

EFFORTS

Emphysema Foundation For Our Right To Survive



Emphysema Takes Your Breath Away

September 2006

PATIENT POWER—MAKING SURE YOUR DOCTOR REALLY HEARS YOU

It's one thing to feel like a master of the universe when wearing a buttoned-down power suit. But how can you negotiate anything — how can you even contemplate “Getting to Yes,” as one motivational best seller puts it — when standing barefoot in a paper gown under the fluorescent lights at a hospital or a medical clinic?

Research shows that although most people claim to want as much information about their medical conditions and treatments as they can get, even the most confident are struck dumb — or at least awkward, anxious and often ineffective — when talking to doctors. The power gap often shuts patients down.

In the last few years, medical schools have started trying to bridge this gap by teaching students clinical communication skills — Bedside Manner 101. As part of earning a medical license, for example, third- or fourth-year students are now required to face actors playing the roles of patients with myriad diseases and dispositions. The students are then tested on how well they interview the patient, conduct the physical exam and convey the findings to the patient and to colleagues. Empathetic skills are considered a big plus.

The training doesn't stop after graduation. In March 2005, the Communication Skills Laboratory at Memorial Sloan-Kettering Cancer Center began offering a series of three-hour interactive workshops intended to give hospital oncology residents practice in “Breaking Bad News,” “Discussing Prognosis” and “Responding to Patient Anger,” among other touchy topics. Still, with all the emphasis on doctor-patient communication, the patient side has largely been neglected.

Sure, there are plenty of patient “empowerment” Web sites and books, like “You: The Smart Patient: An Insider's Handbook for Getting the Best Treatment,” published this year. Written by two physicians — Michael F. Roizen and Mehmet C. Oz — the book is a well-written guide, packed with pep talks and tips to help patients cut through medical jargon, find a good surgeon or hospital, get a second opinion and navigate health insurance problems.

But like others in its genre, the book tends to skim on the rules of etiquette and body language that can transform a hostile or misunderstood exchange into a smooth connection. It offers a checklist of 34 questions you should ask your doctor before surgery, but it doesn't provide guidance on how or when to raise those questions — or even how to get through

the list — without alienating the guy who's about to carve you up.

Under the time pressure that is part of any medical visit, how exactly do you respectfully disagree with your doctor and still get the help you need? Virginia Teas Gill, a medical sociologist at Illinois State University, said the number of encounters that require a negotiation between the doctor and the patient seemed to be on the rise.

This is not just because of the time and financial squeezes imposed on every visit by health insurance companies but also because new therapies and sensitive scans and tests are permitting diagnosis and treatment for many diseases much earlier than ever before. Lumpectomy or mastectomy? Injectable insulin or a pump? Statins or simply more exercise and less food? In many cases, Dr. Gill said, when and whether to treat has become as legitimately debatable as what treatment to use. Some patients show up to a scheduled appointment with a fistful of questions, “and that's fine, that's very good,” Dr. Gill said. “But,” she continued, “to get them answered, write the questions down beforehand, and say at the outset of the office visit: ‘I've got some questions. When would be the best time for me to ask them?’ ”

That alerts the doctor — who has to keep an eye on the time — to what the patient's agenda is, so that the two can prioritize what to cover and decide whether they'll need a follow-up meeting, Dr. Gill said.

Richard Frankel, a medical sociologist at Indiana University who helped develop a training program that Kaiser Permanente is now using to teach its doctors to be better listeners, suggests that medical encounters often go wrong because doctors assume that the first symptom or concern a patient raises is the only one — or at least that it's the most important. Instead, Dr. Frankel said, studies show that the most important symptom or worry — a suspicious mole or lump, for example, or the feeling that life isn't worth living — is often the third or fourth item on a patient's list, blurted out at the very end of an appointment. This may be because the patient is afraid, the problem is hard to admit or the patient didn't understand how medical exams were typically structured.

Dr. Frankel advises patients to put all the items on the table at the start of a visit. If the doctor interrupts to focus on the first problem, say something like: “You know that's one concern, but maybe not my most important. Could I give the full list before we go on so we can prioritize?” Rather than be offended, most doctors are likely to listen more attentively, he said. “Patients always have the right to question or refuse treatment or tests,” Dr. Frankel added. “Anyone worried about offending the doctor

might find it easier to begin such a discussion with something like: 'Could you please review the benefits of this treatment for me again so that I can write them down? Good. Now, could we talk about risks, too? O.K., so tell me again why you think the benefits outweigh the risks in my case?' "

Patients can improve the quality of their care — and their lives — by also being straightforward with a doctor, but as specific as possible. "Instead of asking, 'Is it important that I start the chemotherapy next week?' don't be afraid to tell the doctor: 'My cousin's wedding is next week, and I'd like to go. Would it be O.K. to start the chemo after that?'" suggested Carma Bylund, a behavioral scientist in the psychiatry department at Sloan-Kettering who helped create the hospital's communication skills program for students.

Bringing a trusted friend or family member to the exam can also help make sure that delicate questions are asked and answered. Preliminary research suggests that the Internet is already transforming many medical encounters, Dr. Bylund said. Some patients now come armed with sheaves of journal articles and printouts, and demands for specific treatment. However, she cautioned, just because patients now have access to much of the same information that doctors do doesn't mean they have the expertise or experience to weigh that information.

Doctors don't like confrontation any more than patients do; they may give in to a patient's request if it is made in an assertive manner. In a study under review for publication, Dr. Bylund found that patients who persistently asked for a specific treatment or test, based on Internet research, were more likely to get it than patients who came in with a vague list of symptoms, or who were more deferential to the doctor.

But be careful, she warned. Anyone who treats a doctor as a dispensary instead of a trusted medical guide loses the advantages of the physician's experience. Negotiating to win, in this case, may get you what you want, but not what you need.

Source: The New York Times



PATIENT UNDERSTANDING, DETECTION, AND EXPERIENCE OF COPD EXACERBATIONS

ABSTRACT

Study objectives: This study was conducted to gain insight into patients' comprehension, recognition, and experience of exacerbations of COPD, and to explore the patient burden associated with these events.

Design: A qualitative, multinational, cross-sectional, interview-based study.

Setting: Patients' homes.

Patients: Patients (n = 125) with predominantly moderate-to-very severe COPD (age 50 years; with two or more exacerbations during the previous year).

Interventions: Patients underwent a 1-h face-to-face interview with a trained interviewer.

Measurements and results: During the preceding year, patients experienced a mean \pm SD of 4.6 ± 5.4 exacerbations, after which 19.2% (n = 24) believed they had not fully recovered. Although commonly used by physicians, only 1.6% (n = 2) of patients understood the term exacerbation, preferring

to use simpler terms, such as chest infection (16.0%; n = 20) or crisis (16.0%; n = 20) instead. Approximately two thirds of patients stated that they were aware of when an exacerbation was imminent and, in most cases, patients recounted that symptoms were consistent from one exacerbation to another. Some patients (32.8%; n = 41), however, reported no recognizable warning signs. At the onset of an exacerbation, 32.8% of patients (n = 41) stated that they reacted by self-administering their medication. Some patients spontaneously mentioned a fear of dying (12.0%; n = 15) or suffocating (9.6%; n = 12) during exacerbations, and effects on activities, mood, and personal/family relationships were frequently reported. Physicians tended to underestimate the psychological impact of exacerbations compared with patient reports.

Conclusions: This study shows that patients with frequent exacerbations have a poor understanding of the term exacerbation. Patient recollections suggest that exacerbation profiles vary enormously between patients but that symptoms/warning signs are fairly consistent within individuals, and are generally recognizable. Exacerbations appear to have a significant impact on patient well-being, including psychological well-being, and this may be underestimated by physicians.

.....Source: American College of Chest Physicians



PERIODIC SPIROMETRY IDENTIFIES PROGRESSIVE DECLINE IN LUNG FUNCTION

Periodic spirometry of individuals exposed to respiratory hazards can identify progressive declines in lung function, according to a report in the August issue of *Chest*. Long-term follow-up is recommended to identify individuals who experience occupational exposure-related declines in lung function, the authors explain, but the level of decline that constitutes clinically important changes has not been determined.

Dr. Edward L. Petsonk from the National Institute for Occupational Safety and Health, Morgantown, West Virginia and colleagues used data from a large occupational spirometry monitoring program spanning 30 years to investigate the relationship between FEV1 changes and subsequent declines in lung function. The program included 21,821 test results from 1884 workers.

Men experienced mean long-term declines in FEV1 of 30 mL/year, compared with 23 mL/year for women, the authors report.

Declines were steeper for smokers than for nonsmokers and former smokers, the researchers note, and individuals 35 years or older lost significantly more FEV1 than did those 25 years or younger. Short-term changes in FEV1 over 1 to 5 years were highly variable, the report indicates, but the variability declined as the interval between tests increased.

Use of the percentage change in FEV1 resulted in greater diagnostic accuracy of spirometry monitoring, the investigators say, as did increasing the length of the monitoring interval. "Even without confirmatory repeat testing," the researchers write, "the 50 percentile cut point for percent change in FEV1 achieves an excellent likelihood ratio and specificity, with 41% sensitivity, at a short-term interval of 5 years; thus, use of this criterion appears generally preferable at this time. Annual

spirometry in workers and others exposed to respiratory hazards can detect relatively large losses in lung function over short follow-up intervals and, when interpreted using the diagnostic values from this study, can also identify individuals who have a substantial risk of excessive long-term functional decline."Source: Chest 2006;130:493-499.



TALKING TO YOUR HEALTHCARE PROVIDERS

Clear communication between you and your healthcare professionals is key to quality health care. Health professionals spend years learning the science of medicine, but providing medical information to you in everyday language is part of the "art" of medicine. It is important for you to understand what is going on in your body so that you and your healthcare provider can manage your condition together for your best overall health. You have the right to expect your healthcare providers to explain things to you so that you can understand them and to provide opportunities for you to express your opinions so that you can work together.

Of course, communication is always a two-way street. You need to listen carefully and let your healthcare providers know when you don't understand. Do not hesitate to ask questions! You can ask your healthcare providers to explain things as many times as you need until you understand.

Understanding explanations about taking medications and the need for any tests, treatments, or surgery is especially important. You should be certain to ask what the alternatives are and if there are any risks you should know about. It is a good idea to repeat back to your provider the explanation in your own words. This way, both you and your healthcare provider can make sure that you understood what was said. Asking for written instructions that you can refer to later or bringing along a trusted friend or family member can also be helpful.

From time to time, healthcare providers may have to ask questions that seem very personal or that may be embarrassing to you. For example, you may be asked about bathroom habits, alcohol use, mental health, or sexual activity. Try and answer these questions as honestly as you can. The only reason they are being asked is to understand your health and to make recommendations regarding your care. Remember that all information you share with your healthcare providers is confidential.

Cross-cultural communication

The art of medical communication can become even more difficult when there are cultural, ethnic, or language differences between you and your healthcare providers. Your healthcare provider may ask you about traditions, attitudes, or beliefs that could affect your healthcare and how it is delivered. People with different cultural or religious beliefs may have different attitudes about health care, medications, surgery, or experimental or alternative treatments, etc. Don't assume your healthcare provider understands your culture, so be sure to explain how your culture affects how you view your health and how you make decisions. Your healthcare providers need to know if you take any herbal remedies or drugs, or if

your culture or religious practices prohibit certain medical treatments. Also be sure to mention if you have particular dietary restrictions. Herbs, vitamins, and non-prescription medicines can sometimes interfere with certain diagnostic tests or cause an adverse reaction when taken with other prescribed drugs. If your healthcare provider knows this ahead of time, these situations can be avoided.

If you are from another country, your healthcare provider may ask you where you are from and how long you have lived in the United States. This information can help your healthcare provider get a better idea of your healthcare needs and attitudes. If you are not comfortable discussing your health assessment and treatment in English, let your healthcare provider know. He or she may be able to arrange for a translator so that you can communicate in your native language.

Your healthcare providers may also want to discuss your attitudes about making healthcare decisions, disclosure of information, and consent for tests or treatment. Healthcare in the United States is based on the idea of individual rights and autonomy. In other words, you make decisions about your health care and you control how and to whom this information is communicated. Be sure to let your healthcare providers know if you want others involved in the decision-making process or if you want these decisions made entirely by others. This is especially important when making decisions about end-of-life and advanced directives.

Source: AGS Foundation for Health in Aging



UNITED RESEARCH LABORATORIES/MUTUAL PHARMACEUTICAL COMPANY ANNOUNCE ANDA FILING FOR GUAIFENESIN EXTENDED-RELEASE TABLETS, 600 MG AND 1200 MG

United Research Laboratories and Mutual Pharmaceutical Company today announce that Mutual has filed an Abbreviated New Drug Application (ANDA) with the Food and Drug Administration (FDA), seeking approval to market Mutual's guaifenesin extended-release tablets, 600 mg and 1200 mg. Guaifenesin extended-release tablets are currently marketed over-the-counter by Adams Respiratory Therapeutics under the brand name Mucinex(R). According to Adams, Mucinex(R) is one of the most widely recommended OTC products to treat chest congestion and related coughs.

On August 9, 2006, FDA determined that Mutual's guaifenesin extended-release ANDA passed FDA's rigorous criteria for accepting an ANDA for filing, which includes a determination that Mutual has submitted thorough bioequivalence and stability studies. A copy of FDA's communication regarding this matter is available at <http://www.urlmutual.com/guaifenesin.pdf>. Mutual provided a copy of this communication and other related materials to Adams on August 11, 2006.

Mutual firmly believes that its guaifenesin extended-release tablets are bioequivalent to Mucinex(R) under the applicable standards set forth in the Hatch-Waxman regulatory provisions. During an investor conference call this morning, Adams claimed that its New Drug Application for Mucinex(R) was required to

meet a more rigorous bioequivalence standard but provided no support for this assertion. Even if a higher standard was applied to Adams' product, however, the only reason for doing so would be because Adams was required to demonstrate that its new product was safe and effective. Because it is seeking approval for a generic product, Mutual is only required to demonstrate that its tablets are bioequivalent and pharmaceutically equivalent to Mucinex(R) under the typical standards employed under the Hatch-Waxman provisions. FDA applies the Hatch-Waxman standard to generic products and has rejected attempts by brand companies to apply new bioequivalency requirements to generic products. There is no reason to believe that the same generic standards will not be applied to guaifenesin extended-release tablets, which are safe enough for patients to use without a doctor's prescription.

Adams' patents unquestionably do not prohibit Mutual from marketing its guaifenesin extended-release tablets. In fact, Mutual was marketing an identical formulation to its proposed 600 mg product more than one year before the filing of the first Adams patent, on April 28, 2000. Mutual's proposed 1200 mg tablets are dose-proportional to these 600 mg tablets. As such, either Adams' patents do not cover Mutual's guaifenesin extended-release tablets or those patents are invalid. In fact, on August 11, 2006, Mutual shared this information with Adams and provided documentary proof of these prior sales in a good faith effort to demonstrate that Adams' patent claims were baseless and that Adams should not attempt to delay Mutual's market entry with frivolous actions. Mutual supplied Adams with the manufacturing records for the ANDA and the manufacturing and sales records for its earlier product, which demonstrate that this product was manufactured and sold years before Adams' patent filing date. In the investor conference call today, Adams' CEO acknowledged that Mutual's guaifenesin extended-release tablets employed "older, well-known matrix technology" and effectively conceded that Adams' patents could not cover Mutual's guaifenesin extended-release tablets.

Moreover, Adams' patents are solely directed towards a bi-layer tablet. Mutual's guaifenesin extended-release tablets, however, contain a homogenous mixture of guaifenesin and certain excipients. There are no layers in Mutual's tablet and certainly not two layers as required in the patent. Mutual provided copies of its master formula to Adams showing that there are not two layers. Mutual's guaifenesin tablets cannot, therefore, infringe Adams' patents. Should Adams file a patent infringement suit against Mutual, Mutual expects to prevail in such a lawsuit on a summary judgment motion.

During today's conference call, Adams' CEO further stated that an unspecified company has petitioned the Patent & Trademark Office to reexamine the validity of one of Adams' patents. Mutual did not file this petition because Adams' patents clearly do not cover Mutual's guaifenesin extended-release tablets and, accordingly, Mutual had no reason to pursue such a strategy.

Any patent litigation initiated by Adams against Mutual would be objectively baseless and would merely constitute an attempt to delay the market entry of Mutual's product. Such

delay would result in considerable harm to competition, to consumers and to Mutual, and would violate federal and state antitrust and unfair competition laws. Mutual will aggressively defend against any patent claims filed by Adams, and will also vigorously pursue all available remedies under the antitrust and unfair competition laws, including treble damages potentially amounting to tens of millions of dollars or more. Because a lawsuit against Mutual would be anticompetitive, Mutual will immediately bring such litigation to the attention of the Federal Trade Commission and state attorneys general and request a full investigation of Adams' conduct.

Mutual is pursuing a broad-based guaifenesin strategy that will result in either extremely low-priced generic entry or a deal with a large OTC pharma company. Mutual can launch its guaifenesin extended-release tablets as generic products and price these products aggressively in order to obtain a significant market share. On the other hand, Mutual is in discussions with several of the largest OTC pharma companies in the country about their possible interest in launching guaifenesin extended-release tablets as branded products. Mutual also is aggressively pursuing the development of a line of guaifenesin combination products (such as with pseudoephedrine or dextromethorphan). Like its guaifenesin extended-release tablets, Mutual is highly optimistic about the prospects for expeditious filings with FDA and prompt FDA approval.

.....Source: medicalnewstoday.com



CHAMOMILE AND COUMADIN DON'T MIX

New advice for people taking warfarin (Coumadin) to reduce the risk of blood clots: Stay away from chamomile products. Canadian investigators report that a 70-year-old woman treated with warfarin developed severe internal bleeding after rubbing chamomile lotion on her congested chest and swollen feet and drinking chamomile tea to relieve a sore throat. Warfarin (brand name Coumadin) is derived from a chemical compound found in many plants, including chamomile. Doctors believe that the chamomile lotion and tea acted in concert with the warfarin to cause bleeding.

Warfarin also interacts with dietary supplements such as garlic, ginger, vitamin E, ginkgo, omega-3, and St. John's wort. In addition, consuming foods high in vitamin K—liver, broccoli, Brussels sprouts and green leafy vegetables—or multivitamins containing the vitamin decrease the effects of the drug.

Patients on warfarin therapy should talk to their doctors before starting or stopping any drug. Regular monitoring with a blood test called a "PT" or an "INR" helps determine the amount of warfarin that a patient needs to take.

Source: The Saturday Evening Post



AIRWAY INFLAMMATION CAUSED BY TRAUMA OF CHRONIC COUGH

New findings suggest that airway trauma, caused by the act of coughing, may cause inflammation associated with chronic cough. Researchers from the University of Massachusetts Medical School conducted a cross-sectional, controlled study of

24 respiratory patients with chronic cough. The patients were split into four groups:

- intrapulmonary diseases,
- extrapulmonary diseases,
- unexplained cough,
- and four additional volunteers provided the nonsmoking, asymptomatic controls.

All patients underwent flexible bronchoscopy, and a comparative analysis was performed. Results suggest that the airway inflammation associated with chronic cough, based on morphologic appearance and inflammatory cell counting, may be due to the trauma of cough itself and not to an underlying cause of cough. Researchers conclude that, because airway inflammation caused by chronic cough may be similar to that seen in other respiratory conditions, clinicians must be cautious when attributing importance to inflammatory changes in patients with chronic cough. Source: Chest, August 2006



AERIS THERAPEUTICS RECEIVES FDA FAST TRACK DESIGNATION FOR BRONCHOSCOPIC LUNG VOLUME REDUCTION SYSTEM

Aeris Therapeutics, Inc. (www.aerist.com), a privately held company, today announced that the United States Food and Drug Administration (FDA) has granted Fast Track designation for the company's program to develop its Bronchoscopic Lung Volume Reduction (BLVR) system as a non-surgical treatment alternative for selected patients with advanced heterogeneous emphysema.

BLVR is intended to reduce lung volume by delivering proprietary pharmaceutical solutions that form a biodegradable gel to treatment sites within the lung through a standard bronchoscopic procedure. Aeris believes that BLVR has the potential to provide clinical benefits similar to those of lung volume reduction surgery while avoiding the extended recovery period and risks of complications associated with major pulmonary surgery in patients with advanced emphysema.

FDA Fast Track designation is reserved for drug and biologic development programs (products under investigation for specific indications) that are intended to treat serious or life-threatening conditions and that demonstrate the potential to address unmet medical needs. Fast Track designation for a clinical program provides a number of procedural benefits designed to facilitate the development and expedite the review of the investigational product.

"We view FDA Fast Track designation as an important milestone," said Dr. David Dove, Chief Executive Officer of Aeris Therapeutics, Inc. "It confirms our belief that BLVR has the potential to make a meaningful clinical difference for severely ill patients who currently have very limited treatment options. It also recognizes the potential we've seen to date in our preclinical and clinical safety studies, as well as for our overall clinical development plan as reviewed by FDA."

"There is a substantial unmet need for a safe and effective non-surgical treatment for advanced emphysema," Dr. Dove continued. "We look forward to communicating closely with the FDA as we and our clinical partners complete the work required to begin Phase 2 clinical trials at the earliest possible date." About Aeris Therapeutics, Inc.

Aeris Therapeutics, Inc., a privately-held company with principal offices in Woburn, MA, was founded in 2000 with the mission to develop innovative treatments that will improve the lives of patients with lung disease. Aeris is conducting research in the fields of interventional pulmonology, tissue repair, drug delivery, and surfactants. The company's lead product is the Aeris Bronchoscopic Lung Volume Reduction (BLVR) system, a non-surgical treatment for patients with emphysema. Emphysema is a progressive, degenerative disease of the lung that affects more than 3.1 million people in the United States.

....Source: Boston Daily Bus. News



SMART STUDY

AstraZeneca's assault on GlaxoSmithKline's position as the company selling the most-prescribed combination respiratory drug received a boost yesterday when it presented clinical data claiming Symbicort is superior to GSK's Advair/Seretide for treating asthma and chronic obstructive pulmonary disease.

One of the studies found that a new flexible dosing regimen for Symbicort (budesonide/formoterol) - dubbed SMART - was more effective than Advair (fluticasone/salmeterol) in reducing asthma exacerbations.

The second study showed that Symbicort provided a faster onset of relief for symptoms of breathlessness in COPD sufferers than GSK's drug. Both were presented at the European Respiratory Society annual congress in Munich, Germany.

The asthma study (COMPASS) found that in patients with poor control of asthma on moderate doses for inhaled steroids, Symbicort SMART achieved a 39% reduction in the number of exacerbations compared to a fixed dose of Advair/Seretide, without increasing the overall amount of corticosteroid used by patients.

The SMART dosing allows patients to increase the dose of Symbicort when their asthma is bad, helping them relieve symptoms more effectively and reducing the severity of attacks. Source: pharmatimes.com, they presented with comparable impairment in lung function and exercise. Quality-of-life measures also were similar among the two groups, but African-Americans had lower socioeconomic status, lower education level, and fewer were married. The study appears in the July issue of CHEST, the peer-reviewed journal of the American College of Chest Physicians.

.....Source: medicalnewstoday.com



CHARACTERISTICS OF SLEEP IN PATIENTS WITH STABLE HEART FAILURE VERSUS A COMPARISON GROUP

Background

Sleep disturbance seems to be common among patients with heart failure (HF). However, little is known about the objective

and subjective characteristics of sleep in these patients during daily life or the extent to which the sleep of patients with HF differs from the sleep of other adults.

Methods

We examined the extent to which self-reported and objective characteristics of sleep differ between patients with HF with stable systolic blood pressure (n = 59) and a comparison group of adults who did not have HF (n = 59).

Results

The patients with HF had a significantly lower percentage of wake after sleep onset and more frequent wake bouts, as measured with wrist actigraphs. There were no group-related differences in sleep duration. Sixty-seven percent of the patients with HF compared with 51% of the comparison group had poor global sleep quality, and 44% of the patients with HF versus 18.6% of the comparison group reported excessive daytime sleepiness.

Conclusion

Future research is needed to examine the causes and consequences of disturbed sleep continuity and poor sleep quality and the effects of sleep-promotion strategies designed for patients with HF.Source: Heart & Lung: The Journal of Acute and Critical Care



CURED MEATS MAY REDUCE LUNG FUNCTION

People who eat large amounts of cured meats have about a 3% reduction in lung function compared to those who never consume these foods, a new study shows. Such a difference may have a noticeable effect in a person with a lung disease, such as bronchitis, the researchers say. Graham Barr at Columbia University Medical Center in New York, US, and colleagues analysed data from more than 7500 people surveyed in a national nutrition study. About 20% of participants never ate cured meats and another 20% reported consuming this type of food at least 14 times a month.

During the study, participants breathed into a machine that measured their lung function, including testing how quickly they could blow out air. A healthy person can usually expel about 2.5 litres to 3.0 litres of air from their lungs in 1 second. Those who consumed a lot of cured meats managed 115 millilitres of air less per second than those who ate none, the team found. The result was statistically significant. While the average person might not notice a 3% decrease in lung strength, those who have lung disease may notice the reduction, Barr says.

Cancer link

People with chronic obstructive pulmonary disease (COPD) – a term that refers to problems ranging from emphysema to chronic bronchitis – may be able to expel only 1.5 litres per second – declining by about 60 millilitres in each year thereafter.

“Another 115 millilitres might be a difference of a year or two at any of these stages,” says Stephen Rennard at the University of Nebraska Medical Center in Omaha, US. Previous studies have found a link between processed meats and cancer, but this is the first one to show an affect on lung function in humans, according to Barr.

Lung elasticity

The nitrogen-containing compounds that food producers use to cure luncheon meats may become reactive in the body and attack proteins that give the lungs their elasticity, he suggests. “It’s a plausible speculation,” says Rennard, who has studied the effects of these compounds in animals. The preliminary analysis should not stop people from eating cured meats, Barr says, although more research needs to be done.

Source: New Scientist.com



GLADE(R) PRODUCTS DO NOT CONTAIN INGREDIENT REPORTED BY THE U.S. NATIONAL INSTITUTES OF HEALTH THAT ARE SUSPECTED OF AFFECTING LUNG FUNCTION

Today SC Johnson stated once again that none of its products contain the chemical ingredient 1,4 dichlorobenzene (1,4 DCB). This chemical has been the subject of a study done by the National Institute of Environmental Health Sciences (NIEHS). The study, published in the August 2006 issue of the journal Environmental Health Perspectives suggested exposure to 1,4 DCB (also known as paradichlorobenzene or pDCB) may cause modest reductions in lung function. "Unfortunately in many news reports, images of Glade(R) products are used to illustrate the study leaving viewers with the false impression that Glade(R) contains this ingredient. It does not," said Kelly M. Semrau, Vice President Global Public Affairs and Communication for SC Johnson. "Nothing is more important to us than the health and safety of the people who use our products," said Semrau. "That's why it's so important for us to set the record straight and make it clear that our products do not contain the compound that was under investigation in the recent study. As a matter of fact, none of our products have this ingredient."

When used according to label directions, consumers can continue to use Glade(R) and all of SC Johnson's products with confidence.Source: medicalnewstoday.com



NEW MUSIC & HEALTH CLINIC AT BETH ISRAEL MED. CTR IN NYC

Beth Israel Medical Center will celebrate the opening of the Music & Health Clinic, part of the Louis Armstrong Center for Music & Medicine, at a cocktail reception from 6-8 p.m. on September 19 at the hospitals' Phillips Ambulatory Care Center at 10 Union Square East. The clinic has a two-fold mission: to address the unique medical needs of musicians and performing artists using music as part of the treatment modality; and to research and provide music therapy care to complement medical treatment for children and teens with asthma and adults with chronic pulmonary or heart disease.

Jazz legend Frank Wess, performing arts advocate and philanthropist Sherry Bronfman, and former music-therapy patient and pianist/composer Kevin Robinson will be honored at the celebration. The event will also feature a live jazz performance by Jon Faddis and music from the Broadway cast of Rent. “For centuries, people have known about music's ability to heal. Not only does music help the listener, but it can also benefit

the performer," says Faddis. "At The Music & Health Clinic, music's healing properties have a vital new home. The research and the work performed here take music and medicine into the 21st century and beyond and I am proud to be a part of the Armstrong Center for Music and Medicine's developing community."

The new clinic expands upon Beth Israel's Louis and Lucille Armstrong Music Therapy Program, a program that has served infants, children, adults and their families for the past 11 years. "Through published research, innovative clinical music-therapy services and generous support, our team has played a major role in advancing the field of music therapy in health care," says director Joanne Loewy, DA, MT-BC. The Clinic is made possible by a generous gift from the David B. Kriser Foundation and through the estate of John H. Slade, directed to Beth Israel from hospital trustee Richard Netter with additional support from the Louis Armstrong Educational Foundation.

"New York City is blessed to be home to a rich mix of musicians and performing artists, collectively a compelling group with unique medical and wellness concerns," says Stephan Quentzal, M.D., medical director of the Music & Health Clinic. "The Louis Armstrong Center for Music & Medicine provides an expansive and integrative practice, consisting of a full range of bio-psycho-social and mind-body approaches to care, developed expressly for this fascinating patient population. Our team of consulting physicians, music therapists and various other clinician specialists are thrilled to be part of this special healing haven for our city's beloved artists."

Programs of the Music & Health Clinic:

• The Wellness Clinic:

Musicians and performing artists have unique ailments that may be best evaluated and treated through a combination of traditional medical treatment and music, a modality that is comfortable and familiar to them. Musicians and performing artists are more prone to certain medical ailments including overuse, pain, depression and chemical dependency. Our music therapists are trained in the most current interventions that assist specific cognitive psycho-motivational aspects of depression. Clinical music improvisation facilitated by a trained music psychotherapist may provide a dynamic healing environment that's easily accessible for performers. Clinic medical director and music therapists will consult with specialists from the fields of otolaryngology, orthopaedics, physical therapy, psychiatry, pain medicine internal medicine, family medicine, cardiology and neurology to address all aspects of patient care. Low cost for musicians and performing artists who prove eligibility (playbills, programs or union cards).

- **Overuse Syndrome** - musicians are particularly vulnerable to repetitive motion injuries Current research suggests that prevention of overuse lies in the development of methods that involve conscious and effective control of use. At the clinic, overuse patients will be exposed to:

- Vibration - through the use of body gongs and tonal vocal holding, muscles and joints can be stretched and relaxed.
- Rhythmic Release - drumming and rhythmic play can prompt the discharge of tension. Motoric sound making stimulates neuromodulation through the release of neurotransmitters and hormones, which reduce stress.
- **Asthma Initiative Program (AIP)** Asthma is the leading cause of chronic illness in children and affects approximately 5 million American children every year. At the Music & Health Clinic, a research team comprised of music therapists and physicians is researching the effects of music therapy and wind playing on these patients. Children and teens ages 7-18 diagnosed with asthma are eligible.
- **Music for Advances in Respiration (AIR) & Music for Cardiac Advances in Rehabilitation (CAIR) Programs**
- **Chronic Obstructive Pulmonary Disease (COPD)** includes a range of progressive lung diseases such as emphysema and chronic bronchitis, which are characterized by difficulty breathing, wheezing, fatigue and chronic cough. Heart disease is the umbrella term for a number of conditions including heart attacks, heart failure, high blood pressure, coronary artery disease and clogging of the arteries. Through a collaborative effort with the Center for Cardiac & Pulmonary Health, the AIR and CAIR programs offer individual or group music therapy to outpatients. Patients do not require any former musical training to participate. The program is initiating research which investigates the effects of music therapy (wind playing, singing and music assisted relaxation and imagery) combined with traditional medical care to manage COPD and/or heart disease, including:
 - **Wind-Pipe Jammers** - Patients give their lungs gentle exercise through music making with others using easy-to-play instruments including easy-to-play recorder flutes and pan pipes.
 - **Sing A-Lung** - Patients use vocal techniques through choral singing to enhance breathing and vocal quality. The group sings music from different genres and ongoing songwriting lessons are provided.
 - **Music R&R** - A music-assisted relaxation group incorporates guided imagery accompanied by live music, customized for group members, created by the music therapist.
 - **Rhythmic Synchrony** - Supports heart and breathing rhythms through group music making, using cutting edge techniques.Source: AllAboutJazz.com



SCIENTISTS MAKE STEM CELLS WITHOUT HARMING EMBRYOS

By using single cells plucked from human embryos, scientists have grown human embryonic stem cells, which can turn into any other kind of cell in the body, while leaving the original embryo intact. This new technique could potentially allow researchers to generate human embryonic stem cells for therapies and further experiments while avoiding the highly controversial destruction of human embryos required to grow the

cells the conventional way. In addition, the method the scientists used to pluck cells out is already routinely practiced during in vitro fertilization to scan embryos for genetic diseases. This procedure does not harm the embryo's further development.

The researchers at Advanced Cell Technology at Worcester, Mass., coaxed the human embryonic stem cells to become a number of potentially therapeutic cell types. These include blood vessel cells that could help mend hearts after heart attacks, and eye cells "that could help rescue visual function," cell biologist Robert Lanza, Advanced Cell Technology's vice president of research and scientific development, told LiveScience.

With permission, Lanza and his colleagues experimented on 16 unused embryos produced over the course of in vitro fertilization attempts. The researchers used micro-eyedroppers to remove single cells from early-stage embryos, each embryo consisting of only eight to 10 cells. Using these extracted cells, the scientists generated two stable human embryonic stem cell lineages, capable of replicating for months on end and developing into other cell types.

More research is needed to determine if these new embryonic stem cells behave the same as other human embryonic stem cells, which conventionally are derived from a slightly later stage in embryonic development.

Lanza and his colleagues report their findings online Aug. 23 via the journal Nature. While these experiments still need to get reproduced by others to show the findings stand up, "this is a good example of solid work," Alberto Hayek at the Whittier Institute for Diabetes in San Diego told LiveScience. He added the main issue now is how similar or different the cells generated by this method are to other human embryonic stem cells researchers have been working with.

....Source: LiveScience.com



SO THIS IS HOW HEART FAILURE FEELS, SAY DOCTORS, NURSES USING SIMULATOR

It was a walk in the park. At least that's how it started. "It feels very normal," Dr. David Langholz said, strolling through the virtual park unfolding before him. Then his breathing became more labored, his pulse more rapid and the walking more difficult. "It's getting harder," he said. "It's worse than I thought it would be."

For 14 years, the Spectrum Health cardiologist has been treating patients suffering heart failure. For the first time, he was feeling what it's like to be them -- with one significant difference: "The piece that's probably most sobering is I was able to get out of the simulator and get on with my life," Langholz said, "but for the patients who have heart failure, they have to live with it every day."

Ahmed Abbasse knows what that's like. He sat in an air conditioned semitrailer where Langholz, director of Spectrum's heart failure clinic, and other doctors, nurses and technicians were experiencing a multi-sensory simulation of how heart failure can affect a patient. Abbasse didn't need to strap on the

vest that tightened around the chests of those in the simulators, making it more difficult to breathe. He didn't need to strain against the foot pedals that became increasingly difficult to push, simulating the fatigue brought on by heart failure. "I had no energy," said Abbasse, 75, of Kentwood. "I couldn't walk from our family room to the bathroom without stopping twice." The retired tool and die maker had a mitral valve replaced in 1992, then, in 1997, began experiencing symptoms of heart failure. Last year, he was hospitalized 11 times. "You don't know if you're going to be able to get your next breath or not," Abbasse said. "It frightens you. You think, 'This is it.'" Through medications, his doctors brought his disease under control. "This is the best six months I've had in a long time," Abbasse said. "I play nine holes of golf every week."

New treatments have made it possible for heart failure patients to lead near-normal lives. The bad news is the number of patients suffering heart failure is rapidly rising. More than 5 million Americans live with heart failure, and another half-million are diagnosed each year. Heart failure, also known as congestive heart failure, occurs when the heart is unable to pump blood efficiently, often due to a heart attack. High blood pressure, diabetes, cigarette smoking and obesity also contribute to the disease.

The doctors, nurses and technicians who treat the disease know all about the symptoms. The Heart FX Pod semi-truck, sponsored by the AstraZeneca pharmaceutical company, arrived in Grand Rapids this week so they could feel them. "It brings a sense of reality to what the patients feel," Langholz said. "It's one thing to have it in your head what it's like, but to actually feel it really brings it home." ..Source: Grand Rapids Press



EXERCISE SHRINKS ABDOMINAL FAT CELLS

Exercise may be especially helpful in reducing the size of fat cells around the waistline -- more so than diet alone, a study suggests. That's important, because fat specifically in the abdomen has been linked to the risk of heart disease and diabetes.

Among a group of obese women who were placed on a regimen of calorie cutting alone or diet plus exercise, those who exercised showed a reduction in the size of fat cells around the abdomen. Women who only dieted showed no such change. In contrast, both groups trimmed about the same amount from fat cells in the hip area.

The findings suggest that exercise may "preferentially increase" the body's breakdown of fat cells in the abdomen, said lead study author Dr. Tongjian You. It's possible, for instance, that hormonal factors cause fat cells in the abdomen and hip area to have different metabolic responses to diet and exercise. The bottom line for people trying to shed pounds is that both exercise and diet are important, and exercise may be particularly key in the ultimate distribution of a person's body fat, You said. The researcher and his colleagues at Wake Forest University School of Medicine in Winston-Salem, North Carolina, report the findings in the International Journal of Obesity.

The study included 45 obese middle-aged women who were randomly assigned to one of three groups: one that cut calorie

intake alone; one that cut calories and walked at a moderate pace three days per week; and a third that dieted and walked at a more intense pace three days a week. After 20 weeks, all three groups showed improvements in their weight and body fat percentage. But when the researchers took samples of body fat from just below the skin's surface, the differences between exercisers and non-exercisers emerged. Women in both exercise groups showed about an 18 percent reduction in the size of abdominal fat cells, whereas dieters showed no change.

Losing abdominal fat is more than a matter of fitting into a smaller dress. Research shows that people who are "apple-shaped" are more likely to develop diabetes and heart disease than "pear-shaped" individuals, who carry much of their fat below the waist. So people who include exercise in their weight-loss plan may lower their risk of such diseases to a greater degree, You said. What's more, he noted, even if people fail to lose a significant amount of weight with regular exercise, the changes in abdominal fat cells might still benefit their health. SOURCE: International Journal of Obesity



COMPOUND IN DAIRY PRODUCTS TARGETS DIABETES

Fatty acids commonly found in dairy products have successfully treated diabetes in mice, according to a researcher at Penn State. The compounds, known as conjugated linoleic acids (CLA), have also shown promising results in human trials, signaling a new way of potentially treating the disease without synthetic drugs. "The compounds are predominantly found in dairy products such as milk, cheese and meat, and are formed by bacteria in ruminants that take linoleic acids - fatty acids from plants - and convert them into conjugated linoleic acids, or CLA," says Jack Vanden Heuvel, professor of molecular toxicology in Penn State's College of Agricultural Sciences and co-director of Penn State's Center of Excellence in Nutrigenomics.

Researchers first became interested in CLA when it was shown to inhibit a variety of cancers such as breast, skin and colon in mice, and further research showed effects on circulating cholesterol and inflammation. These effects are the same as the newest generation of synthetic drugs used to treat diabetes in humans. These synthetic drugs act by triggering a set of nuclear receptors called PPAR. In addition to being targets for a variety of clinically effective drugs, PPARs belong to a large family of proteins, and their biological purpose is to sense fatty acids and fatty acid metabolites within the cell, says Vanden Heuvel. When the synthetic drugs interact with these protein receptors, it turns the receptor "on," making it an active form of the protein, which then interacts with DNA and regulates gene expression. This increases the enzymes that process fatty acids and also increases the tissues' sensitivity to insulin.

"We wondered if CLA was using the same mechanism, in which case it could be used as an anti-diabetes drug," Vanden Heuvel says. To test the idea, he used CLA on mice prone to adult onset (Type-2) diabetes. Results indicated that the mice had an improvement in insulin action, and a decrease in

circulating glucose. Also, the mechanism was indeed similar to that of the drugs.

"Anti-diabetes drugs act the same way. They mimic the natural activators of the receptors by getting into the cell and interacting with the PPARs to regulate glucose and fat metabolism," says Vanden Heuvel.

Early human trials indicate that when administered for longer than 8 weeks, CLA improves the body's misregulation of insulin and lowers the level of glucose in the blood in patients with adult onset, or Type-2 diabetes, the most common form of this disease. However, Vanden Heuvel cautions that while having a diet that is high in dairy and meat products, and thereby CLA, might have a health benefit, one must also be aware of other lipids present in these products, such as trans fatty acids. Instead, he suggests that in addition to a well-balanced diet, it is advantageous to incorporate CLA as a dietary supplement, or to seek out new products that enrich foods such as butter, margarine and ice cream with CLA. "Adult-onset diabetes is fast becoming an epidemic and is largely associated with poor diet and nutrition and other lifestyle issues," Vanden Heuvel says. The reason for the increase in diabetes may have to do with the ratio of so-called "good" and "bad" fats, with the average American diet containing too much of the "bad" fats. CLA, whose effect is very similar to fish oil, a source of "good" fat, could prove beneficial against Type-2 diabetes.

"And compared to the synthetic drugs used to treated this disease, CLA does not cause weight gain and may in fact decrease overall body fat," says Vanden Heuvel, who has been granted a patent on the new method of treating diabetes with CLA.Source: medicalnewstoday.com



SUGARY DRINKS ARE PILING ON THE POUNDS A single can of soda a day can add up to 15 pounds a year, report says

Americans have sipped their way to fatness by drinking far more soda and other sugary drinks over the last four decades, a new scientific review concludes. An extra can of soda a day can pile on 15 pounds (7 kilograms) in a single year, and the evidence strongly suggests that this sort of increased consumption is a key reason that more people have gained weight, the researchers say. "We tried to look at the big picture rather than individual studies," and it clearly justifies public health efforts to limit sugar-sweetened beverages, said Dr. Frank Hu, who led the report published Tuesday in the American Journal of Clinical Nutrition.

He and others at the Harvard School of Public Health reviewed 40 years of nutrition studies that met strict standards for relevance and scientific muster. The work was funded by ongoing grants to his lab from the federal government and the American Heart Association.

Soft drink trends have marched lock-step with the growing obesity epidemic, but industry groups have long fought efforts to say one directly caused the other. Not all studies conclude that beverages are at fault, and the new analysis ignored some that would have discounted such a link, the American Beverage Association said in a statement issued in response to the study.

"Blaming one specific product or ingredient as the root cause of obesity defies common sense. Instead, there are many contributing factors, including regular physical activity," the statement says.

However, Dr. David Ludwig, director of the obesity program at Children's Hospital in Boston and a longtime advocate of curbs on soda, said blaming other factors misses the point. "Could you imagine somebody saying we should ignore the contribution of hypertension to heart attack because there are many causes? It's ludicrous. Yet this argument resurfaces with regard to obesity," Ludwig said. When it comes to beverage trends and obesity, "it's like documenting the force of gravity," he said. "There's an overwhelmingly strong case to be made for a causal relationship."

About one-third of all carbohydrate calories in the American diet come from added sweeteners, and beverages account for about half of this amount, the new report says. Unlike other carbohydrates, the main sweetener in beverages — high-fructose corn syrup — does not spur production of insulin to make the body "process" calories. It also does not spur leptin, a substance that helps moderate appetite. For these reasons, beverages are not as satisfying as foods containing similar amounts of calories and fly under the radar of the body's normal weight-regulating mechanisms, many nutrition experts say.

The 30 studies included in the new review are of different types — experiments where beverages were curtailed or modified, studies of cross-sections of the population. While all do not show harm, they collectively suggest that soda and sugary drinks "should be discouraged," the authors write.

Federal dietary guidelines recommend beverages without added sugars, and the World Health Organization advises that added sugars should provide no more than 10 percent of total calories. Increasingly, sugary drinks are being restricted in U.S. schools. In May, top beverage distributors agreed to stop selling non-diet sodas in certain schools and restricted sales in certain settings where young children buy them.

.....Source: MSNBC.com



PASS THE SALT? OR PASS ON SALT TO BE HEALTHY?

Many foods contain salt. There's no question salt makes almost any meal more savory, but should you "pass" the salt or "pass on" the salt?

Salt: What is it?

Salt is comprised of sodium and chloride. We all know that too much sodium can be dangerous for our health, however some sodium is essential. In fact, sodium helps to maintain proper fluid balance in and out of cells, regulate blood pressure and transmit nerve impulses. Sodium occurs naturally in some foods, but most of the sodium we consume is from processed and packaged products. Why is sodium appealing as an ingredient? Sodium can affect taste, texture, control the speed of fermentation, stabilize volume, and promote color enhancement. And although the National Institute of Health and the American Heart Association

recommend no more than 2,300 mg daily (that's one teaspoon of salt), most Americans consume between 4,000 to 6,000 milligrams of salt per day!

Health implications?

There is a strong link between sodium and high blood pressure in some people who are salt sensitive. Salt attracts water, pulling it into the blood vessels, and this extra volume creates added pressure. High salt intake may be associated with increased risk of gastroesophageal reflux disease (GERD). A recent study of lifestyle-related risk factors in the development of gastroesophageal reflux suggested a potential relationship between salt intake and reflux. More studies are needed. Increased dietary sodium is known to trigger urinary calcium loss. With high levels of sodium intake, the body compensates by increasing urinary excretion. Because sodium and calcium excretion occur together, higher levels of urinary sodium result in increased calcium excretion, with possible adverse effects on bone health.

How to consume less salt?

Lowering the amount of salt you consume is important. Become a savvy consumer and start reading labels. The following are sodium guidelines set by the U.S. Food and Drug Administration.

- Sodium-free: less than 5 milligrams of sodium per serving
- Low-sodium: 140 milligrams or less per serving
- Reduced sodium: usual sodium level is reduced by 25 percent of the original item.
- Unsalted, no salt added or without added salt: made without salt that's normally used, but still contains the sodium that's a natural part of the food itself. The FDA and U.S. Department of Agriculture state that a food that has the claim "healthy" must not exceed 360 mg sodium per reference amount. "Meal type" products must not exceed 480 milligrams of sodium per reference amount.

Ingredients with sodium:

Baking soda	Baking powder
Brine	Broth
MSG	NaCl
Salt	Soy sauce

Foods usually containing sodium:

Broth	Cured
Corned	Pickled
Smoked	

Common foods and their salt content:

Salt (1/4 teaspoon)	580 mg
Ketchup (2 tablespoons)	380 mg
Bacon (3 slices)	435 mg
Lox (2 ounces)	840 mg
Luncheon meat (4 ounces)	1200 mg
Canned soup (2 cups)	1880 mg
Pickle (1)	833 mg
Salad dressing, commercial brands (4 tablespoons)	860 mg
Frozen entrée (average serving)	880 mg

Soy sauce (1 tablespoon) 1014 mg

Chicken broth (1 cup) 980 mg

.....Source: MSNBC.com



HATE VEGGIES? 9 WAYS TO SNEAK THEM INTO MEALS

75 percent of us don't get enough, here's how to fool yourself into more

We all make excuses, whether it's for failing to return a phone call, showing up late to a meeting or skipping the gym. Even into adulthood, some of us are particularly creative when it comes to explaining why we don't eat our vegetables. "I've actually had someone tell me they can't eat vegetables because they make them gag," says Dr. Connie Guttersen, a dietitian and author of "The Sonoma Diet," which emphasizes eating flavorful, healthy food and vegetables for improved health. "I thought, well, how big were those pieces?"

According to the Centers for Disease Control and Prevention, about 75 percent of Americans don't eat the recommended five to nine servings of fruits and vegetables per day. That's alarming, considering how important vegetables are to maintaining a healthy and productive lifestyle — but not surprising, given that many people would love to have barbecue sauce classified as a vegetable and be done with the whole affair. For that reason, dietitians have had to get more subtle with their advice. The secret to getting their clients to eat more greens is not to explain their health benefits — it's sneaking them into their diets. "It's all about baby steps," say Guttersen. "My clients are convinced they need to eat more vegetables. They just need more ideas."

Tips for downing the super foods

Vegetables are basically super foods. They add fiber, vitamins, antioxidants, iron and calcium to a person's diet, but not a ton of calories. Chances are, you're never going to eat too many vegetables. But as any doctor will tell you, the same can't be said about potato chips or cookies. "Vegetables serve a number of purposes," says Marissa Lipert, a registered dietitian in Manhattan. "They help lower cholesterol, prevent diseases like cancer and heart disease, aid in digestion and help maintain satiety, so you feel full for a longer amount of time."

For those who would rather eat mothballs than their daily serving, Lipert suggests getting creative by combining vegetables with favorite foods. Instead of having a meat-only sandwich, or one garnished with a limp bit of lettuce, toss on some tomatoes, sprouts and spinach to fulfill one serving of vegetables. Loading your pizza down with sausage, pepperoni and extra cheese may not be the road to health, but throw on half a cup of broccoli, spinach or mushrooms and at least you're getting another serving in. "You can also get really creative and incorporate vegetables into baked goods, such as zucchini bread or carrot-raisin bran muffins," she says. "That way, it doesn't seem like you're being forced to eat a side or plate of veggies."

Pumpkin pie counts

Vegetables can even be dessert, says Jo-Ann Heslin, a registered dietitian and co-author of numerous nutrition books, including *The Complete Food Counter*. Half a cup of pumpkin pie counts as a serving of vegetables, and if you make it without the crust, you can cut calories, too.

Standard serving sizes don't have to be tricky. One serving equals a half-cup of raw, cooked or pureed vegetables (including tomato sauce and vegetable soup), one cup of raw leafy greens, or four to six ounces of juice. There's also good news for french fry lovers: One medium-sized potato counts also, but it isn't highly endorsed. "We eat two to two-and-a-half servings of vegetables a day, and often, one is a potato," Heslin says. "Potatoes do qualify as a vegetable, but we'd like people to branch out further."

Palatable pairings

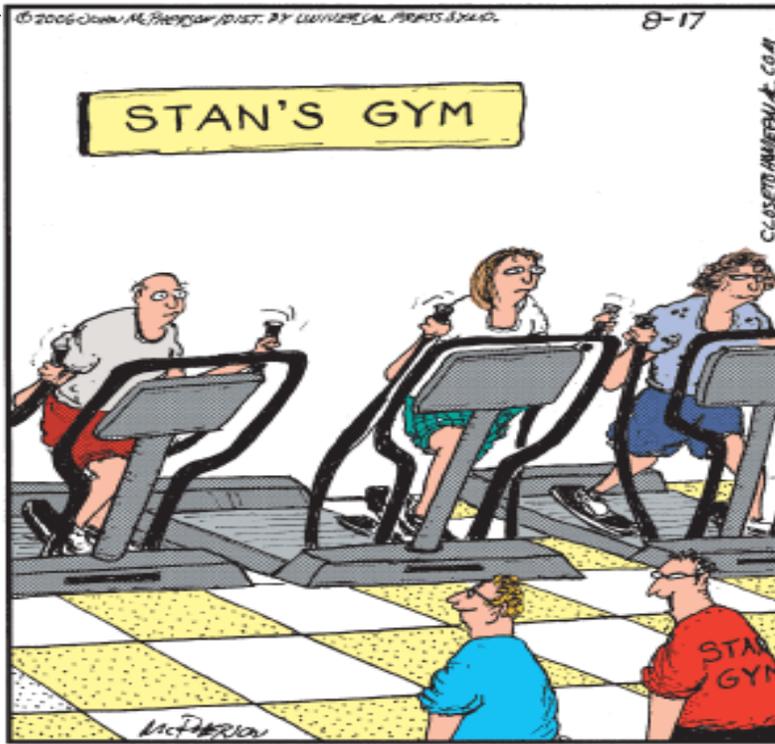
Another way to make vegetables more palatable is to pair them with other foods, which usually brings out their best flavors, Guttersen says, and so does adding certain oils and seasonings. What's more, tasty combinations can help the body better absorb precious nutrients from vegetables. "Greens, especially bitter greens, such as broccoli rabe or dandelion, taste their best when in combination with three ingredients," she says, "A healthy source of fat, such as olive oil, nuts or peanut oil; a bit of acid, such as lemon juice or flavored vinegar; and a dash of heat from crushed red pepper." Experts also suggest that their clients add a little color to their diets. So, don't stick to only green vegetables, such as spinach and broccoli. Veggies come in a wide variety of shades, such as red, yellow, orange and purple, and each color brings a whole new set of vitamins and minerals to the table.

Vitamins don't compare to real food

For those who just can't — or won't — make vegetables a part of their daily diet, there are always supplements that can be taken, but be warned that many vitamin supplements are not well absorbed by the body, nor do they take the place of real food. Guttersen says trying to take separate nutrients in pill form can never compare to eating real, whole foods. "Scientific evidence shows that the protective nutrients found in vegetables work in harmony to improve health, rather than alone, as in supplements," she says. "So, you're not getting the same benefits."

.....Source: Forbes.com





"Every piece of equipment is hooked up to battery cells in the basement, and we actually sell electricity back to the power company!"

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