

EFFORTS



Emphysema Foundation For Our Right To Survive

Emphysema Takes Your Breath Away

July 2008

REVIEW: DOCTORS SHOULD CONSIDER ALTERNATIVES TO ANTIBIOTICS FOR SINUSITIS

When suffering through a sinus infection, many people ask for an antibiotic to speed their recovery. However, a recent review of clinical trials found that while antibiotics can provide minor improvements in uncomplicated sinusitis cases, most patients recover without the drugs within two weeks. The health risks for the individual and society might override the benefits of antibiotics for people suffering with a simple sinus infection, according to authors led by Anneli Ahovuo-Saloranta of the Finnish Office for Health Technology.

The systematic review examined the results of 57 studies, six of which compared antibiotics to a placebo and 51 of which compared different kinds of antibiotics. More than 18,000 people took part in the studies. This review focused on studies with patients treated for simple, uncomplicated sinusitis in a primary care setting. Four of five patients without complications improved within two weeks even without a prescription for antibiotics.

At 10 to 14 days after diagnosis, 52 percent of patients had recovered completely in the antibiotic group compared with 38 percent in placebo group. However, when researchers waited longer to check back with the patients, there was no significant difference in recovery rates whether people took antibiotics or a placebo.

The evaluation of different antibiotics showed them to be similarly effective.

The review appears in the latest issue of The Cochrane Library, a publication of The Cochrane Collaboration, an international organization that evaluates medical research. Systematic reviews draw evidence-based conclusions about medical practice after considering both the content and quality of existing medical trials on a topic.

Sinusitis is a common disease that, in many cases, resolves spontaneously, the review authors said. However, in patients with severe symptoms, like high fever, severe pain in cheeks and swelling of face, antibiotic treatment is justified, the reviewers conclude.

Every year, 20 million people in the United States have sinusitis. When the membrane-lined air spaces near the nose become infected, sinusitis can cause nasal discharge, pain, obstruction, poor response to decongestants, facial pain and

even toothache. Viral upper respiratory tract infections often precede sinus infections and antibiotics have no effect on viral diseases. Antibiotics kill bacteria, not viruses. Some cases of sinusitis are bacterial, which would mean that antibiotics might help, but distinguishing patients with a bacterial infection remains a challenge.

"Without a positive bacterial culture by sinus puncture, it is hard to separate viral from bacterial sinusitis," said Ed Septimus, M.D., a board member of the Infectious Diseases Society of America and a member of the society's Antimicrobial Resistance Work Group. Acute bacterial sinusitis is more likely if symptoms have lasted more than a week. Even so, patients with bacterial sinusitis do not always benefit from antibiotics. Even bacterial sinusitis can resolve spontaneously. According to the review authors, some patients with simple sinusitis would benefit from antibiotics, but it is still unclear who those patients are. Current criteria for sinusitis cannot reliably identify those patients who would most benefit from antibiotics.

On the other hand, antibiotics have well-documented negative effects. Potential adverse effects include gastrointestinal problems such as diarrhea, abdominal pain and vomiting, allergic symptoms and antibiotic-related fungal infections.

The unnecessary prescribing of antibiotics might also prove problematic for the general population. "Overuse of antibiotics leads to antimicrobial resistance," Septimus said. The bacteria that antibiotics are designed to kill can change and become resistant to available medicines, and the same class of drugs might no longer be useful in the future.

Current treatment recommendations span from only using narrow-spectrum antibiotics to treat patients with severe or persistent, moderate symptoms and specific bacterial sinusitis findings to using broad-spectrum antibiotics to treat all patients with acute bacterial infections.

Treatment should always occur on a case-by-case basis considering the benefits and harms on individual patient level, but in light of the results of this study, doctors might want to consider other treatment options, the study authors said.

Patients can use symptom-relieving drugs like nasal decongestants and the anti-inflammatory analgesics as well as nasal irrigation. Also in those patients who have asthma or allergic rhinitis, nasal corticosteroids and antihistamines can be helpful.

URL: <http://www.medicalnewstoday.com/articles/105315.php>

HEART MEDICATION LEADS TO HIP BONE LOSS

Loop diuretics -- commonly prescribed drugs for heart failure and hypertension -- may cause hip bone loss in men, a new study reveals.

Experts say taking loop diuretics potentially damages bones over time by increasing the amount of calcium excreted in urine. The medication was previously linked to an increased risk of hip and other fractures, but it was not determined whether this was due to bone mineral density loss, factors causing someone to fall -- dizziness or orthostasis (low blood pressure when standing up) -- or co-occurring illnesses.

Between 2000 and 2002, researchers at Griffin Hospital in Derby, Conn., tested the bone mineral density levels of 3,269 men older than age 65. An average of 4.6 years later, they again measured their levels and found, when compared to men not taking loop diuretics, the bone loss rate was two times greater for intermittent users and 2.5 times greater for continuous users. Continuous users of the prescribed medication had an average annual rate of bone mineral density loss of -0.78 percent, while the rate for intermittent users was -0.58, and for non-users was -0.33.

"We conclude that loop diuretic use in older men is associated with increased rates of hip bone loss," study authors write. "Our findings suggest that health care providers should take into account loop diuretic use when evaluating older men for risk factors for bone loss and fracture risk."

SOURCE: Archives of Internal Medicine, 2008;168:735-740



INHALABLE INSULIN LINKED WITH HIGHER INCIDENCE OF LUNG CANCER

Exubera - the novel inhaled-insulin product that's been a billion-dollar bust for Nektar Therapeutics of San Carlos, Calif. - has been linked with an increased incidence of lung cancer, prompting one analyst to predict a bleak future for inhaled insulin.

Pfizer, which had helped Nektar sell Exubera until the company halted its involvement with the disappointing product last year, said Wednesday it discovered that 6 of 4,740 patients given Exubera during a study developed lung cancer. Another patient not part of the study who received Exubera also was diagnosed with that type of cancer. By comparison, only one of 4,292 patients in the study who didn't receive Exubera developed lung cancer.

Because relatively few patients developed the disease and all had been cigarette smokers, it's impossible to know if Exubera caused their cancer, Pfizer said. But after reviewing the data with the U.S. Food and Drug Administration, the company said it decided to add a warning about the lung-cancer cases to Exubera's prescription label.

In light of the revelation, Nektar executives issued a statement saying they will "cease all spending associated with its inhaled-insulin programs" and stop negotiations with potential business partners for Exubera.

Nektar spokeswoman Jennifer Ruddock added that her firm was halting work on an improved version of Exubera, which Nektar executives had hoped would sell better.

"Fortunately, over the past year Nektar has significantly

transformed its business, moving away from inhaled insulin," Nektar's Chief Executive, Howard Robin, said in the statement. The company is developing treatments for such ailments as cancer and the constipating side effects of painkillers.

After Pfizer's warning, Nektar's stock price fell \$1.80 cents to \$5.39 at the close of trading.

In a note to his clients Wednesday, William Tanner, an analyst with investment bank Leerink Swann, said the cancer data could derail efforts by Nektar and other companies to continue developing such products. "We believe concern over cancer will not be limited to Exubera," Tanner wrote. "We no longer think there will be a major market for inhaled insulin."

Based on the assumption that many of this country's 21 million diabetics dislike having to inject themselves with insulin, executives at Nektar and New York-based Pfizer had expected Exubera to be a major hit. Indeed, some Wall Street analysts had predicted it would generate sales of up to \$2 billion a year by 2009.

But since the FDA approved its sale in January 2006, Exubera has proved to be a disappointment. Doctors and patients derided it as complicated to use and more costly than injectable insulin. Some critics also faulted Pfizer for improperly marketing it.

After the product racked up dismal sales, Pfizer announced in October that it would stop selling Exubera and later agreed to pay Nektar \$135 million to end its involvement with the product. However, because Pfizer still owns the Exubera label and was conducting the study where the cancers were detected, it was responsible for issuing the cancer warning, said Pfizer spokeswoman Vanessa Aristide.

Although the product is still available to diabetics if doctors prescribe it, it is not being actively marketed, she said, adding that about 4,000 patients are believed to be taking Exubera worldwide.

Source: San Jose Mercury News (San Jose, Calif.).



OBESITY LINKED TO QUANTITY OF SLEEP

People who sleep fewer than six hours a night - or more than nine - are more likely to be obese, according to a new US study that is one of the largest to show a link between irregular sleep and big bellies.

The study also linked light sleepers to higher smoking rates, less physical activity and more alcohol use.

The research adds weight to a stream of studies that have found obesity and other health problems in those who don't get proper shut-eye, said Dr Ron Kramer, a Colorado physician and a spokesman for the American Academy of Sleep Medicine. "The data is all coming together that short sleepers and long sleepers don't do so well," Kramer said.

The study is based on door-to-door surveys of 87,000 US adults from 2004 through 2006 conducted by the National Centre for Health Statistics, part of the Centers for Disease Control and Prevention. Such surveys can't prove cause-effect relationships, so - for example - it's not clear if smoking causes sleeplessness or if sleeplessness prompts smoking, said Charlotte Schoenborn, the study's lead author.

It also did not account for the influence of other factors, such as depression, which can contribute to heavy eating, smoking, sleeplessness and other problems. Smoking was highest for people who got under six hours of sleep, with 31 per cent saying they were current smokers. Those who got nine or more hours also were big puffers, with 26 per cent smoking. The overall US smoking rate is about 21 per cent. For those in the study who sleep seven to eight hours, the rate was lower, at 18 per cent.

Results were similar, though a bit less dramatic, for obesity: About 33 per cent of those who slept less than six hours were obese, and 26 per cent for those who got nine or more. Normal sleepers were the thinnest group, with obesity at 22 per cent.

For alcohol use, those who slept the least were the biggest drinkers. However, alcohol use for those who slept seven to eight hours and those who slept nine hours or more was similar.

In another measure, nearly half of those who slept nine hours or more each night were physically inactive in their leisure time, which was worse even than the lightest sleepers and the proper sleepers. Many of those who sleep nine hours or more may have serious health problems that make exercise difficult.

Many elderly people are in the group who get the least sleep, which would help explain why physical activity rates are low. Those skimpy sleepers who are younger may still feel too tired to exercise, experts said.

Stress or psychological problems may explain what's going on with some of the lighter sleepers, experts said.

Other studies have found inadequate sleep is tied to appetite-influencing hormone imbalances and a higher incidence of diabetes and high blood pressure, noted James Gangwisch, a respected Columbia University sleep researcher.

"We're getting to the point that they may start recommending getting enough sleep as a standard approach to weight loss and the prevention of obesity," said Gangwisch, who was not involved in the study.

<http://www.theage.com.au/articles/2008/05/13>

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PNEUMOGRAFTING - A NOVEL CELL-BASED THERAPY FOR EMPHYSEMA

ABSTRACT:

Description

Recent studies suggest that reparative cells which contribute to healing in the lung following injury also possess regenerative capacity. Although the biology of post-natal lung regeneration is not well understood, mechanical pre-stress appears to be an absolute requirement for tissue regeneration to occur. Emphysema, a disease characterized by tissue destruction, is a potential target for cell-based therapy. This disease is associated with:

- 1) loss of resident reparative cells;
- 2) loss of the extracellular matrix that transmits pre-stress signaling;
- 3) and loss of pre-stress itself, the very signal required to trigger regenerative responses.

Although these factors represent obstacles to the development of regenerative therapeutic strategies for emphysema, preliminary studies in our lab show that modulation of mesenchymal and epithelial cell proliferation using members of the fibroblast growth factor family complexed to carrier molecules in a biocompatible polymer can promote expansion of parenchymal tissues. The polymer scaffold, an air containing foam with mechanical properties similar to healthy lung tissue, effectively transmits stress to reparative/progenitor cells to promote proliferation and remodeling. Studies proposed here will test the hypothesis that therapeutic post-natal lung tissue growth in emphysema can be achieved

- by augmenting the lung's innate healing response using growth factors to direct endogenous reparative lung cells following a localized mild injury; and that
- the magnitude of this response can be modulated by altering pre-stress using concomitant bronchoscopic lung volume reduction therapy to increase transpulmonary pressures. We intend to advance this approach, known as pneumografting, into human trials under a physician-sponsored Investigation New Drug Application.

<http://tinyurl.com/6k3mve>

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STATEMENT FROM THE AMERICAN THORACIC SOCIETY (ATS)

Palliative care was once reserved for patients when all curative options had been exhausted and death was imminent, but now it is considered an integral part of the care that should be available to patients with serious respiratory disorders and critical illnesses.

The American Thoracic Society (ATS) has published an official clinical policy statement to serve as a guideline for clinicians and other healthcare professionals who provide such care in the April 15 issue of the American Journal of Respiratory and Critical Medicine.

These guidelines represent an important milestone for pulmonary and critical care specialists and others whose patients suffer from serious respiratory diseases or critical illnesses. In the past 15 years, palliative care has emerged from near obscurity to become a board-certified medical specialty for physicians and a prominent part of contemporary healthcare for all providers and their patients.

This is the first statement from the society on this topic. "It's comprehensive and covers palliative care for children and adults, as well as for patients with pulmonary disorders or critical illnesses", said Paul N. Lanken, M.D., professor of medicine and medical ethics at the Hospital of the University of Pennsylvania and co-chair of the ATS task force that wrote the statement. "It recognizes palliative care as an important part of what doctors, nurses and other healthcare professionals should be doing."

The statement also puts forth a number of tenets designed to serve as long-standing guides and values to providing palliative care. "We tried to focus not on prescriptive details that can be quickly outdated, but rather on overarching principles that can be applied regardless of advances in medical technology," said Peter B. Terry, M.D., professor of medicine at Johns Hopkins

University and co-chair of the task force. "We augmented those principles by including citations to websites that we expect to be revised and updated much more quickly and frequently than can ATS statements."

Defining palliative care as an integral part of the treatment of seriously ill patients, the statement promotes:

- Individualized care that is patient- and family-focused;
- Integrated care that is offered when suffering begins, and should continue even after the patient's death with the psychological, spiritual and practical support of his or her bereaved caretakers;
- comprehensive symptom management to control shortness of breath, pain and other physical complications as well as the psychological challenges related to illness or dying; and
- Professional competence and development of specific skills for healthcare providers who are involved in palliative care, especially the ability to communicate compassionately and effectively in order to help patients and/or family members make decisions about their care by determining treatment goals, developing appropriate strategies in line with those goals and preparing advance directives.

The statement also provides practical information for clinicians, such as when to consider referral to hospice care and how to withdraw mechanical ventilation.

Finally, the statement emphasizes the need for training, education and research. "We hope that the statement will spur more and better palliative care curricula in schools and hospitals to help develop or enhance those skills in interested physicians," says Dr. Terry.

To read the document in full, visit the ATS website at <http://tinyurl.com/42syl8>

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WHAT DOES AIR TRAPPING MEAN?

Briefly.....With COPD, the walls of the alveoli gradually lose elasticity and, as a result, when one breathes out not all of the air is expelled. Some is "trapped" and remains in the lung, adding to the residual volume (RV). Here's a little more about it, from a very good article about pursed lip breathing.

"Probably the most important thing that you can learn in pulmonary rehabilitation classes is a more efficient breathing technique. You have been breathing ever since you entered this world so why are you suddenly supposed to "learn" a new way to breathe? Because there have been changes in your body.

Many of you in this group feel that you "suddenly" had a problem with your breathing after getting that last episode of flu or pneumonia. Actually, emphysema is a disease that slowly progresses over a 20 or 30 year period. The first thing that happens, maybe while you are still a teenage smoker, is that the elastic fibers in your lungs start to deteriorate and lungs start losing their elastic recoil, their ability to get air out of the lungs efficiently. Over the years this gets worse and you start to develop air trapping or more residual volume (RV). Now, everybody has some air in their lungs even after they

breathe out as much as they can. This prevents the alveoli, the little air sacks, from collapsing, flat as an old balloon. But patients with COPD may have a 200% or even larger increase in air trapping or residual volume.

So why does that matter? That amount of extra air compresses the undamaged alveoli, so that they can't work efficiently, much the way an expanded air bag would compress your body in your car seat. The other thing that happens is that the larger lungs push out your chest walls. Have you noticed that your chest size is larger, or that your bra size has increased? That is why.

Another effect of air trapping is that the diaphragm becomes flattened, which can be seen on your chest x-ray. When your lungs weren't damaged the diaphragm did about 80% of the work of breathing. Now it can no longer suck air in as it tightens and flattens, because it is already flattened out. The mechanics of breathing are all thrown off. You start to use accessory muscles of respiration such as your shoulder and neck muscles. These muscles are only meant to be used in emergencies. They are inefficient. If you think that you work harder on your breathing than other people do, you are absolutely right! Even at rest you are probably working about 17 times harder to breathe than a person without lung disease. So what can you do about it?

Well, if you remember what is wrong it will be easier to make sense of the new breathing techniques we will teach you. Loss of elasticity in the lungs is the first thing for you to remember. What does that mean in practical terms? It means that you now have to work to get air out of your lungs. Think of a balloon. You have to work to get air into a balloon as you have to work to get air into your lungs. But when you let go of the neck of the balloon the air shoots out without any effort on your part. Your lungs do the same thing when they are not damaged. However, when they lose their elastic recoil you have to work to get the air out. It's like breathing into a paper bag. You have to squeeze the air out of the bag since it won't flatten out by itself. You now have to work to get air out of the lungs as well as to get air into the lungs. This will take longer so the first thing to remember is to slow your breathing and concentrate on breathing out.

You have been breathing in all your life and you do that automatically so forget about getting air into your lungs. That is not your problem. Your problem now is working on getting air out of your lungs. You now need to breathe out 2 or 3 times longer than you breathe in. If you panic and breathe too fast, or breathe in and out at the same rate, you will cause more air trapping and get more short of breath. In our studies, patients who did good pursed lip breathing (PLB) slowed down to about 10 breaths a minute at rest.

<http://www.perf2ndwind.org/html/breathing.html>

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YOGA AS ADJUNCTIVE THERAPY FOR LUNG DISEASE

RCPs have the opportunity to introduce the benefits of yoga as respiratory patients consider the benefits of a more healthy lifestyle including integrating natural techniques to manage their conditions. As respiratory therapists, we know that breathing is an essential function and our daily activities persistently revolve

around the breath and breathing. However, our focus on administering aerosolized nebulizer treatments, ventilator management, emergency procedures, and other tasks often distracts from the ability to stop and consider the breath. The discipline of yoga, however, has focused on the essential nature of the breath, and refining breathing techniques.

We can better assist patients in their quest to assume a more active role in their plan of care by learning about the adjunctive therapies they may choose. "The increasing popularity of complementary and alternative medicine (now used by more than 40% of the public) reflects changing needs and values in modern society in general. As the public's use of healing practices outside conventional medicine accelerates, ignorance about these practices by physicians and scientists risks broadening the communication gap between the public and the profession that serves them."¹ For patients who want to consider taking more responsibility for their health and well-being, yoga stretches and breathing techniques offer a natural and healthy choice.

The term "yoga" initially conjures an image of a practitioner sitting on a pillow in a lotus pose or stretching into an impossible arch. In fact, yoga is a generic term applied to several disciplines with distinct goals. We will consider yoga asanas (stretches) and pranayama (breathing techniques) that may be of therapeutic benefit, specifically for patients with asthma and chronic lung disease. According to the American Yoga Association, yoga breathing exercises can strengthen and relax the muscles of ventilation. Yoga breathing and stretching postures are used to increase respiratory stamina, relax the chest muscles, expand the lungs, raise energy levels, and calm the body.

Yoga Techniques

The yoga techniques we will consider can be broken into two categories. The first is pranayama, which includes breathing techniques that promote diaphragmatic breathing and can create a profound sense of relaxation. The second is asanas, which involve stretches that provide a mild form of exercise to enhance flexibility, circulation, and muscle tone.

Pranayama

Andrew Weil, MD, directs the program on integrative medicine at the University of Arizona, Tucson, and has become nationally known for his best-selling books, including *Spontaneous Healing* and *Natural Health, Natural Medicine*, which promote health and wellness. His central thesis is that, given the chance, the body will heal itself. Weil has devoted his career to exploring and evaluating alternative therapies and presenting them as part of his vision for preventive health that promotes individual responsibility for health and fitness. He has recently released a recorded narrative on compact disc called *Breathing: The Master Key to Self Healing*. He describes a scenario that will be familiar to most respiratory therapists: "In the four years I spent at Harvard Medical School I learned about the anatomy of the respiratory system, I learned about disease of the respiratory tract, but I heard nothing about breath as the connection between the conscious and unconscious mind, or the doorway to control of the autonomic nervous system, or breathing techniques for

controlling anxiety and regulating mental states." His excellent narrative on the first disc is devoted entirely to understanding the why of breathing exercises. He reminds us that breathing is the only autonomic function that can be consciously controlled and suggests it is the key to bringing the sympathetic and parasympathetic nervous system into harmony. "Breath is the only function through which you influence the involuntary nervous system. That is, you can establish rhythms of breathing with your voluntary nerves and muscles that will affect the involuntary nervous system."

The recording promotes "eight techniques to revitalize your health," beginning with the most basic technique of "following your breath," and exploring more advanced techniques of pranayama including maneuvers that he calls the "stimulating breath" and "relaxing breath." Weil concludes that "of all the techniques that I have investigated for reducing stress and increasing relaxation, it is breath work that I have found to be the most time efficient, the most cost-efficient, and the one that most promotes increased wellness and optimal health." And that "the results are long lasting, they get better over time, and of course they are completely free of the toxicity that is usually associated with pharmaceutical drugs."

One of many effective pranayama techniques is alternate nostril breathing, which is using the thumb of the right hand to block the right nostril. Patients exhale completely through the left nostril, then inhale slowly. Then they remove the thumb from the right nostril and block the left nostril with the fourth and fifth fingers. Patients exhale completely through the right nostril, then inhale slowly. They should continue this pattern for about 5 minutes.

Asanas

P.K. Vedanthan, MD, is an allergy and asthma specialist who has maintained a thriving practice in Fort Collins, Colo, since 1976. Although Vedanthan had practiced yoga since childhood, he had never applied the techniques to patient care. Intrigued by the success of H.R. Nagendra, MD, in his clinical studies in India, Vedanthan began making yoga instruction available to asthma patients. "These were moderate to severe asthmatics who were on daily medications, inhalers, and oral medications. We found that they were able to reduce their medications, they felt a lot better, and their breathing attacks were comparatively less," he explains.

He subsequently began a series of studies to attempt to document any clinical changes as a result of practicing the techniques, which included pranayama, asanas, and meditation. One controlled study showed that people with lung disease who practiced yoga clearly felt better and had improved quality of life scores compared to patients who did not use the techniques.³ There were no significant differences in pulmonary function test results or oxygenation in the asthma group, however.

"The most significant things were nonpulmonary aspects," Vedanthan says. "What we now call quality of life, these [scores] improved significantly. So they felt better, were less anxious, were able to handle minor attacks much more positively and were sleeping better. All those compared to the non-yoga group improved a lot, which is significant. We concluded that yoga can be a good adjunct to therapy—it doesn't replace medicines, but

it's a good thing for people with asthma to practice yoga on a daily basis.

"In yoga literature, there is a certain kind of breathing called chair breathing techniques," Vedanthan explains. "These are relaxation techniques, which they claim helps asthma attacks. So we took a group of asthmatics and provoked [their asthma with] an exercise challenge, attained a certain pulse rate, and measured their lung functions [to] see what happened. We found that six out of eight got to baseline levels much quicker with the chair breathing techniques and their asthma symptoms abated a lot faster without the use of medication."

COPD

Vedanthan has also studied the benefits of yoga for chronic obstructive pulmonary disease (COPD) patients.⁴ "We took 11 patients ages 61 to 79. They were taught yoga breathing techniques by a teacher and practiced at home with the help of an audio tape. They were all on oxygen, from 1 to 3 lpm. Baseline oxygen values on O₂ were obtained, then O₂ was discontinued. Within a few minutes, the range of desaturation was anywhere from 82% to 92%. Then we had them perform the yoga techniques and O₂ saturations started rising at 10 minutes and 20 minutes to figures of 92% to 94% without oxygen," Vedanthan says. "Ten of the subjects felt a lot better subjectively and felt relaxed overall. One subject could not tolerate being off O₂ but was better subjectively after using yoga breathing techniques. After the study was completed, they kept on coming back saying they wanted to do it again. So we had them continue doing it. Lung functions showed no change. So basically, what we thought was true—these breathing techniques can improve oxygenation. It probably would benefit patients with COPD and may be useful in reducing the O₂ needs in these patients by improving their breathing technique. Most of them just panic and don't know how to breathe. "Even if I don't find objective measurements, they subjectively feel better," he continues. "That is a common thing we find in all these groups. We thought it may be a good part of pulmonary rehabilitation, and further studies are needed."

Sapna Patel, a certified yoga instructor, works with some of Vedanthan's patients and specializes in yoga for geriatric patients. She has observed that one of the most important aspects of yoga for asthma and COPD patients is that "they develop an increased capacity to relax and control their breathing. They learn that they don't have to let their breathing control them and that they can take charge of their breathing." As with any technique, she emphasizes that yoga requires regular practice in order to be effective.

Chair Breathing

Chair breathing is an asana specifically recommended for patients with COPD and asthma where the patient sits on a mat in front of a folding chair, with legs stretched forward and resting their arms on the seat. They tighten all the muscles of the body, then progressively relax each part locally (progressive relaxation). Moving the head backward and forward slowly, the patient should repeat the exercise five times. Next patients move their head backward while inhaling slowly and deeply, then move their head forward and down

while exhaling slowly and completely. This step is repeated five times.

This exercise includes performing the previous maneuver while chanting "Ah" in a low tone while moving the head forward and down. This is repeated five times. Next, patients perform the above maneuver but chant "MM" in a low tone while moving the head forward and down. This is repeated five times.

If therapists place their hands on the rib cage of a person performing this technique, they can actually feel the percussive vibrations created when these exhalation maneuvers are performed. Chair breathing is not a replacement for bronchodilators, but can be used as a helpful coping technique when managing an asthma episode.

Yogasthma

The United States Yoga Association, in cooperation with Kaiser Permanente and St Lukes Hospital, San Francisco, has developed a program called Yogasthma, which promotes a holistic approach to asthma management. Program director Sandy Wong-Sanchez says that the Internet component of the program was inspired by the need to make asthma information available to children and families outside the classroom. "The last thing you want to do is take them out of class" to access asthma information, she notes. Yogasthma outlines "Seven Steps to Asthma Control," including asthma education, pranayama, asanas, proper use of medications, dietary recommendations, clean personal space (including fresh air), and relaxation techniques. Its Web site (www.usyoga.org) provides clear directions for learning yoga techniques and addresses each of the topics in an effective format.

As the benefits of yoga practice become better documented, the opportunity to integrate yoga techniques into standards of practice becomes apparent. "All the major alternative medicine systems approach illness first by trying to support and induce the self-healing processes of the person. If recovery can occur from this, the likelihood of adverse effects and the need of high-impact, high-cost interventions are reduced. It is this orientation toward self-healing and health promotion (salutogenesis rather than pathogenesis) that makes alternative medicine approaches to chronic disease especially attractive." As respiratory patients become interested in considering the benefits of a more healthy lifestyle and integrating natural techniques to manage their conditions, RCPs have an opportunity to help them learn about the potential benefits of yoga as an adjunctive therapy. They may find that "the simplest and most powerful technique for protecting your health is absolutely free—and literally right under your nose."

http://www.rtmagazine.com/issues/articles/2001-08_10.asp

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COMMONLY USED MEDICATIONS ASSOCIATED WITH IMPAIRED PHYSICAL FUNCTION IN OLDER ADULTS

Older adults who take drugs designed to block the neurotransmitter acetylcholine – including common medications for incontinence, high blood pressure and allergies – are more likely to be dependent in one or more activities of daily living and to walk slower, according to new findings from researchers at Wake Forest University School of Medicine and colleagues.

The findings, which involve a class of drugs known as anticholinergic medications, are from the Ginkgo Evaluation of Memory Study (GEMS) and will be presented at the American Geriatrics Society Meeting in Washington, D.C., on May 3.

"These results were true even in older adults who have normal memory and thinking abilities," said Kaycee M. Sink, M.D., M.A.S., lead author. "For older adults taking a moderately anticholinergic medication, or two or more mildly anticholinergic medications, their function was similar to that of someone three to four years older."

In a separate study reported this month in the Journal of the American Geriatrics Society, Sink found that older nursing home residents who took medications for dementia and anticholinergic medications for incontinence at the same time had a 50 percent faster decline in function than those who were being treated only for dementia. Over a year's time, the decline would represent a resident going from requiring only limited assistance in an activity to being completely dependent, or from requiring only supervision to requiring extensive assistance in an activity.

Sink said that the two studies together suggest that physicians should carefully consider the implications when prescribing anticholinergic medications to older adults. "Because these medications are so commonly prescribed, older adults who take multiple medications are at increased risk of taking one or more anticholinergic-containing medications," said Sink. "The potential effects on physical function represent a significant public health problem."

Many medications have anticholinergic properties including some for high blood pressure, some antidepressants, most allergy medicines and incontinence medicines. Some of the most common anticholinergics in the GEMS participants include the blood pressure medication nifedipine (Adalat® or Procardia®), which has mild anticholinergic properties, the stomach antacid ranitidine (Zantac®), which has moderate anticholinergic properties, and the incontinence medication tolterodine (Detrol®), which is highly anticholinergic.

In the GEMS study, the researchers sought to determine the effects of taking multiple anticholinergic drugs on walking speed and the ability to independently perform activities of daily living such as dressing, personal hygiene, toileting, transferring, bed mobility and eating as well as higher order activities including shopping, cooking, managing money, doing light housework and using a telephone.

The findings are from more than 3,000 people with an average age of 78 years. Almost half (40 percent) of participants were taking more than one anticholinergic drug. The researchers found that higher anticholinergic burden is associated with worse physical function, both self-reported and performance-based. Source: (www.wfubmc.edu)

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DIURETICS BAD FOR BONES

A common blood pressure treatment may take a toll on your bones...

A new study from Griffin Hospital in Connecticut says

powerful diuretics used to control blood pressure can rob bones of calcium.

That, researchers say, can lead to significant bone loss... putting you at risk of osteoporosis.

In fact, they found older men on diuretics are three times more likely to suffer bone loss than other men. That's based on data involving 3,300 men 65 and older -- eight percent of which take diuretics

<http://www.wctv.tv/healthmatters/headlines/17805144.html>

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EVALUATING PROCHYMAL FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE

First-in-Class Stem Cell Therapy Now Being Evaluated to Treat Fourth Leading Cause of Death

Osiris Therapeutics, Inc. announced the treatment of the first patients in a new Phase II clinical trial evaluating Prochymal, a mesenchymal stem cell (MSC) therapy, for moderate to severe Chronic Obstructive Pulmonary Disease (COPD). This trial marks the sixth indication for which Prochymal has been advanced into Phase II or later-stage clinical trials.

COPD, a form of lung disease characterized by limitation or obstruction of airflow in the airway, encompasses both emphysema and chronic bronchitis. COPD is the fourth leading cause of death in the U.S. with an estimated 12 million Americans diagnosed with the disease. COPD has no known cure, thus current therapeutic intervention is aimed at providing relief of symptoms. Preclinical and clinical data suggest that Prochymal's unique mechanism of action may provide a first-in-class treatment option with the ability to reverse the underlying disease.

"Our COPD program serves as another example of how quickly and efficiently we can now work towards developing this first-in-class stem cell therapy," said C. Randal Mills, Ph.D., President and Chief Executive Officer of Osiris Therapeutics. "With the early testing completed, the clinical development and regulatory pathways are significantly streamlined for future indications. This supports our strategy to seek initial approval for the world's first stem cell drug in relatively small underserved diseases, such as GvHD and resistant Crohn's disease, and promptly expand the technology to include blockbuster markets for which the technology also holds great promise."

"Studies that we and others have conducted provide convincing evidence that MSCs have the potential to be effective in addressing selected lung diseases, including COPD," said Daniel Weiss, M.D., Ph.D., Associate Professor of Medicine at the University of Vermont College of Medicine and an expert in research using stem cells to treat lung diseases. "These mesenchymal stem cells are particularly suited for treating pulmonary disease due to their inherent trafficking pathway through the lungs when delivered intravenously and their ability to remain in the lungs when inflammatory molecules are present. With their demonstrated ability to both reduce inflammation and reverse tissue damage, we have reason for optimism about Prochymal's use in this devastating disease."

A recent Osiris study evaluating Prochymal as a treatment for myocardial infarction demonstrated a statistically significant

improvement in lung function as compared to placebo. Specifically, patients treated with Prochymal showed a 17 point improvement in FEV(1) % predicted, a measure of pulmonary function, versus only a 6 point improvement in patients treated with placebo (p less than 0.05). Prochymal has also demonstrated clinical benefit in trials evaluating patients with inflammatory conditions including graft-versus-host disease (GvHD) and Crohn's disease, both of which are in Phase III programs and have Food and Drug Administration (FDA) Fast Track status.

"This landmark study is very exciting for the entire field and we are honored to have been able to enroll and treat the first patients," said Charles Fogarty, M.D., Medical Director of Spartanburg Medical Research. "We look forward to the results of this trial, which may have long-term implications for improvements in disease progression and remodeling of the lung."

About the Phase II Chronic Obstructive Pulmonary Disease Trial

The Phase II trial will evaluate the safety and efficacy of Prochymal in conjunction with standard of care for improving pulmonary function in patients with moderate to severe COPD. The clinical trial is a double-blind, placebo-controlled study conducted at multiple sites with a target enrollment of 60 patients. Patients will be randomized to either Prochymal or placebo at a 1:1 ratio. Pulmonary function tests, exercise capability, and quality of life are some of the measurements being used to detect potential improvements in subjects treated with Prochymal. In addition, exacerbations and hospitalizations due to COPD will be monitored for both safety and efficacy. Patients will be evaluated over the course of two years following initial Prochymal or placebo infusion.

About Prochymal

Prochymal is a preparation of mesenchymal stem cells specially formulated for intravenous infusion. The stem cells are obtained from the bone marrow of healthy adult donors. Prochymal is currently being evaluated in three, double-blind, placebo controlled Phase III studies, including steroid refractory GvHD, acute GvHD, and Crohn's disease. Prochymal has been granted Fast Track status by FDA for all three of these indications. Prochymal also obtained Orphan Drug status by FDA and the European Medicines Agency for GvHD. FDA established the Fast Track program to accelerate the development of drugs that show promise for treating life-threatening conditions. Orphan Drug designation provides incentives to companies that develop drugs for underserved patient populations. Prochymal is also being studied in Phase II trials for the treatment of acute myocardial infarction, type 1 diabetes, and COPD. Additionally, the Department of Defense recently awarded Osiris a \$224.7 million contract to develop Prochymal for acute radiation syndrome.



IMMUNE SYSTEM KICK-STARTED IN MOIST NASAL LINING IN SINUSITIS, ASTHMA AND COLDS

Study explains why steroid therapy loses its punch over time

Scientists at Johns Hopkins have outlined a new path for potential therapies to combat inflammation associated with sinusitis and asthma based on a new understanding of the body's earliest immune response in the nose and sinus cavities.

Researchers say their findings, to be published in the May edition of the Journal of Allergy and Clinical Immunology, are the first evidence describing how viral agents, such as the rhinovirus responsible for the common cold, can kick start the body's mobilization of immune white blood cells in the moist, mucous membrane lining of the nasal passages.

While such responses are key to maintain health in the face of pathogens, they can also become a source of illness due to resulting inflammation. This can lead to potentially life-long problems, including tissue swelling, nasal polyp formation, sneezing, stuffy and runny nose, sore throat, cough, headache, chills, fever and difficulty breathing. Thus, blocking these reactions, the researchers point out, could interrupt the cascade of feel-awful symptoms that ensue.

The focus of the study is B7-related proteins, called B7 homologs, which trip white blood cell response in a pathogen attack. Using purified cold virus and its genetic material as bait, the scientists found that production of two B7 homologs spiked in response: Levels of B7-H1 jumped almost ninefold and levels of B7-DC tripled.

Until now, says senior study investigator Jean Kim, M.D., Ph.D., viruses were known to reside in and infect the physical epithelium, invading surface membrane cells and revving up the immune system's main blood cell defenses, "but no one knew the major steps involved in or precisely how this immune response was triggered."

"The inside surface of our nose and sinuses is much more than a protective cover, and we have good scientific evidence to show that epithelial cells on these mucosal membranes are very powerful mediators - middlemen - in diseases that result in inflammation," adds Kim. An assistant professor at the Johns Hopkins University School of Medicine and an expert in the molecular origins of inflammation, Kim is also an authority on nasal and sinus infections.

Moreover, Kim notes, study results demonstrate how the body's immune system is interconnected, where one key part, the physical lining that filters out and captures invading viruses and environmental allergens, can trigger the other key part, which leads to targeted white blood cell action.

"Now that we have a better understanding of the immune pathway, we can start to develop therapies that could potentially block the triggering reactions for sinusitis and asthma, which are both made worse when people are infected with the common cold virus," she says.

Sinusitis is the most common respiratory complaint in the United States. The condition is often linked with asthma, which affects more than 30 million, including 9 million children. Each year, 62 million Americans catch a cold.

The study also explains a common failure in current therapy.

According to Kim, nasal and oral steroids are frequently prescribed for many of the 15 percent of the American adult population who suffer from sinusitis, nasal polyps or asthma.

Steroids complement drugs taken for symptomatic relief, such as decongestants and pain relievers.

But corticosteroid drugs, she says, do not work for everyone and their effectiveness often wanes over time. This may be related to the B7 homolog triggers in the mucous membranes, Kim says, as study results showed that corticosteroid therapy does not fully shut down or prevent their overproduction.

In the study's first set of experiments, researchers found that levels of two of five key proteins tested, B7-H1 and B7-DC, rose sharply after samples of nasal cell concentrate were exposed to genetic material from cold viruses. Spiked production was detected using antibodies chemically tagged to glow when bonded to a specific B7 homolog. However, when researchers pretreated the cell scrapings with a well-known anti-inflammatory corticosteroid, called fluticasone propionate, the drug failed to stop overproduction of either B7-H1 or B7-DC.

In the final set of study experiments, six adult volunteers were infected with the cold virus and monitored for variations in their immune response during infection, which typically lasts a week to 10 days.

Analysis of daily scrapings of surface cells lining the nose showed that production of B7-H1 and B7-DC peaked on the second and third days, when cold symptoms were also at their worst. These protein levels, as a measure of severity of the immune response, dropped quickly afterwards, and at the same time as scores of symptom severity went down. It was this evidence that verified the triggering connection between the cold virus and the immune white cell response inside the nose and sinuses, says Kim.

Kim says that researchers' next steps are to analyze the biological control mechanisms for producing the B7 homologs in the nasal lining, and to map out any chemical interactions that result, to look for ways of breaking the cycle of inflammation involved in sinusitis, asthma and colds.

The study, which ran from 2003 to 2007, was funded by the National Institutes of Health and the Flight Attendant Medical Research Institute. Sinusitis afflicts thousands of flight attendants who were exposed to secondhand smoke before the habit was banned on airlines in the late 1980s.

www.hopkinsmedicine.org/OTOLARYNGOLOGY/kim.html

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INCONTINENCE DRUGS--ANTICHOLINERGICS,-- LINKED TO MEMORY LOSS

'It may be better to use diapers and be able to think clearly,' expert says

Commonly used incontinence drugs may cause memory problems in some older people, a study has found. "Our message is to be careful when using these medicines," said U.S. Navy neurologist Dr. Jack Tsao, who led the study.

The research began after Tsao met a 73-year-old patient. Shortly after starting an incontinence drug, she began hallucinating conversations with dead relatives and having memory problems. Her thinking improved when she stopped the drug for several months.

Tsao and his colleagues knew of similar reports. They decided to look at a large group of people to see if they could measure an effect of these and other medications that affect acetylcholine, a chemical messenger that shuttles signals through the brain and the rest of the nervous system. The drugs block some nerve impulses, such as spasms of the bladder.

The findings, released Thursday at a meeting of the American Academy of Neurology, come from an analysis of the medication use and cognitive test scores of 870 older Catholic priests, nuns and brothers who participated in the Religious Orders Study at Chicago's Rush University Medical Center. The average age was 75.

Researchers tracked them for nearly eight years, testing yearly for cognitive decline. They asked them to recite strings of numbers backward and forward, to name as many different kinds of fruit as they could in one minute and to complete other challenges during the annual testing.

Nearly 80 percent of the study participants took one or more of a class of drugs called anticholinergics, including drugs for high blood pressure, asthma, Parkinson's disease and incontinence drugs such as Detrol and Ditropan.

The people who took the drugs had a 50 percent faster rate of cognitive decline compared to those who didn't take any. The researchers considered other risk factors for memory loss, such as age, and still found the link. The researchers found no increased risk for the memory-robbing disorder Alzheimer's in people taking the drugs.

Some experts said the research supports previous observations and is helpful because it measures the size of the effect. "This paper adds important new data to the picture," said Dr. Elaine Perry of Newcastle University in England, who has done similar research but was not involved in the new study.

More research is needed on the effects of anticholinergic drugs on memory, Tsao said. Doctors should do baseline cognitive testing on patients before prescribing the drugs, he recommended.

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THE 11TH HOUR

Clinicians can aid a smooth transition to HFA inhalers as the deadline for CFC phaseout draws near.

While the ozone layer surely will appreciate new environmentally friendly albuterol inhalers with hydrofluoroalkane, patients with asthma may not be as thrilled to make the switch. Helping them prepare for the changes ahead is more important than ever as the Dec. 31 deadline mandated by the Food and Drug Administration looms.

"It takes a lot of communication between the health care provider and the patient. Education is the key to a smooth transition," said Sandra Fusco-Walker, a patient advocate for the Allergy and Asthma Network Mothers of Asthmatics. She has been monitoring the progress of countries that already have phased out albuterol metered-dose inhalers with chlorofluorocarbons. "This is the first time in the history of medicine that a group of patients has changed medicines because of the environment," she said. Specialists abroad have found it

helpful to share this rationale with patients in today's environmentally conscious society.

A new sensation

Perhaps the most noticeable change between HFA inhalers and their CFC counterparts lies in their delivery. HFA inhalers release a softer, gentler burst with a different taste. This distinction is one of the biggest barriers clinicians have seen when patients get the medication, but it is one that a little reassurance can resolve easily.

"How they feel and how they taste may be a little bit different, but the actual medications' effectiveness remains the same," said Joseph Diaz, MD, founder of Allergy, Asthma and Immunology Associates, San Antonio, Texas.

Well-documented studies have shown the new inhalers open up the lungs just as well as the old ones did. In fact, the slower velocity actually is a little better because the medication has a smaller chance of bouncing out of the patient's mouth, said Ira Finegold, MD, MS, past president of the American College of Allergy, Asthma, and Immunology. "Some people are puzzled by the fact that the new inhaler doesn't have the same amount of oomph as their old one," he said. "The important thing to tell them is it's going to work just as well. Don't think it's inferior because it doesn't zip out so fast."

New cleaning routine

While the HFA inhalers' effectiveness remains the same, their maintenance and cleaning does not. Unlike CFC inhalers, HFAs require priming when first used to ensure each dose dispenses the right amount of medication. Each brand may entail a different protocol. The number of actuations required before use and how often the inhaler needs to be re-primed varies. "The best thing is to read the instructions," Dr. Finegold said. "Don't assume everything is the same." The instructions also will inform the patient about proper care and cleaning to ensure the inhaler works safely and efficiently.

Patients who floated their CFC inhalers to estimate how much medicine was left need to be aware of another critical change. "These new HFA-containing inhalers are very sensitive to water and humidity, and if you get them wet, they can clog up at the nozzle and affect the amount of medication being released," Dr. Diaz said.

He recommends an HFA with a dose counter for patients who have difficulty determining the level of medication left in their inhalers. "I think that it's a little more costly, but if it's available, I think any metered-dose inhaler with a counter is better than not," he said. Currently, one inhaler on the market comes with a dose counter, but patients should be aware it has an expiration date. The recommended period of use after the inhaler has been taken out of the pouch is six months.

Weighing the options

With four FDA-approved HFA inhalers on the market, physicians and patients have some decisions to make about which brand best suits their individual needs. "One drug doesn't fit everybody," Fusco-Walker said. "There's not a one-size-fits-all when it comes to asthma and COPD." The albuterol HFA equipped with a dose counter may peak some patients' interests because it offers an accurate measurement of

the remaining medication. Others may gravitate toward the levalbuterol tartrate inhaler with its purer formulation of albuterol, which some clinicians say have fewer side effects. More often than not the decision boils down to which brand is preferred on the patient's insurance plan.

"If they cover all of them, then you can pick and choose," Dr. Finegold said. "If they only cover one, then there's a big tendency to use that one because it will usually be a more reasonable co-pay." Because the inhalers are all brand-name prescriptions, the cost will tug the purse strings of some patients, especially those in lower socioeconomic classes who have tighter budgets.

"Anybody who had access to albuterol will probably have access to these new inhalers, with the exception of cash-paying patients," Dr. Diaz said. "If you're going to be paying cash, you're definitely going to be paying more for an HFA than you did for the old generic CFC albuterol." Thankfully, a number of financial assistance programs from the government and pharmaceutical manufacturers can help patients get the medication they need. Dr. Diaz keeps a list of phone numbers for national assistance programs at his office for patients in need. He often supplies samples for those patients who cannot afford their medication.

The big picture

Each year people with asthma shoulder nearly 2 million emergency room visits, more than 500,000 hospitalizations, and more than 4,000 deaths. Educating patients on the use of these quick-relief medications and the HFA transition obviously is a tiny part of the overall issues that need to be addressed, Dr. Diaz said.

Because the current phaseout only affects fast-acting inhalers - not medications categorized as long-acting asthma controllers - it presents the perfect opportunity for physicians to discuss patients' dependence on rescue medications.

"Albuterol is a medicine for rapid relief, and our current feeling toward asthma care now is that you should only be using albuterol very, very occasionally," Dr. Finegold said. "It's something you save for when you need it. If you have moderate or mild-persistent or severe asthma, you should be probably using an inhaled corticosteroid." If physicians find patients using an inhaler per month, they need an adjustment to their medication or a new medication because they are not in good control, Dr. Finegold added. "Asthma is a disease that's really very controllable, and one shouldn't rely on rescue medicine as the main method of treatment. Find out what's causing it and do something about that."

<http://tinyurl.com/46c24k>

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THE LEAST YOU CAN DO

Exactly how little can you do and still get fit? A new study suggests 1.7 might be the magic number. Middle-aged men and women at risk for heart disease who walk at a moderate pace for just 1.7 miles a day improve several important measures of their aerobic fitness.

More Is More

Ok, we admit it. The data show that jogging at full speed for nearly 3 miles a day reaps the greatest cardiovascular benefits.

But if jogging shorts and running shoes aren't your style -- or you're just feeling kinda tired today -- at least get yourself out there for 1.7 miles. It's still enough to keep you on the road to better fitness. (Need more motivation? Find a fitness buddy you can report to daily on our message boards.)

More Ways to Do Less

Going slower doesn't always mean that you'll lose the fitness race. Here are some other ways to keep yourself in the game when you feel like throwing in the towel:

Slow it down. You don't have to keep up with that marathon runner. Here's why going slower may actually be better for burning calories.

Slow and Steady

Do you huff and puff your way through workouts -- and hate every gasp? Then slow it down, especially if weight loss is one of your goals. New research shows that lower-intensity exercise may help you shed more pounds than a faster-paced activity -- as long as you burn enough calories from it. So get out of the high-speed lane. Walk, don't run. Jog, don't sprint. Skip the spinning class and pedal an exercise bike at a comfortable speed, all the while chanting: Do less, lose more.

The study compared two groups of women who did slower- or faster-paced sessions on the treadmill 4 days a week. During the sessions, each group exercised at their respective paces until the same number of calories was burned. After 3 months -- with absolutely no dieting -- the slower-goers had lost an average of more than 7 pounds each, while the quicker group had dropped only 4. Although the study was small, the numbers are compelling.

Not a treadmill type? No problem. Do whatever you like; just do something. The results are waiting!

Take a breather. Right in the middle of your workout. Here's how it helps you burn more fat and calories. The rate at which your body burns fuel may be boosted even higher if you break up a long cardio session into two back-to-back 30-minute sessions with a 20-minute break in between. Breather, anyone?

Start. Stop. Repeat.

How can scientists tell that a 20-minute rest helps rev up your fat burning? Men in a study who did just that (in between 30-minute sessions on a stationary bike) showed elevated blood levels of free fatty acids -- higher blood levels than those produced during a single 60-minute cycling session. And that bump in free fatty acids is a sign of increased fat burning: Circulating blood levels of free fatty acids go up when your body starts to break down fat.

Break it up.

Can't pull together 30 minutes of exercise? Grab 10 minutes in the morning, 10 minutes at lunch, and 10 minutes after dinner. Done. Here's more on the 10-minute plan.

The Quickie Workout

Whether you're constantly time-crunched or just exercise averse, it's possible to get many of the same health benefits without freeing up a full half hour. Research consistently shows that three 10-minute sessions are as effective in many ways -- including controlling cholesterol -- as a solid

30-minute workout. So even if you're stretched thin between work and home, you can still make fitness a top priority.

Not only will 30 minutes of daily exercise -- whether done all at once, or not -- help lower your triglycerides, but it also will reduce your risk of heart disease, diabetes, and certain types of cancer. Slipping three 10-minute workouts into your hectic schedule just takes a bit of creativity: Park your car 10 minutes from your destination and walk the rest of the way -- back and forth and that's two sessions already. Add another walk during your lunch break or while returning cell phone calls and you're done. Although longer sessions of exercise are needed if you want to boost your aerobic fitness and burn fat, doing something is way better than doing nothing.

Did You Know?

A supershort workout may have advantages, too. As long as you pick up the pace. Here's how to do it.

Short and Intense: A New Way to Get Fit

If you'd rather race for 30 seconds than trudge for an hour, seems you might have your wish and get something out of it, too.

Short, intense bouts of exercise may boost muscle fitness as effectively as longer sessions do. But you won't burn as many calories. And you should check with your doctor first: Intense exercise is not for the faint of heart -- or body.

30 Seconds Here and There

Men who worked out really hard on a stationary bike for just a few minutes each week (30-second intervals four to six times a day, every other day) experienced muscle fitness gains on a par with those experienced by the guys who cycled at a moderate pace for 90 to 120 minutes daily. The trade-off sounds almost too good to be true. But there's a strong caveat here.

Calorie Counsel

If you count weight control as one of your exercise goals -- and who doesn't -- you'll need to opt for the longer haul to burn more calories. And not everyone's body is built for short, intense bursts of speed (translation: you could really pull something).

So this preliminary research is no reason to kick your 30-minutes-a-day workout to the curb. But if your health allows it, a few 30-second dashes through the park -- or parking lot -- may help keep your muscles fit on days when you're a bit short on time. Hate exercising? Try this no-workout workout.

The No-Workout Workout

With these 7 simple exercises, you may discover that you're already exercising without even knowing it! Build up to 30 minutes of these activities and you'll be meeting your minimum daily exercise requirements for good health.

Strengthen your stomach while you sit in a chair, whether you're at your desk or at home on the couch.

1. Chair crunches Muscles worked: abdominals Aim for 4 minutes

Starting point: Seated, back straight, arms at sides, hands gripping the bottom of the chair, feet flat on the floor, knees bent and over toes, legs pressed together. **Action:** Lift your knees straight

up, keeping the bottom of your feet parallel to the ground. Exhale while you lift your knees and inhale as you bring your feet back down to the floor. Complete 1 set of 10-12 repetitions. **Tip:** For extra workout points, keep your back off the backrest and do not lean heavily on your arms.

2. Chair crunches with a twist Muscles worked: internal obliques Aim for 4 minutes

Starting point: Same as regular chair crunches, except instead of gripping the chair, clasp your hands behind your head and push your elbows out to the sides. **Action:** Lift your left knee straight up. As you do so, twist your upper body to the left side until your right elbow meets your left knee. Return to your starting point. Repeat, only this time lift your right knee straight up and twist your upper body to the right until your left elbow meets your right knee. Complete 1 set of 5-6 elbow-to-knee touches per side.

Firm your upper body while you run errands, shop at the mall, or walk in your neighborhood.

3. Grocery bag curls Muscles worked: biceps (upper arms) Aim for 5 minutes

Starting point: Standing or walking, arms straight down at your sides, palms facing forward, grocery bag handle gripped in one hand. **Action:** As you walk, every time you step with your left foot, bend your arm at the elbow to lift your bag up to chest level; straighten and lower your arm back down every time you step with your right foot. Complete 1 set of 10-12 reps. Switch hands and repeat with the other arm. **Tip:** Keep your wrist straight and your elbow directly beneath your shoulder with each curl.

Quick Tip: Keep a pair of comfortable walking or running shoes and a pair of sweat socks in your car at all times.

4. Grocery bag rowing Muscles worked: deltoids (shoulders) Aim for 5 minutes

Starting point: Standing or walking, arms straight down at your sides, hands in front of your thighs, palms facing your thighs, a bag handle gripped in each hand. **Action:** Pretend that there is a "golf club" connecting the bags in your hands.

Lift the golf club up toward your chest, bending your elbows out to each side as you lift. Complete 1 set of 10-12 reps. **Tip:** Keep your hands about 3 inches in front of your body as you lift.

Tone your lower body while you are standing in line at a café or movie theater, or waiting for your ride.

5. Leg lifts muscles worked: adductors (inner thigh) Aim for 4 minutes

Starting point: Standing, weight on left foot, right leg extended in front of you until the toes are resting on the ground about 10 inches in front of your left foot. **Action:** Slowly sweep your right toes to the left, beyond your left foot. Use your inner thigh muscles to pick your right foot up and move it back to the starting point. Complete 1 set of 10-12 reps

for each leg. **Tip:** Keep your knees straight and your weight on your stationary foot.

6. Hip hiker Muscles worked: abductors (outer thigh) Aim for 4 minutes

Starting point: Standing, weight on left foot, right knee bent with right foot setting on a stable 4- to 6-inch rise (such as a stair step or a sidewalk curb), hands on hips. **Action:** Slowly straighten your right knee so that you are lifting your weight up onto the step or curb. Hold for 5 seconds and then slowly lower your weight back onto your left foot. Complete 1 set of 10-12 repetitions. Reverse legs and repeat. **Tip:** When using a step, stand sideways so that your feet are parallel. When using a sidewalk curb, safety first! Choose a sidewalk curb that is not near traffic.

7. Heel raises Muscles worked: gastrocnemius, or gastroc (calves) Aim for 4 minutes

Starting point: Standing, legs straight, feet one inch apart. **Action:** Slowly rise up onto the balls of your feet, lifting your heels off the ground as high as you can, and then slowly lower your heels back to the ground. Complete 1 set of 10-12 reps. **Tip:** Keep your legs straight but don't lock your knees.

If you make it a habit of slipping these 7 exercises into your daily routine, you may begin to notice improvements in your strength and endurance after only a few weeks. For a total of 30 minutes!

When you think of exercise as a separate activity, it's easy to find a million excuses to leave your workout gear in the closet. You slept in a little. You worked late. Your commute was extra long. You didn't feel motivated. You had to run to the post office, the bank, the store. Bad weather. Maybe tomorrow . . .

Anytime is a good time for exercise. So wear comfortable shoes and take on your day and your workout at the same time.

www.Realage.com



THE INS AND OUTS OF EATING ORGANIC

As you walk through the produce aisle of your grocery store, you're probably bombarded with signs showcasing organic foods; but what is organic and are the health benefits of these foods worth the extra dollars? "Yes," John Bagnulo, M.P.H., Ph.D., a nutrition and fitness instructor at Kripalu Center for Yoga and Health in Stockbridge, Mass., told Ivanhoe. In studies, organically grown foods have been shown to have significantly higher amounts of vitamins and minerals as well as total phenolics (TPs), or antioxidants, compared to those produced conventionally.

Foods grown using today's standard agricultural practices are also laden with toxins. He points to a 2002 study that found postmenopausal women in western New York who consumed the most fruit and dairy also had the highest levels of serum organochlorine pesticides. Toxics like these can have detrimental effects on our health and may even cause cancer, Dr. Bagnulo says. They can also take years to break down which is especially taxing on the human liver as it works to detoxify the body, he

explained.

According to Dr. Bagnulo, some fruits and vegetables should always be bought organic, including peaches, strawberries, apples, spinach, celery and potatoes. "Based on EPA and FDA data, they show to be the largest group of contaminated foods," Dr. Bagnulo said. While he says buying organic is always preferred, there are some 'clean' foods he is willing to make exceptions for, including avocado, grapefruit, broccoli and bananas. "They're not going to have the same nutritious benefits [as the organic versions] but they're safer bets for the middle of the road." However, when it comes to bell peppers, go organic or don't go at all. "Peppers are loaded with pesticides and they're very expensive organic." Dr. Bagnulo also recommends buying organic peanuts and natural peanut butter because of their high pesticide levels.

In addition to buying organic, buying locally is important. "I feel very strongly that if people could afford and have access to organically grown local produce, that's absolutely the way to go," Dr. Bagnulo said. He says an even better option is to grow your own produce. SOURCE: Ivanhoe.com



WONDER FOODS

Here's why these three foods are practically a staple among health - conscious celebs and foodies - plus how to pronounce them, so you can casually order an açai smoothie with all the cool of George Clooney.

Açai berries (ah-sigh-EE or ah-SIGH-ee)

Brazilian surfers eat theirs with granola, and we know what their bodies look like! Packed with twice the disease-fighting antioxidants of blueberries, açai has already made Oprah's list of Top 10 Superfoods and The Washington Post called the blackberry-flavored fruit the "new pomegranate." But you may find it easier to sip yours: Celestial Seasonings sells an açai-green tea blend, and açai martinis are on chic bar menus everywhere. DIY açai fruit soda: Just mix chilled sparkling mineral water with a few ounces of açai juice, available at health-food stores. Sip. Look cool. Feel healthy.

Quinoa (KEEN-wah)

Dry quinoa looks a bit like sesame seeds but when cooked it becomes fluffy with a hint of crunch, making it an excellent substitution for rice, cous cous, and pasta. Quinoa's major claim to food fame, however, is what RealAge researchers call its "nutritional profile." A cup of quinoa has more protein than a quarter-pound hamburger and more calcium than a quart of milk. Yowza. It's also loaded with iron, magnesium, and a bevy of other minerals and B vitamins. No wonder the Incas named it "the mother grain."

Quinoa and Black Beans

Stir in your favorite jarred salsa for extra zing. This is also good the next day for lunch. Makes 2 servings, about 1/2 cup each

- 1 teaspoon canola oil
- 1/2 bell pepper, chopped

- 2 tablespoons chopped red onion
- 1/2 cup canned black beans, rinsed
- 2 tablespoons broth (or water)
- 1/2 cup hot quinoa (cook according to package directions)

Heat oil in a small saucepan over medium heat. Add bell pepper and onion and cook until almost tender. Add beans and broth (or water) to the pan. Cook until heated through. Stir in quinoa.

Per serving: 162 calories; 4 g fat (0 g sat); 0 mg cholesterol; 27 g carbohydrate; 6 g protein; 4 g fiber; 60 mg sodium; 224 mg potassium.

Matcha (MAH-cha)

When you drink a cuppa matcha (also spelled maccha), you're getting green tea's powerful antioxidants to the max, because you're actually consuming the whole green tea leaf in powdered form. In Japan, slightly bitter matcha is traditionally served syrupy thick. But in the US, you'll find matcha stirred into lattes, sprinkled on ice cream, and used to bolster energy drinks and turn smoothies into pick-me-ups (it's said to boost alertness). Just be respectful of matcha if you're caffeine sensitive: Ounce for ounce, it has almost as much caffeine as coffee.

To rev up a hot homemade latte, whisk in 1/2 teaspoon of the powder.

For a quick summer cooler, blend 1 1/2 teaspoon with a cup of milk and some ice cubes. Source: Yahoo Health



THE 20 SALTIEST FOODS IN AMERICA

Avoid these foods if you care about heart health, blood pressure and stroke

Salty food may seem like the least of your worries, especially if you're among the 40 percent of people who mindlessly shake salt on every dish. An extra dash here, a few sprinkles there--what's the big deal?

A lot, when you consider the fact that a mere teaspoon of the stuff contains all 2,300 milligrams (mg) of your recommended daily allotment. Yet daily salt consumption is on the rise in the United States--from 2,300 mg in the 1970s to more than 3,300 mg today. And according to Monell Chemical Senses Center researchers, 77 percent of that sodium intake comes from processed-food purveyors and restaurants. Their motivation: Pile on the salt so we don't miss natural flavors and fresh ingredients.

Why is that a problem? With ever-expanding portion sizes, supersalty foods are displacing fresh fruits and vegetables, which are rich in potassium. And a 1:2 ratio of dietary salt to potassium is critical for your health. Studies show that a high-sodium, low-potassium diet is linked to a host of maladies, including high blood pressure, stroke, osteoporosis, and exercise-induced asthma.

To protect your heart, your bones, your muscles, and your tastebuds, we scoured takeout menus and supermarket shelves to expose the 20 saltiest foods in America. No need to take the information with a grain of salt. These dishes provide plenty.

20: Saltiest Side Dish

Denny's Honey Smoked Ham, grilled slice

1,700 mg sodium, 85 calories

Calorie for calorie, this is the saltiest dish in America.

This side is steeped in salty brine before it's smoked, soaking up 70 percent of your daily sodium intake.

19: Saltiest Dessert

Atlanta Bread Company Raspberry Scone

1,750 mg sodium, 360 calories

This fruit scone packs the same sodium load as seven servings of bacon at Atlanta Bread Company. If you need a sweet fix, opt instead for the pumpkin bread, which has a tenth of the sodium (160 mg).

18: Saltiest Soup

Baja Fresh Chicken Tortilla Soup

2,760 mg sodium, 320 calories

Soup and salt are nearly synonymous in the food world, but Baja takes it to the extreme, sinking more than a day's worth of sodium into a single serving. Start with a bowl of stewed black beans with a scoop of fresh salsa instead; a serving has an eye-popping, belly-filling 26 grams (g) of fiber, with less than half the salt of the soup.

17: Saltiest Burger

Hardee's 2/3 lb Monster Thickburger

2,770 mg sodium, 1,420 calories, 108 g fat

More than 100 percent of your daily sodium allowance is trapped inside this burger's bun. And the three slices of processed American cheese are oozing with 780 mg sodium. Try the Low-Carb Thickburger--you'll shave 1,000 calories and 1,700 mg sodium.

16: Saltiest "Healthy" Food

Chili's Guiltless Grill Chicken Platter

2,780 mg sodium, 590 calories, 85 g carbs

Beware the bait and switch. Many restaurants and packaged-food producers advertise their dishes as being low in calories and fat, only to jack up the sugar and salt content. Case in point: This platter actually has more sodium than Chili's 1,890-calorie Country Fried Steak with sides, toast, and gravy. Stick with the Guiltless Salmon, the best choice on Chili's sometimes-healthy special menu.

• 15: Saltiest Pasta

Fazoli's Rigatoni Romano

3,180 mg sodium, 1,090 calories, 54 g fat, 101 g carbs

Salt is one of the top ingredients in Italian sausage, meat sauce, and mozzarella cheese, the three items that serve as this dish's backbone. Simply order your noodles topped with marinara sauce and peppery chicken. The chicken has just 1 g fat and less sodium than the other toppings you can order for your pasta.

14: Saltiest Chinese Entrée

P.F. Chang's Beef with Broccoli

3,752 mg sodium, 1,120 calories, 65 g fat

Like many Chinese dishes, this ubiquitous entrée sounds deceptively healthy. Also like many Chinese dishes, this meal is swimming in a murky brown sauce made mostly of soy sauce and oil. Skip the fried rice (it can contain up to 2,700 mg sodium on its own) and send out an SOS ("sauce on the side")

to your server.

• 13: Saltiest Breakfast

Arby's Sausage Gravy Biscuit

3,754 mg sodium, 961 calories

Yes, cured meat and lard-riddled biscuits are found in this troubled Southern staple, but the coat of gravy carries 2,600 mg sodium on its own, making it the primary offender.

12: Saltiest Beef Entrée

Bob Evans Steak Tips and Noodles

4,131 mg sodium, 822 calories, 43 g fat

Bob lubricates his take on beef stroganoff with a huge ladleful of gravy, damning this dish before you even poke your fork into it. Try your steak without the salt bath: The regular sirloin has half the calories and a commendable 638 mg sodium.

11: Saltiest Frozen Dinner

Swanson Hungry-Man XXL Roasted Carved Turkey

4,480 mg sodium, 1,360 calories, 70 g fat

Yes, the nutrition data on the back suggests that the package contains two servings, but the label proudly proclaims the 1 1/2 pounds inside, and besides, how many guys are going to share their frozen dinner?

10: Saltiest Bread

Dunkin' Donuts Salt Bagel

4,520 mg sodium, 320 calories, 62 g carbs

This bagel is more like a giant salt-encrusted pretzel, delivering 188 percent of your recommended daily sodium intake.

9: Saltiest Sandwich

Quiznos Turkey Bacon Guacamole Large Sub with Cheese and Reduced-Fat Ranch Dressing

4,670 mg sodium, 1,120 calories, 49 g fat, 116 g carbs

First, skip the large sandwich. At Quiznos, few come in under 1,000 calories and 3,000 mg sodium. Next, abandon mozzarella for Swiss, which has a tenth of the sodium. Finally, choose one of the low-calorie subs at Quiznos--the Tuscan Turkey, or better yet, the Honey Bourbon Chicken.

8: Saltiest Pizza

Pizza Hut Meat Lover's Stuffed Crust Pizza (3 slices of the 14" large)

5,070 mg sodium, 1,560 calories, 87 g fat, 114 g carbs

A good rule of thumb: Never order a pizza with more than a single meat topping. Because if the calories don't get you, the salt will. This problematic pie has six meats and 4,000 mg sodium too much.

7: Saltiest Comfort Food

Denny's Meat Loaf Dinner (with Mashed Potatoes and Corn)

5,080 mg sodium, 1,210 calories, 69 g fat, 97 g carbs

There's nothing comforting about a dinner that carries the same sodium load as 27 strips of bacon. Trade the salty loaf for the Steakhouse Strip Dinner, which has just 460 mg sodium and 390 calories (before sides).

6: Saltiest Salad

Romano's Macaroni Grill Chicken Florentine

5,460 mg sodium, 840 CALORIES, 53 g fat

Salads are often the biggest blood-pressure boosters on the

menu, since the innocent leaves play perfect host to a flurry of briny toppings and dangerous dressings. Here, salt-laden olives, capers, and Parmesan collide with Macaroni Grill's massive portions and its cooks' affinity for the saltshaker. The only reasonable insalata on the menu is the Mozzarella alla Caprese: It has 450 calories and 760 mg sodium.

5: Saltiest Mexican Entrée

Chili's Buffalo Chicken Fajitas

5,690 mg sodium, 1,730 calories, 107 g fat, 143 g carbs

Here are a few offenders to choke on: fried chicken, Buffalo sauce, blue cheese, smoked bacon, ranch dressing, and sour cream. All make this the sodium equivalent of single-handedly downing three and a half baskets of Chili's bottomless tostada chips. Add rice and beans and you've just ordered 3 days' worth of sodium and an entire day of calories. If you're salt-sensitive, avoid fajitas--any kind of fajitas--at all costs.

4: Saltiest Kids' Meal

Cosi Kid's Pepperoni Pizza

6,405 mg sodium, 1,901 calories, 93 g fat, 190 g carbs

Kids under 13 should max out at 1,900 to 2,200 mg sodium a day, according to American Heart Association. This pizza serves up nearly three times that much, plus an entire day's worth of calories. You could feed your child 50 turkey sandwiches at Cosi for the same sodium price tag. (But stick to just one.)

3: Saltiest Seafood Entrée

Romano's Macaroni Grill Grilled Teriyaki Salmon

6,590 mg sodium, 1,230 calories, 74 g fat, 79 g carbs

Think you're playing it smart by opting for fish? The slather of teriyaki, which is essentially highly sweetened soy sauce in concentrated form, sinks that strategy fast. The grilled halibut, topped with a fresh tomato-basil relish instead, has just a quarter of the sodium.

2: Saltiest Appetizer

Papa John's Cheesesticks with Buffalo Sauce

6,700 mg sodium, 2,605 calories, 113 g fat, 296 g carbs

If you were to split this appetizer with two friends, you'd still be close to downing your daily sodium allowance before you even reach for the pizza. Each stick packs the same amount of sodium as a small slice of cheese pizza, and that's without dipping. Your best bet? Cheese pizza. Thin crust.

1: The Saltiest Dish in America

Romano's Macaroni Grill Chicken Portobello

7,300 mg sodium, 1,020 calories, 66 g fat

With three items on our top 20 list, plus a slew of dishonorable mentions, Macaroni Grill earns its title as America's saltiest chain restaurant. But what makes this the saltiest dish in America? One word: demi-glace, a fancy French name for the viscous salt slick that blankets this disastrous dish. You would have to eat 32 cups of

potassium-rich broccoli to compensate for this sodium avalanche.

Source: Men's Health Magazine

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RECIPE: PASTA WITH ASPARAGUS

Most vegetarian pasta dishes consist of flavorless, boring piles of starch randomly studded with bland vegetables and topped with a mound of low-quality grated cheese. Could we create a quick and simple but highly flavorful vegetarian pasta dish? We found that sautéing asparagus with onions, walnuts, garlic, and shallots caramelized the stalks and brought out the flavors of the other ingredients. We also exercised restraint with bolder ingredients like balsamic vinegar or blue cheese to let the asparagus flavor shine through.

Farfalle with Asparagus, Toasted Almonds, and Browned Butter
Serves 4 to 6 as a main dish

1 tablespoon table salt

1/2 teaspoon table salt

1 pound farfalle

2 tablespoons vegetable oil

1 pound asparagus, bottom 1 inch trimmed and discarded, spears halved lengthwise if larger than 1/2 inch in diameter and cut into 1-inch lengths

3 large cloves garlic, sliced thin

2 medium shallots, sliced into thin rings

1/2 teaspoon ground black pepper

6 tablespoons unsalted butter, cut into 6 pieces

1 cup sliced almonds

1/4 cup sherry vinegar

1 teaspoon fresh thyme, chopped

1 cup grated Parmesan cheese

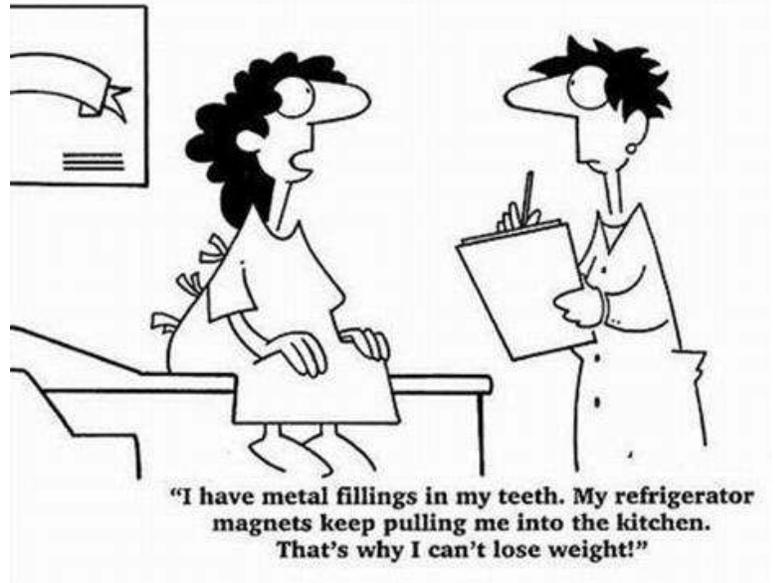
1. Bring 4 quarts water to boil in stockpot. Add 1 tablespoon salt and pasta, stir to separate, and cook until al dente. Drain and return to pot.

2. While pasta is cooking, heat oil in 12-inch nonstick skillet over high heat until beginning to smoke. Add asparagus and cook, without stirring, until beginning to brown, about 1 minute. Add garlic, shallots, remaining 1/2 teaspoon salt, and pepper and cook, stirring frequently, until asparagus is tender-crisp, about 4 minutes; transfer asparagus mixture to large plate and set aside. Return skillet to high heat and add butter; when foaming subsides, add almonds and cook, stirring constantly, until almonds are toasted and browned and butter is nutty and fragrant, 1 to 2 minutes. Off heat, add vinegar and thyme; return asparagus to skillet and toss to coat. Add asparagus mixture and 1/2 cup Parmesan to pasta in stockpot; toss to combine. Serve immediately, passing remaining 1/2 cup Parmesan separately.

Source: www.cooksillustrated.com

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