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## Role of Yoga Therapy in HIV & Tuberculosis Co-Infection



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### ABSTRACT

Yoga has proven to be a useful practice for healing ailments, sickness, disease, abdominal illness, and muscle problems, among other issues. While yoga cannot reverse the effects of certain illnesses, particularly terminal illnesses such as AIDS, yoga can help to reduce the effects of people's symptoms and extend the lifespan. Understanding how yoga can be used to benefit people living with HIV/AIDS in particular is critical in the search for ways to assist and empower such people. In Indian cultural environment patients suffering from HIV and TB can possibly be more easily motivated to undergo yoga therapy and interiorize its beneficial effects.



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## INTRODUCTION

As per the Human Immunodeficiency Virus (HIV) Sentinel surveillance report, 2007, of the National AIDS Control Organization (NACO), it is estimated that about 2.31 million people in India are infected with HIV1. Assuming that about 40% of them are also infected with *M. tuberculosis* (M.tb), an estimated 1 million people are dually infected with Tuberculosis (TB) and HIV. The seroprevalence of HIV infection among TB patients in India is estimated to be about 6.7%. The primary impact of HIV on TB is that the risk of developing TB is higher in patients with HIV and it increases as HIV disease progresses and CD4 cell counts decrease. Also, TB is the leading cause of death in people living with HIV/AIDS (PLHA). Furthermore, episodes of recurrent TB are high among cured TB cases infected with HIV. Hence, it is imperative that Revised National Tuberculosis Control Programme (RNTCP) and National AIDS Control Programme (NACP) work closely together to articulate policies for strengthening TB/HIV collaborative activities to reduce the burden of both TB and HIV in India. The National framework for the collaborative activities was revised in 2008 and subsequently again in 2009 to make the TB/HIV activities more comprehensive. Meanwhile, in 2005 training modules on TB/HIV for Medical Officers, Senior Tuberculosis Treatment Supervisors (STS) & Senior Tuberculosis Laboratory Supervisors (STLS) and Integrated Counseling Testing Counselors (ICTC) were drafted jointly by officials from CTD and NACO. These modules are currently under revision to accommodate updates. The data from both the surveys revealed that HIV infection among TB patients was high in districts where the HIV prevalence was high in the general population. HIV sero-prevalence in TB patients was highest in the age group 25-44 years and was higher among males compared to females. Also the prevalence of HIV was significantly higher among smear negative and extra pulmonary TB cases compared to sputum smear positive pulmonary TB cases. Five percent is the threshold at which WHO has recommended intensified interventions to address TB-HIV, including Provider Initiated Testing and Counseling (PITC) of TB patients. Hence in the states having high HIV prevalence, RNTCP has adopted the policy of offering HIV testing at the Integrated Counseling and Testing Centres (ICTCs) for all TB patients as a part of intensified package of TB/HIV services (1).

### **Yoga therapy for people living with HIV/AIDS:**

For many people, yoga has proven to be a useful practice for healing ailments, sickness, disease, abdominal illness, and muscle problems, among other issues. While yoga cannot reverse the effects of certain illnesses, particularly terminal illnesses such as AIDS, yoga can help to reduce the effects of people's symptoms and extend the lifespan. Understanding how yoga can be used to benefit people living with HIV/AIDS in particular is critical in the search for ways to assist and empower such people.

The Human Immunodeficiency Virus (HIV) is the cause of the Acquired Immunodeficiency Syndrome (AIDS), a condition in humans in which the immune system begins to fail, leading to life threatening opportunistic infections. Such infections can be caused by a variety of factors, including bacteria, virus, fungi, and parasites. HIV infection occurs by transfer of blood, semen, vaginal fluid, pre-ejaculate, or breast milk. The four main routes of infection are unsafe sex, contaminated needles, breast milk, and mother-to-child transfer from pregnancy to birth. From 1981 to 2006, AIDS killed more than 25 million people, with 2.5 to 3 million people dying per year. When HIV enters the human body, it attaches to CD4 white blood cells, also known as T4 cells, which are the body's main disease fighters. CD4 cells are responsible for fighting infections and helping to prevent the body from falling sick. The damage of these cells can affect a person's disease fighting capability and general health, which are consequences of the battle between the replicating HIV virus and the CD4 cells. Because regular asana practice can help contribute to a healthy immune system, it is important to understand how yoga can strengthen the immune system of people living with HIV/AIDS. Primarily, certain asanas can elicit a relaxation response that is good for countering the physical and psychological stress response that HIV/AIDS can place on the immune system. The purpose of the HIV sequence is to create a sense of empowerment and independence. Repeating the same program week after week minimizes confusion for students who come regularly and provides them with an idea of how they will feel at the end of a class. Past students of Paula Kout have reported the benefits of yoga to include listening more closely to the body, focusing on life rather than death, seeing results and positive changes from the beginning to the end of a class, feeling good about taking part in one's own health, and gaining a sense of control and comradery. One student in the asymptomatic stage stated that "Yoga is the main thing that makes me feel good, besides

emotional things I can do with a partner or being in love. I really feel it if I don't have it every week. It is a big security blanket. Yoga does more for me than anything else I do. It helps me to slow down and look at life week by week, day by day, using what I have, not always wanting more, and learning to live in the moment.

Yoga can be a useful tool for improving the quality of life for people living with HIV/AIDS. Past students have experienced transitions from fear, rigidity, and a sense of holding back to participation, fearlessness, and openness. Their sluggishness can disappear, as yoga facilitates their function and helps to release their tension. For people who are undergoing the parallel process of death, falling under any one of the stages of denial, anger, bargaining, depression, or acceptance, yoga can provide them with the power, energy, and release they need to live out the rest of their lives with significantly minimized stress and enhanced comfort (2).

### **Yoga Therapy for AIDS/HIV**

It takes a great deal of courage to face a disease that seems to have no cure as yet. Many people with HIV experience intense feelings of fear, hopelessness, anxiety, loneliness, and depression. Yoga cannot take the place of professional counseling in dealing with severe distress, but yoga techniques can do much to help you reduce excessive fear and anxiety, learn stress-coping skills, and build inner strength through the relaxation and self awareness training of meditation. Yoga makes the most of the physical capabilities that you have.

Yoga consists of three parts: exercise, breathing, and meditation. Yoga exercise are simple movements that stretch and strengthen the nervous system and the major muscle groups, improve circulation so that the brain and all vital organs receive fresh blood and nutrients, and press on glands and organs to stimulate the hormonal system. A regular daily program of even a few yoga exercises will increase your energy levels and feelings of well being. These are two types of benefits of yoga. One is preventive and another is curative. Yoga therapy helps to carry natural regulation and controls to the neuro-hormones and metabolism in the body. At the same time yoga therapy improves endocrine metabolism and provides a precautionary shelter. Yoga postures for HIV/AIDS.

### Primary asanas for HIV/AIDS

1. Handstand (adho mukha vrksasana)
2. Peacock pose (pinca mayurasana) optional pose, to be done only if student is strong enough and can perform other poses).
3. Supported downwards dog (adho mukha svanasana) (with head supported by a block).
4. Headstand (sirasasana) (students with neck problems or weakness may try “chair headstand.”)
5. Simple cross leg pose (sukhasana) (learning forward, head supported by chair).
6. Supported shoulderstand (salamba sarvangasana) (use chair under buttocks for support).
7. Supported plow pose (ardha halasana ) (use chair or halasana bench for support).
8. Legs up the wall (virparita karani) (with buttocks supported by blankets or bolsters).
9. Supine bound angle pose (sputa Baddha konasana) (with back and head supported by blankets or bolsters).
10. Supported relaxation pose (savasana) (with back and head supported by blankets or bolsters).

### TB and Yoga Therapy

Some of the yoga poses that are helpful in tuberculosis are:

- Bhastrika (Bellows Breath)
- Kapalbhati (Cleansing Breath)

Other types of breathing practices, forward and backward bending movements, and stretching poses may help to increase the physical stamina of the patients.

### Precautions

Some of the precautionary measures that should be taken are:

- Eliminating dairy products, wheat, corn, artificial food additives etc.
- Avoid pizzas, pasta, white bread, and other refined foods.
- Reducing the intake of sugar.
- Avoiding alcohol, tobacco, and caffeinated products.
- Avoiding exposure to second hand smoke.

Tuberculosis is considered as an epidemic, affecting approximately one-third of the world's population. It has been found that this particular condition is prevalent in men rather than

women. Also, the minorities and the socially and economically lower classes exhibit a larger number of tuberculosis.

### **1. Study of Health and Disease according to Ayurveda**

In this subject, we cover the basic principles of Ayurveda, the view of health and disease according to this ancient wisdom of India. The student is introduced to the Dosha Concept and its humors (Vata, Pitta and Kapha) and the five element theory. There is an understanding on how disease manifests on each body type and the student is introduced to changes in lifestyle, diet, yoga asanas and pranyamas which will help prevent/diminish the manifestation of disease. This is an important foundation for the yogic management of common diseases tuberculosis cases.

### **2. Asana Methodology**

This subject includes understanding the "Core Principles of Asana Practice" as well as giving the student the fundamentals for Sequencing & Drawing Postures. There is a deep understanding of asanas (yogic postures) and their therapeutic effects.

We encourage the future Yoga Therapist to understand the patient/student and we provide a Health Assessment Foundation so that the teacher can easily tap into the patient's requirements and limitations.

At the end of the training, the yoga therapist should be capable of teaching a basic yoga class on both series as well as being able to sequence for diseases in all fields of yoga (asana, pranayama, meditation, cleansing techniques, mudras and bandhas) when necessary.

### **3. Mudras (Yoga Gestures)**

Using mudras to heal physical as well as emotional problems.

### **4. The Yogic Diet**

Sattvic and Yogic Diet is also to understand the relationship between food and our emotions. Everything that we eat is food for our body/mind system. Food is the source and creator of prana (life force) that maintains our physical, mental, emotional, vital and subtle bodies and brings us vitality and health. The types of foods we choose to eat will reflect the level of our consciousness. The discipline of yoga suggests a pure vegetarian diet, which facilitates the

development of sattva. Sattva is a quality of love, awareness, connection, and peace with all sentient beings.

The students are also given the guidelines for ayurvedic diet according to each body type or dosha.

## **5. Yoga Philosophy**

The Yoga Sūtras of Patañjali are 196 Indian sūtras (aphorisms) that constitute the foundational text of Rāja yoga. The sutras spell out how the mind works and how is it possible to use the mind to attain liberation. It is a roadmap of human consciousness. It expresses the truth of human condition: how we know, what we know, why we suffer, and how can we discover the way out of suffering.

The student is introduced to the elements of his mind, to the concept of discipline and disciple as well as Abhyasa (constant inner practice) and Vairagyam (desirelessness) as foundation enter into the Ashtanga Yoga or steps to tame one's mind and work towards Samadhi (Liberation).

## **6. Case Study**

Throughout the training, the student should work on a case study. Particularly someone who they know such as family member, friend or co-worker who has a particular disease or group of diseases and research on this disease, to apply what has been learned during the course in order to deliver the following:

- Proposed Yoga Therapy Sequence (In weeks of progress for minimum 1-2 months)
- Proposed Pranayama Practices (also in weeks)
- Proposed Mudras
- Proposed Bandhas (If applicable to the disease in study)
- Proposed Meditation Practices
- Proposed Yoga Nidra (Specially Visualization for the particular disease).
- Proposed Lifestyle changes.

## **7. Study of Asanas**

Two main styles of yoga therapy are taught: Pawanamuktasana Series from Bihar School of Yoga and Iyengar Yoga Series, which include foundation postures for sequencing according to a

disease as well as particular sequences given by Iyengar for particular diseases related to Cardiovascular, Immune, Nervous, Digestive, Respiratory and Urogenital systems.

Along with study of asanas, the student is introduced to safe cleansing sequences as Laghoo Shankaprakshalana, TTK Solution, Trataka and Jala Neti.



## 8. Relaxation Techniques

Relaxing the body-mind system is of primary importance for the Yoga Therapist, as it allows the healing process to happen in the unconscious mind. Several relaxation techniques are given such as Yoga Nidra, Chakra Breathing and Healing the Body Mind. We suggest to purchase the book "Body-Mind" Balancing from Osho.



## 9. Study of Pranayama (breathing exercises) & Bandhas

In-depth study of Pranayama or vital energy is a healing technique. Practices as full Yogic Breath, Bramhari, Nadhi Shodhana, Bhastrika, Kaphalabhati, Ujjayi, Sheetali and Sheetkari among others are introduced to the practitioner. The study of Bandhas include Moola, Uddhyana, Jalandhara & Maha Bandha.





## 10. Esoteric study of yoga

It includes the study of Nadis (Ida, Pingala and Sushumna) and their function in our body/mind system; the study of the concept of Koshas or subtle layers of the body (a human being is capable of experiencing five dimensions of existence and they range from gross to subtle); the study of five Pranas or five primary forces, known as pancha prana, which operate in the physical body at all times.

These five pranas are identified as: prana, apana, samana, udana and vyana. These pranas represent the inherent quality of motion which energizes every action from secretion of the digestive juices to the movement of the hand. They flow through all the elements, organs and the mind.

## 11. Yogic Anatomy



The program does not contain any elements of functional anatomy or structural yoga therapy. The course includes the ayurvedic approach to health and disease and sees the body as a unity. Daily reading assignments on the book yogic management of common diseases are an important

part of the program. Course includes a general study of the Cardiovascular, Respiratory, Digestive, Skeletal, Muscular, and Endocrine System according to Allopathic Medicine (8).

### **Better Posture from Yoga**

When you're stronger and more flexible, your posture improves.

Most standing and sitting poses develop core strength, since you need your core muscles to support and maintain each pose.

With a stronger core, you're more likely to sit and stand "tall".

Yoga also helps your body awareness. That helps you notice more quickly if you're slouching or slumping, so you can adjust your posture.

### **Breathing Benefits**

Yoga usually involves paying attention to your breath, which can help you relax. It may also call for specific breathing techniques. But yoga typically isn't aerobic, like running or cycling, unless it's an intense type of yoga or you're doing it in a heated room.

### **CONCLUSION**

Considering the positive findings in the yoga group like improved subjective well-being, daily basic living skills, personal hygiene, self-care, social-interpersonal activities and communication, and self-discipline, yoga therapy could be added as a daily discipline to improve their overall functioning. In Indian cultural environment patients suffering from HIV and TB can possibly be more easily motivated to undergo yoga therapy and interiorize its beneficial effects.

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