



# SCCG News

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## High-Tech Prostate Scan May Boost Cancer Detection

**A**n innovative fusion of MRI and ultrasound might be a better way to detect and assess prostate cancer, while helping men avoid unnecessary biopsies, researchers say. The technology blends real-time imaging from both MRI and ultrasound devices, allowing doctors to more accurately direct the biopsy needle that draws cell samples from suspected tumors.

"This approach does detect cancers that can go missed by standard biopsy," said Dr. Art Rastinehad, assistant professor of urology and radiology and director of Interventional Urologic Oncology at Hofstra University-North Shore LIJ School of Medicine in Hempstead, N.Y. In particular, the MRI/ultrasound fusion technique can guide physicians to tumors at normally neglected regions of the prostate gland.

"There are two screens in front of you, and the MRI is capable of pointing out areas that might contain cancer," explained Dr. Scott Eggener, associate professor of surgery and director of translational and outcomes research in the University of Chicago Medical Center's urology section. "Using the two screens, you can more intelligently direct your biopsy needles toward those areas."

The technology is part of an overall approach to first use MRI scans to best determine which men need to undergo prostate biopsy, and then use the MRI/ultrasound fusion to perform the most efficient biopsy possible. Right now, doctors typically rely on blood tests to look for elevated levels of prostate-specific antigen, or PSA. A man with an elevated PSA is often urged to undergo a biopsy, most often conducted using a needle guided by ultrasound that draws cell samples from the prostate. However, these biopsies only sample a small portion of the prostate, leaving the rest of the gland unchecked. Such random sampling can easily miss tumors, experts say. Under the new approach, a man with elevated PSA levels would first undergo an MRI that would provide a visual scan of the entire prostate, Rastinehad explained. If potentially cancerous areas are found on the prostate, then the man would undergo a biopsy. Studies have found that using an initial MRI scan to figure out who needs a biopsy can reduce the overall number of biopsies by about a third, according to a review of the data published this summer in the journal *European Urology*.

"We are working toward a goal that if you have a PSA that is elevated, you would instead get an MRI," Rastinehad said. For some patients, that may mean that "you may never need a biopsy," he said. MRI also would be used during the biopsy itself. In that scenario, an electro-magnetic field generator is placed over the patient's hip, creating real-time MRI images that are combined with ultrasound readings to guide the needle biopsy. Images from the earlier MRI screening can then be overlaid with the real-time images to provide visible "targets" for the doctor to biopsy.

Studies have found that MRI-targeted biopsies are better at both detecting prostate tumors and determining which tumors are more advanced, Rastinehad said.

The technology helped detect advanced prostate cancer in Robert Herr, a Long Island, N.Y., resident who had high PSA levels but underwent a biopsy a couple of years ago that detected no cancer. Then the PSA elevated again he went for the new MRI biopsy and to see how it would work. The fusion biopsy conducted in May ended up detecting high-grade prostate cancer near the top part of the prostate gland, an area normally not sampled in standard biopsy. At this point the technology is both rare and expensive. "There are some early data to suggest it may be a better way of targeting cancers, finding more cancers and finding more meaningful cancers," Eggener said. "MRI is the best picture we can get of the prostate. It's not perfect, but it is better than what we've had."

## Irregular Heartbeat leads to Mental Decline: Study

Older people who suffer from a type of irregular heartbeat called atrial fibrillation may also be more likely to experience mental declines sooner, a new study suggests. "Problems with memory and thinking are common for people as they get older," said lead researcher Evan Thacker, a statistician in the department of epidemiology at the University of Alabama at Birmingham. "Our study shows that, on average, these problems may start earlier or get worse more quickly in people who have atrial fibrillation. This means that heart health is an important factor related to brain health." As with other such studies, this one established only an association between atrial fibrillation and mental decline, not a direct cause-and-effect relationship. That's why the next step is to find out why people with atrial fibrillation start to struggle with memory and thinking sooner, Thacker said. There are at least two possibilities, he said. First, people with atrial fibrillation may have small blood clots form in the heart that then become lodged in the brain. "These may be too small to cause noticeable strokes, but may over time cause small damage to the brain that would eventually lead to mental decline," Thacker said.

Second, people with atrial fibrillation may simply have less blood flowing to the brain, he said. "This could result in the brain not getting as much oxygen and nourishment as it needs, which could lead to damage over time that would result in mental problems," Thacker said. "Currently, we do not know whether either of these two possibilities actually occurs," he said. "We would like to study it using brain imaging technology to learn more about what is happening in the brains of people with atrial fibrillation." Eventually, if doctors and researchers can discover why people with atrial fibrillation show accelerated mental decline, they might be able to learn how to prevent the problem, Thacker said. Dr. Gregg Fonarow, a professor of cardiology at the University of California, Los Angeles, said, "Atrial fibrillation is present in close to 3 million men and women in the United States and increases the risk of stroke fivefold compared to the general population." In addition to the marked increase in the risk of stroke, more recent research suggests that atrial fibrillation is associated with an increased risk of mental decline and dementia, he said. "Repetitive, small subclinical strokes in patients with atrial fibrillation may account for these findings," Fonarow said. He said giving blood thinners to patients with atrial fibrillation is standard care to prevent clots in the heart from migrating to the brain. Putting these patients on anticoagulants, such as warfarin or one of the newer therapies, will "likely be effective in not only reducing the risk of stroke, but also reducing the significant risk of mental decline and dementia," he said. To see the effect atrial fibrillation had on memory and thinking, Thacker's team collected data on more than 5,000 people aged 65 and older who took part in the Cardiovascular Health Study.

At the start of the study, none of the participants had atrial fibrillation. Over an average of seven years of follow-up, more than 550 people developed the condition, the researchers noted. Each year during the study, all the participants were given a 100-point memory and thinking test.

The researchers found that people with atrial fibrillation were more likely to have lower scores on the test at an earlier age, compared with those who didn't develop atrial fibrillation. For example, the average score on the test decreased by about six points for people without atrial fibrillation between ages 80 and 85, compared to about 10 points for those with atrial fibrillation. For those aged 75 and older with atrial fibrillation, the average decline was about three to four points faster every five years, compared to people without atrial fibrillation. Scores below 78 points are associated with dementia, Thacker said. The researchers predicted that on average, those without atrial fibrillation would score below 78 when they were 87, while people with atrial fibrillation would score below 78 when they were 85.

*Source: HealthDay.com*

## Anticholinergics impair seniors: report

Cognitive impairment can result when older adults are taking or given medications with strong anticholinergic effects, a new study has found. Anticholinergic drugs block acetylcholine, a nervous system neurotransmitter, and seniors often use sleep aids or bladder leakage drugs that have anticholinergic effects. Drugs with high levels of anticholinergic effects include Benadryl, Paxil, oxybutynin and Seroquel. The study, which involved 3,690 older adults, is the first to look at how length of use impacts the brain. Researchers at the Regenstrief Institute, the Indiana University Center for Aging Research and Wishard-Eskenzi Health found that even just 60 days of using a strong anticholinergic medication is enough to cause memory problems and other indicators of mild cognitive impairment. Drugs with anticholinergic effects also are prescribed for many chronic diseases, including hypertension, cardiovascular disease and chronic obstructive pulmonary disease.

*Source: E. Newman; McKnights.com*



## UPDATE

Patients taking the new generation of **oral anticoagulants** (nOACs) are associated with a significantly higher risk of gastrointestinal bleeding (GIB), according to a new study. The study, published in the July, 2013, issue of *Gastroenterology*, was led by I. Lisanne Holster with the Erasmus University Medical Centre in Rotterdam, The Netherlands. The researchers studied nOACs in relation to GIB because patients frequently have significant comorbidities and may also take aspirin and/or thienopyridines, they wrote. They analyzed data from 43 randomized controlled trials from MEDLINE, EMBASE, and the Cochrane Library through July, 2012. They found that the overall odds ratio for GIB among patients taking nOAC was 1.45. "This systematic review and meta-analysis...shows that the nOACs are associated with a modest, but significantly higher, risk of GIB compared with current standard care. This risk is the highest in patients treated for thrombosis that the risk is highest in patients treated for thrombosis," Holster wrote. The risk of GIB in patients treated for DVT/PE is higher than patients receiving thromboprophylaxis is higher after orthopedic surgery. This might suggest a dose and duration effect on top of difference in risk caused by patient characteristics in the different indication groups. "However, within the subgroup of AF patients, only patients treated with dabigatran and rivaroxaban carry a higher GIB risk, but not with apixaban," Holster wrote. Because head-to-head studies between nOAC in atrial fibrillation have not been performed, it is not possible to determine the drugs with the lowest GIB risk in atrial fibrillation without applying statistically indirect comparisons, according to the researchers.

Source: [formularyjournal.com](http://formularyjournal.com)

Antibiotics often aren't enough to combat **Clostridium difficile**. But when combined with probiotics, or "good" bacteria, the results are striking. The treatment combo lessens the likelihood of *C. diff* symptoms by 64%, according to a recent study. "The introduction of some probiotic regimens as adjuncts to antibiotics could have an immediate impact on patient outcomes, especially in outbreak settings," said lead researcher Bradley Johnston of The Hospital for Sick Children Research Institute in Toronto. The Cochrane Collaboration analyzed 23 trials involving more than 4,000 people to reach its conclusion.

Source: [McKnights.com](http://McKnights.com)

A new retrospective case-control study among patients with **chronic obstructive pulmonary disease** (COPD) found a 30% decreased risk of COPD exacerbation with any statin use. The study published in the *American Journal of Medicine*, was led by M.T. Wang from the School of Pharmacy at the National Defense Medical Center in Taipei, Taiwan. "Statin use was associated with a reduced risk of COPD exacerbation, with a future risk reduction for statins prescribed more recently or at high doses," Wang wrote. This is the first study to examine the recency and duration effect of statin use on the risk of COPD exacerbations, according to the researchers. Using a national health insurance claims database in Taiwan, the researchers reviewed the medical history of more than 14,300 COPD patients. They found that current use of statins was associated with a greater reduced risk of COPD exacerbation (adjusted odds ratio of .60). The protective effect of statins on COPD exacerbations is more profound for statins used for six months, or for statins prescribed at medium or high average daily dose, the researchers found. Still, the reduced risk remained significant for either short or long duration of statin use.

Source: [formularyjournal.com](http://formularyjournal.com)

More experts now recommend not using **azithromycin** or other macrolides for most acute respiratory infections. Azithromycin is especially popular because it's well tolerated and can be given just once daily for 3 to 5 days. But pneumococcal infections are becoming more resistant to macrolides than to penicillin. And strains that are resistant to penicillin are usually also resistant to macrolides. Save azithromycin or other macrolides for only certain cases of acute respiratory infections in kids or adults. For strep throat, a beta-lactam (penicillin, amoxicillin, etc) is recommended first and save azithromycin only for patients who have a life-threatening allergic reaction to beta-lactams. For community-acquired pneumonia, it's recommended to use azithromycin or clarithromycin only when atypical bacteria such as *Mycoplasma* are suspected due to prominent cough, slower onset, milder symptoms, etc.

Source: [pharmacistsLetter.com](http://pharmacistsLetter.com)

## Vitamin pair tackles schizophrenia symptoms

### By Alan Spreen, MD

**S**urprise was my first thought when I read about the results of a recent study linking folate and vitamin B-12 to an improvement in schizophrenia symptoms. Because, let's face it, these brain-supporting supplements are a natural fit for just about any condition that involves the brain.

Frankly, I'm surprised that researchers didn't make this connection *years* ago. Vitamin B-12 is found naturally in fish, eggs, and meat. This critical nutrient often called the "energy vitamin" is used by every single cell in your body. It has already been shown to help support memory, drive away depression, ease migraines, and *literally* prevent brain shrinkage.

And, according to researchers from Rush University Medical Center in Chicago, low vitamin B-12 levels may be linked with the loss of brain cells and cognition problems in seniors. Its kissing cousin folate is another member of the B-vitamin family. You may know folate as folic acid, the name given to the man-made version of the vitamin that's given to women to help prevent neural defects in their unborn babies.

Folate is found naturally in foods like liver, sunflower seeds, and yeast extract. And, like B-12, folate has a role to play in easing depression, fighting brain atrophy, and in helping to prevent age-related memory loss. And both vitamin B12, and folate as part of the vitamin B-Complex family play a part in driving down homocysteine, which experts say not only can help keep your heart healthy, but may also be the key to slowing the brain shrinkage that can lead to dementia.

If this mountain of evidence of the brain B connection wasn't enough to make schizophrenia researchers take notice, one other thing *should* have. It turns out that past research had *already* turned up a link between folate deficiency and the disease. So, of course, when researchers did finally get around to testing folate and B-12 (which can increase the effects of folate) they, naturally, found that the vitamins indeed had a positive effect on schizophrenia symptoms.

To determine whether B-12 and folate had any effects on symptoms, researchers conducted a 16-week, randomized, placebo controlled, double-blind study involving 140 patients with chronic schizophrenia. Volunteers were randomly assigned to one of two groups, and either received 2 mg folic acid and 400 micrograms B-12 daily, or a placebo. Participants' symptoms were then monitored using two standard tools called the Scale for the Assessment of Negative Symptoms (SANS), which measured changes in negative symptoms, and the Positive and Negative Syndrome Scale (PANNS), which measured positive and total symptoms.

Although overall symptoms did improve in the vitamin group, the improvement was not considered statistically significant at first. But then the researchers hit pay dirt when they looked specifically at four genes that are associated with more severe symptoms. It turns out that the volunteers who received vitamins, and had variants in one of three of the genes, saw *significant* improvements in their symptoms.

Patients in the last gene group were the most severely folate deficient, and the researchers believe that had the study lasted a bit longer, so their folate levels could build up further, we would have seen the *same* types of improvements in them as well.

In the end, the researcher's had to admit that the B vitamins worked, and they even recommended using them, concluding, "...the disability associated with negative symptoms, coupled with a lack of available treatments and the safety of vitamin supplementation, may make it a treatment worth trying." Sure, you need to read between the lines and ignore the lukewarm delivery, but make no mistake about it, that's *high* praise coming from a mainstream source.

For *general* use I typically recommend 800 micrograms (mcg) of folate and 1,000 mcg of vitamin B12 daily to start. Talk with your doctor about what amounts are best for you. And if you, or someone you care about, is struggling with schizophrenia talk with your doctor about how B vitamins might be able to help.

