

YOGA AND ASTHMA

Dr. Michael Cheikin

Medical Director of Chestnut Hill Rehabilitation Hospital
Section Chief of Physical Medicine and Rehabilitation
Chestnut Hill Hospital, Philadelphia, PA

Asthma can be defined as a chronic inflammatory condition of the airways, characterized by acute and chronic spasm, caused by multiple triggers, altering pulmonary function. In a traditional medical model, we search for a single agent that causes a disease, and a corresponding "cure", that eliminates or reverses that cause. Penicillin for bacterial infection and insulin for diabetes are examples of such a model. However, even with these examples, there remains the question of why, out of 100 people exposed to a bacterial load, only a certain percentage will come down with a bacterial illness. Clearly, there are other factors involved in the development of illness, or, on the contrary, the maintenance of wellness. Such factors include heredity, environment, nutrition, exercise, and emotion ("stress") to name a few. Furthermore, traditional medicine does not offer a cure for a growing list of chronic diseases,

including asthma, diabetes, heart disease, and osteoarthritis, but at

best keeps the disease at bay.

In "complementary alternative medicine (CAM) rather than seek a "cure", we work to "heal" a person by addressing several factors, acknowledging the web-like nature of the human being. The CAM model does not work on an organ level, it works on a system level. Clearly while affecting the lungs, asthma involves several systems, including the immune system, the autonomic nervous system and the endocrine system. (In fact, the drugs used to control asthma target these systems, not the lungs themselves.) Through CAM methods, many people with chronic diseases, including asthma, have experienced substantial healing, and even reversal. Dean Ornish's work, demonstrating the reversal of coronary heart disease, based on his study of yoga, raises the question of what other chronic diseases are reversible.

Yoga is a system of mind-body-conscious training that has evolved over thousands of years.

While society has changed dramatically over the past 200 years, the bodies that we inhabit developed hundreds of thousands, if not millions of years ago. Our nervous, endocrine, immune and even consciousness systems have not changed, and so the yoga methods developed long ago are still relevant and effective today.

I define yoga operationally as a combination of movement, consciousness and breath. It is different from other forms of "exercise", where there is movement, but not necessarily consciousness (paying close attention to what you're doing) and breath (coordinating breath with movement in a very precise way).

Within the body of yoga work, there is a specific study of breath, called "pranayama". "Prana" itself means breath, energy and spirit. So, in the yoga system, there is no separation in concept between consciousness and energy. In the Chinese model of the body (which evolved in parallel with the Indian system of Yoga), "qi" or "chi" energy flows through meridians of the body. Illness occurs when this energy is blocked, or becomes excessive in certain meridians and is manipulated through acupuncture needles or herbs. In the yoga system, the prana energy also flows through similar channels, and is altered through doing yoga postures ("asanas") or specific breath work ("pranayama"). While science has not yet "proven" the existence of this energy, one only has to look back to the not-too-distant-past when society did not believe in bacteria and used electricity without knowing what it was. People who practice yoga begin to experience and utilize this energy.

The breathing cycle has four basic components: inhale, pause after inhale, exhale, and pause after exhale. In pranayama, one manipulates the speed and ratio of these four phases. The experience of doing these sorts of exercises is usually quite profound, having clear autonomic effects and affecting the state of consciousness.

The act of breathing is particularly interesting

(Continued on page 9)

Provider Perspective

Yoga and Asthma

(Continued from page 7)

physiologically, as it is one of the few bodily functions that is under both involuntary and voluntary control. Most of the other autonomic functions--such as heart rate, gastrointestinal motility, blood pressure, bodily temperature, do not have direct conscious control, unless there is special high-tech training using biofeedback. However, we are born able to control our breath. It is as if our breath is a window to the autonomic nervous system, and therefore, indirectly, the immune, endocrine, circadian and other systems.

There are several mechanisms by which a yoga practice can help with asthma: 1) autonomic, 2) mechanical, 3) neurological 4) energetic and 5) emotional. Autonomic mechanisms include altering sympathetic/parasympathetic balance, and indirectly altering the hypothalamic effect on hormones, immune system, and circadian system. Mechanical effects including mobilizing the chest, where most people get "tight", as well as strengthening the diaphragm, and changing the contributions of abdominal, thoracic and diaphragmatic muscles to breathing pattern. Neurological benefits involve "recalibrating" perceptual awareness so that one can utilize the body more efficiently and feel when things are going awry (kind of a natural peak flow meter). "Energetic" refers to the above discussion about prana energy that can become blocked or excessive, and can be manipulated by yoga postures and yoga breathing. Emotions and stress ultimately affect the other three mechanisms: autonomic, mechanical, neurological and energetic. By study of the self through a yoga practice, one learns about emotional patterns and develops the ability to modulate them. The concept of "psycho-neuro-immunology" refers to the ability of the mind to alter the immune system in positive or negative ways.

There are several studies on the benefits of yoga, relaxation, and exercise for various medical conditions, including asthma. However, alternative methods are difficult to study using traditional double-blind, placebo controlled methodology, due to huge individual differences in practitioners and patients. I prefer to use single-case design, where the patient is used as his/her own control. If you think about it, most medical practice is single-case based. We attempt multiple interventions, one at a time, using both objective

(clinician) and subjective (patient) feedback and outcome to optimize therapy. Designing an optimal yoga sequence, or recipe, for an individual patient follows the same logic.

A yoga practice can last anywhere from 10-90 minutes and is best done daily, like brushing teeth. A yoga practice usually consists of opening warm-ups/settling, a sequence of postures, closing with breathing/relaxation work. While the popular notion is that yoga requires doing a headstand or lotus posture, a balanced series of postures should not be painful or excessive and can be adapted to most people's physical capacities. The most practical way to begin a practice is to go to a class 1-3 times per week. I do not recommend video tapes because yoga is a three-dimensional, individual practice that needs the supervision of an experienced teacher to ensure proper technique and safety. There is not one standard yoga method or certification. The best way to assess a yoga class is to go to a good institution, review the credentials of the practitioner, and to observe or take a trial class.

For further reading, the following books are recommended: Sivananda Center, *The Sivananda Companion to Yoga*. New York: Simon & Schuster, 1983 (ISBN 0684-870-002); Speads, Carola: *Ways to Better Breathing*. 1992 (ISBN 0892-0813-970); Weil, Andrew: *Spontaneous Healing*. New York Fawcett-Columbine, 1995 (ISBN 0449-910-644); Zemach-Bersin, David: *Relaxercise*. Harper, 1990 (ISBN 0062-509-926); Benson Herbert: *The Relaxation Response*. New York: Avon, 1975 (IBSN 0380-006-766).

(Continued from page 2)

Athletes whose symptoms cannot be prevented by pretreatment with albuterol or other beta agonist need daily treatment with an inhaled steroid to bring their asthma under control. This will prevent the inflammation of the airways that is a precursor to an asthma episode, and it will minimize the risk of a fatal attack. Athletes whose asthma is well controlled with inhaled steroids will have no need to use albuterol during play. The NCAA places no ban on the use of inhaled steroids, and the International Olympic Committee allows their use with prior medical approval.

Thomas F. Plaut, M.D., Amherst, MA

Letter from the President

I am pleased to announce that membership in the Association of Asthma Educators (AAE) is growing and that our programmatic offerings are expanding to meet this need. I would like to take this opportunity to share with you our plans to meet the needs of the membership as we grow in numbers and mature as the premier professional organization for the multidisciplinary group of asthma educators in this country.

Advanced Asthma Educators Program (AAEP). AAE is pleased to announce the dates and locations for our first two advanced training programs. The AAEP is a 2 1/2 day course being offered for licensed health care professionals with at least one year's experience in asthma care and education and is being offered in partnership with the Asthma and Allergy Foundation of America and the National Respiratory Training Centre through the generous support of GlaxoSmith-Kline. Enrollment at each site will be limited to the first 100 applicants in Arizona (date to be determined) and in Boston, MA April 19-21, 2002. The program will include a variety of state-of-the-art educational strategies that include mini-lectures, workshops, case-studies and problem-based learning. **All course fees are waived** as this program represents a pilot continuing educational offering covering national asthma guidelines as well as advanced content in the area of pharmacotherapy, airway remodeling, diurnal variation in airflow obstruction, spirometry, pregnancy, occupational asthma and more! In lieu of course fees, participants will be asked to distribute a brief anonymous survey to a small number of patients over a six-month period. If you are

interested in being one of the first 200 to join us for this exciting program, contact Stephanie Cohen at stephanie@aafa.org or 1-888-212-1220 (email is preferred).

Who's Teaching You About Asthma? 2002. 2nd annual AAE national conference. Planning is underway for AAE's second national conference set for Minneapolis, MN July 26-28, 2002 at the Airport Marriott (across from the Mall of America!) Program highlights include pre-conference workshops on asthma education in various settings and conferences sessions focusing on new pharmacotherapies, adherence, complementary and alternative medicines, patient perspectives and case management in asthma. Keep an eye out in your mail for your registration packet!

Continuing educational programs and speaker's bureau. Our speakers' program offers workshops on devices, peak flow monitoring and asthma action plans, spirometry interpretation, as well as lectures on new asthma pharmacotherapies, patient adherence, case studies in asthma and allergy, allergic rhini-

INSIDE THIS ISSUE

Asthma Highlights	
Asthma in Singapore	2
Letter to the Editor	2
Advocacy Spotlight	4
Patient Education Handout:	
Lessons in Advocacy	5
Educator's Corner	
Advair: A Review	8
Provider Perspective	
Yoga and Asthma	9

(Continued on page 3)