



Understanding Breathing Disorders

Allergies, Asthma, Chronic Bronchitis, COPD

Max Stanley Chartrand, Ph.D.
DigiCare® Behavioral Research

Introduction: Breathing disorders are growing at breakneck pace in the population, affecting young and old alike. Developmental delay in children ages 0-3 suffering with inhalant allergies, asthma, and otitis media with effusion (OME) is on the rise at one end of life's spectrum, while a virtual explosion is underway in acquired asthma, chronic bronchitis, and COPD in older adults. This latter condition (COPD) has risen to the number three cause of death in the US, with an expected 150,000+ deaths this year alone. Meanwhile, various research projects are finding that damaged and lost lung tissue, including pleura, alveolar I & II, clear hyaline cartilage and soft bone tissue can be repaired and replaced...without drugs...without surgery. This is groundbreaking news, but is just not reaching those who need it.

First, a Review of Functional Physiology

Human lungs are comprised of **two large air-filled sacs within the thorax (chest cavity)** and is made up of **epithelial cells, clear hyaline cartilage, soft bone tissue**, among other tissues. **The nose, mouth, and cilia** of the **trachea** filter the air we breathe and expel that which cannot be absorbed internally into the body.

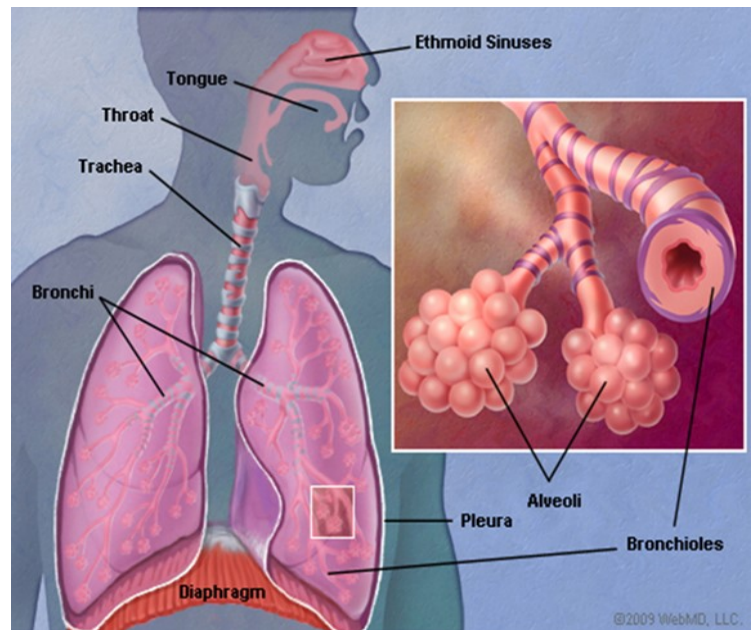
The lungs **inhale oxygen (O²)** from the trachea via **bronchial branches**; these subdivide repeatedly into smaller branches, and end in clusters of tiny air sacs called **alveoli** or **alveolar cells**. Alveolar cells give up carbon dioxide (CO²) arising from **metabolic wastes of the body from the bloodstream** and take in the new O². O₂ attaches to **hemoglobin** for wide distribution to cells throughout the body with the help of about 100,000 heart beats per day. This is the energy used by **adenosine triphosphate (ATP)**, which maintains the body.

The powerful **diaphragm** muscles beneath the lungs enable the lungs to expand to take air in and contract to push air outward approximately 20,000 times each day. To assure no friction occurs in the expansion and contraction actions against the chest cavity, there is a thin, wet layer of cells called the **pleura**, which slides against the pleural lining on the inside of the thorax.

Dead cells, mucus, and infection are absorbed by **macrophage cells** into the **vascular (blood) and lymphatic systems**, or we would all be coughing virtually round the clock. In its normal, healthy state lung tissues **regenerate in cycles of 7-21 days**. Cartilage and bone cells replenish over several months, depending on one's level of physical activity. When these cells are under constant attack by airborne particulates, toxins, infection, smoke, and/or certain medications (steroids, antihistamine, NSAIDs), timely regeneration is delayed or stopped entirely. The degree to which such degeneration occurs can often be aligned with the diagnoses of **acquired asthma, chronic bronchitis, emphysema, COPD**.

Lung functions are intricately connected to **limbic control** (emotion/thought) and the **immune system** (external & internal threats/triggers). These relationships affect stress reactions and cardiovascular functions, including blood pressure.

Most cases of upper and lower respiratory abnormalities



began at birth from stressors present at the time of birth (mother's health state, egregious medications, smoking, withdrawal, etc.). A diet devoid of needed organic micronutrients plus overuse of antibiotics to treat allergy-related OME and repeated bouts of chronic bronchitis, tonsillitis, and/or pneumonia combine to slow a child's cartilaginous, neurological, and cognitive development. Many of these, with added years of lifestyle and workplace stressors carry over into older adulthood, making those with earlier stressors to comprise the largest segment of today's serious breathing disorder cases.

Recent research demonstrates that **therapeutically stimulated adult stem cells (ASCs) may be converted into fully functioning respiratory cells**. However, the chasm between one's current state and the state where their lungs can regenerate is usually difficult to cross due to **aggressive symptomatic treatment** and the disregard for **addressing underlying causes**. Addressing underlying and contributing factors (i.e., biomarkers), as well as building up the health of the entire body is what the **SIRCLE® Method** is all about.

We refer readers to other monographs that discuss how damaged and missing tissues can be grown back under the right circumstances and treatment protocols. Hence, the needed advanced organic nutritive components to encourage adult stem cell growth and technology that can dramatically increase ATP repair is available for the asking, today!

Note: Other Monographs by Dr. Chartrand cover how one may benefit from adult stem cell healing with cutting edge therapeutic approaches. For more information, contact: DigiCare Behavioral Research, 820 W. Cottonwood Lane, Suite #6, Casa Grande, AZ 85122, (520)509-6380.

For Further Study

- Aoshiba, K, and Nagai, A (2003). Oxidative Stress, Cell death, and Other Damage to Alveolar Epithelial Cells Induced by Cigarette Smoke. *Tobacco Induced Diseases*, 1(3):219-226)
- Chakkalakal, JV, Jones, KM, Basson, MA, Brack, AS (2012). The Aged Niche Disrupts Stem Muscle Cell Quiescence. *Nature*, 490, 355-360.
- Chartrand, MS (2013). *Dr. Mitochondria & You* (DVD Lecture). Casa Grande, AZ: DigiCare.
- Chartrand, MS (2015). *Understanding how your own adult stem cells provide healing from injury and degeneration*, (DVD Version) Casa Grande, AZ: DigiCare.
- Dean, C., Bingle, C., and Hind, M. (2013). Delivering and phenotyping mouse models for the respiratory community. *Clin Sci (London)*, November; 125(10):495-500.
- Faloon, W. (2006). Stem Cell Therapy in a Pill? *Life Extension*, December, <http://stemcells.nih.gov/staticresources/info/basics/StemCellBasics.pdf>
- Gray, B (2012). Study gives first evidence that human lungs can regrow. *HealthDay*, July, 2012.
- Healthline News, (2015). Asthma and Allergies on the Rise in the US. [At http://www.healthline.com/health-news/children-allergies-and-asthma-on-the-rise-110813](http://www.healthline.com/health-news/children-allergies-and-asthma-on-the-rise-110813).
- Penn Medicine (2015). Limber Lungs: One Type of Airway Cell Can Regenerate Another Lung Cell Type. [At http://www.uphs.upenn.edu/news/news_release/2015/04/epstein](http://www.uphs.upenn.edu/news/news_release/2015/04/epstein).