



## Immediate effect of ischemic compression and transverse friction massage on mechanical neck pain in beauticians: A comparative study

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### Abstract

Neck pain has a high prevalence in beauticians. Beauticians are exposed to various hazards in workplace such as awkward posture. Neck pain in beauticians are mainly caused to trapezius tightness because of awkward posture low seats during facials and long standing hours. Ischemic Compression is a therapy technique used in physical therapy, where blockage of blood in an area of body is deliberately made, so that a resurgence of local blood flow will occur upon release. It is a massage technique that consists of moderate compression, typically applied with the fingers. Application of this technique results in a pain reduction. Transverse Friction massage is a specific connective tissue massage. The purpose is to maintain the mobility within the soft tissue structures of ligaments, tendon and muscles. The massage is deep and must be applied transversely to specific tissue involved unlike the superficial massage given in longitudinal direction parallel to the vessels which enhances circulation and return fluids. This is hypothesized to see comparison of the two techniques which is more effective. The aim is to compare and study the immediate effect of ischemic compression and transverse friction massage on mechanical neck pain in beauticians. This is a comparative study done on 40 Beauticians in Beauty parlours. The subjects were divided randomly into Group A and Group B. Neck disability scale and Visual Analog Scale was taken before the treatment. Group A was given Ischemic Compression and Group B was given Transverse Friction Massage. The collected data was analysed statistically, comparison was done and the conclusions were drawn. The results showed significant difference between Range of Motion and VAS in intra group is : Range of motion ( $t=13.31$ ,  $p<0.0001$ ) and VAS ( $t=13.7477$ ,  $p<0.0001$ ) for Group A and Range of Motion ( $t=19.4372$ ,  $p<0.0001$ ) and VAS ( $t=9.7692$ ,  $p<0.0001$ ) for Group B. The inter group comparison showed not very significant difference in VAS and Range of motion values with  $p=0.0883$ . The results of study concludes that there is significant difference in pain by ischemic compression and transverse friction massage but no significant difference in comparison between the two.

**Keywords:** Transverse friction massage, mechanical neck pain, ischemic compression, beauticians, aestheticians, massage, parlour

### Introduction

Work is an important and integral segment of human life. A job is a piece of work done as a part of the everyday routine. The common risk factors associated with work that are most frequently cited as causative factors for musculoskeletal disorders include rapid work pace, repetitive movement patterns, insufficient recovery time, heavy exertion, improper body mechanics, use of tools and awkward posture.

Aestheticians, beauticians, massage and beauty therapists are synonyms terms referring to the people who work in beauty industry. Their common tasks include facial cleansing, skin, nail and body hydrotherapy and care, antiwrinkle pigmentation, makeup depilation, body and face massage, reflexology etc. to perform all these tasks they need to work with their trunk in non-neutral neck posture burdening the neck muscles. Neck pain has a high prevalence in beauticians. Beauticians are exposed to various hazards in workplace such as awkward posture. Neck pain in beauticians are mainly caused to trapezius tightness because of awkward posture low seats during facials and long standing hours. Use of vibratory tools, repetitive movements and prolonged standing. Among other musculoskeletal disorders there is 40% prevalence of neck pain in beauticians.

Individuals with neck pain that lack an identifiable pathoanatomic cause for their symptoms are usually

classified as having mechanical neck pain. Mechanical Neck pain commonly arises due to poor posture, neck strain, occupational activities. Pain in the trapezius may have accompanying symptoms, such as, muscle stiffness, shoulder or neck pain, muscle spasms, decreased range of motion in the neck and shoulders. Causes of trapezius tightness may include overuse, stress, poor posture, trauma. Pain is very common in the region of upper trapezius muscle.

Ischemic Compression is a therapy technique used in physical therapy, where blockage of blood in an area of body is deliberately made, so that a resurgence of local blood flow will occur upon release. It is a massage technique that consists of moderate compression, typically applied with the fingers. Application of this technique results in a pain reduction. Transverse Friction massage is a specific connective tissue massage. The purpose is to maintain the mobility within the soft tissue structures of ligaments, tendon and muscles. The massage is deep and must be applied transversely to specific tissue involved unlike the superficial massage given in longitudinal direction parallel to the vessels which enhances circulation and return fluids.

### Need of Study

Many studies have reported that Beauticians have a high prevalence of neck pain which is 40%. The effectiveness of Ischemic Compression and Transverse Friction Massage on

mechanical neck pain has been studied individually but their comparison is not yet done in Beauticians.

### Aim and Objectives

- To study the effect of Ischemic compression on mechanical neck pain in beauticians.
- To study the effect of Transverse Friction Massage on mechanical neck pain in beauticians
- To compare the effect of Ischemic Compression and Transverse Friction Massage on mechanical neck pain in beauticians.

### Criteria

#### Inclusion Criteria

- Beauticians having Mechanical Neck Pain caused by soft tissue and Neck disability more than 20%
- Female beauticians.
- Beauticians having neck pain for at least since 6 months
- Age group – 20 to 40 years
- Working hours – 8 to 10 hours per day

#### Exclusion Criteria

- Any other pathological causes for neck pain.
- Neck disability score below 20% and above 80%
- Population having neck pain before taking up this profession.
- Beauticians who are working part time in other professions.
- Beauticians who had or have cervical injury
- Beauticians who have undergone any recent surgeries.
- Subjects with any other spinal conditions like kyphosis, scoliosis and other conditions.

### Protocol

#### Ischemic Compression

Ischemic compression technique involves applying sustained pressure to the trigger points with sufficient force and for long enough to slow down the blood supply and force the tension out of the muscle. Group A patients will be in sitting position and therapist will stand by the side of the patient. The most tender point is palpated by the therapist finger and compression is applied by thumb till blanching of the nail is seen, the pressure was maintained until the discomfort and/or pain eased by around 50%, perceived by the own patient, at which time pressure was increased until discomfort appeared again. This process was maintained for 90 seconds.

#### Transverse Friction Massage

Transverse Friction massage is deep and must be applied transversely to specific tissue involved unlike the superficial massage given in longitudinal direction parallel to the vessels which enhances circulation and return fluids. The patient must be in relaxed position and the therapist will stand beside the patient. We will use a reinforced thumb or index contact to apply the friction massage transversely across the fibers. A rate of about 2-3 cycles per second is used. The pressure should be deep enough to move the tissue back and forth firmly under the therapist's contact, yet light enough to be tolerable to the patient. Continue the massage in a firm and rhythmic fashion for 5 minutes. Start will gentle massage for 1-2 minute and then increase the pressure and continue until 3-4 minutes. Remain within the patient's tolerance.

### Results

There is significant difference between Range of Motion and VAS in intra group is: Range of motion ( $t=13.31$ ,  $p<0.0001$ ) and VAS ( $t=13.7477$ ,  $p<0.0001$ ) for Group A and Range of Motion ( $t=19.4372$ ,  $p<0.0001$ ) and VAS ( $t=9.7692$ ,  $p<0.0001$ ) for Group B. The inter group comparison showed not very significant difference in VAS and Range of motion values with  $p=0.0883$

### Conclusion

This study concludes that there is significant difference in pain by ischemic compression and transverse friction massage but no significant difference in comparison between the two.

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