

## **David Graham – Case Study Shoulder**

Note: For this essay when I refer to 'left' and 'right', this always represents the client's 'left' and 'right' side of their body.

### **Treatment No: 1 – Mon 21<sup>st</sup> February 2011**

My client is a 57 year old female who is in good health and works as a sports and remedial massage therapist; she is currently finishing a diploma in advanced sports & remedial massage therapy. She has been experiencing joint and muscle pain in her left shoulder and she says the range of movement in that shoulder is limited. My client feels like she holds her emotions in her shoulders and throat area. Her left arm/shoulder feels 'stiff' in the morning, but as the shoulder is used throughout the day, it does get easier to move it around. The shoulder pain started about one year ago, which my client believes may have started from a dancing class and has progressively got worse.

My client does take medication, Serc-8 – betahistine (normally prescribed for tinnitus), one tablet a day, since she gets ringing in her ears perhaps a couple of times a month; the ringing doesn't last for long.

My client experiences 'pins and needles'/tingling in the right hand and fingers, which doctors said was carpal tunnel syndrome (diagnosed in December 2010) and they said it could be operated on. Instead my client chose to use wrist/hand splints which helped; she also received three acupuncture appointments at that time which helped a lot.

My client is fit and healthy, has a good weight and diet, she attends a dance class twice a week and is now not too overly stressed since finishing most of her latest massage diploma course. Her dancing class does aggravate her left shoulder since she has to hold her arm in awkward positions for long periods of time.

My client also suffers from neck pain and ten years ago had an x-ray for this reason; she was told she may have the beginning stages of osteoarthritis in the spine in the C5 – C7 region.

The purpose of the treatments for this case study is to try to regain my client's left shoulder back to 'normal' or as good as we can get it. Although we may treat other areas we may find problems with, we both agreed to concentrate on the left shoulder/arm condition.

### ***Safety Checks and Consent***

If a client comes to see me with neck or shoulder problems, then I always ask if they suffer from dizziness or if they get light-headed. If they answer 'yes' to this question then I perform neck safety checks to check for any possible signs of vertebral insufficiency (VBI), which may mean only light massage can be done. Also with neck or shoulder problems I always ask if they suffer from 'pins and needles'/tingling sensations into the arms or fingers. This can indicate there are blood flow restrictions to nerves or nerves are being compressed between bony or soft tissues areas within the cervical plexus, brachial plexus or even caused by muscle spasm within the muscles of the arm itself. The exact nerve can be detected from using dermatomes which specify which nerve is causing the problem.

After the consultation I explained I needed to perform an examination to check for any body alignment problems, perform some safety checks and perform some specific tests; I always note anything important that I find. Then I explained that if I thought it was safe to continue with treatment, then I would treat the problem areas and use muscle energy techniques (METs) to help re-align her body. She agreed that she wanted me to continue with the examination and treatment process.

I asked my client to stand up and concentrate on how she felt within her body and tell me what she noticed; this is an excellent way of getting the client to 'tune' to their body. She said: there was heaviness in her head; a burning sensation above her sacrum; her head felt tilted forward; her arms felt like they were weightless; her right shoulder felt further forward than the left; her feet felt balanced and well centred into the ground.

My client does experience slight dizziness, which has been worse since after a fall (about five years ago) where she fell onto the occipital region of her head; she attended an appropriate health care professional and was given stitches. She does not get light-headed very often as was not experiencing any of these symptoms at that moment. I performed some safety checks on her neck to check for VBI and the tests were negative.

My client was not experiencing 'pins and needles' into the fingers on the day of this treatment. I did perform compressing and distraction tests onto the neck to see if symptoms of 'pins and needles' etc subsided or got worse; these tests were negative. If for example, these tests were positive then I would refer any client to an osteopath for further investigation. Since safety tests were all negative, my client was safe to treat.

### ***General Assessment***

I then performed a general assessment on my client where I check: general gait; scars, erythema or any discolouration in the skin; excessive lordosis, kyphosis, scoliosis problems, forward head posture or any other body alignment problems. There were no apparent problems however some points noted were: left shoulder higher; left clavicle higher at the lateral side; head side-bent right slightly; slight forward head posture; hands are quite medially rotated; left glute more posterior; right iliac crest higher; left ASIS higher; right lateral femoral head; right knee more straight than left; left foot more lateral.

### ***Specific Assessment***

Points noted were: slight forward head posture; forward bending test (standing and seated) confirmed an innominate problem (ilio-sacral lesion) on the left side; elevated first rib on the left; right humeral head more anterior (from a seated position).

Scapulohumeral rhythm showed no key issues, and scapulas were not winging.

### ***Shoulder Specific Assessment***

I informed my client that if any of the active, passive or resisted movements caused her any pain then she should stop or ask me to stop and I would.

## **Active Movements**

The following notes show any important points that were noted and this is what part of the treatment plan is based on:

- Hand on opposite shoulder and elevates arm
  - Left arm did not raise nearly as much as right
- Apley's scratch test – abduction and lateral rotation
  - Tightness/pain in the right triceps
- Medial rotation and adduction
  - Left side got only about 50% of what the right side could do. This caused pain in the lateral border of the left scapula and humerus (posterior deltoid area)
- Abduction and lateral rotation, hands behind head and push elbows out posteriorly
  - This gave pain in the left deltoid region
- Painful arc was present on left glenohumeral (GH) joint abduction, however full movement was managed
- 'Empty can' test
  - Produced pain in the pronator teres area on the left arm
- Rotator cuff tear test negative

## **Passive Movements**

On the left arm, lateral GH rotation gave pain in the left deltoid region. Abduction on the left GH joint produced pain in the joint; we got to less than 90 degrees abduction and my client had to ask me to stop. I was aware to be careful with this arm when treating my client since range of movement was quite limited.

Shoulder apprehension test of the GH joint on the left shoulder caused pain and my client had to inform me to stop.

## **Resisted Movement**

Resisted movements did not produce any pain.

## **Neck Assessment (All Active Movements)**

My client said her neck felt generally stiff in all of the movements, however there were no noticeable differences in range of movement (ROM) when comparing each side. When passively testing the atlanto-axial (AA) joint (in the supine position) it was restricted to the right (i.e side bent left).

## **Elbow Joint**

Active elbow extension produced pain in the right biceps, also 4<sup>th</sup> and 5<sup>th</sup> fingers went into flexion only on the right hand (dupuytren's-like symptoms). To palpate above the right medial epicondyle was more tender than the left.

## **Treatment**

Treatment involved myofascial release (MFR) to the erector spinae muscles, trapezius, rhomboids, and rotator cuff muscles; infraspinatus on the left had a lot of trigger points which I released. Also I released a lot of trigger points within the left teres major and teres minor muscles; I often find these muscles are prone to trigger points and releasing them can have some tremendous effects. I performed a right

anterior humeral head correction; also a first rib MET was done on the left. I performed MFR on the left biceps and triceps. Since there was a lot of restrictions/pain within the left deltoid, I performed MFR on it and also worked transversely across deltoids fibres.

Within the neck area I released scalenes, sterno-cleido-occipital-mastoid (SCOM), occipital release and performed an AA joint MET. I also performed some frictioning around the C7 prominence area. MFR also to both pectoralis majors and minors, subscapularis (left only) released with folding the arm over.

For mobilizations on the left shoulder, I tractioned the left GH joint and also did some 'mortar and pestle' type movements on the joint. My client particularly enjoyed the mobilizations and felt like it was doing some good.

### ***Re-assessment and Advices Given***

- Hand on opposite shoulder and elevates arm
  - Full range of movement managed in left arm, a good improvement
- Apley's scratch test – abduction and lateral rotation
  - ROM had not changed and still a slight tightness in right triceps
- Medial rotation and adduction
  - Left side was about 2 inches lower than right side, also only minor pain felt, so a very good improvement
- Abduction and lateral rotation, hands behind head and push elbows out posteriorly
  - Pain still in the left deltoid region
- Painful arc was present on left glenohumeral abduction, however full movement was managed
- 'Empty can' test
  - No pain in the pronator teres area, perhaps slight discomfort within the joint
- Shoulder Apprehension test on the left shoulder showed no improvements; pain still present
- Passive - Left arm – lateral rotation – no improvement
- Left arm – abduction – pain in the joint – not much improvement
- Neck feeling much easier and an improvement on the AA joint after MET

I advised my client to rest her arm as much as possible for a few days and also to drink some water. I also gave her some stretches to do, i.e. triceps, pectoral stretches.

## **Treatment No: 2 – Tue 1<sup>st</sup> March 2011**

### ***Consultation***

My client had noticed a huge improvement on her left arm and shoulder; with very little problems at all. She had not been to her two dance classes that week and thought this had given her arm and shoulder some rest time.

In the first appointment I had done some friction work around the C7 area as this felt quite tight, however my client said this felt slightly 'flared-up' for a couple of days and she didn't like the feeling. I did inform her that it could have been the body's inflammatory response which is actually the body's healing process working

correctly. She also thought that's what it probably was but didn't want to get that done again.

I asked my client to stand up and tell me how she felt, she said: tight quads as she had been to a spin class the previous day; head didn't feel so forward as normal which felt good; she felt as if she was putting more weight on to the right leg/foot; fascia feels tight in the arms but have been massaging all day; hands feel heavy.

### **General Assessment**

General assessment showed that my client was not holding her neck so forward.

### **Specific Assessment**

The standing and seated forward bending test showed the left ilio-sacral lesion to still be there. Left psoas tighter than the right. Though we decided to leave all pelvic and lower body work and concentrate on the left shoulder problem for the three treatments.

### **Shoulder Specific Assessment**

The following important observations were noted:

- Hand on opposite shoulder and elevate arm
  - This range of movement gave results the same as the right arm which was a huge improvement; no pain noted
- Apley's scratch test – abduction and lateral rotation
  - Slight tightness in the left triceps
- Medial rotation and adduction
  - Both arms now have the same range of movement; this was the best improvement so far, no pain noted
- Abduction and lateral rotation, hands behind head and push elbows out posteriorly
  - Pain was still present in the left deltoid region
- Painful arc was present on left GH abduction, around the lateral border of the left scapula (teres major/minor region). However full ROM was managed with ease
- 'Empty can' test produced no pain, so an improvement here

### **Passive Movements**

The following problems were noted passive movements on the left GH joint only. Lateral rotation gave pain in the left deltoid region. Abduction produced pain in the joint, ROM less than 90 degrees and my client had to inform me to stop. Shoulder apprehension test on the left shoulder still caused pain.

### **Neck (All Active Movements)**

Lateral flexion felt tight and client can hear 'crunchy' noises coming from her neck. All other movements felt fine.

### **Treatment**

The treatment was specific to the left arm and shoulder. The right shoulder was showing a few problems (i.e. right biceps seems to have some tightness in it). We decided to leave the right shoulder so we could spend more time on the left one.

MFR was performed to serratus anterior, erector spinae, trapezius, both rhomboids and the rotator cuff muscles on the left side. Infraspinatus was feeling good with no trigger points although again I did do a thorough job on it to prevent any problems from possibly reoccurring. I performed a right anterior humeral head correction and performed a MET on the right first rib. MFR work performed on the whole upper left arm (biceps, triceps and deltoid including transverse work to the fibres). The neck area required MFR to scalenes (tighter on the right) and SCOM, occipital release, pectoralis major and minor (both). Subscapularis on the left released with folding the arm over.

Mobilization work again involved the 'mortal and pestle' type-movement on the left GH joint. Also traction was performed to the scapula and passive mobilizations (circling motions) on the GH joint; these caused no pain. The thoracic area was mobilized using the 'Russian dancer' technique.

### ***Re-assessment and Advices Given***

Reassessment showed the following:

- Hand on opposite shoulder and elevates arm
  - After treatment the ROM in the left arm was actually better than the right which was a great improvement
- Apley's scratch test – abduction and lateral rotation
  - Feeling good, but still slight tightness noticeable in the left triceps
- Medial rotation and adduction
  - ROM was still equal on both sides
- Abduction and lateral rotation, hands behind head and push elbows out posteriorly
  - No pain in the left deltoid region; this was an excellent result
- 'Empty can' test produced no pain
- Shoulder apprehension test on the left shoulder still caused pain
- When actively checking both arms for 'painful arc' my client said there was no painful arc, so she spent a bit of time playing with the left arm actively. She said she could re-produce the pain slightly if she tried to, but it felt much better.
- Passive - Left arm – lateral rotation – pain still present in the left deltoid region
- Left arm – abduction – pain in the joint – ROM now greater than 90 degrees; a slight improvement
- Neck – active lateral flexion – felt much better and neck not 'creaking' so much

I advised my client to again rest her arm as much as possible and continue with stretches. Also to try to think about her posture more when working etc.

## **Treatment No: 3 – Fri 11<sup>th</sup> March 2011**

### ***Consultation***

There was a ten day gap between the second and third treatment and I had hoped to get the third treatment done sooner, however it was difficult to arrange a date between me and my client where we were both free. Upon arrival for the appointment my client informed me her shoulder was feeling good and she felt very well after the last treatment. Her shoulder joint does not feel stiff in the morning at all. The only movement that is causing her slight pain is the 'painful arc', however apart from that everything is good. She started circling her shoulder and arms backwards and said

she wanted to go swimming and do the back-crawl as she felt like she could actually do it now with no problems. My client had also attended two dance classes in the last week (Saturday and Thursday) and she had not experienced any pain in her arm/shoulder during the class. Also the classes had not re-aggravated her left shoulder at all. She felt like there had been a lot of clearing in the whole shoulder region.

When asking my client to stand up and tell me how she felt, she said: she felt generally really good; her feet didn't feel symmetrical; her right shoulder felt as if it was in the wrong place, it feels further forward; her head felt like it was side-bent to the left; she felt like she was locking out her knees.

### **General Assessment**

The general assessment showed that there was more tensing/holding within the neck region, although forward-head posture was not too bad. Nothing else noted.

### **Specific Assessment**

#### **Shoulder Specific Assessment**

The following points were noted:

- Hand on opposite shoulder and elevates arm
  - This range of movement gave results the same as the right arm, no pain noted however I did note that my client did the movement slower with the left arm
- Apley's scratch test – abduction and lateral rotation
  - Range of movement the same in both arms, a very slight tightness in the left triceps
- Medial rotation and adduction
  - The range of movement on the left arm had relapsed slightly. Measuring hand positions the left hand was about two inches lower than the right hand
- Abduction and lateral rotation, hands behind head and push elbows out posteriorly
  - Slight tightness in the left deltoid region, but no pain
- Painful arc was present on left gleno-humeral abduction, around the lateral border of the left scapula (teres major/minor region) and also at the top of the humerus bone. However full movement was managed

#### **Passive Movements**

Passive movements performed on the GH and elbow joint. The following was noted on the left GH joint: lateral rotation gave pain in the left deltoid region; abduction gave pain in the joint, for the ROM we got about 90 degrees and client asked me to stop. Shoulder apprehension test on the left shoulder still caused pain into the left deltoid region.

#### **Neck (All Active Movements)**

Neck felt quite tight in extension. Also lateral flexion felt quite tight in the upper scapula region.

## ***Treatment***

Treatment was specific to the left shoulder. MFR performed to erector spinae, trapezius and both rhomboids. The rotator cuff muscles showed to have no problems or trigger points. Right anterior humeral head correction performed and first rib MET performed on the left side. Whole upper arm was worked (biceps, triceps and deltoid). Neck work involved MFR to levator scapulae, scalenes, SCOM, cranial/occipital release and neck traction. MFR also to pectoralis majors and minors and subscapularis (left only).

I performed some deep friction work to the rotator cuff tendons, particularly the supraspinatus tendon, working up from the humerus, towards the acromion; I also frictioned around the acromion. Scapula traction and passive mobilizations applied to the left arm. 'Mortal and pestle' type mobilizations performed to the left GH joint.

## ***Re-assessment and Advices Given***

- Hand on opposite shoulder and elevates arm
  - After treatment the ROM in the left arm was better than the right arm. This movement always seemed to improve if scapula traction was performed as part of the treatment
- Apley's scratch test – abduction and lateral rotation
  - Feeling good, no pain in the left triceps
- Medial rotation and adduction
  - ROM now equal in both arms, good to see this had improved again
- Abduction and lateral rotation, hands behind head and push elbows out posteriorly
  - No pain
- Shoulder Apprehension test on the left shoulder still caused pain into the left deltoid region
- My client abducted both arms and there was no 'painful arc' pain present. She spent a minute or two attempting to re-produce the pain but could not do so, it felt very good
- Passive - Left arm – lateral rotation – pain still present in the left deltoid region
- Left arm – abduction – pain in the joint – greater than 90 degrees, only slight improvement; client had to ask me to stop
- Neck – active lateral flexion – feels much better. Also extension felt very good

My advices to my client were to receive more regular massage treatments as they were providing her with much more mobility in her shoulder and reducing quite a lot of pain. Self treatment could include regular stretching of the upper arm and shoulder muscles and thinking about posture when working. I also recommended her to have osteopathic appointments as another means of maintaining her health.

## ***Conclusion***

My client's left shoulder has had some excellent results; she feels like she has a fully working left shoulder. Full active range of movement has returned since the problem started about a year ago and generally the left shoulder is feeling better than the right. I was pleased to see that the dancing class had not re-aggravated the left shoulder. The 'painful arc' pain is no longer there, which only got better after the final treatment. I believe this could have been the work that was done on the rotator cuff tendons (towards where they insert onto the humerus), so I would have liked to have

done this as part of the first treatment just to see what the improvement would have been.

The only two movements that are causing my client pain is the shoulder apprehension test and lateral rotation – both passive movements. The pain my client experiences with these movements is pain in the left deltoid region. We saw small amounts of improvements directly after the treatments however at the next treatment's assessment these two problems had returned and passive ROM was restricted back to the way it was previously. When I think about what would need to be done for the passive movements not to cause pain I would say regular treatments (as she has been having with this case study). However I would want to concentrate on the left upper arm with lots of wringing-type movements. MFR can consist of slow movements, however in this case perhaps lots of wringing movements (on a regular basis) to the upper arm would decongest the area and gradually 'loosen' the area up. Chronic problems can sometimes take a while to 'heal', however with regular treatments and good self-awareness (i.e. posture etc), I believe these problems can be fixed permanently.

I contacted my client five days after the final treatment to see how her shoulder was doing and she said everything felt very good and she had no pain. The 'painful arc' sometimes gave a very slight 'niggle' but nothing like it used to be like.