What is cystic fibrosis?

Cystic fibrosis (CF) is a life-threatening, genetic disease that primarily affects the lungs and digestive system. It is found in about 30,000 people in the United States (70,000 worldwide). People with CF inherit a defective gene that causes a buildup of thick mucus in the lungs, pancreas and other organs.

When mucus clogs the lungs, it can become very difficult to breathe. The thick mucus also traps bacteria in the airways, which can result in infections and inflammation and often leads to severe lung damage, and eventually, respiratory failure. Respiratory problems are the most serious and persistent complication for people with CF.

In the pancreas, the buildup of mucus prevents the release of digestive enzymes that help the body break down food and absorb important nutrients. People with CF often have malnutrition and poor growth.
Health Problems with Cystic Fibrosis

- Sinus Problems
- Nose Polyps (growths)
- Frequent lung Infections
- Salty sweat
- Enlarged heart
- Trouble breathing
- Gallstones
- Abnormal pancreas function
- Trouble digesting food
- Fatty BM's
What are the symptoms of CF?

Cystic fibrosis is a chronic disease. The most common symptoms are:

- Very salty-tasting skin
- Persistent coughing, at times with phlegm
- Frequent lung infections, such as pneumonia or bronchitis
- Wheezing or shortness of breath
- Poor growth or poor weight gain in spite of a good appetite
- Frequent greasy, bulky stools or difficulty in bowel movements
- Small, fleshy growths in the nose, called nasal polyps
How do people get CF?

Cystic fibrosis is a genetic disease. People inherit CF from their parents through genes, which also determine many other characteristics, including height, hair color and eye color.

CF is caused by mutations in a gene that produces a protein, called CFTR. The CFTR protein controls the flow of salt and water in and out of the cells of organs like the lungs and pancreas.

To have cystic fibrosis, a person must inherit two copies of the defective CF gene — one copy from each parent. Both parents must have at least one copy of the defective gene.

People with only one copy of the defective CF gene are called carriers, but they do not have the disease themselves. Each time two CF carriers have a child, the chances are:

- 25 percent (1 in 4) the child will have CF
- 50 percent (1 in 2) the child will be a carrier but will not have CF
- 25 percent (1 in 4) the child will not be a carrier and will not have CF

There are more than 1,800 known mutations of the CF gene. Because there are so many, most genetic tests only screen for the most common mutations.
Who gets CF?

About 30,000 children and adults in the United States (70,000 worldwide) have CF. An additional 10 million people — about one in every 31 Americans — are symptomless carriers of the defective CF gene. CF is most common in white people, but is found in people of all races and many ethnicities.

How is CF diagnosed?

Most children are now diagnosed with CF at birth through newborn screening, and more than 75 percent are diagnosed by the age of 2.

A doctor who sees the symptoms of CF will order a sweat test or a genetic test to confirm the diagnosis.

CF is usually diagnosed by conducting a sweat test, which measures the amount of salt in a person’s sweat. A mild chemical and a small amount of electricity are placed on the skin (usually on the arm) to stimulate the sweat glands. Sweat is then collected and the amount of chloride, a component of salt in the sweat, is measured. A high level of chloride means that the person has cystic fibrosis. The sweat test is painless.

The best place to receive a reliable sweat test is at a Cystic Fibrosis Foundation-accredited care center.

In a genetic test, a blood sample or cells from the inside of the cheek are taken and sent to a laboratory that specializes in genetic testing. A genetic test is often used to confirm a diagnosis of CF if the results of a sweat test are not clear, but genetic testing is mostly used to find out if a person is a CF carrier.
Old German Saying

Back in the day, salty skin was the hallmark characteristic of CF. The reason is that a faulty salt chloride channel causes people with CF to excrete too much salt. In other words, when we sweat, we lose too much salt, which puts us at increased risk of dehydration.

If it’s hot outside and you lick the skin of someone with CF (with permission, of course!), you’ll taste how salty they are! You may even see salt crystalize on their skin.

To this day, the diagnostic test for CF is called a “sweat test” because it measures the salt chloride levels in your sweat.

How is CF treated?

Treating a complex disease like CF requires therapies that address problems in different parts of the body, especially the lungs and the digestive system.

Because the type and severity of CF symptoms can differ widely from person to person, there is no typical treatment plan for people with the disease. CF Foundation-accredited care centers work closely with people with CF and their families to create individualized treatment plans.

However, each day, most people with CF typically:

- Do some form of airway clearance to help loosen and get rid of the thick mucus that can build up in the lungs. Some airway clearance techniques require help from family members, friends or respiratory therapists. Many people with CF use an inflatable vest that vibrates the chest at a high frequency to help loosen and thin mucus.

- Take inhaled medicines — liquid medicines that are made into a mist or aerosol and then inhaled through a nebulizer. These medicines include antibiotics to fight lung infections and therapies to help keep the airways clear.

- Take pancreatic enzyme supplement capsules with every meal and most snacks to improve absorption of vital nutrients. People with CF also usually take multivitamins.
The CF Foundation supports research to discover and develop new CF treatments, and maintains a **pipeline of potential therapies** that target the disease from every angle.

The most recent drug approved for CF, **Kalydeco™** (ivacaftor), treats the underlying cause of CF in a small group with a specific mutation of the CF gene. All other CF therapies available today treat the symptoms of CF.
SCIO Disease Dictionary TREATMENT SUGGESTED for Cystic Fibrous

Color - Red

Cosmic: set 1 for physical body,

Magnetic Method - 5 for inflammation, 2 for energy stimulation

Frequency – 555 to 888hz

Scalar for 30 min once a month in early stages once a week in later stage

Auto Trivector for 30 min once a month in early stages once a week in later stage
Title: SCIO Treats Cystic Fibrous

Part of the Following:

Large Scale Study of the Safety and Efficacy

of the SCIO/Eductor Device

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Abstract:
This study demonstrates the safety and effective qualities of the SCIO device used in a large scale study. A large scale study of over 100,000 patients with over 300,000 patient visits reported their diseases. Many of them reported Cystic Fibrous. And the results of their therapy are reported in this study. 12 were treated, 9 saw improvement.

Introduction:

Over View:
This Large scale research was designed to produce an extensive study of people with a wide variety of diseases to see who gets or feels better while using the SCIO for stress reduction and patient monitoring. The SCIO is an evoked potential Universal Electro-Physiological Medical apparatus that gauges how an individual reacts to miscellaneous homeopathic substances. The device is registered in Europe, America, Canada, S Africa, Australia, S. America, Mexico and elsewhere. The traditional software is fully registered. Some additional functions where determined by the manufacturer to be worthy of evaluation. Thus a study was necessary to determine safety and efficacy. (As a result of these studies these additional functions are now registered within the EC)

A European ethics committee was officially registered and governmental permission attained to do the insignificant risk study. Qualified registered and or licensed Biofeedback therapists where enlisted to perform the study. Therapists were enrolled from all over the world including N. America, Europe, Africa, Australia, Asia, and S. America. They were trained in the aspects of the study and how to attain informed consent and transmit the results to the ethics committee or IRB (Institutional Review Board).

2,569 therapists enlisted in the study. There were 101,210 patients. 69% had more than one visit. 43% had over two visits. There were over 300,000 patient visits recorded. The therapists were trained and supervised by medical staff. They were to perform the SCIO therapy and analysis. They were to report any medical suspected or confirmed diagnosis. Therapist’s personnel are not to diagnose outside of the realm of their scope of practice. Then the therapist is to inquire on any reported changes during the meeting and on follow-ups any measured variations. It must be pointed out that the Therapists were free to do any additional therapies they wish such as homeopathy, nutrition, exercise, etc. Therapists were told to not recommend synthetic drugs. Thus the evaluation was not reduced to just the device but to the total effect of seeing a SCIO therapist.

Part 1. The emphasis was on substantiating safety followed by efficacy of the SCIO.

Part 2. Proving the efficacy of the SCIO on diseases (emphasis on degenerative disease)

Part 3. Proving the efficacy of the SCIO on the Avant Garde therapies of Complementary Med
Part 4. QQC Standardization

**Methods and Materials:**

**SCIO Device:**

The SCIO is an evoked potential Universal Electro-Physiological Medical device that measures how a person reacts to items. It is designed to measure reactions for allergy, homeopathy, nutrition, sarcodes, nosodes, vitamins, minerals, enzymes and many more items. Biofeedback is used for pre-diagnostic work and or therapy.

The QXCI software will allow the unconscious of the patient to guide to repair electrical and vibrational aberrations in your body. For complete functional details and pictures, see appendix.

**Subspace Software:**

The QXCI software is designed for electro-physiological connection to the patient to allow reactivity testing and rectification of subtle abnormalities of the body electric. If a patient is not available a subspace or distance healing link has been designed for subspace therapeutics. Many reports of the success of the subspace have been reported and thus the effectiveness and the safety of the subspace link is part of this test. Many companies have tried to copy the subspace of Prof. Nelson and their counterfeit attempts have ended in failure.

**SOC Index:**

The SCIO interview opens with a behavioral medicine interview. This is called the SOC Index. Named after the work of Samuel Hahnemann the father of homeopathy, he said that the body heals itself with its innate knowledge. But the patient can suppress or obstruct the healing process with some behavior. Hahnemann said that the worst way to interfere with the healing natural process was Allopathy or synthetic drugs. Theses upset the natural healing process by unnatural intervention and regulation disturbance. Other ways to Suppress or Obstruct the Cure are smoking, mercury amalgams, stress, lack of water, exercise and many others. This behavioral survey then gives an index of SOC.

The scores relate to the risk of Suppression and Obstruction to the natural Cure. The higher the scores the more the Suppression and or Obstruction. The scores of 100 or lower are ideal. A copy of the SOC index questions appear in the appendix.

**Study Technicians:**

The study technicians were educated and supervised by medical officers. The study technicians were to execute the SCIO therapy and analysis. All were trained to the standards of the International Medical University of Natural Education. Therapists from all over the world including N. America, Europe, Africa, Australia, Asia, S. America and elsewhere were enlisted to perform the study according to the Helsinki study ethics regulations.

They were to chronicle any medical suspected or confirmed diagnosis. Therapists personnel are
not to diagnose outside of the realm of their scope of practice. Then the study technician is to inquire on any disclosed observations during the test and on follow-ups report any measured changes. To test the device as subspace against the placebo effect, two of the 2,500+ therapists were given placebo SCIO devices that were totally outwardly the same but were not functional. These two blind therapists were then assigned 35 patients each (only 63 showed). This was to assess the double blind factor of the placebo effect as compared to the device. Thus the studied groups were

A. placebo group,  B. subspace group,  and  C. attached harness group. Cross placebo group manipulation was used to further evaluate the effect.

Important Questions: these are the key questions of the study

1. Define Diseases or Patient Concerns
2. Percentage of Improvement in Symptoms
3. Percentage of Improvement in Feeling Better
4. Percentage of Improvement Measured
5. Percentage of Improvement in Stress Reduction
6. Percentage of Improvement in SOC Behavior
7. What Measured + How (relevant measures to the patient’s health situation)
8. If Patient worsened please describe in detail involving SOC_

[Diagram of chromosome 7 and CFTR gene sequence with amino acid changes highlighted]

Cystic fibrosis gene resides on chromosome 7 and normally gives rise to a protein called the cystic fibrosis transmembrane conductance regulator (CFTR). The defect that most often leads to the disease is the deletion of three nucleotides from the gene (red letters above); this alteration, known as the ΔF508 mutation, results in the loss of one amino acid - phenylalanine at position 508 - in the CFTR protein. Phenylalanine is lost because the protein-making machinery of the cell now sees ATT (an alternative way to encode isoleucine) at the gene region coding for the protein’s 508th amino acid, followed by the GGT sequence for the glycine that normally follows phenylalanine.

http://indavideo.hu/video/Epigenetic_Vibration_Chromosome_7
After the patient visit is was complete the data was e-mailed to the Ethics Committee or IRB for storage and then analysis. This maneuver minimized the risk of data loss or tampering. Case studies were reported separately in the disease annals.

MEDICAL DETAILS

Cystic fibrosis is a genetic disease. People inherit CF from their parents through genes, which also determine many other characteristics, including height, hair color and eye color. CF is caused by mutations in a gene that produces a protein, called CFTR. The CFTR protein controls the flow of salt and water in and out of the cells of organs like the lungs and pancreas. To have cystic fibrosis, a person must inherit two copies of the defective CF gene — one copy from each parent. Both parents must have at least one copy of the defective gene.

Results:

Before we review the direct disease improvement profiles, we need to review the overall results. The first most basic of question in the results is the basic feedback of the generic patient conditions.

1. Percentage of Improvement in Symptoms
2. Percentage of Improvement in Feeling Better
3. Percentage of Improvement Measured
4. Percentage of Improvement in Stress Reduction
5. Percentage of Improvement in SOC Behavior

The SOC index gives us great insight to this study. Each disease has a different cut off where the ability of the SCIO to help was compromised. As a general index scores of 200+ where much less successful.

This Cystic Fibrous disease group total number of patients was 12.

Subspace Treatment 12 patients, 2 SCIO Harness Patients

OVERALL ASSESSMENT

A. Subspace Treatment 2 patient visits

There were 0 cases of patients who reported a negative Improvement.

None of these cases reported any major difficulty. There were
0 cases reporting no improvement of Symptoms, .001% of Subgroup

B. SCIO Harness Treatment 12 patient visits

There were 0 cases of patients who reported a negative Improvement. None of these cases reported any major difficulty. There were

1 case reporting no improvement of Symptoms, 0.01% of Subgroup
9 cases reporting no improvement in feeling better, 0.02% of Subgroup
1 case reporting no improvement in stress reduction 0.01% of Subgroup

65%---- Percentage of Improvement in Symptoms
69%---- Percentage of Improvement in Feeling Better
60%---- Percentage of Improvement Measured
62%-- Percentage of Improvement in Stress Reduction
29%---- Percentage of Improvement in SOC Behavior
Many individuals with cystic fibrosis have difficulty with lung infections developing into pneumonia, especially Pseudomonas. Many plant materials are being researched for their therapeutic value for our immune and lung health. Here are 43 natural substances that have been researched to possibly improve the lung status of people with cystic fibrosis.

1. **Omega-3** and gamma-linolenic fatty acids improve pulmonary status (lung function, respiratory exacerbations and antibiotic consumption), inflammatory and anthropometric parameters in adults with CF.

2. **Omega-3 fatty acids** may have a protective effect against mucus over-production caused by pulmonary bacterial colonization in cystic fibrosis.

3. **Omega-3 fatty acid** supplementation reduces inflammatory biomarkers, erythrocyte sedimentation rate, and interleukin-8 concentrations in cystic fibrosis patients.

4. An 8-month treatment with **Omega-3** fatty acids (EPA and DHA) has a positive effects, such as decreasing inflammation, in patients with cystic fibrosis.

5. **Oral magnesium** supplementation may help overcome the failure of rhDNase-I in patients with cystic fibrosis.

6. **Vitamin A and E** levels are inversely correlated with pulmonary exacerbations in cystic fibrosis.

7. **Glutathione** improves clinical markers in cystic fibrosis patients.

8. Improved glutathione status in young adult patients with cystic fibrosis supplemented with **whey protein**.

9. **Lactobacillus GG** supplementation reduces pulmonary exacerbations and hospital admissions in patients with cystic fibrosis.

10. Inhaled hypertonic saline accelerates mucus clearance and improves lung function in patients with cystic fibrosis.

11. **Zinc** supplementation reduces the number of days of oral antibiotics used to treat respiratory tract infections in children with cystic fibrosis.

12. **Zinc supplementation** is beneficial in Zinc-deficient Cystic Fibrosis patients.
13. **Lactoferrin** inhibits *Pseudomonas aeruginosa* and Burkholderia cenocepia, two infectious organisms found in Cystic Fibrosis patients.

14. **Lactobacillus probiotic** delayed respiratory tract colonization and infection by *Pseudomonas aeruginosa*.

15. **Garlic and tea** have antibacterial activity against Klebsiella, as well as drug resistant strains of *Saphylococci, Enterococci* and *Psedomonas aeruginosa*.

16. **Ginseng** treatment enhances bacterial clearance and decreases lung pathology (in rats) with chronic *Pseudomonas aeruginosa pneumonia*.

17. Ripe and unripe **papaya fruit** exhibit significant antibacterial action on Staphylococcus aureus, Bacillus cereus, Escherichia coli, *Pseudomonas aeruginosa* and Shigella flexneri.

18. **Curcumin** attenuates the virulence of *Pseudomonas aeruginosa*.


20. Water soluble **green tea** extract has significant activity against multi-drug resistant strains of *Pseudomonas aeruginosa*.

21. **Cinnamon water** possesses profound activity against *Pseudomonas aeruginosa*.

22. **Clove, cinnamon, lavender and peppermint oils** appear to interfere with quorum sensing activity in bacteria, reducing the pseudomonus drug-resistant virulence and pathogenicity.

23. **Goldenseal (H. canadensis)** demonstrates antibacterial activity against Staphlococcal, Steptococcal, E. coli and *Pseudomonas aeruginosa* strains in vitro.


25. High dose **vitamin D3** prevents recurrence of pneumonia in children treated with antibiotics.


27. **Licorice** is effective in reducing experimentally induced pulmonary inflammation.
28. Oxidative stress is implicated in **acute pneumonia** in children and may be attenuated through **antioxidants**.

29. **Green tea** consumption was associated with a **lower risk of death from pneumonia**.

30. Higher intake of **Omega 3 fatty acids** may **reduce the risk of pneumonia**.

31. Dietary supplementation with **amla** protects against bacterial colonization (**Klebsiella pneumoniae**) of lungs on long-term feeding in experimental model.

32. **Curcumin** ameliorates lung inflammation induced by **Klebsiella pneumoniae** and may be a useful adjuvant in antibiotic therapy.

33. **Aspen bark extract** exhibits **powerful antibacterial activity against S. pneumoniae** and **H. influenzae**.

34. **Chicken soup** may be **therapeutic in treating pneumococcal pneumonia**.

35. **Choline** related supplements may **improve status of children with Cystic Fibrosis**.

36. **Curcumin** has a corrective effect on the expression of genetic defects associated with **cystic fibrosis** in an animal model.

37. **Cordyceps** may play a therapeutic role in **improving pulmonary function** in cystic fibrosis.

38. **Fish oil** supplementation has **therapeutic value in the treatment of cystic fibrosis**.

39. **Oats**, as a source of (lipase) enzymes, may provide ideal acid-stable adjunct to pancreatin derived enzymes.

40. **Bing cherries** reduce inflammation.

41. **Bilberry** has **anti-inflammatory properties**.

42. **Pigmented potato** consumption positively alters oxidative stress and inflammatory levels.

43. **Fruit and vegetable** consumption **improves markers of inflammation** and oxidative stress in adolescents.
Cure Cystic Fibrosis Naturally

What is Cystic Fibrosis?
Cystic fibrosis, otherwise known as mucoviscidosis or CF, is a hereditary disease of the mucous glands that critically affects the lungs, as well as the pancreas, liver, and intestines. Due to an overproduction of mucus, CF can cause frequent chest infections, coughing, and shortness of breath. Other symptoms of Cystic fibrosis are salty tasting skin, poor growth or weight gain due to poor nutrient absorption through the intestines, and bowel obstruction in newborns.

Cystic fibrosis worsens over time, and management of CF is centered around controlling and limiting lung damage and the decline of other organs. Though people suffering from CF can live much better lives now than in comparison to thirty years ago, oftentimes organ transplantation (usually double lung, but sometimes pancreas or liver as well) can become necessary to their survival. Cystic fibrosis can cause infertility in both men and women; in men there is a congenital absence of the vas deferens, while in women pregnancy is made difficult due to thickened cervical mucus or disrupted ovulation due to malnutrition.

Natural Treatment for Cystic Fibrosis
The purpose of this page is to allow users to share their experience with natural treatments for CF, and we are currently open to learning more about what people are using to cope with cystic fibrosis symptoms. Currently, users have reported positive results with hydrogen peroxide and Himalayan Salt. Research also suggests that vitamin E supplements can help moderate cystic fibrosis symptoms.¹ If you have a home remedy you use for cystic fibrosis, or have tried a remedy on this page, please let us know about your experience.

References:
¹http://www.ncbi.nlm.nih.gov/pmc/articles/PMC372361/
Treatment for Cystic Fibrosis

Ways to Get your Health Back

Are you looking for natural treatment for cystic fibrosis? Cystic fibrosis is a hereditary disease, but this knowledge should not leave us hopeless to look for ways or a successful treatment for cystic fibrosis.

The science of genetics, besides all its fascinating complexity, has brought some hopelessness and feeling of despair with it for humanity specially those who are affected by some hereditary illnesses.

Searching for an effective cystic fibrosis cure therefore is the first step out of the trap that science has unconsciously built for you. If both parents carry the genes, there is a chance for their child to be affected by it and if the person continues to have a thick belief that life won’t work for him the change to get worse is even bigger.

Cystic Fibrosis Symptoms

Patients with Cystic fibrosis have many symptoms which are compounded by the unsteady absorption of nutrients. Malnutrition causes many symptoms and makes the person more susceptible to infection.

That is why a proper diet and a new set of mind plays a vital role in the health of a person with cystic fibrosis. The best cystic fibrosis cure is for you to come out of the pose of poor me and shift your mind towards life loves me and I love life!

The illness can cause the glands of the body to secrete sticky, thick mucus in lungs and pancreas. Perspiration in these patients is very intense.

Cystic fibrosis affects lungs, causing bronchitis, pneumonia, bronchiectasis, sinusitis, nasal polyps, lung abscesses and respiratory failure.

Homeopathic Treatment for Cystic Fibrosis

Homeopathic remedies could be a good beginning for you to gain your basic health condition. Below you can find great homeopathic alternatives which will help you to feel better.

Take **Thuya CH15 or C12** two times a week for three months, to detoxify your system and balance sweating.

Take **Arnica C30** for pain relief.(try to avoid analgesics as much as possible).

Take **Lymphomyosot** drops to cleanse and balance the glands 3 times a day each time 20 drops in a glass of water. Continue this way for two months.
Experience how your body is healing in a smooth way, trying to heal your symptoms with homeopathic remedies we suggest in this website and.

Consult a homeopath doctor in your area or with our expert for a constitutional type remedy. The constitutional type remedy increase the immune system of your body at a higher level and will help you gain your energy back to normal.

**Nutrition Tips to Maintain your Health**

- Cystic fibrosis will create malabsorption and under-nourishment therefore the patient needs to eat high quality whole food.

- Whenever possible eat raw fruits and vegetables in order to replace the digestive enzymes in your body, this is a good path to be tread towards treatment for cystic fibrosis. Cooking destroys the enzymes.

- Eat whole grains, soak them in order to get the locked in enzyme out.

- You need 25% more calories than a healthy person to absorb enough fuel for energy.

- Add seaweed and nutritional yeast to your diet to increase minerals and vitamins.

- Drink a lot.

- Celery juice, cranberry, carrot and lemon juice have mucus cleansing effect.

- Avoid animal origin products, alcohol, caffeinated beverages (cola, chocolate)

- Avoid refined sugar.

- Take Pancreatin (Pancreatic digestive enzyme) with each meal.
In cases when whole grain or dairy products aggravates the mucus secretion you will need to avoid them. A food allergy test would be recommended specially for gluten and lactose.

**Vitamins and Supplements for Your Condition**

In order to boost your immune system and general health condition we suggest you take the following vitamins and supplements:

- Vitamin B complex 100 mg a day.
- Vitamin E 400 IU once a day.
- Lactobacillus acidophilus combination, 3 capsules a day for a month.
- Digestive enzyme combinations are recommended as a part of treatment for cystic fibrosis.
- Selenium 100mg once every other day.
- Blue green algae. 1tbsp a day.

**Cystic Fibrosis Cure - Herbal Remedies**

- Saffron helps in digestion of fats.
- Ginger root would help the gastrointestinal and digestion.
- Drink the juice of spinach, dandelion, nettle. Take one tbsp a day.

- Use herbal antibiotics such as echinacea, propolis, garlic, elderberry, Turkish rhubarb, sea kelp. You can take 2 oz of these herbs every day.
We hope you have found our suggestions for treatment of cystic fibrosis useful.

Choose what you find more convenient for your life style and give it a try for 3 months, if you feel better with more energy, then you may adopt it for yourself or come back to our site and try other remedies we have suggested for the cystic fibrosis cure.

Some of the remedies we have suggested here may not be a part of your everyday life and eating habits but you might want to make a stretch and try them.

We hope you will use the remedies with joy to pump your health, rather than another thing you "have to do" for your sickness.

We wish you a complete recovery.

**Massage vs. Cystic Fibrosis**

By April Warren and Ross Ashcraft

Cystic fibrosis is a hereditary disease that produces excessive thick mucus mostly in the lungs. In the X-Ray to the side, you can see how cloudy the lungs look. This is due to the buildup of fibrotic tissue and mucus in the lungs. It causes problems digesting, breathing, and body cooling. One of the main ways that doctors diagnose Cystic Fibrosis is to give a sweat test. If the patient has this condition, their bodies do not retain salt and this excess salt will show in their sweat. My son like many children are diagnosed with this disease at a young age. This condition is therefore a very personal battle to me and one I use every technique I can find to combat.

One way to relieve the symptoms of cystic fibrosis is through appropriate massage. Massage is an excellent treatment for many conditions. It takes skill and lots of study to know how to apply the correct massage technique to the correct client. Massage therapist must learn as many pathologies as possible in order to give their clients the best treatment. But none of us can memorize
every treatment possible. This is why we recommend reference material. Every massage business should one or two reference books on hand to look up any unknown diseases or conditions; and several great websites to look up any exotic or strange diseases our clients may reveal.

**Technique:**

1.) **Position: Lying Down:**

Postural drainage on the back inside the scapulas will look a lot like Tapotment. Postural drainage using percussion is used along with gravity and will help pull the mucous from the chest to the throat. Percussion is applied to the client torso with their head is lowed by the use of pillows. They could also have their head lower than their chest by hanging partly off the table or bed. This allows gravity to do some of the work. To drain the middle and lower portions of the lungs, the chest should be above the head. To drain the upper portion of the lungs, the client should be sitting up at a 45 degree angle.

http://calder.med.miami.edu/pointis/postural.html

2.) **Position: Sitting:**
Stand behind the client and make sure they are comfortable.

**Example 1)** Use percussion and vibration over the muscle area between the collar bone and the very top of the shoulder blades (shaded areas of the diagram) on both sides for 3 to 5 minutes. Have clients take a deep breath and cough during percussion to clear airwaves.

![Upper Lobes Posterior Segments Position #6]

**Example 2)** In this position, the client leans over on a bed or in a chair with arms dangling over a pillow. Percussion and vibrated with both hands on the upper back are used on the right and left side.

![Lower Lobes Superior Segments Position #10]

**Example 3)**: In this position, percussion and vibrate over the bottom part of the shoulder blades on both the right and left side of the spine.

**Cautions:**

1.) **DO NOT DO THIS DIRECTLY OVER THE SPINE!!!**

2.) Do not do postural drainage and percussion on bare skin.

**Challenge:**

Try the above technique on a fellow therapist or willing client. **FYI:** Technique takes several minutes to do properly. Let us know all feedback!!!


<http://copd.about.com/od/copdtreatment/ig/Postural-Drainage-Positions/Lower-Lobes-Superior-
On the Trail of the CF Gene

Little was known about the cause of cystic fibrosis in the 1970s, when Francis Collins, now head of the National Institutes of Health (NIH), took an interest in the disease. Collins was a resident in internal medicine in 1978 at North Carolina Memorial Hospital in Chapel Hill when he was assigned to care for a 19-year-old nurse just diagnosed with CF. The case was unusual because the disease is typically diagnosed in childhood, yet she clearly met the criteria: Her lungs were being destroyed by thick, sticky mucus that served as a breeding ground for sickening bacterial infections, and she had salty sweat, a function of CF pathophysiology Collins didn’t yet understand.

“It was clear we didn’t know very much,” he says today. CF was variable. At one end of the spectrum, thick mucus derailed the function of the body: It blocked the pancreas from delivering enzymes needed for food digestion and absorption, resulting in malnutrition, and also caused severe lung infections, often killing children by age 5. At the other end was a milder disease with rare infections, few nutritional issues and a normal life span.
Cystic fibrosis is a chronic disease that affects the lungs and digestive system of about 30,000 children and adults in the United States (70,000 worldwide). A defective gene and its protein product cause the body to produce unusually thick, sticky mucus that clogs the lungs and leads to life-threatening lung infections. The mucus also obstructs the pancreas and stops natural enzymes from helping the body break down and absorb food.

CF was known to be a genetic disorder, inherited as a recessive trait. That means you needed two bad copies of the gene — one from each parent — to get the disease. The mutated genes would then produce defective proteins that cannot perform their job inside the cell, causing it to malfunction and ultimately triggering the disease.

Parents with just one mutant copy were healthy and often unaware they carried a defective gene. Although scientists like Collins knew the pattern of inheritance, no one knew what the gene was or exactly which protein it produced. And as far as Collins was concerned, there was no obvious way to find out.
That changed in the early 1980s after scientists found the unique DNA pattern, or genetic marker, for Huntington’s disease, a crippling neurodegenerative disorder. The discovery “electrified everybody’s imagination,” Collins says.

Encouraged by this feat, Collins’ soon-to-be collaborator, Lap-Chee Tsui, a molecular biologist from Hong Kong, took up the search for the defective gene from a CF lab at The Hospital for Sick Children in Toronto. Tsui had read about a technique for locating a desired gene through DNA markers present in sick people but absent in healthy ones. Working closely with the doctors and nurses at his hospital, he was soon acquiring blood samples from some 20 CF families in Toronto and later from 30 more such families around Canada.

By 1985, running his own lab at the University of Michigan in Ann Arbor, Collins was doing the same thing. While no one had yet sequenced the full complement of human genes, researchers knew a thing or two about how genes could go awry.

They knew the human genome was carved into 23 pairs of structures, called chromosomes, made from deoxyribonucleic acid, or DNA. DNA’s alphabet consisted of just four letters, A, C, G and T, that stand for four chemical units, or bases: adenine, cytosine, guanine and thymine. The bases pair up, with adenine bonding to thymine and cytosine to guanine. The human genome has 3 billion of these base pairs on its 23 chromosomes pairs, but deleting or altering even a single A, C, G or T can cause disease or death.

“The genome is an enormously large place to root around when you are trying to find something subtle,” Collins notes. Still, the race was on to find the DNA pattern unique to CF families, and especially their sick children. In 1985 Tsui used DNA markers to track the CF gene to chromosome 7.

A team, including members from the University of Utah in Salt Lake City and Saint Mary’s Hospital Medical School in London, narrowed the region further by finding a couple of DNA signposts flanking the gene, whether defective or not. These markers are akin to road signs on a highway; the gene is like a hotel in between.

But the genetic distance between these markers was enormous — a stretch of about 1.5 million DNA letters. In 1985, the standard way to find a gene between two markers was to sift through the DNA letter by letter, a technique called chromosome walking. Then Collins developed a faster approach that he was itching to test: chromosome jumping, which allowed him to leapfrog over genetic terrain tens of thousands of letters at a time.
“The idea was that if you know it’s between these two markers, you could start jumping off both ends toward the middle, and you would get there faster than if you had to just walk, step by step,” he explains.

To speed things even more, Collins and Tsui joined forces in 1987, unleashing a small army of some 20 scientists to find the suspect gene wreaking havoc in patients’ sweat glands, pancreas and lungs — all organs affected by the disease. The moment of discovery happened on a rainy night in June 1989 at Yale University, as Collins and Tsui attended a strategic meeting on mapping the human genome.

The two were lodging in the student dormitories during the meeting, uneasy about being so far from their labs while critical analysis of DNA from a large cohort of CF patients was in play. One evening at about 10 p.m. they holed up in Tsui’s room, wearily combing through pages of genetic data spewing from a small fax machine (the high-tech data transmission of the ’80s) connected to Tsui’s lab.

As they sifted through the data, a troubling pattern on chromosome 7 became clear: Most of the CF patients were missing a sliver of DNA, a sequence of bases designated by just three letters, CTT. It was basic biology. In healthy subjects, the code was intact. The healthy gene produced a protein with 1,480 amino acid units.

The damaged version produced a shorter, faulty protein with only 1,479 amino acids; it was missing a vital amino acid called phenylalanine. That minute change was enough to cause this cruel, deadly disease. “That was the moment for me,” admits Collins. “I wanted to jump up and down and scream.”
Things **NOT** to say to someone with a disabling chronic condition:
...but you don’t look sick
...everybody gets tired
...you’re just having a bad day
...it must be nice not having to go to work
...I wish I had time to take a nap
...if you’d get out more
...you’re just getting older
...if you’d get more exercise
...it can’t be that bad
...it’s all in your head
...you’re just depressed
...there are people worse off than you
...you’ll just have to tough it out
...you just need a more positive attitude
Finding the mutation was the first step toward a cure, but Collins and Tsui still needed to figure out what the gene did and how the mutation on chromosome 7 derailed it. Whatever protein the gene coded for, they figured, it ended up skewing the body's balance of water and salt. Excess salt in the cells would cause them to suck in water from surrounding mucus, leaving it sticky and thick, allowing infection to set in. The excess salt also accounted for the salty sweat — all defining features of CF.

To explain the salt imbalance, one possibility stood out: blocking the flow of chloride ions — one half of the table salt molecule, sodium chloride — in and out of cells. A mutated gene that produced a broken protein involved in chloride flow could cause a salt imbalance and all the devastation observed.

To follow through, Collins and Tsui recruited biochemist Jack Riordan, who worked with Tsui. Riordan was an expert on proteins called ABC transporters, molecular elevators that shuttle things like fats, drugs and other molecules back and forth across cell membranes. Riordan analyzed cells from the salty sweat glands of CF patients, proving that the mutant gene was active and producing a defective protein. Then he used a computer to compare the string of amino acids making up the protein to the sequence of amino acids in all other known proteins. He was stunned when he noticed similarities to his ABC transporters: The CF protein had sections that gravitated to water and parts that repelled it. And like those transporters, the protein was shaped like a tube and wedged in the outer surface of the cells, resembling the kind of biological valve that would move chloride in and out. That gelled perfectly with the Tsui-Collins hypothesis: A malfunctioning chloride channel apparently caused CF.

On Aug. 22, 1989, news that Tsui and Collins had discovered the gene causing CF leaked to the press. Two days later, the researchers, just 38 and 39 years old, were whisked to Washington, D.C., for a series of news conferences almost two weeks before the scheduled publication of three back-to-back papers in Science. The papers described the location of the newly named cystic fibrosis transmembrane regulator (CFTR) gene, its specific genetic code and the proposed structure and function of the protein it produced.

Gene Therapy Debacle

With the CF gene in hand, a cure based on gene therapy seemed within reach. Although the disease affects many organs, it is lung infections that kill. So if healthy genes could be sent into the lungs, Collins and Tsui reasoned, they could cure the worst ravages of the disease.
Collins had been corresponding regularly with a leading human gene therapy proponent, James Wilson, who soon moved his lab to the University of Michigan, right next door to Collins' own. By 1990 Collins and Wilson were retrofitting a lab-built virus with healthy CFTR genes, then sending the package in, like a Trojan horse, to infect cells taken from a CF patient and kept alive in culture in the lab.

The sick cells welcomed the healthy CFTR gene and used it to make functioning channels that allowed chloride to pass in and out of the cell. It was stunning proof that a healthy gene could trump a damaged one and fix the cell, at least in a petri dish. By 1993, in trials with baboons, Wilson proved the virus could import the healthy CFTR gene into lung cells.

But translating the technique to humans was enormously challenging. That same year, efforts to install the healthy CFTR gene in CF patients hit a roadblock when the virus triggered alarming inflammation and fever, causing the researchers to reengineer the virus and rethink their strategy.

Researchers kept trying until December 1999, when Wilson published phase I trial results in 11 volunteers with CF showing it was almost impossible to get the gene into lung cells permanently and efficiently, without immune rejection. “It took quite a few years of banging heads against the wall to realize just how hard this was,” says Collins. Nobody anticipated how fiercely the immune system would respond to the viruses and “essentially doom our approach.”

**Forging Another Path**

In the years after finding the CFTR gene at the root of the disease, Collins, Tsui and others discovered the situation was far more complex than they had ever dreamed: Instead of just a single mutation in the gene, researchers found some 1,900 distinct mutations. Most of them caused disease, and the differences among them accounted for the sliding scale of severity that doctors saw.

The most common mutation had been identified by Collins and Tsui in 1989. They named it Delta F508, for the absent amino acid, phenylalanine, in position 508 of the CFTR protein. A CFTR protein with this mutation cannot fold properly and cannot navigate its way to the surface of the cell where it would normally reside, providing a channel for chloride to flow in and out. Instead, the defective protein remains stuck inside the cell, like a Cheerio trapped in a balloon.
Collins grasped that fixing this one mutation, carried by about 4 percent of Caucasians, could help almost 90 percent of patients with CF. But his lab halted efforts in 1994 after moving to the National Human Genome Research Institute in Bethesda, Md., to lead the massive government human genome sequencing effort that would eventually chart the entire human genetic code.

That same year, Robert Beall, a former biochemist who left NIH in 1980 to work at the nonprofit Cystic Fibrosis Foundation, became its CEO. Back in the ’80s it was a grassroots operation. Parents brought the food, ran the projectors and catered to the few scientists who showed up. “They didn’t have a lot of science,” says Beall, “but I fell in love with the people and the parents, who were looking for some hope.”
When you see that you are not your body, nor your ego, self-image nor your ideals nor your goals, then nothing can cause you to suffer.

However to live as a Human and to continue the game of life, one must care about some of these things to some degree. Being present, being skillful, one can gamble on the real options before him and play with the Greatest Happiness.

Desire' Dubounet