



# Clinical Case Report Competition

Utopia Academy

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Second Place Winner

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The role of massage therapy in reducing anxiety  
related to post traumatic stress disorder

## **Abstract**

### *Purpose:*

To test the efficacy of massage therapy combined with recommended home care exercises in treating anxiety related to post traumatic stress disorder.

### *Methods:*

Prior to each treatment a full history and assessment was performed. Each treatment started with diaphragmatic breathing exercises then specific work was performed to decrease muscle hypertonicity in the shoulders and posterior neck. Homecare exercises, such as stretching for hypertoned muscles and segmental muscular relaxation were given at the end of each treatment session.

### *Results:*

Frequency of anxiety attacks decreased, sleeping patterns improved and muscle hypertonicity moderately decreased over the course of ten treatments.

### *Conclusion:*

This case study shows that massage therapy combined with proper homecare techniques is effective in decreasing symptoms, such as anxiety and sleep disturbances associated with post traumatic stress disorder.

## **Introduction**

Post traumatic stress disorder (PTSD) is an anxiety disorder that can develop after exposure to a traumatic event and is an ongoing emotional reaction in response to psychological trauma.

8% of people that experience a traumatic event will develop the full effects of post traumatic stress disorder. Women are twice as likely to experience this as men.

Symptoms experienced by those who suffer from post traumatic stress disorder include: nightmares or flash backs of the traumatic event, avoidance of stimuli associated with the trauma, difficulty falling asleep or staying asleep, anger, anxiety, and hypervigilance.

With PTSD biochemical changes in the brain and body are experienced. People with PTSD show a low secretion of cortisol and a high secretion of catecholamines in the urine, with a higher than normal cortisol/ norepinephrine ratio. Low brain catecholamine levels and high corticotrophin –releasing factor levels suggest an abnormality of the hypothalamic- pituitary- adrenal axis. In addition to biochemical changes, PTSD also involves changes in the brain anatomy. Neuro-imaging studies have shown a 20% reduction in the size of the hippocampus in patients diagnosed with PTSD.

The diagnosis of PTSD is established based on a list of diagnostic criteria. As per the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV-TR) diagnostic criteria is as follows:

- A. Exposure to a traumatic event.
- B. Persistent re-experience (nightmares, flashbacks).
- C. Persistent avoidance of stimuli associated with the event.
- D. Persistent symptoms of increase arousal.
- E. Duration of symptoms more than one month.
- F. Significant impairment in social, occupational, or other areas of functioning.

PTSD is commonly treated with a combination of medication and psychotherapy. Standard medication therapies include the use of selective serotonin reuptake inhibitors and tricyclic antidepressants. When significant symptoms of over arousal are experienced medication, such as propranolol and clonidine are used.

Psychotherapy programs, such as, cognitive behavioural therapy; exposure therapy; stress inoculation training; and eye movement desensitization and reprocessing are also used in combination with medications.

## **Method**

### **Patient History**

Kathy Perkins is a 47 year old resident care attendant. She is currently suffering from post traumatic stress disorder after witnessing a shooting at her work place.

The symptoms being experienced include attacks of anxiety, unexplained food cravings, insomnia, general feeling of panic, increased heart rate, increased breathing rate and an increased awareness of her surroundings. Symptoms present upon driving to work, while being in crowds of people, upon entering a specific bathroom in the work place and upon hearing loud noises specifically sirens.

Patient presented with musculoskeletal disorders, such as hypertonicity of muscles in the shoulders, chest and posterior neck.

### **Procedure**

A total of ten sixty minute massage therapy treatments were scheduled and performed on the patient's days off from work.

Massage therapy treatments included general Swedish massage techniques, craniosacral treatments, as well as myofascial techniques. Treatments were aimed at decreasing muscle hypertonicity and sympathetic nervous system firing to promote general well being and relaxation.

The patient's anxiety was rated according to the Beck Anxiety Scale prior to the first, fifth and tenth treatments to measure and decrease in anxiety symptoms.

## **Treatments**

### **Assessment**

#### *Subjective:*

Patient presented with insomnia; anxiety upon going to work, hearing loud noises and being in crowds of people; unexplained food cravings; increased heart and breathing rates; and hypertonicity in the posterior neck and shoulders.

The onset of post traumatic stress symptoms was one day after the traumatic incident. Exact onset of muscle hypertonicity is unknown, but was present prior to the witnessing of the traumatic event.

#### *Objective:*

Postural assessment showed a depressed right shoulder, head forward posture and fallen arches in both feet. Trigger points were present in the right infraspinatus and bilaterally in the upper trapezius muscles. Hypertonicity was present bilaterally in the upper trapezius, supraspinatus, infraspinatus, levator scapulae, rhomboids and suboccipital muscles.

#### *Other Testing:*

A total of 44 was scored on the Beck Anxiety Inventory prior to the first treatment, suggesting the patient was experiencing high, persistent anxiety.

### **Treatments Goals**

1. Decrease sympathetic nervous system firing to help improve sleep patterns.
2. Decrease hypertonicity in neck and shoulders.
3. Provide homecare and education of recognizing anxiety symptoms and how to manage an attack.

### **Treatment #1**

**July 10<sup>th</sup> 2009**

The treatment started with full body compressions to introduce touch. Diaphragmatic breathing was performed to decrease sympathetic nervous system firing. Fascial reshaping of the upper trapezius was done to help decrease hypertonicity and restore normal shape and function. Ischemic trigger point release of the right upper trapezius and right infraspinatus muscles were done. Passive stretching of the upper trapezius and levator scapula muscles was done to help decrease hypertonicity. Cranial base decompression to decrease hypertonicity of the suboccipital muscles. The treatment ended with segmental muscular relaxation.

#### *Reassessment:*

The hypertonicity of the upper trapezius and levator scapula muscles has slightly decreased.

*Homecare:*

The patient was instructed to keep a journal to document her symptoms and progression throughout the course of the study.

Segmental muscular relaxation exercises were given to the patient to do before bed to help increase quality of sleep and at the onset of an anxiety attack combined with diaphragmatic breathing to help decrease the severity of the attack.

**Treatment #2**

**July 19<sup>th</sup> 2009**

*New History:*

Tension is present throughout patient's whole body.

*Treatment:*

The treatment started with diaphragmatic breathing to decrease sympathetic nervous system firing. Full body compressions were then performed to introduce touch. Fascial reshaping of the upper trapezius muscles was used bilaterally to restore muscle shape, function and to decrease hypertonicity. Knuckle kneading was used bilaterally on the hamstrings, rhomboids and gastrocnemius muscles to decrease hypertonicity. Finger tip kneading of the suboccipitals was used to decrease hypertonicity.

*Reassessment:*

Muscle hypertonicity of the upper trapezius, bilaterally has slightly decreased. Patient looks to be relaxed and calm.

*Homecare:*

Continue with journal entries, and segmental muscular relaxation exercises before bed and as needed to help decrease anxiety attack severity.

Patient was recommended to increase her water intake.

**Treatment #3**

**July 20<sup>th</sup> 2009**

*New History:*

Patient felt good after the last treatment, but there is no change in anxiety or PTSD symptoms. Still experiencing shoulder tension.

*Treatment:*

Treatment was focused on decreasing sympathetic nervous firing to promote relaxation. Full body

compressions were used to introduce touch. Swedish techniques such as effleurage, stroking, wringing, and open C kneading were used. Knuckle kneading bilaterally of the upper trapezius, gastrocnemius, and hamstring muscles was used to decrease muscle hypertonicity. A cranial base decompression was also used to decrease hypertonicity of the suboccipital muscles.

*Reassessment:*

Muscle hypertonicity continues to decrease.

*Homecare:*

Stretching of upper trapezius twice a day for 60 to 90 seconds.

Continue with previously recommended homecare exercises.

**Treatment #4**

**July 23<sup>rd</sup> 2009**

*New History:*

Anxiety attacks have decreased in frequency. Still experiencing tension in the shoulders and posterior neck.

*Treatment:*

Diaphragmatic breathing to decrease sympathetic nervous system firing. Full body compressions to introduce touch. Fascial reshaping bilaterally of upper trapezius to decrease hypertonicity. General Swedish techniques were used to decrease sympathetic nervous system firing. Passive stretching of upper trapezius, levator scapula and pectoralis muscles to decrease hypertonicity. Cranial base decompression to decrease hypertonicity of suboccipital muscles.

*Reassessment:*

Upper trapezius and levator scapula hypertonicity has moderately decreased since the first treatment, but is still present.

*Homecare:*

Continue with previously recommended exercises and journal.

**Treatment #5**

**July 29<sup>th</sup> 2009**

*New History:*

Pain bilaterally in posterior neck on active neck flexion and side flexion.

Patient scored a total of 40 on the Beck Anxiety Scale prior to the fifth treatment.

*Treatment:*

Ice massage of upper trapezius muscles bilaterally to decrease pain and hypertonicity. Diaphragmatic breathing to decrease sympathetic nervous system firing. Knuckle kneading of upper trapezius and rhomboid muscles to decrease hypertonicity. Passive stretching of upper trapezius to decrease hypertonicity. Cranial base decompression to decrease hypertonicity of suboccipital muscles.

*Reassessment:*

Pain in posterior neck was relieved.

*Homecare:*

Upper trapezius stretching twice a day for 60 to 90 seconds. Continue with journal and segmental muscular relaxation exercises.

**Treatment #6**

**August 2<sup>nd</sup> 2009**

*New History:*

Patient said she felt great after the last treatment. Hypertonicity in the neck and shoulders is decreasing.

*Treatment:*

Diaphragmatic breathing to decrease sympathetic nervous system firing. Knuckle kneading and passive stretching of upper trapezius and levator scapula muscles bilaterally. Finger tip kneading of suboccipital muscles. Cranial base decompression.

*Reassessment:*

No noticeable changes from prior to this treatment.

*Homecare:*

Continue with previous recommended homecare exercises.

**Treatment #7**

**August 3<sup>rd</sup> 2009**

*New History:*

PTSD symptoms and anxiety continue to decrease in frequency. Still experiencing some slight tension in neck and shoulder areas.

*Treatment:*

Diaphragmatic breathing to decrease sympathetic nervous system firing. Fascial reshaping of upper trapezius. Ischemic trigger point release of right infraspinatus muscle. Finger tip kneading of supraspinatus muscles to decrease hypertonicity. Passive stretching upper trapezius and levator scapula. Cranial base decompression to decrease hypertonicity of suboccipital muscles.

*Reassessment:*

Upper trapezius and levator scapula hypertonicity decreased. Shoulder tension decreased.

*Homecare:*

Continue with previous recommended homecare exercises.

**Treatment #8**

**August 6<sup>th</sup> 2009**

*New History:*

Not having as much difficulty falling asleep at night anymore. No longer experiencing anxiety upon entering the bathroom at work.

*Treatment:*

Diaphragmatic breathing to decrease sympathetic nervous system firing. Craniosacral listening stations. Transverse fascial diaphragm releases. Cranial base decompression to decrease suboccipital muscle hypertonicity. Used basic Swedish techniques to decrease sympathetic nervous system firing.

*Reassessment:*

Patient commented on how relaxed she felt. Muscle hypertonicity has greatly decreased since the first treatment session.

*Homecare:*

Continue with segmental muscular relaxation and journal writing.

**Treatment #9**  
**August 9<sup>th</sup> 2009**

*New History:*

Patient's sleeping patterns are improving and she felt very relaxed after the last treatment.

*Treatment:*

Diaphragmatic breathing to decrease sympathetic nervous system firing. Craniosacral listening stations. Transverse fascial diaphragm releases. Cranial base decompression to decrease hypertonicity of suboccipital muscles.

*Reassessment:*

No change from prior to this treatment.

*Homecare:*

Upper trapezius stretches, segmental muscular relaxation and journal entries.

**Treatment #10**  
**August 11<sup>th</sup> 2009**

*New History:*

Anxiety attack frequency still continues to decrease and sleeping patterns continue to improve. Patient stated she generally feels less anxious.

*Treatment:*

Diaphragmatic breathing to decrease sympathetic nervous system firing. Full body compressions to introduce touch. General Swedish techniques were used to decrease sympathetic nervous system firing. Craniosacral listening stations. Transverse fascial diaphragm releases. Cranial base decompression.

*Reassessment:*

Craniosacral rhythm has increased. Flexion in craniosacral rhythm now feels fuller. Hypertonicity of upper trapezius, levator scapula and suboccipital muscles greatly decreased, but is still slightly present.

*Homecare:*

Continue with segmental muscular relaxation and journals. Do upper trapezius stretches when tension starts to return.

## **Results**

### **Subjective:**

Patient reports an improvement of sleeping patterns, a decrease in frequency of anxiety attacks, and an increased ability to concentrate. She also reports a great decrease of shoulder and posterior neck tension.

### **Objective:**

Postural assessment shows an improvement of head forward posture, and the right shoulder is no longer depressed. Hypertonicity is now longer present in the upper trapezius, levator scapulae, rhomboids, supraspinatus and infraspinatus muscles. Slight hypertonicity still presents in the suboccipital muscles.

Prior to the fifth treatment the patient's score on the Beck Anxiety Scale had slightly decreased, with a score of 40. Prior to the tenth treatment the patient retook the Beck Anxiety Scale and scored a total of 38, which is an improvement of 2 points since the last time her anxiety was rated with the Beck Anxiety Scale.

## **Conclusion**

Massage therapy combined with homecare exercises consisting of segmental muscular relaxation is effective in treating Post Traumatic Stress Disorder in people experiencing symptoms, such as insomnia, frequent anxiety attacks, and muscle hypertonicity.

Throughout the course of ten treatments the frequency of the patient's anxiety attacks has decreased, sleeping patterns have improved and muscle hypertonicity has decreased.

The patient reports being able to better enjoy her everyday life, sleep though the night and is feeling more content.