

## Mounting Evidence

A good deal of data supporting the critical role of good breathing in achieving health and longevity has been mounting over the past thirty years. Clinical studies including thousands of participants spanning a 30-year period offer persuasive evidence that the most significant factor in health and longevity is how well you breathe.

Unfortunately, several factors have prevented this valuable information from entering the mainstream of healthcare practice. Studies that focus on wellness are still not the primary focus of most medical training, which concentrates on illness and pathological factors. Approaches that can't be patented, such as breathing, don't typically invite research funding. Without considerable research, information doesn't gain admittance into medical journals.

Here, however, are excerpts from some studies of interest to all who'd like to breathe - and live - more fully. They show us the way to opening our minds in this crucial area of health and well-being.

**1. The Framingham Heart Study** demonstrated the long-term predictive power of vital capacity and forced exhalation volume (FEV1) as the primary markers for life span.

“This pulmonary function measurement appears to be an indicator of general health and vigor and literally a measure of living capacity,” according to William B. Kannel and Helen Hubert. These researchers were able to foretell how long a person was going to live by measuring forced exhalation breathing volume, (FEV1) and hypertension. We know that much of hypertension is controlled by the way we breathe.

“Long before a person becomes terminally ill, vital capacity can predict life span,” William B. Kannel of Boston School of Medicine (1981) stated. “The Framingham exam’s predictive powers were as accurate over the 30-year period as were more recent exams.” The study concluded that vital capacity declines from between 9% percent and 27% during each decade of life, depending on age, sex, and the time the test was given. You can get the complete Framingham study at the National Institute of Health's Database.

<http://www.ncbi.nlm.nih.gov/PubMed/>

NOTE: The study’s only shortcoming was in suggesting that vital capacity could not be maintained and/or increased. We know that it can, using simple measurements, even in severe cases of chronic obstructive pulmonary disease (COPD). Any opera (not necessarily voice) teacher will attest to the fact that breathing volume can be increased. Yet activities such as singing and sports are no guarantee of optimal breathing. In fact, gasping, forcing the exhale and breath-heaving, resulting from certain activities, can even exacerbate breathing blocks.

You don't have to learn how to sing to have a huge pair of lungs. But you DO need to know how to breathe. If you learn to breathe correctly, you will naturally know how to sing. I’ve never seen it fail.

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## 2. Lung Function May Predict Long Life Or Early Death

Twenty-nine years after the Framingham study, the same conclusions prevail. How well your lungs function may predict how long you live. This finding is the result of a nearly 30-year follow-up of the association between impaired pulmonary function and all causes of mortality, conducted by researchers at the University at Buffalo. Results of the study appeared in the September, 2000 issue of *Chest*.

The purpose of the study was to investigate the association between pulmonary function and mortality for periods that extended past 25 years, the limit of previous studies. Dr. Schunemann and colleagues also wanted to determine for how long pulmonary function is a significant predictor of mortality. Results showed that lung function was a significant predictor of longevity in the whole group for the full 29 years of follow-up. "It is important to note that the risk of death was increased for participants with moderately impaired lung function, not merely those in the lowest quintile," Dr. Schunemann said. "This suggests that the increased risk isn't confined to a small fraction of the population with severely impaired lung function."

The reasons lung function may predict mortality are not clear, Dr. Schunemann said, noting that increased risk is found in persons who never smoked, as well as among smokers.

"The lung is a primary defense organism against environmental toxins. It could be that impaired pulmonary function could lead to decreased tolerance against these toxins. Researchers also have speculated that decreased pulmonary function could underlie an increase in oxidative stress from free radicals, and we know that oxidative stress plays a role in the development of many diseases."

Dr. Schunemann said the fact that a relationship does exist between lung function and risk of death should motivate physicians to screen patients for pulmonary function, even if more research is needed to determine why. "It is surprising that this simple measurement has not gained more importance as a general health assessment tool," he noted.

*Schunemann HJ, Dorn J, Grant BJB, Winkelstein W, Jr., Trevisan M. Pulmonary Function Is a Long-term Predictor of Mortality in the General Population 29-Year Follow-up of the Buffalo Health Study. Chest 2000;118(3):656-664.*

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### **3. Decline in FEV1 (breathing volume) by age and smoking status: facts, figures and fallacies. From *Thorax* 1997 52:820-827.**

This study shows the importance of longitudinal studies as opposed to cross sectional ones. This published article focused on a compilation of 83 published reports and clinical studies showing clearly that the primary measurement for lung function - FEV1 - is based on cross sectional data instead of longitudinal data. This means, essentially, that they include sick people with widely diverse circumstances in their statistics and compile everyone's data for mass diagnosis.

This 1997 research paper points out that; (italics mine) "from one low measurement of FEV1 (forced exhalation volume) in an adult, it is impossible to determine whether the reduced lung function is due to not having achieved a high maximum during early adulthood, or to having an accelerated rate of decline or to any combination of these." "Western medical studies, via cross-sectioning, continue to look for role modeling epidemiological "norms" that include the ranks of the ill. Cross-sectioning is 60% effective and proven by many to be ineffective over the last 40 years."

The health professional's opinion can have immense personal, social, legal, and economic consequences. When it is based on information colored by sick, generally unhealthy or inappropriately chosen individuals, the statistic(s) become weighted in favor of, or excessively influenced by, illness or what is perceived as illness, and may be, in reality, simple mechanical dysfunction. Cross-sectional studies can bring the averages down and cause many who do not need the intensity, duration or style of treatment recommended by many health practitioners to be over or under-medicated, or inappropriately fed, exercised, massaged or educated.

We need to focus on how to improve breathing, not on how it became impaired. Dwelling too much on problems and pathology gets in the way of creativity and flexibility.

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#### **4. Oxygen Multi-Step Therapy.**

The von Ardenne studies focused on oxygen's relationship to most major categories of illness. When your blood oxygen is depleted, you get sick, die, or at least shorten life span.

Dr. Manfred von Ardenne was a student of Dr. Otto Warburg, who received the 1931 Nobel Prize for proving that cancer is anaerobic (ie., it cannot survive in a high oxygen environment). Germs, fungi and bacteria are anaerobic as well.

Von Ardenne was also inspired by Karl Lohmann, who discovered adenosine triphosphate, ATP, which many believe to be the human body's main energy currency. Von Ardenne was an electron physicist who developed quite a good reputation for cancer research, in addition to his contributions to astronomy.

He developed the process he called Oxygen Multistep Therapy. In his book of the same name, Dr. von Ardenne addressed some 150 respiratory and blood gas issues, including elements of what we might call "Respiratory Psychophysiology". This book is a masterful compilation of clinical insights and variations on breathing assessments, co-factors and some techniques of breathing development.

#### **Some studies addressed in the book include:**

- Dependence of O<sub>2</sub> uptake at rest.
- The O<sub>2</sub> deficiency pulse reaction as a warning sign of a life-threatening crisis, and the lasting remedying of the crisis.
- Procedures that influence and measure increases and decreases in arterial and venous O<sub>2</sub> blood levels.
- The necessary physical exercise to attain a training effect (which is less than you might expect).
- Increases in brain circulation during physical strain.  
Rate of blood flow in the circulation of the organs.  
Various examples in changes of O<sub>2</sub> uptake.
- Heart minute volume and blood flow of the organs decisive for O<sub>2</sub> transport.  
Relation of ATP concentrations in rat brains as a function of the oxygen partial pressure of the inspired air.  
He graphed much of his research. Other cofactors that influence lung volume are airway hyper-responsiveness, atopy, childhood respiratory infections, air pollution, posture, subluxation of the spine, exercise, deep and superficial fascia, nutrition, occupational hazards, abuse and trauma, attitude, and age, height, weight and sex.

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#### **5. OBESITY AND BREATHING**

Effects of Obesity on Respiratory Resistance (increased force required to breathe and shortness of breath). Chest 1993 May, 103(5):1470-1476. These findings suggest that in addition to the elastic load, obese subjects have to overcome increased respiratory resistance from the reduction in lung volume related to being overweight.

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#### **6. Numerous measurements have shown that low O<sub>2</sub> partly resulting from** stressful events or following degeneration of the lung heart system (LHS) in old age can be re-elevated up to high values. Manfred von Ardenne - *Stress* 1981 Vol 2 Autumn.

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**7. Self-evaluation of respiratory deterioration was significantly predictive** of death from all causes. Kauffmann F, Annesi I, Chwalow J -Epidemiological Research Unit INSERM U 169, Villejuif, France. *European Respiratory Journal* 1997 Nov; 10(11):2508-2514. In other words, there are ways of telling how good your breathing is, and what you observe is related to how long you may live - due to good or bad breathing. Take our [Breathing Evaluation Test](#).

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**8. *Breathe Well, Be Well* by Robert Fried, Ph.D.**, is a strong collection of results from 18-years of study correlating hyperventilation and its relationship to many illnesses which have never before been linked to poor breathing.

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Additional resource articles from India:

1. Telles S. & Desiraju T (1991), Oxygen consumption during pranayamic type of very slow-rate breathing. *Indian Journal of Medical Research* 94 [B]
2. Telles S. & Desiraju T (1992). Heart rate alternations in different types of pranayamas. *Indian Journal of Physiology and Pharmacology*, 36 (4):287-288.
3. Telles S., Joseph C., Venkatesh S, & Desiraju T. (1992). Alternation of auditory middle latency evoked potentials during yogic consciously regulated breathing and attentive state of mind. *International Journal of Psychophysiology*, 14:189-198.
4. Telles S., Nagarathna R & Nagendra H R (1994). Breathing through a particular nostril can alter metabolism and autonomic activities. *Indian Journal of Physiology and Pharmacology* 32 (4):352
5. Telles S., Nagarathna R & Nagendra H R (1995). Improvement in visual perception following yoga training, *Journal of Indian Psychology* 13 (1):30-32
6. Telles S., Nagarathna R & Nagendra H R (1996). Physiological measures of right nostril breathing. *Journal of Alternative Complementary Medicine*, 2 (4):479-484
7. Raghuraj P, Telles S (1998). Changes in AEP-MLRs during right nostril yoga breathing, *International Journal of Neuroscience*.