TALKS TO US. ALL WE HAVE TO DO IS TREAT THE DISFUCTIONAL AREA'S.

MY RECCOMENDATION IS GO GRADUALLY WITH FEW INJECTIONS ON TREATMENT DAY. ALWAYS TELL YOUR PATIENT THAT LOCAL HEAT TO THE AREA TREATED WILL HELP THE HEALING MUCH FASTER AND REDUCE THEIR PAIN.

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