

CARLSON: Thanks for tuning in. You're listening to Dot Mil Docs, the Military Health System's official podcast. It's Thursday February 18<sup>th</sup> 2010 and I'm Russell Carlson. It is heart healthy month here in the military health system. Visit [health.mil/hearthealthy](http://health.mil/hearthealthy) for links to heart health resources. Today we'll talk about stress, depression and how they affect the heart. Our guest is Dr. David S. Krantz, Ph.D. He is professor and chair of medical and clinical psychology at the Uniformed Services University of the Health Sciences. He studies the role of behavioral factors in cardiovascular disorders and coronary heart disease. Dr. Krantz, welcome to Dot Mil Docs.

KRANTZ: Happy to be here.

CARLSON: Can you just talk a little bit about who you are and what you do?

KRANTZ: Sure. I am the chairman and professor in the department of medical and clinical psychology at Uniformed Services University. And what we do here in our department is we train PhD-level clinical psychologists for the military – all three services. In addition I do research on stress and heart disease and I participate in a number of different research studies, one of which I'll talk about today – the WISE study.

CARLSON: And I guess maybe we could get started with that. But I know something has to do – your research has to do with women and heart disease and depression.

KRANTZ: Correct.

CARLSON: How is heart disease in women connected with depression?

KRANTZ: Well lots of studies have shown that being depressed or even having symptoms of depression is a risk factor for heart disease. But it's especially a risk factor if you've already had heart disease in terms of your outcomes after you're a heart patient. So heart patients with depression do much, much worse than do patients who don't have depression.

CARLSON: And have – I'm sorry, go ahead.

KRANTZ: No that's true in men and it's true in women as well.

CARLSON: So there's nothing distinct – different – in women necessarily?

KRANTZ: There are many differences in terms of heart disease in women than in men. First of all in women, heart disease comes on later in life. But women catch up in terms of the prevalence of heart disease, and heart disease is the greatest killer in both men and women and of course many women don't realize the importance of heart disease over other kinds of possible causes of death. It's still the greatest killer in women. The way that heart disease shows itself in women is often different than it is in men.

For example the symptom patterns are often different. And when women go for standard tests for heart disease, some of the early tests show up positive but then their presence of

heart disease is not confirmed by some of the more sensitive tests, one of which is called coronary angiography, when a dye is injected in the coronary arteries and you see the blockage in the coronary arteries. So women are much more likely to have no coronary disease after they have tests that lead them to have suspected coronary disease.

CARLSON: Let's talk about this WISE study and what it is and the rationale behind it.

KRANTZ: WISE study stands for women's ischemic symptom evaluation study and what ischemia is is when the heart doesn't get the blood supply that it needs, and this is a result of blockages in the coronary arteries, which are the arteries that supply blood to the heart. And this is a large epidemiologic study of women who have suspected heart disease who come in for testing for suspected heart disease. And what this study does is it measures women when they're in for testing, gives them a whole variety of measures, biological risk factor measures, psychosocial stress measures, and also looks at medical imaging measures – in other words measurement of coronary disease, different methods. And also it follows the women up for four years to see – to look at events, heart disease events like heart attack, also things like stroke, and death from coronary disease over the period after the testing.

CARLSON: Now are any of these women who are suffering from depression adversely affected by some of the medications to treat depression, and they also have heart disease?

KRANTZ: Our study, the study that we found, was a study that suggested that this might be the case. But I could talk about generally the literature in the area is that while depression is a important risk factor for heart disease in women, what's not really known is the best way to treat it. And one of the ways that people have determined what the affects of treatment is, at least they've looked at women who have received medications for depression and followed them up – versus women who have not received medications for depression.

But this is not – a study like this is not what is called a clinical trial where women were assigned or actually given medication or no medication by the researchers. So looking at women who happen to have medications, taking medications when they go into the study is not quite as convincing. But basically studies have found that some women are adversely affected by taking antidepressant medications. And this kind of creates a problem in terms of what's the best way to treat depression in women with heart disease.

There are other studies that show that there are no negative effects in women who happen to be prescribed antidepressant medications. But two new studies, one of which is ours, has provided some evidence that there is an adverse effect of medications for depression and maybe even medications for anxiety.

KRANTZ: So what kind of other treatments would you recommend, aside from medications, then, for these women?

CARLSON: Well you know depression is a disorder that's very treatable. It can be treated with psychological treatments. There are two or three different psychological treatments that

we know work very, very well. Of course it can be treated with medications, but then we have these issues coming up in heart disease patients, and we don't know yet whether it is or is not a risk factor. But we have data that suggests that it's a possibility.

Things that are alternative treatments for depression, even things like exercise and like trying to keep yourself busy, engage in positive activities if you can, having support from your friends and doing different kinds of confiding and social support can be effective. But there's specific treatments, one is called cognitive behavior therapy and another is called interpersonal therapy, that work very, very well in treating depression.

CARLSON: We're going to take a quick break for the Dot Mil Docs HealthBeat, news and information from the military health system. When we come back we'll have more with Dr. Krantz.

F: Dot Mil Docs HealthBeat.

LOCKWOOD: Army Sergeant First Class Mark Wanner prefers to be referred to as a soldier, not a hero. But he graciously humors those who insist on the latter. On February 6<sup>th</sup>, the Ohio Army National Guard Special Forces medical sergeant stood unassumingly on a stage in the Ohio statehouse atrium to receive the Silver Star medal, the nation's third-highest medal for valor in combat. Fighting back tears, Army Sergeant First Class Sean Clifton recounted the day he almost lost his life after being shot multiple times during a raid on a Taliban compound in eastern Afghanistan. Clifton said, quote, "I'm standing here alive because of the heroic and competent actions Mark performed on the night of May 31<sup>st</sup>, 2009. Memorial Day."

The Vision Center of Excellence was formed after the fiscal year 2008 National Defense Authorization Act directed DoD and VA to establish a Center of Excellence in the prevention, diagnosis, mitigation, treatment and rehabilitation of military eye injuries, and to better coordinate visual rehabilitative care and benefits for service members' continuum of care between the agencies. Colonel Donald A. Gagliano, DoD principal advisor for vision and VCE's executive director said, quote, "It's important to look at how injuries are occurring, what we can do to mitigate the extent of morbidity when doing treatment, and how we can enhance treatment and research and improve the rehabilitation process to bring better functioning and life to patients." The new Vision Center of Excellence is beginning to shape up and it plans to open its headquarters in the new Walter Reed National Military Medical Center in Bethesda in 2011. For more information, visit [www.visioncenterofexcellence.org](http://www.visioncenterofexcellence.org).

Soldier, infantryman, airborne ranger, combat diver, mountain climber, skier, triathlete, surfer, husband and father are just a few words to describe Army captain Scott M. Smiley. Yesterday the title of company commander was added to Smiley's distinctive resume as he became the first blind officer to lead a company as he assumed command of the warrior transition unit at the U.S. Military Academy at West Point. Smiley was wounded and permanently lost his vision during his 2005 deployment to Iraq. He attributes his strength and drive during his recovery to his faith, family and friends. All these stories and more

are available at health.mil. Log on to stay up do date. This has been your Dot Mil Docs HealthBeat. For the Military Health System, I'm Elizabeth Lockwood.

CARLSON: Welcome back to Dot Mil Docs. Today Dr. David Krantz of the Uniformed Services University is talking with us about stress, depression and heart disease. Dr. Krantz let's talk about prevention for both heart disease and depression. How important is it?

KRANTZ: Prevention is very important in terms of the development of heart disease. In terms of prevention of depression, it's a little bit of a more difficult story. It depends on whether the depression is chronic or is acute. But the fact is that these women in this study have symptoms, and they don't really have an explanation for the symptoms that's adequate – which causes a lot of anxiety and possibly depression. The women that are diagnosed with heart disease may become depressed because suddenly they have – they're told that they have a chronic disease, and this is not a very good thing to have and it restricts many, many life activities.

So again it could be a very difficult thing in terms of preventing depression but again in terms of things like negative mood, sad mood and being pessimistic about life, to the extent that a person can maintain a positive attitude, they would much more – they would be much less likely to become depressed.

CARLSON: Is there anything that you can talk about as far as depression leading to heart failure or being associated with it?

KRANTZ: Well I can talk a little bit about stress and heart failure if you'd like.

CARLSON: Yeah.

KRANTZ: First of all let me define heart failure as when the heart can't pump the blood that it needs. Usually it results from something like a heart attack, but it could also result from other conditions that cause a death of heart tissue or an insufficient amount of blood to be pumped by the heart. Doctors know that things like noncompliance with medications or big spikes and increases in blood pressure, changes in diet, and other factors can make heart failure symptoms worse. And one of the important issues with heart failure is that it tends to worsen and then when treated then it gets better again and then it worsens again and it's a progressive disease that has a slope downward, so eventually the disease worsens.

But because patients with heart failure often need to be hospitalized when their symptoms get worse, it's one of the biggest cost items both within DoD health and also within civilian health. And what we're studying is the relationship between stress and worsening of heart failure, and what we have found so far in some of our early results is that an increase in stress over time is related to an increase in certain kinds of physiologic markers of the severity of heart failure.

CARLSON: Would like high blood pressure be one of those?

KRANTZ: Well high blood pressure is definitely related. We've found there's a marker of how hard the heart is pumping. And it's a hormone that's produced by the heart. And we find that that is affected, that is a kind of a direct marker of the physiology of heart failure. High blood pressure is definitely a factor that worsens heart failure, because when blood pressure is high, the heart has to pump harder. And when it has to pump harder it's more likely to fail and pump less blood.

CARLSON: So now what's next with the WISE study?

KRANTZ: Well the WISE study is looking at a variety of biological and psychosocial factors, continuing to look at risk factors for poor outcomes in heart disease. What's next for the WISE study is to follow up on some of the medical and psychological results that we find in WISE and trying to look in more detail at what some of the mechanisms are. In other words what factors link these risk factors with poor outcomes. Now in general in terms of research in the area, there's a move for increased number of clinical trials – that is assigning women, choosing which drug or non-drug women receive for heart disease.

And there are also clinical trials, which is considered the – really the definitive way of doing an experiment to find out if a treatment works. There are clinical trials with psychological or behavioral treatments for depression being given to men and women to look and see whether these are effective in treating depression and reducing heart disease in men and women.

CARLSON: Dr. Krantz I'd like to thank you for being on the Dot Mil Docs program this week.

KRANTZ: Sure. Happy to be of help.

CARLSON: All right. Thank you.

KRANTZ: OK.

CARLSON: That does it for us this week on Dot Mil Docs. Join us next week when Heart Healthy Month continues on Dot Mil Docs with a visit from Lieutenant Colonel Scott Moore, the chief of cardiology 59<sup>th</sup> medical wing at Wilford Hall Center on Lackland Air Force base. He will discuss with us heart health tips and the prevention of heart disease. Until then, see you on health.mil.

ANNOUNCER: This program is a product of the Office of the Assistant Secretary of Defense for Health Affairs, Military Health System. Dot Mil Docs features the most relevant military health topics important to you and your family. If you have questions or topics you'd like to see on an upcoming episode, send us an email at [DotMilDocs@tma.osd.mil](mailto:DotMilDocs@tma.osd.mil). That's D-O-T-M-I-L-D-O-C-S@tma.osd.mil. Visit [health.mil](http://health.mil) for more episodes.

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