

EFFECT OF RELAXATION YOGA ON MUSCULOSKELETAL PAIN: A REVIEW STUDY

*¹Vd. Sumant M. Pande and ²Vd. Maheshwari D. Joshi

¹Assistant Professor, Department of Rognidan and Vikrutividnyan MES Ayurved
Mahavidyalaya, Ghanekhunt-Lote.

²PG Scholar, Swasthavritta & Yoga Government Ayurved College, Nagpur.

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*Corresponding Author

Vd. Sumant M. Pande

Assistant professor,

Department of Rognidan
and Vikrutividnyan MES

Ayurved Mahavidyalaya,
Ghanekhunt-Lote.

ABSTRACT

Introduction: Relaxation is one of the most important skills in *Hathyoga*. It has many dimensions – mental, Emotional, autonomic and muscular. Now a day's musculoskeletal pain and related disorders increases day by day that's why we have to pay attention to relaxation of skeletal muscles and mind for pain relief. Musculoskeletal pain is mostly found in geriatric age group they unable to do difficult *Yoga* poses, *Yoga* can relives musculoskeletal pain by relaxation *Yoga* protocol like various types of *Dhyanatmak*, *Asanas*, *Pranayam*, *Yogic*, *Dnyan*. **Aim & objectives:**

- 1) To evaluate the effect of relaxation yoga on musculoskeletal pain.
- 2) To study the Pathophysiology of musculoskeletal pain.

3) To study the effect of yoga on muscle relaxation.

Methodology: This is a literary study hence; all the available references and concepts have been compiled here with. **Result:** This is the genuine attempt to evaluate the effect of relaxation yoga on musculoskeletal pain and it is very effective for geriatric patients.

KEYWORDS: Relaxation Yoga, Musculoskeletal pain.

INTRODUCTION

The word *Yoga* comes from the Sanskrit root “*Yuj*” which means union or to join, Regular practice of *Yoga* promotes strength, endurance, flexibility, and facilitates characteristics of friendliness, compassion and greater self control. *Yoga* is a form of mind body fitness that involves a combination of muscular activity and an internally directed mind full focus of awareness of self, the breath, and energy. Today many people identify yoga only with

Asanas, the physical practice of Yoga but *Asanas* are just one of the tools used for healing the individual but within yoga philosophy the physical postures and breathing exercises prepare mind and body for meditation and spiritual development.^[1] Musculoskeletal disorders are one of the major causes of morbidity and the second most common cause of disability worldwide. MSDs represent a burden on society in both direct costs to the healthcare system and indirect costs through loss of work and productivity. The global prevalence of MSDs ranges from 14% to as high as 42% on the other hand in India, epidemiological study indicate the community based prevalence about 20%.^[2] Now a days musculoskeletal pain and related disorders are increasing day by day. That's why we have to pay attention towards relaxation of skeletal muscles and mind for pain relief. Relaxation is one of the most important skills in *Hathyoga*. It has many dimensions – mental, emotional, autonomic, and muscular. Musculoskeletal pain is mostly found in geriatric age group. These people are unable to do difficult *Yoga* poses, *Yoga* can relieve musculoskeletal pain by relaxation *Yoga* protocol like various types of *Dyanatmak yogic* procedures.^[3]

AIM AND OBJECTIVES

- 1) To evaluate the effect of relaxation yoga on musculoskeletal pain.
- 2) To study the Pathophysiology of musculoskeletal pain.
- 3) To study the effect of yoga on muscle relaxation.

MATERIAL AND METHODS

This is a literary study hence; all the available references and concepts have been compiled here with.

What is pain?

Pain is the highly unpleasant sensory or emotional experience associated with or without actual potential tissue damage.^[12]

Musculoskeletal pain

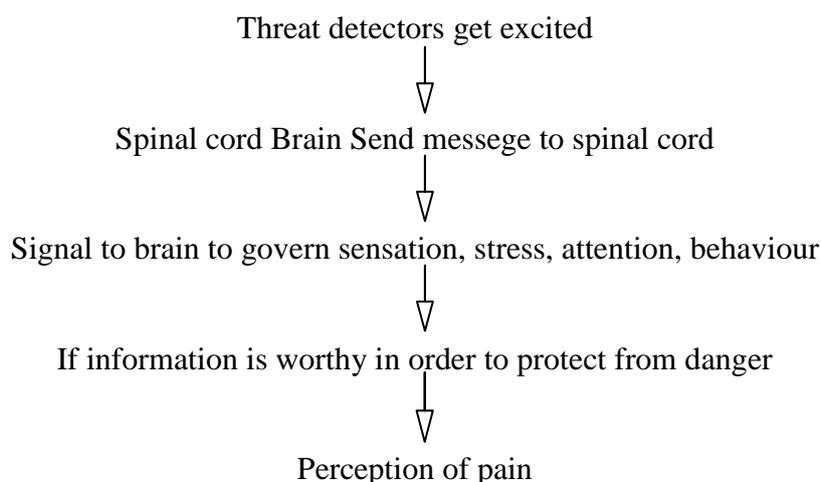
It is most often caused by an injury to the bones, joints, muscles, tendons, ligaments, Nerves. This can be caused by jerking movements, car accidents, falls, fractures, sprains, dislocations, and direct blows to the muscles also caused by overuse. Geriatric age is more prone for musculoskeletal pain.^[2]

Pain Physiology

Muscle Contraction gives rise to increased pressure within the muscle resulting in obstruction of blood flow results into lack of blood flow, i.e. Ischemia and ischemia causes Pain. Ischemia is a potential cause of pain due to static contractions. High muscular exertion can cause internal rupture of muscle cell.^[1] Contraction of muscle cell is regulated by neural system so that the length of the contraction is first set by the muscle spindle that senses the changes in muscle length. The muscle cells are innervated in groups called motor units. More the motor units are activated more will be the contraction. When energy of motor unit reduces, muscle gets relaxed. In long lasting static contractions some muscles may stay active for too long resulting in pain. Pain physiology include posses of pain sensitive nerves that can be irritated by several causes several different physiological responses can account for the muscle pain related to muscular work. Usually pain in muscles is probably the result of combination of several mechanisms.^[2]

Pain pathway

There are threat detectors in the body constantly waiting for input. When excited, send message to the spinal cord (reflex action) Traffic light situation in spinal cord. Green light signals get distributed to many different parts of the brain that governs sensation, stress, attention, emotion and behavior. Brain then comes up with story which may or may not include the perception of pain. If the information is deemed worthy of our attention in order to protect us from danger. The brain creates the output or the perception of pain.^[1]



Relaxation Yoga

Relaxation yoga brings the union of:

1) Asnas

2) Pranayam

3) Dhyam

Relaxation

Stress relieving techniques that aim to access the PNS to create a positive state in the body and mind.

Repetition of exercise will help in squeezing nutrients and blood in the cartilage in order to be healthy and compresses body joints. Yoga practice may loosen the muscles as well as connective tissue which are adjacent to the joints and bones. Thus this is the main reason why yoga is related to reduce pain and aches. According to various studies, meditation and *Asnas* will help in reducing the pain in musculoskeletal problems. Yoga therapy is a comprehensive system designed to enhance the body's ability to heal. Restorative *Asanas* like *Shawasana*, *Makarasana*, *Vajrasana*, *bhadrasana*, *yognidra*, *dhyam* and (*Pranayama*) breathing techniques and gentle poses guided meditation enhances the body ability. Yoga can be effective in reducing pain catastrophizing, increasing pain self efficacy and aid in decreasing depression and anxiety. Regular meditation can decrease the signals between the thalamus possibly reducing the need for medications.

What is *Asnas*? “*Sthirsukham Asanam*”^[10]

An *Asana* is a posture that you assume mechanically. It involves a thoughtful process at the end of which a balance is achieved between movements and resistance.^[4] Our weight has to be evenly distributed over muscles, bones, and joints just as your intelligence must be engaged at every level.^[5]

In each *asana*, different organs are placed in different anatomical positions, and are squeezed and spread, dampened and dried, heated and cooled. Organs are gently massaged, relaxed and toned into a state of optimum health.^[5]

Sitting *Asnas*

All sitting *Asanas* bring elasticity to the hips, knees ankles and muscles of the groin.^[4] These poses remove tension and hardness in the diaphragm and throat making breathing smoother and easier they keep the spine steady pacifying the mind and stretching the muscles of the heart. Blood circulation increases to all parts of body.^[11]

Asanas: Makarasana, Shawasana, Padmasana, Bhadrasana, Sukshmasandhisanchalan

	Asnas	Effects^[11]
1)	<i>Makarasana</i>	Helps in stiffness and spine disorders, reduces, anxiety
2)	<i>Shawasana</i>	Cures insomnia, neurological problems,
3)	<i>Padmasana</i>	Restore energy levels, keep joints and ligament flexible increase awareness
4)	<i>Bhadrasana</i>	Relieves tension in the sacral & coccygeal region of the spine, improves posture, mind focused and relax.
5)	<i>Sukshamasandhisanchalana</i>	Relaxes all joints of the body and relieves pain.

Pranayam

Pranayam is a technique for control of *Prana*. *Pranayam* practices result in the increasing stock of *Prana* and the frequency of *Pranic* vibrations in the body.^[10] The first brings about an increased awareness level. *Pranayam* practices have benefits at all levels for human beings – Physical, Psychological, mental and spiritual.^[11]

With *Pranayam*, one can master the process of breathing more slowly and more deeply. Reduced breathing rate has multiple benefits for the body like slowing down the heart rate, minimizing wear and tear of internal organs that reduces pain pathology improving blood circulation, and slowing down the aging process which help to prevent musculoskeletal disorders. *Pranayam* helps in increasing oxygen supply to the brain and provides complete relaxation to the nervous system.^[11]

Yogic breathing practices increase the level of leptin, a hormone produced by a fat tissue. Yoga practice may benefit health by altering leptin and adiponectin production in the body. Leptin has a proinflammatory role, while adiponectin has anti-inflammatory properties. Which helps to relieve pain.^[11]

Dirghashwasana, Omkar chanting, Bhramari, Chandrabhedi Pranayam.

Dhyan

According to the *Ashtang Yoga of Patanjali*, *Dhyan* is seventh step of the *Yogasanas*. The meditation is equal to gate way of the inner world .meditation is the most essential part of practice.^[10] When one should able to concentrate on one object continuously without any distraction this process is called as *Dhyan*. *Dhyan* relaxes mind and their by relax body which is essential for relieving pain.^[9]

Yoga Nidra, Nidra = Sleep

It refers to the state in which the body profoundly relaxes, the thinking mind subsides but awareness remains. Sequence of meditation practices that help you feel connected to yourself, with others and the world around you. It realizes us how to respond rather than react, to emotions, thoughts and emotions.

DISCUSSION

Yoga encourage one to relax, slow the breath and focus on the present, shifting the balance from the sympathetic nervous system and flight or fight response to the parasympathetic system and the relaxation response.^[3] The latter is calming and restorative; it lowers breathing and heart rate, decrease blood pressure, lowers cortisol levels and increases blood flow to the intestine and vital organs and joints.

Yoga is an ancient system of relaxation, exercise and healing that has origin in Indian philosophy. As a system of healing, it takes a primary approach of prevention or keeping oneself well by the daily practice. *Yoga* is often practiced by healthy individuals with the aim to achieve relaxation, fitness and a healthy lifestyle. *Yoga* also practised in various medical conditions like musculoskeletal disorder.^[7] Relaxing *Yogasanas* improving flexibility and muscle tone, yoga make sure that joints work smoothly and well in regular doings. It helps in maintaining the balance of strengthening and stretching which lengthens ligaments tendons and muscles. It protects the joint from deterioration.^[6]

RESULT AND CONCLUSION

From above we conclude that relaxation *Asnas* in *Yoga* and meditation that is *Dhyan* improves flexibility. It is most oblivious benefits of *Yoga* .with continue practice comes a gradual relaxation of the muscles and connective tissues surrounding the bones and joints this is thought to be one reason that *Yoga* is associated with reduced aches and pains.^[8] *Yoga* help to build muscle mass and maintain muscle strength which protects from conditions having pain is main symptom.

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