EFFORTS

Emphysema Foundation For Our Right To Survive

Emphysema Takes Your Breath Away — December 2008

OXYGEN THERAPY NO QUICK FIX FOR LUNG DISEASE

Oxygen therapy from a portable tank does not improve the short-term physical activity or quality of life in patients with chronic obstructive pulmonary disease, according to study findings in the journal Chest.

Chronic obstructive pulmonary disease, or COPD, incorporates two principal diseases, emphysema and chronic bronchitis. Both conditions are strongly linked to smoking and involve difficulty in moving air through the lungs. Both can also be severely disabling and have life-threatening complications.

"Ambulatory oxygen is delivered by equipment that can be carried by patients during exercise and activities of daily living," Dr. Sally J. Singh and colleagues from University Hospitals of Leicester, UK, point out. "To date, the benefits of ambulatory oxygen in COPD remain uncertain, and concordance with therapy is poor."

The researchers examined how ambulatory oxygen affected domestic activity and outdoor activity in 20 patients with COPD, recruited after completing a 7-week lung rehabilitation program. The subjects, who were an average of 73 years old, were randomly assigned to use tanks containing pure oxygen or regular air for 8 weeks. No significant changes in domestic activity or quality of life were observed after treatment in either group. The only exception was a worsening of shortness of breath in the air group.

The authors report that among those in the oxygen group, there was a significant increase in average duration of tank use between the first and last two weeks of the study. Most patients were using the tank at home rather than outside over the 8 weeks. However, the number of times that subjects reported using the tank outside the home increased over the 8 weeks for the oxygen group.

"There are likely to be some benefits to the use of ambulatory oxygen to explain the increased usage," Singh and colleagues surmise. "Patients need time to learn how to use oxygen, and ambulatory oxygen appears to enhance activities rather than increase them. SOURCE: Chest, October

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PROBIOTICS 'MAY STOP PNEUMONIA'

Probiotics could be used to protect critically ill patients from developing pneumonia, according to scientists.

The friendly bacteria can block the colonization by dangerous bugs of the airways of ventilated patients, the Swedish study concluded. The probiotic solution performed just as well as normal antiseptics used to keep pneumonia-causing bacteria at bay, the journal Critical Care reported. Being more natural it could pose fewer side effects, the authors said.

Friendly bugs

The probiotic bacterium Lactobacillus plantarum 299 is normally present in saliva and is also commonly found in fermented products like pickles and sauerkraut.

Although rare, some patients are allergic to the antiseptics normally used to prevent ventilator-associated pneumonia, namely chlorhexidine. There is also a very small risk of the pneumonia-causing bacteria developing chlorhexidine resistance.

Pneumonia is a common complication in patients on breathing machines and occurs when harmful bacteria from the mouth, throat or breathing tube are inhaled into the lungs. Swabbing the mouth with chlorhexidine is widely recommended to reduce the risk ventilator-associated pneumonia in critically ill patients requiring mechanical ventilation.

Bengt Klarin and colleagues at the University Hospital in Lund, Sweden, compared the probiotic treatment with chlorhexidine in 50 critically ill patients. Microbiological testing revealed both treatments appeared to be equally effective at preventing potentially harmful bacteria from flourishing in the mouth and throat. In addition, a probiotic that adheres to mouth lining will be able to work around the clock, unlike antiseptics which wear off after a few hours, say the authors.

The scientists said bigger studies were now needed to investigate the feasibility of using probiotics in this setting. Bob Marsterton, chair of the British Society for Antimicrobial Chemotherapy's working party on hospital acquired pneumonia, said: "This is a plausible idea. But we need much larger trials that focus on clinical outcomes to prove it is an effective and affordable treatment." He said chlorhexidine highly effective, affordable and readily available.

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WHY COMMON COLDS ARE SO TERRIBLY ANNOYING

A team of researchers have found that the human rhinovirus (HRV), which causes 30 to 50 per cent of common colds, can manipulate the host's genes to cause some of the most annoying
symptoms. The researchers say that HRV hijacks many of your genes, and causes an overblown immune response that

ends up with the host's nose being overblown.

"The study's findings are a major step toward more targeted cold prevention and treatment strategies while also serving as a valuable roadmap for the broader respiratory science community," said Dr. David Proud, a professor in the Department of Physiology and Biophysics at the University of Calgary.

Proud, lead author of the study published in the American Journal of Respiratory and Critical Care Medicine, has revealed that he made these findings while working with collaborators from the University of Virginia and the Procter & Gamble Company.

He said that colds, though usually considered to be minor infections of the nose and throat, could have much more serious health repercussions. "Rhinovirus is the major cause of the common cold, but it is also an important pathogen in more serious conditions, such as asthma and chronic obstructive pulmonary disease (COPD)," he said.

Dr. Ron Turner of the University of Virginia, one of the study's authors, added: "Advances in our understanding of the biology of the common cold may eventually lead to improvements in treatment or methods for prevention of colds."

For their study, the researchers recruited volunteers who were inoculated with either HRV or a sham inoculation and obtained cell scrapings from the nasal passages 8 and 48 hours after inoculation, and assessed the genetic changes by microarray, also know as gene chip technology.

After eight hours, there were virtually no differences between the control and the HRV-inoculated group, but by the 48-hour mark, more than 6500 genes has been significantly up- or down-regulated in the HRV subjects-many of the more highly up-regulated genes fell into two major categories: genes making antiviral proteins, including viperin (genes making pro-inflammatory cytokines).

"This is the first comprehensive picture to identify several groups of genes that are likely to contribute to the pro-inflammatory and antiviral response," said Dr. Proud. The study also revealed that viral titer more than doubled in cells that had had the viperin-producing gene "knocked down", showing that HRV replication was hampered by viperin.

"This had never been examined during rhinovirus infections. Some evidence existed that this protein (only discovered a few years ago) had effects on influenza, but nothing was known about its role in rhinovirus infections. So it was a bit unexpected," said Dr. Proud. "Overall these data provide new insights into the host response to HRV infection and identify several novel candidate genes that require further study to clarify their role in disease pathogenesis. This may identify proinflammatory, or host defense pathways that could be targeted for drug development, not only as treatments for colds but also for viral exacerbations of asthma and COPD.

"The fact that genes associated with structural 'remodeling' or the airways were also altered, supports further study of the role of rhinovirus infections in airway remodeling in asthma," he added. (ANI) http://tinyurl.com/5a99gc

DIABETES DRUG LOWERS RISK OF HEART PROBLEMS

A common diabetes drug may help keep patients from dying from one of the complications of the disease. A new report from Johns Hopkins Bloomberg School of Public Health says metformin may lower the Researchers reviewed data from 40 clinical trials published on or before January 19, 2006 -- all looked at the benefits or harms of oral diabetes drugs approved for use in the United States, including commonly prescribed combinations of therapies. The average age of participants ranged from 52 to 69. Almost 70 percent of the studies lasted less than one year.

"Treatment with metformin hydrochloride was associated with a decreased risk of cardiovascular morality [death] compared with any other oral diabetes agent or placebo; the results for cardiovascular morbidity [illness] and all-cause mortality were similar but not statistically significant," the authors wrote.

The review did not find any associations between other diabetes medications and beneficial or harmful cardiovascular effects, partly because of insufficient data. The authors note poor quality and inconsistent reporting of cardiovascular data, as well as the lack of long-term studies, made it difficult to draw firm conclusions.

"There is a critical need for studies of oral diabetes medications with long-term outcomes," they write. "The relatively modest differences in blood pressure, cholesterol levels and weight observed after treatment with oral diabetes medications in short-term trials may not translate to changes in long-term cardiovascular risk. Only long-term trials can provide definitive conclusions regarding the comparative efficacy of oral diabetes medications and long-term risks."

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HOSPITAL GROUNDS TO BE SMOKE FREE

Patients, staff and visitors will no longer be able to smoke outside the main St Vincent's University Hospital building from next year. The entire St Vincent's Hospital campus in Dublin 4 is to become a no smoking zone from January 1, 2009. A spokesperson for the hospital said it intends to extend its existing indoor smoking ban to the whole of the campus, including the grounds, from that date.

Smoking cessation programmes, counselling and support for patients and staff have been developed in the lead up to the campus ban. For smoking patients, nicotine replacement therapy will be provided as well as advice and support from the hospital's smoking advice service.

"St Vincent's University Hospital will continue to work collaboratively with both patients and staff to ensure this initiative is introduced in a timely, effective and compassionate manner," the spokesperson said. "The proportion of staff who are smokers is falling, with the most recent survey showing that less than one in five smoke. The majority of hospital staff indicated that they would support the implementation of a ban."

Currently, less than a quarter of patients in St Vincent's

University Hospital are smokers. http://tinyurl.com/5tjp9s

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ADVANCE TOWARD EARLY DIAGNOSIS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Researchers in Finland are reporting identification of the first potential "biomarker" that could be used in development of a sputum test for early detection of chronic obstructive pulmonary disease (COPD). That condition, which causes severe difficulty in breathing — most often in cigarette smokers — affects 12 million people in the United States.

Vuokko L. Kinnula and colleagues point out that no disease marker for COPD currently exists, despite extensive efforts by scientists to find one. Past research pointed to a prime candidate — surfactant protein A (SP-A), which has a major role in fighting infections and inflammation in the lung.

The scientists compared levels of a variety of proteins obtained from the lung tissues of healthy individuals, patients with COPD, and those with pulmonary fibrosis. They found that the lungs of COPD patients contained elevated levels of SP-A. The scientists also found elevated levels of SP-A in the sputum samples of COPD patients. "This suggests that SP-A might represent a helpful biomarker in the early detection of COPD http://tinyurl.com/67bofgtheir shortness of breath began years before - though they initially say it began only months ago."

COPD's disease process "is subtle and extends over many years," agreed Deane Hillsman, MD, a retired pulmonologist and a founding member of NAMDRC. "As such, it is more easily ignored or rationalized, as patients adapt to their worsening lung condition. By the time the problem becomes obvious, typically with the onset of an otherwise routine chest cold,' precipitating a bronchitic exacerbation, the disease process is usually significantly advanced. The minor nuisance, morning smoker's cough is, in fact, "a major pathologic signal," he continued. "Likewise, while it is normal to have age-related exertion dyspnea, if one is having what seems to be disproportionate dyspnea in comparison to one's peers, this may also be a warning signal."

SPIROMETRY SCREENING: PRO AND CON

Heightened awareness of COPD by general practitioners, including routine use of spirometry, is imperative, according to Dr. Warren. "Spirometry is significantly underused in evaluating dyspnea and diagnosing COPD," he said. "About a third of patients with a diagnosis of COPD never have had PFTs done, research shows." He advocates spirometry screening for "patients at risk," such as those past 40 who have smoked for 10 or 20 years or longer, or have other exposures.

Koppel agreed that all smokers older than 40 should have spirometry, otherwise "we risk diagnosing past the point where we can successfully intervene." She added, though, that her viewpoint was "not shared by all of you."

Indeed, Dr. Ingbar cautioned that routine spirometry use among smokers has the potential to do more harm than good. While massive screening of smokers sounds appealing, "if patients don't have COPD they might be tempted to continue smoking, even though they are also putting themselves at risk for heart disease and lung cancer," he warned.

Dr. Hillsman, however, emphatically favors screening. "Everyone should have a routine spirogram on their 40th birthday and every decade thereafter," he declared.

VICIOUS CYCLE

Another key to enhancing the quality of life of COPD patients is successfully managing their co-morbidities, which are numerous. COPD rarely exists in a vacuum. "One reason is smoking, a common denominator for many diseases," Dr. Warren said. "But COPD itself is a risk factor for cardiovascular disease, chronic inflammation, weight loss, and osteoporosis. And it's a major cause of depression and anxiety." A vicious cycle can develop, he said, when dyspnea encourages a more sedentary lifestyle. It leads to muscle atrophy and further disability and shortness of breath. At the same time, COPD (particularly with recurrent exacerbations) has systemic effects that affect nutritional status, cardiovascular health, muscle function, etc., all adversely affecting quality of life and often causing depression and anxiety. Managing COPD, he concluded, means "combating the sedentary lifestyle, paying attention to their diets to avoid malnutrition, and trying to limit exacerbations that fuel the vicious cycle."

As for pharmacological management, recent trials have led experts like Bartolome Celli, MD, to advise a long-acting antimuscarinic agent such as tiotropium or long-acting beta-agonists (LABAs) twice daily once symptoms become persistent.1When a patient reaches an FEV1of 60 percent predicted, and continues to be symptomatic, a combination of inhaled corticosteroids and LABAs should be added, according to Dr. Celli.

Some COPD medications may have side effects, but they are generally well-tolerated and safe, even in the elderly, Dr. Warren said. Beta-agonists may cause palpitations or tremors, but no evidence links them to significant cardiac events. Inhaled anti-cholinergics are safe but, in rare cases, can increase intraoccular pressure in the eyes of a patient with glaucoma. High-dose inhaled steroids may contribute to osteoporosis (though this is controversial) and may cause hoarseness and oropharyngeal candidiasis, which can be minimized by the use of a spacer.

COUNTERACTING PATIENT GUILT

Anyone who treats COPD faces another daunting problem: Patients are often consumed with guilt for having smoked. Guilt can lead to depression and depression to physical decline. Counteracting patient guilt "is a big problem," Dr. Warren admitted. "It's very common that patients will feel guilty. It's a hard thing to combat. It's often accompanied by a feeling of resignation: I've done this to myself; there's no point in quitting smoking now because I already have COPD. It is essential they understand that if they can quit, they can still have a huge influence on the course of the disease and their quality of life. "Physicians must encourage them not only to stop smoking but to also take an active role in managing their disease. Tools and medications can help them stop smoking but, ultimately, it is up to the patient."

Janet Smith, 75, a patient at Temple University Hospital

with moderate-to-severe chronic bronchitis, complicated by asthma, said she is "ashamed to say" that she began smoking at age 17 and continued for 33 years until making up her mind to quit in 1984.

"I had an antibiotic; it cleared it up," Smith said. "I took it and still continued to smoke afterwards, and it came back again and again. The antibiotic kept clearing it up. I walked and walked and walked until I was normal, like everyone else. Then I went back to work in 1995 and worked for five years; I missed only one day of work in those five years."

Only 10 percent to 20 percent of people who smoke develop COPD, implying that some other factor, probably a genetic predisposition, is at work. That is worth pointing out to patients. No one should feel guilty about their genetic makeup. It is beyond their control.

"We don't blame patients for diabetes, even though poor diet is a contributing factor in that disease," Dr. Ingbar said. "Why do we for COPD?"

POSITIVE ATTITUDE

Hand-in-glove with overcoming patients' guilt is nudging them toward more positive thinking. Dr. Warren has seen numerous COPD patients thrive once they accept the reality of their conditions and are determined to fight it with all the tools in the medical armamentarium.

"Some patients have positive responses upon learning their diagnosis, and this facilitates their treatment," he said. "Avoiding exacerbations and changing their sedentary lifestyles is the goal. We encourage them to participate in more activities. Many patients who complete our pulmonary rehab program have remarkable transformations in their outlook, leading to a much-improved quality of life."

Pulmonary rehab, he added, "is the best way to get them active. Once they realize they can improve their exercise tolerance, it motivates them even further."

The other essential piece is education. "Patients who are interested in their disease, who read about it and understand it better, tend to be more successful," Dr. Warren noted. "They know when to seek help, how to self-manage. Some patients truly alter their lifestyles. Once they see they have some control over their disease, their entire outlook changes."

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SALT AS BAD AS OBESITY, TOBACCO

We are consuming far too much salt, say Australian nutritionists, and processed foods are as much to blame as fast foods. Nutritionist Jacqui Webster, from The George Institute for International Health, told a Nutrition Society of Australia conference that reducing salt in the diet should be "considered on the same level of importance as reducing obesity, alcohol and tobacco consumption".

She said that despite the fact that we are aware of the health risks involved in consuming too much salt, many of us consume more than the recommended intake of six grams and are not doing anything about it. "Consuming too much salt, or sodium, can lead to serious health problems including high blood pressure, cardiovascular disease, stroke, osteoporosis and stomach cancer," she told the conference in Adelaide.

Webster flagged that foods contributing to a diet high in salt included processed meats, baked beans, canned vegetables, table sauces, some breakfast cereals and fast food.

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the association was underestimated than anything. "Similarly, the association between anxiety and exacerbations may have been underestimated due to the differential attrition," said Dr. Bourbeau.

The researchers proposed a number of possible explanations for their findings—that depression itself may effect changes in the immune system; that depression affects patients' ability to adapt to chronic symptoms, thereby making them more likely to make frequent visits to the doctor and receive pharmacological treatment; or depression may decrease self-confidence and increase feelings of hopelessness, resulting in poorer self-care and poorer medication compliance.

"The results of this study can guide researchers and clinicians to evaluate in COPD patients with depression the effectiveness of antidepressants and psychotherapies on reducing exacerbations and related complications such as hospital admissions," concluded Dr. Bourbeau. **http://tinyurl.com/6ldxjz**

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HOW BLOOD PRESSURE IS MEASURED CORRECTLY

Measuring blood pressure correctly is anything but trivial. Hypertension specialists at the Medica have tips for both patients and doctors. Specialists complain that measuring blood pressure correctly is anything but trivial because a great many errors are made.

They see a need for learning not only on the part of patients, but also amongst medical personnel. And when it comes to the measuring devices themselves, the wheat must be separated from the chaff. "Come in, just sit down there and I'll take your blood pressure.

" Well, you can be certain that this will produce a blood pressure measurement 30 to 40 mm Hg higher than it really is, according to Professor Bernd Krönig, an internist and hypertensiologist in Trier, Germany. At the Medica, the world's largest medical trade fair with accompanying specialist congress, Prof. Krönig will be providing tips on how to measure blood pressure correctly. But measurements that are too low are also possible if the person handling the equipment does not know how to use it properly.

In fact it is not really difficult to take some one's blood pressure correctly, but you do have to follow a couple of rules. And these are rules that a great many hypertensive patients do not know about even though they take their own blood pressure, and which are frequently not observed by professionals, either. For example, the blood pressure should be measured before the patient takes the next dose of antihypertensive medication, e.g. mornings and evenings. This is the best way of assessing the long-term effects of individual antihypertensive medicines, which can vary from person to person.

In addition, the patient should rest for three to five minutes before the measurement is made. If the classical method is used,

with a stethoscope, an inflatable cuff on the patient's upper arm, and a manometer, the practitioner also needs to avoid rushing; the cuff should be deflated relatively slowly, at a rate of about two to three mm Hg per second. If the patient's blood pressure is 160/90 mm Hg (with an amplitude of 70 mm Hg), this means that it takes 25 to 35 seconds to measure both the systolic and diastolic values. Medical personnel should make sure they take sufficient time. A survey of 500 men and women showed that fewer than three out of ten hypertensive patients knew that the inflatable cuff has to be positioned so that the point of measurement is level with the heart. Furthermore, the blood pressure should always be measured on the arm with the higher pressure.

Again, this was known to only one third of those questioned. If the cuff is too small, the systolic blood pressure (upper value) measured is too low and the diastolic blood pressure (lower value) is too high. First of all, the cuff must cover two thirds of the upper arm. Secondly, the cuff itself has to be the right length. As an increasing number of people are overweight, we more and more frequently see patients whose upper arms measure far more than 35 cm in circumference. The standard cuff (with a length of 22 to 34 cm) is not long enough for these patients and the cuff has to be replaced with a longer one.

Worn out hook-and-loop fastenings that come open during inflation also lead to unreliable values. Patients can leave the sleeves of their shirt or blouse down when their blood pressure is being taken as long as the garment is of thin fabric. A Canadian study involving 376 patients recently revealed that the values measured on a bare arm did not differ significantly from those measured on a sleeved arm (CMAJ 178, 2008, 585). However, Krönig recommends that patients should remove thick jumpers and jackets rather than trying to squeeze the cuff in between the elbow and a pushed-up sleeve.

For years now automatic blood pressure meters have been available, although in tests they often turned out to be of very variable quality. It should be noted that the principle used by these meters is quite different from that of the classical reference method with a stethoscope (see box). Automatic meters only determine a mean pressure by oscillometry. They then calculate the systolic and diastolic values. High-quality meters apply calculation algorithms that are adjusted so that the values produced correspond to those delivered by classical blood pressure measuring devices - at least for adults.

This means that in principle the different methods come up with comparable values. Now scientific studies are being carried out with such automatic meters. However, the methods of calculation have not been standardised as would be desirable for scientific reasons. Many electronic blood pressure meters available on the market regularly exhibit deviations of 10 mm Hg or more from the correct values.

For measuring blood pressure in children, experts such as the paediatrician and senior lecturer Dr. Michael Bald from Stuttgart advise against the automatic meters because most of them have not been tested for use on children. He added that hardly any scientific data exist for adjusting the results obtained with these meters to take into account the child's sex and size. Very often cuffs suitable for children are not available, either. Half a minute is needed to measure correctly.

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5 FOODS TO MAXIMIZE YOUR MUSCLE POWER

Want tighter abs or bigger biceps? You need more than a workout program

Introduction

here is a strong connection between muscle mass and good health, says Robert Wolfe, director of Translational Research in Aging and Longevity at the University of Arkansas in Fayetteville. “As we age, we tend to lose muscle, especially if we are not using it,” says Wolfe. “These losses eventually affect quality of life, our balance, strength and ability to recover from an illness or accident.”

In fact, muscles do everything from help you move and digest your food, to — in the case of your heart muscle — pump nutrients throughout your body. “Our heart, brain, skin and other organs are in a constant state of remodeling with tissue being built and broken down,” says Nancy Rodriguez, a registered dietitian and director of sports nutrition programs at the University of Connecticut in Storrs. “Muscles offer a significant supply of amino acids to ensure these vital parts stay strong.”

Active muscles not only help cut your risk of developing diabetes or osteoporosis, but the more muscle mass you have, the more calories your body can burn.

To keep your muscles strong and healthy you need the right kind of diet. Click on the items to see how these five foods can help you maximize your muscle mass.

Fish

Especially fish rich in omega-3 fats such as salmon, tuna, halibut, rainbow trout and canned sardines.

Why: Lean fish contains all the essential amino acids the body needs to make muscles and provide the building materials for creating and repairing other tissues.

Muscle mass is built based on the amount of protein (amino acids) consumed. While Americans typically get more than enough protein to feed their muscles, many older adults do not. An estimated one in every three people over the age of 60 loses so much muscle, partly because they don’t get enough protein to stave off breakdown of muscle tissue, that it affects their ability to function. According to some studies, the omega-3 fats found in fish may help slow the breakdown of muscle mass.

It’s recommended that you eat at least 2-3 meals of fish high in omega-3 fats per week.

Sweet potatoes

Sweet potatoes are a terrific source of potassium and antioxidants, which are good for building muscles.

Why: “Anyone who is exercising and working their muscles will be creating free radicals,” says Tara Gidus, a sports dietitian and spokesperson for the American Dietetic Association. “Antioxidants can help disarm free radicals and help repair muscle tissue as it breaks down and rebuilds.”

Potassium-rich foods such as sweet potatoes can also help counteract the effects of eating too many acid-producing foods, such as meats, some dairy products and highly-processed items, which can speed the loss of muscle mass.

Other foods loaded with potassium and antioxidants include lettuces, peppers, kiwi, melon and oranges. Ideally, you should eat 5-9 servings of vegetables and produce a day with 3 servings of potassium-rich foods.

Low-fat yogurt

Low-fat yogurt is rich in protein, potassium, calcium and vitamin D, all which work together to keep your muscles functioning properly.

Why: Studies suggest that Vitamin D binds to receptors in muscle which then promote growth and strength. Too little vitamin D is linked with muscle weakness.

Select a yogurt brand fortified with vitamin D, which can give you nearly a quarter of your daily requirement in one serving. A daily serving of 6-8 ounces should help keep your muscles primed.

Quinoa

Quinoa (keen-wah), an ancient grain from South America, is full of good carbohydrates -- the body's preferred source of energy -- as well as high-quality protein, potassium and iron.

Why: Carbs are critical to help you pack on muscle. Too few carbs means the proteins in your body will be used for energy, instead of creating new tissue.

So, while eating protein-rich foods is important for gaining muscle, don't load up at the expense of wholesome carbohydrates. Quinoa contains all the essential amino acids your body needs for building muscle proteins and other tissues.

Quinoa is also a good source of potassium and contains several minerals including iron, which, as Popeye knows, is needed to help you stay strong.

Enjoy a half-cup of quinoa for breakfast with dried fruits and nuts stirred in, as a side dish mixed with beans and other vegetables, or add the mild, light flavor of quinoa to soups, casseroles or salads. Quinoa can also be found in some ready-to-eat cereals and prepared breads.

Pumpkin seeds

Pumpkin seeds are loaded with magnesium, manganese, iron and copper.

Why: The minerals in the body are a fairly well-connected group — they play off one another and work together to build tissue, form enzymes for bodily functions and support communication between cells. They also help maximize muscle mass. Magnesium helps build protein for muscle function. It also helps relax muscles after they've contracted. Manganese is needed to form protein and is a component of enzymes that act as antioxidants which help repair damaged muscle tissue. Iron is good for building endurance.

One ounce of pumpkin seeds (a small handful) contains nearly half the manganese you need in a day.

Source: American Dietetic Association

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BAKED CHICKEN WITH FALL VEGETABLES

Seasoned with rosemary and sage, this oven-baked dish makes an irresistible family meal.

This easy, mouth-watering dish—chicken combined with autumn's harvest of potatoes, parsnips and carrots—has all the wonderful flavors of the season. And, because it freezes and reheats well, you can make a double batch on a Sunday and store the rest for a quick meal on a busy week night.

Total Time : 1 hour 20 minutes Prep Time : 20 minutes Cook Time : 1 hour Servings : 6

Ingredients

1 medium onion, peeled and cut into 3/4-inch pieces
1 medium potato, scrubbed and cut into 3/4-inch pieces
1 medium sweet potato, peeled and cut into 3/4-inch pieces
2 parsnips, peeled and cut into 3/4-inch pieces
2 medium carrots, peeled and cut into 3/4-inch pieces
3 Tablespoons extra virgin olive oil, divided
1 1/2 teaspoons salt, divided
1 1/2 teaspoons pepper, divided
1 Tablespoon fresh rosemary leaves, finely chopped (or 1 1/2 teaspoons dried), divided
1 Tablespoon fresh sage leaves, finely chopped, (or 1 1/2 teaspoons dried), divided
1/2 cup low-sodium, low-fat chicken broth
1 teaspoon sweet paprika
3 to 4 pounds chicken pieces on the bone, rinsed and patted dry, room temperature (for a lower-fat version, remove the skin)

Directions

Step 1 Place baking rack in the upper third of oven and preheat to 400 degrees F.

Step 2 In a large bowl or 1 gallon Ziploc® Brand Storage Bag, combine the onion, potato, sweet potato, parsnips and carrots, 2 Tablespoons olive oil, 1 teaspoon salt, 1 teaspoon pepper, 1 1/2 teaspoons rosemary and 1 1/2 teaspoons sage (if using dried herbs, use 3/4 teaspoon each rosemary and sage). Mix well and place on a foil-lined rimmed sheet pan or shallow roasting pan. Pour the chicken broth over the vegetables.

Step 3 In a small bowl, mix together remaining 1 Tablespoon olive oil, 1 1/2 teaspoon rosemary, 1 1/2 teaspoon sage and paprika (if using dried herbs, use 3/4 teaspoon each rosemary and sage). Season chicken parts with remaining 1/2 teaspoon salt and 1/2 teaspoon pepper and brush with oil and seasoning mixture from small bowl. Place chicken in pan on top of vegetables.

Step 4 Cover pan with aluminum foil and bake for 30 minutes. Remove the foil, baste chicken and vegetables with the pan juices and bake for an additional 30 minutes, or until the chicken is fully cooked. On a meat thermometer, chicken thighs should be 165 degrees F and breasts should read 170 degrees F. Let chicken and vegetables sit for 5 to 10 minutes before serving.

Chef's Notes

To bring chicken to room temperature, rinse it, pat dry and then place on a large plate or platter for 30 minutes.

If preparing chicken with the skin on, cook it for an additional 5 minutes (at the end of step 4) under the broiler to make the skin crispy.

You can use two sweet potatoes or two white potatoes instead of one of each if you prefer. www.rightathome.com

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MUSHROOMS: NOT NUTRITIONAL NOTHINGS

Some people think they're nutritional nothings. But jazzing up pizza, soup, and sandwiches with mushrooms could mean a big something for your heart . . .

. . . and that "something" is clearer arteries. A potent antioxidant in mushrooms could help cut down on risky plaque buildup.

A Whole Lotta Ergo

Mushrooms may be the top source of ergothioneine. And in a lab study, the substance reigned supreme in inhibiting adhesion molecules -- the ones responsible for helping plaque-forming cells latch onto blood vessel walls. Ergothioneine is found in other foods, too, like wheat germ and chicken liver. But the amount in white button mushrooms is 4 to 12 times higher, and meaty portobello mushrooms have even more.

Cancer Prevention, Too?

White button mushrooms may also have cancer-fighting powers. In animal studies, powdered white mushrooms ramped up production of natural killer cells that help protect against tumors.

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DRUG 'TRICKS BODY TO LOSE WEIGHT'

French scientists say they have found a drug that tricks the body into burning off fat even when on a high-fat diet. The University of Louis Pasteur team found the drug protected mice against weight gain and insulin resistance.

The drug SRT1720 - a chemical cousin of red wine extract resveratrol - targets the protein SIRT1, which is thought to combat ageing, Cell Metabolism reports. UK obesity experts said new drug treatments were needed but should be used alongside lifestyle changes. About a quarter of men and a third of women in the UK are overweight, according to government statistics.

A change in diet and an increase in physical exercise can shift excess weight, but can be hard for many to maintain. With the removal of the anti-obesity pill rimonabant, also known as Acomplia, from the market amid safety concerns, fewer drug options exist.

Potent drug

The French team from the University Louis Pasteur became interested in the SIRT1 protein after earlier studies showing resveratrol countered some effects of a high-calorie diet via SIRT1.

We do need new treatments for obesity, particularly as there are 1,000 deaths a week in the UK from obesity Professor Stephen Bloom of Imperial College London. But tests in mice suggested gallons of wine would be necessary for humans to stand a chance of getting the same benefits.

The scientists turned their attention to creating a more potent drug that would specifically target SIRT1. They found that a low dose of SRT1720 partially protected mice from gaining weight on a high-fat diet after 10 weeks of treatment. The drug worked by shifting the metabolism to a fat-burning mode that normally takes over only when energy levels are low.

At higher doses, the drug completely prevented weight gain. It also improved the rodents' blood sugar tolerance and insulin sensitivity, which are important for warding off diabetes.

The mice showed no sign of side effects. However, the scientists say further studies are needed to test the drug's safety and efficacy before it could be used in humans.

Other scientists are investigating SIRT1 activators similar to SRT1720 developed by Sirtris Pharmaceuticals. Professor Stephen Bloom, who has been researching obesity at Imperial College London, said: "This sounds interesting but is terribly early. "We do need new treatments for obesity, particularly as there are 1,000 deaths a week in the UK from obesity."

Prof Ian Broom, of the Centre for Obesity Research and Epidemiology at The Robert Gordon University, said: "Research in this area is to be welcomed as an additional route of combating the obesity epidemic and associated comorbid disease." He added that any such drug should be used alongside dietary and lifestyle changes to tackle obesity.

http://tinyurl.com/6ljg5x The study team was led by Shyam Biswal, an associate professor in the Bloomberg School's Department of Environmental Health Sciences and in the Division of Pulmonary and Critical Care Medicine at the Johns Hopkins School of Medicine. According to Biswal, NRF2 works as a "master gene" to turn on numerous antioxidant and pollutant-detoxifying genes to protect the lungs from environmental pollutants, such as cigarette smoke. Biswal previously identified that disruption of NRF2 expression in mice caused early onset and severe emphysema, which is a major component of COPD in humans. However, the status of this critical pathway in humans with COPD was unclear.

"This work clearly demonstrates that decline in our antioxidant system is involved in progression of COPD, which could also be the case for other environmental diseases," Biswal said. "There is no treatment of COPD, but NRF2 could be a novel target for the development of new drug therapies."

Rubin Tuder, a co-author of the study now on the faculty of the University of Colorado, added, "As we learn how the protective actions of NRF2 are decreased in the course of a lifetime of exposure to cigarette smoke, it opens new venues for the development of novel drugs fitted for individual patients in specific stages of the disease."

The research was supported by the National Institutes of Health through an investigator- initiated grant, as well as by the Specialized Center for Clinically Oriented Research at the Johns Hopkins School of Medicine. Lung specimens were provided by the Lung Tissue Research Consortium, which is supported by the National Heart, Lung and Blood Institute.

"COPD affects more than 16 million Americans and is the fourth highest cause of death in the United States," said Robert Wise, professor at the School of Medicine and director of the Johns Hopkins SCCOR initiative. "It is the only disease among the top 10 causes of death with a rising mortality rate in the United States. It is predicted to be the third largest cause of death by 2020 and has already reached worldwide epidemic proportions." http://tinyurl.com/59xndr

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Information in this newsletter is for educational purposes only. Always consult with your doctor first about your specific condition, treatment options and other health concerns you may have.

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