

Conceptual Study

Physiotherapy is fundamental basic of Suryamanskara

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ABSTRACT:

Suryanamaskar sun salutation becomes a kind of activity which involves almost every part of the body and is considered as a complete exercise, *Suryanamaskar* follows the bio-mechanical principles one of the main principles of this is the fact that muscles use the bones as levers to cause movement and depends on the antagonistic relationship of muscles. *Suryanamaskar* effectively leads to the same flexibility, tone and strength throughout the whole body. In physiotherapy some principles of stretching and isotonic are strengthening leading to optimal length and strength of muscles. Physiotherapy which is now popular in that same fundamental principle is correlated with these.

KEY WORDS: *Suryanamaskar*, Physiotherapy, paramedical health profession, exercise.

INTRODUCTION:

Suryanamaskar is also called as Sun salutation, also called as sun adoration for health, efficiency and longevity is a part of Indian traditional yogic practices. It involves *pranayam*, *asana* and *upasana* i.e. rituals. The sun salutation is performed as a cyclical event synchronized with a specific breathing pattern. Each cycle consists of 10 steps performed consecutively one after the other. The cycle begins with *Stithi* or *Pranamasana*; the prayer posture. It is then followed by the following steps in a sequence. Step 1- *Hasta Uttanasana*, step 2- *Padahastana*, Step 3- *Dakshinpad Prasarnasan*, Step 4- *Dwipad Prasarnasan*, Step 5- *Saastang Namasakarasan*, Step 6- *Bhujangasan*, Step 7- *Parvatasan* Step 8- *again Dakshinpad Prasarnasan*, Step 9- *Padahastana* and Step 10- coming back to *Stithi*. These individual asanas have their own physical benefits e.g. Step 0 and 10 induces a state of introversion; Step 1 stretches thoracic, abdominal and intestinal muscles and lifts *prana* upwards in the body. Step 2 and 9 massages the abdominal organs, tones the spinal nerves and moves *prana* in lower body parts. Step 4 and 5 tone abdomen, muscles of thighs and legs. Step 6 exercises the spine and strengthens muscles of arms and legs. Step 7 strengthens the muscles of shoulders, arms and chest. All these postures are arranged in such a way that

each step is complementary to the other. As an example backward bending alternates with forward bending. Thus sun salutation becomes a kind of activity which involves almost every part of the body and is considered as a complete exercise.

Physiotherapy is a paramedical health profession that is part of the mainstream biomedical model which subscribes to the authority of the scientific method and is an accepted part of the medical institution. It involves manual handling, exercise prescription and education and covers all aspects from orthopedics to neurology to cardio-respiratory medicine. Its focuses are on rehabilitative medicine and deals mainly with bio-mechanics, movement science and the musculoskeletal system of the body.

One of the main principles of this is the fact that muscles use the bones as levers to cause movement and depends on the antagonistic relationship of muscles. This means that often muscles must work in opposition via vector forces to effect movement in the desired direction under the control and co-ordination of the brain and nervous system. This relationship between muscles working in tandem depends on the length-strength relationship between them. If across a single axis hinge joint there are two muscles if one

contracts and shortens the other must relax and lengthen.

It is with regards to this aspect of posture that *Suryanamaskar* follows the same biomechanical principles. Rather than across one or two joints, *Suryanamaskar* effectively leads to the same flexibility, tone and strength throughout the whole body by the same principles of stretching and isotonic strengthening leading to optimal length and strength of muscles and ultimately flexibility of body posture and indirectly mind. Also, by holding the stretches in a prolonged position it strengthens the will and nervous system.

The dynamic range of motion (DROM) is defined as a controlled movement through the joint active range of motion while moving but not exceeding individual's extensibility limits (Fletcher & Jones, 2004). According to Murphy, during DROM a contraction of antagonist's muscle causes the joint crossed by the agonist (lengthening muscle) to move through full range of motion (ROM) at a controlled and slow tempo. This contraction by the antagonist causes the lengthened muscle to relax due to the principle of reciprocal inhibition.

In physiotherapy three muscle stretching techniques are frequently described in the literature: Static, Dynamic, and Pre-Contraction stretches. The traditional and most common type is static stretching, where a specific position is held with the muscle tension to a point of a stretching sensation and repeated.

There are 2 types of dynamic stretching: active and ballistic stretching. Active stretching generally involves moving a limb through its full range of motion to the end ranges and repeating several times. Ballistic stretching includes rapid, alternating movements or 'bouncing' at end-range of motion; Pre-contraction stretching involves a contraction of the muscle being stretched or its antagonist before stretching. The most common type of pre-contraction stretching is proprioceptive neuromuscular facilitation (PNF) stretching. There are several different types of PNF stretching including "contract relax" (C-R), "hold relax" (H-R), and "contract-relax agonist contract" (CRAC); these are generally performed by having the patient or client contract the muscle being used during the technique at 75 to 100% of maximal contraction, holding for 10 seconds, and then relaxing.

Other types of pre-contraction stretching include "post-isometric relaxation" (PIR). This type of technique uses a much smaller amount of muscle contraction (25%) followed by a stretch, involves a maximal contraction of the muscle at mid-range with a rapid movement to maximal length followed by a 15-second static stretch.

So in *Suryanamaskara* these Static, Dynamic, and

Pre-Contraction stretches are arranged in a cyclic manner.

Effect of Suryanamaskar: Musculoskeletal System: Expands the rib-cage, increases the capacity of lungs making the breath smooth and easy. *Suryanamaskar* is a complete exercise to all the muscles and joints of the body. **& Neurological System:** It increases concentration, memory, learning and focusing ability and vigilance. It strengthens the spine and abdominal muscles to control nervous system and activity of the internal organs.

CONCLUSION:

Suryanamaskar is a part of Indian traditional yogic practices which will carried out day to day practice and Physiotherapy is a paramedical health profession. In physiotherapy three muscle stretching techniques are described in different manner and in *Suryanamaskara* these Static, Dynamic, and Pre-Contraction stretches are arranged in cyclic manner, but principle of these is based on same manner. Hence our conclusive review of article is the physiotherapy basic principal based on our ancient literature i.e. *Suryanamaskar* Thus; the whole purpose is for health to have muscles of iron and nerves of steel to deal with the challenges of life and living. Now the further scope of study is in rehabilitative medicine and for that some every aspect of *Suryanamaska* need to study.

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