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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: *March 2, 2006*

Recent Research suggests that it may be best to avoid studying at times when you are feeling sick

Denver, CO - Feeling sick and under the weather? Recent research suggests this may not be a good time to study for an exam,

It has long been known that the brain can communicate with the immune system and that psychological and social factors can alter how the immune system functions; however, it is only recently that attention has turned to the possibility that the immune system acts as a sixth sense and communicates information about conditions within the body back to the brain. Here, studies have shown that chemical messengers, called pro-inflammatory cytokines, that are released into the blood stream as part of the inflammatory response to infection or injury are detected by the brain and result in the typical symptoms of sickness, such as tiredness, loss of appetite, loss of interest in activities, and depressed mood. Recent findings suggest that this signaling may also interfere with cognitive function, including the ability to learn and create memories.

These are the conclusions drawn from a series of studies investigating how markers of inflammation may influence cognitive function to be presented at the American Psychosomatic Society's Annual Meeting, held March 1-4 in Denver, CO.

These studies include, (1) animal research conducted by Steven F. Maier, Ph.D., at the University of Colorado, showing that high levels of pro-inflammatory cytokines in the bloodstream activate pathways in the brain that interfere with the formation of new long-term memories; (2) complementary human findings reported by Raz Yirmiya, Ph.D., of The Hebrew University, Israel showing that the injection of low doses of toxins into healthy male volunteers is associated with elevated levels of inflammatory cytokines and associated impairment of memory; (3) findings reported by Lucile Capuron, Ph.D., from the Universite Bordeaux, France who showed that patients being treated with proinflammatory cytokines therapy showed higher levels of activation a region of the brain associated with cognitive effort, and a related increase in numbers of mistakes on a spatial attention task; and (4) an examination of relationships between higher circulating levels of a proinflammatory cytokine that is associated with chronic inflammation and poorer memory among 500 healthy community volunteers between the ages of 30 and 54 years reported by Anna L. Marsland, Ph.D., from the University of Pittsburgh.

Taken together, the results of these studies suggest that inflammatory messengers, whether released in response to infection or chronic inflammatory disease, or administered experimentally in animal models or as a therapeutic treatment in humans, communicate with the brain and are related to impairment of memory. This raises the possibility that inflammation plays a role in the cognitive decline that is sometimes associated with advancing age.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: *March 3, 2006*

ELEVATED BLOOD LEAD (Pb) MAY EXPLAIN WHY CARDIOVASCULAR DISEASE IS MORE COMMON IN THE POOR, A SUNY OSWEGO STUDY SHOWS

Denver, CO -- Blood lead is known to produce intellectual impairment in children; however, it seems to adversely affect the cardiovascular systems of children as well, a new study at the State University of New York at Oswego shows.

This study demonstrated that children from socioeconomically disadvantaged families had higher blood lead (Pb) levels and that these blood lead (Pb) levels, in turn, produced greater vascular resistance to blood flow in response to acute stress.

Brooks Gump, Ph.D., associate professor of psychology at the State University of New York at Oswego, presented these findings today (March 4, 2006) at the 64th annual meeting of the American Psychosomatic Society.

The study sample consisted of 122 children participating in an ongoing study of cardiovascular responses to acute stress. Cardiovascular response is an indicator of sympathetic nervous system activation. Prolonged or exaggerated sympathetic nervous system activation is implicated in a number of the pathophysiological processes that may set the stage for cardiovascular disease. Lower family socioeconomic status (SES) was shown to be associated with significantly higher blood lead levels as well as significantly heightened systolic blood pressure, diastolic blood pressure, and SES-TPR responses to acute stress tasks. A mediational analysis confirmed that blood lead was a significant mediator of the SES-TPR reactivity association.

"We have known about the association of low socioeconomic status with poor cardiovascular health for some time. In addition, the mechanism explaining this association was presumed to be enhanced cardiovascular responses to challenging or stressful situations. However, it was not yet clear why socioeconomic status might affect children's cardiovascular functioning," Gump said. "This study demonstrates that blood lead levels do seem to explain the increase in cardiovascular responses for children from socioeconomically disadvantaged backgrounds. In other words, children from low SES families have higher levels of blood lead, and these higher blood lead levels produce a heightened vascular response to acute stress in children. These results suggest the importance of considering the chemical environment, as well as social and psychological environment when evaluating cardiovascular effects of low socioeconomic status."

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Release from American Psychosomatic Meeting, Denver, CO

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‘John Henryism’ Key to Understanding Coping, Health Outcomes in African Americans

Denver, CO.-John Henry, the figure from American folklore, who relentlessly drove himself to beat a steam engine is the key to understanding the medical reality of African Americans in the 21st century, according to a team of researchers from Duke University Medical Center. ‘John Henryism,’ as representative of a coping style, not only has a clear genetic basis in the African American populations, they said, but is also identifiable in clinical and non-clinical study samples; reflects specific personality traits; and influences emotional reactions and possibly functionality within one’s environment. The research findings are being presented at the American Psychosomatic Society’s annual meeting, which is being held in Denver.

John Henryism (JH) is scientifically recognized as a style of strong coping behaviors used by African Americans to deal with psychosocial and environmental stressors. The classic JH traits are associated with African Americans who have an extreme preoccupation with success in environments with which they are largely unfamiliar, particularly in situations where they may directly compete with Caucasians or other populations, but with inadequate resources to be fully successful. People with JH and inadequate resources have a much higher prevalence of health disorders, the researchers said, because they drive themselves toward reaching specific goals at the expense of their health, often without realizing they are doing so.

“John Henryism provides one of the more significant and promising models of explaining coping behavior and health outcomes in African Americans for the 21st century,” said Christopher L. Edwards, Ph.D., medical director of the Biofeedback Laboratory and director of the Chronic Pain Management Program at Duke, and a lead researcher on several of the teams presenting at APS. He further indicated that “there are multiple opportunities to reduce health disparities and better understand African American health behaviors and outcomes, and researchers across the country, led by Duke, are aggressively pursuing understanding via the JH model of coping.”

As much as 30 percent of active coping behavior in African Americans may be genetically-based. The team examined 180 same-sex twins in order to glean a better framework for understanding the mechanics of coping behavior. The 70 percent of coping that is not accountable to genetics gives hope that modifying the environment and learning how to better apply coping skills may yield solutions to the challenge of reducing health disparities.

* Personality is linked to John Henryism. In a study sample of 233 participants, half of whom were African American and half white, extraversion and conscientiousness were closely associated with the active coping as characterized by JH, as were dutifulness, achievement-striving, self-discipline and assertiveness.

* JH influences how people react emotionally within their environment. The team examined 58 healthy black males between the ages of 23 and 47 and tested their emotional reactions to specific activities. Men with greater levels of JH had higher scores for happier mood, which also correlated to lower educational levels.

* JH is identifiable in clinical and non-clinical study samples. The team evaluated patterns of pain and emotionally-related illness stemming from pain in 50 adult patients with sickle cell disease, an African American population that has not been well-studied. Patients with sickle cell who exhibit higher levels of JH report higher incidence of pain and pain-related problems than those with lower levels of JH.

According to investigators, research using the John Henryism model has added significantly to their understanding of active coping in African Americans and will provide even better understanding of the health challenges they face.

“We hope that better understanding coping in African Americans using the John Henryism model will yield innovative avenues for reconceptualization and intervention of stress coping among many populations at risk,” Edwards said.

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Release from American Psychosomatic Meeting, Denver, CO

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Religion and Spirituality Linked to Heart Rate Variability among Cancer Survivors

Denver, CO - Faith and the use of prayer and religion to manage stress may provide health benefits for cancer survivors, University of California researchers reported March 1 at the American Psychosomatic Society's annual meeting in Denver.

"Our findings suggest that spirituality may be protective of physical health," said Carissa Low, psychology graduate student and lead author of the study.

Researchers at UCLA and UCSF studied 23 women who had been diagnosed with breast cancer approximately seven years earlier. Based on participants' resting heart rate, investigators calculated an index of heart rate variability – beat-to-beat changes in heart rate. In healthy people, heart rate adjusts to varying levels of demand. Higher heart rate variability is indicative of flexibility in the body's ability to respond efficiently to stress and is considered to be a marker of good health; a more inflexible, monotonous heart rate is associated with cardiovascular disease, depression, anxiety, and mortality.

The researchers were interested in the coping strategies associated with healthy variation in heart rate. Participants completed self-report measures of coping style, depression, psychological well-being, and spiritual well-being prior to a physical examination.

"We found that faith and spirituality were the key factors," Low said. "The women with a strong sense of faith had significantly more variable heart rates than those who reported less spiritual well-being. In addition, the coping style most strongly associated with heart rate variability was religious coping – the use of prayer or meditation to cope with stress and find comfort."

The researchers asked patients how they generally cope with stressful events in their daily lives; respondents were given a range of options, including acceptance, humor, denial, distraction, and use of prayer, meditation, and faith. None of the other coping styles examined were related to heart rate variability.

"These findings are consistent with an emerging literature on the beneficial impact of faith and spirituality on health," Low said.

The research was funded by the Positive Psychology Network.

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Release from American Psychosomatic Meeting, Denver, CO

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**Interactive Computer Programs Better Educate Patients
About Complex Health Conditions**

Denver, CO - When doctors need to educate patients about a complicated health condition like hypertension, they often rely on informational brochures to convey important health information. But how much of what patients read in these brochures is actually understood and remembered, and is there a more effective way to educate patients?

A new study from Columbia University Medical Center compared the effectiveness of the traditional brochure method of educating patients with an interactive computerized patient education program. The study found that patients who used the interactive computer program were significantly better educated on the subject than those who read brochures. Results of the study were presented for the first time at the American Psychosomatic Society Annual Meeting, held March 1 - 4, 2006 in Denver, Colorado.

“We were encouraged by the effectiveness of the computerized educational program, and believe this may be a more effective model for educating patients about their health conditions,” said Juhee Jhalani, project coordinator for Columbia University Medical Center’s Behavioral Cardiovascular Health and Hypertension Program, which conducted the research. “Further research will examine the effectiveness of these types of programs in larger samples and with diverse patient populations.”

Twenty-two hypertensive subjects were included in the study – nine of which read brochures and 13 who used the computer program. All the subjects completed a 15-question pre-test to measure their knowledge prior to the educational program. They were then given either the brochure or computer program, and the same test was given two to three months later.

In the computerized interactive patient education program, patients initially read programmed information about hypertension, and then answer questions and receive immediate computerized feedback until they have mastered the material.

As the researchers predicted, patients in the brochure group showed no improvement from their initial tests (64.5% correct on the first test, 62.2% correct on the second). But in the group that used the educational computer program, scores jumped from just 57.9% before the program was used to 90.7% two months later.

Columbia University Medical Center provides international leadership in pre-clinical and clinical research, in medical and health sciences education, and in patient care. The medical center trains future leaders in health care and includes the dedicated work of many physicians, scientists, nurses, dentists, and public health professionals at the College of Physicians & Surgeons, the College of Dental Medicine, the School of Nursing, the Mailman School of Public Health, the biomedical departments of the Graduate School of Arts and Sciences, and allied research centers and institutions. Columbia University Medical Center researchers are leading the discovery of novel therapies and advances to address a wide range of health conditions.

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Release from American Psychosomatic Meeting, Denver, CO

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NEW STUDIES SHOW THAT PSYCHOTHERAPY CAN HELP DEPRESSED HEART PATIENTS

Denver, CO - If you have heart disease, there is a good chance that you have also been depressed at some point. Until recently, though, little was known about how to treat this problem.

Three new studies have begun to examine which kinds of treatment may be helpful for patients who have had a heart attack or coronary bypass surgery. The findings of all three studies were presented at the American Psychosomatic Society Annual Meeting, held March 1-4, 2006 in Denver, Colorado.

Dr. Peter de Jonge and his colleagues in The Netherlands studied 331 patients who were depressed after having a heart attack. About 2/3 were treated with an antidepressant, and the other 1/3 received usual care.

Surprisingly, the patients who were treated with the antidepressant did no better than those who received only usual care. The groups did not differ in terms of the chances of having additional heart problems or dying with 18 months. Among patients who lived at least 18 months, the drug had no apparent effect on their quality of life or on their chances of having more depression. "Interestingly, though, patients who did show a positive response to treatment in terms of decreased depressive symptoms also had fewer new heart problems."

A form of psychotherapy known as cognitive behavior therapy (CBT) is helpful for patients who are depressed after a heart attack, according to findings presented by Dr. Matthew Burg of Columbia and Yale Universities. Dr. Burg and his colleagues studied patients who had participated in the treatment arm of a major clinical trial, the Enhancing Recovery in Coronary Heart Disease (ENRICHD) study.

Patients who received the ENRICHD treatment did better than those who received only usual care. "But we weren't sure which ingredients of the treatment were helpful. All of these patients received CBT, but many of them were also given antidepressants. Our new findings show that the CBT played an important role in helping these patients overcome their depression."

Dr. Kenneth Freedland and his colleagues at Washington University in St. Louis presented the results of a treatment trial for depression in 123 patients who were recovering from coronary bypass surgery. "Even though heart surgery is a life saver in many cases, patients often become depressed afterwards – and some become severely depressed. But surprisingly little is known about how to treat them."

One-third of the patients in the study received CBT, another third received intensive stress management, and the remaining third received usual care. "The ENRICHD trial showed that patients who have had a heart attack can benefit from CBT. This new study shows that patients can also benefit from CBT while they are recovering from heart surgery."

The session was chaired by Dr. Nancy Frasure-Smith from McGill University and the Montreal Heart Institute. "Depression can be a debilitating condition for patients with heart disease. These new studies show that we are making progress in the search for effective treatments for this problem."

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Psychology Professor Researches Racism, Studies Health Disparities

Denver, CO - Does racism affect health? St. John's University Professor of Psychology, Dr. Elizabeth Brondolo, will chair a symposium at the American Psychosomatic Society (APS) Conference in Denver, CO, March 1-4, 2006. Her symposium will present findings from a study of the effects of racism on mood and health. The study was made possible by a grant in excess of \$1.9 million dollars in 2003 by the Federal Government's National Heart, Lung and Blood Institute.

African Americans suffer a disproportionately high risk of developing high blood pressure and heart disease; however, the reasons for this are unclear. The purpose of the study is to understand the ways in which racism or ethnic discrimination can help to explain these racial and ethnic disparities in health.

The study, entitled "Racism, Coping, and Ambulatory Blood Pressure" will test more than 700 African American and Latino(a) adults. The papers presented at the APS conference present preliminary data on the first 400 adults who participated in the study, which was conducted in communities throughout the New York Metropolitan Area. Participants completed surveys and interviews and wore a portable--or ambulatory--blood pressure monitor for a 24 hour period (ambulatory blood pressure, which is measured while the person goes about his or her usual activities, is an important predictor of heart damage). They also completed an electronic diary recording their mood and the nature of their social interactions each time their blood pressure was measured.

The conference papers are presented by Brondolo and two of her colleagues at St. John's University, Dr. Robin Wellington and Nisha Brady. Dr. Julian Thayer, a researcher with the National Institute on Aging, will discuss the research.

One paper examines the ways in which education, income, or occupation are associated with the type of racism an individual may encounter. A second paper looks at the effects of racism on the ways people feel throughout their day, using measures of mood obtained from the electronic diaries. A third paper looks at the relationship of lifetime exposure to racism and ambulatory blood pressure during the day and at night.

"The purpose of this research is to understand the ways in which a significant social stressor, like racism, can affect health. We hope that a careful and detailed examination of the effects of racism on daily life will help guide efforts to reduce racial disparities in health," Brondolo said.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: March 4, 2006

DEPRESSION FOLLOWING HEART BYPASS SURGERY DOUBLES THE RISK OF DEATH FROM HEART PROBLEMS WITHIN SEVEN YEARS, ACCORDING TO NEW STUDY

Denver, CO - Survival after coronary artery bypass surgery depends on the patient's state of mind in addition to the condition of the patient's heart, according to researchers at the University of Maryland Medical Center and Columbia University Medical Center. They found that patients who were depressed following heart bypass surgery were twice as likely to die from heart problems within seven years of their surgery compared to those who were not depressed. Results of the study were presented at the American Psychosomatic Society Annual Meeting on March 4, 2006 in Denver, Colorado.

"Physicians and patients need to be aware of the increased risks faced by patients suffering from depression," says principal investigator Ingrid Connerney, DrPH, director of Clinical Effectiveness at the University of Maryland Medical Center and an assistant professor of surgery at the University of Maryland School of Medicine. "The next logical step in our research is to understand why and how depression is associated with increased mortality," she adds.

The study included 309 patients (207 men and 102 women) who had bypass surgery at the University of Maryland Medical Center in Baltimore in 1997. The researchers looked at whether depression prior to leaving the hospital played a role in long term survival.

"We found that depressed patients were twice as likely to die of cardiac causes compared to those who were not depressed," says senior author Peter Shapiro, MD, associate professor of Clinical Psychiatry, at the Columbia University College of Physicians & Surgeons.

The researchers found that almost 20 percent of the depressed patients died from cardiac causes in the seven-year follow-up period, compared to 12 percent of the patients who were not depressed after their surgery. Overall, 24 percent of the patients in the study (74 out of 309) died within seven years after surgery. Of those, 41 of the 74 patients died of cardiac causes.

For the study, Dr. Connerney performed a detailed psychiatric interview with each patient and had them fill out a questionnaire prior to discharge from the hospital. Patients were assessed at 12 months following surgery and again at 5-7 years.

The increased risk faced by depressed patients could not be explained by differences in demographics, severity of disease, or other factors. "We looked at many factors, including the patient's age, gender, marital status, smoking behavior, and depression," explains Dr. Connerney, "but it turned out that only depression, heart condition, and insulin dependent diabetes were linked with cardiac mortality. In contrast, we did not see a significant relationship between depression and other causes of mortality. However, heart condition, insulin dependent diabetes mellitus, age and educational level were linked to an increased risk of mortality from all causes."

Coronary artery bypass surgery enables the heart to pump blood around blocked arteries and to alleviate severe chest pain. About 20 percent of heart bypass patients suffer from depression in the hospital.

Also collaborating on the study with Dr. Connerney and Dr. Shapiro were Richard Sloan, Ph.D., from the Columbia University College of Physicians & Surgeons, Emilia Bagiella, Ph.D. from the Mailman School of Public Health at Columbia University, Charlotte Seckman, MS, from the National Institute of Health, and Joseph McLaughlin, M.D., of the University of Maryland School of Medicine.

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Embargoed until: *March 4, 2006*

Prolonged Stress-related Activation and Health

Denver, CO - Most research on the effects of stress on the development of chronic disease has focused on the effect of the stressor in the brief period in which it actually occurs. However, it is more likely that stress will impact disease only if the body's responses continue long after the stressor itself has ceased. Thus, many studies have now shown that blood pressure elevations, as well as autonomic and hormonal dysregulations may continue, sometimes, as in the case of Post-Traumatic Stress Disorder (PTSD), for years after the particular stressor had ended.

One hypothesis for why this happens concerns our capabilities as human beings: we are quite able to represent a stressful situation in our memories; these memories may re-occur, and they are very likely to promote the same physiological responses to stress as the original stressor. The cognitive piece has variously been labeled as "rumination", "worry", and "perseverative cognition"; but the basic notion behind all these is similar: the prolonged thinking about a particular stressor promotes both an emotional and a physiological response. This latter usually includes an "arousal" concept, that is, the adrenaline begins to flow, just as with a strong cup of coffee. These three components – thoughts, emotion, and arousal – serve to push each other along, until one of two things happen: the person falls asleep, or is distracted from the stressful thoughts.

These long-lasting stress responses have recently become the focus of studies performed by health psychologists and medical researchers in the US and Europe, especially in the area of heart disease. In a symposium called "Prolonged Stress-related Activation and Health" some of the newest findings are presented.

Evidence showing that long-lasting responses, such as slow recovery following psychological stress, is a risk factor for disease is still sparse. (Andrew Steptoe from the Department of Epidemiology and Public Health, University College London, UK,) presents results showing that slow recovery of systolic blood pressure after stressful tasks predicted, 3 years later, a greater carotid intima-media thickness (IMT), which is a marker of early atherosclerosis. Importantly, this result was independent of responses *during* the stress tasks. Recently, he and his colleagues have shown that slow systolic recovery after stress predicted other risk factors too, such as stable high blood pressure and increased waist/hip circumference in men.

The longer the body remains activated following stress, the more the stressor is believed to contribute to physiological dysregulation, and, ultimately, to disease. An important question concerns our primary period of recuperation: the night, when one should be sleeping. Might our bodies continue to react to stress that had been experienced during the day? This is exactly what Jos Brosschot and co-workers from Leiden University in The Netherlands found. Heart activity appeared to remain elevated during sleep after a stressful day, especially in those who tended to worry a great deal during the day. These results suggest that the physiological dysregulation of the body's systems continues to occur after the stress is no longer present, even while we sleep.

Depression has recently been recognized as an important risk factor for cardiovascular disease. Kristen Salomon, Jon Rottenberg and colleagues from the University of South Florida report that the heart activity of depressed patients is blunted during and after stress in the laboratory compared to that of healthy people. They found that this was especially true for heart rate variability (HRV), which is a measure of the pattern of the heart's response to the environment. These findings are especially important as HRV has been found to be strongly associated with sudden cardiac death, and with other cardiovascular diseases; and chronically low heart rate variability is a serious risk factor for cardiovascular disease. The researchers conclude that depressed patients' risk of disease may be related to the lesser ability of their heart rates in regulating heart activity.

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Nicholas Christenfeld and Sky Chafin from the University of California, San Diego showed that faster recovery following emotional stress could be a matter of attributing your bodily arousal to a more source other than the actual provocation that caused the anger. Their subjects were made angry during a stressful task, which raised their blood pressure. Physiological arousal tends to accompany anger, and, reasonably, is interpreted by the person as anger due to the stressor. However, when the subjects afterward engaged in physical exercise, which *also* causes arousal, their blood pressure tended to return to the pre-stress levels more quickly compared to participants who sat quietly. The researchers hypothesize that this faster recovery of the blood pressure was caused by an alternative attribution, to the exercise, rather than to the stressor. As a result, the subjects may have tended not to ruminate over their anger, allowing their arousal, and their blood pressure, to return to resting levels.

Hostility and anger are potent risk factors for cardiovascular disease. One reason for this, hypothesized by William Gerin and his colleagues of Columbia University, may be due to the sustained effects that an anger-provoking incident may have on one's tendency to ruminate about the event. As described earlier, ruminating may re-activate the emotion –the angry feelings, in this case – which in turn will cause elevated physiological arousal; this in turn tends to potentiate more ruminating, and so it goes. Gerin and his colleagues recently published an important article in the APS journal, *Psychosomatic Medicine*, in which he had his students provoke the study subjects to anger; and then had them sit quietly in either a room filled with distractions (colorful posters, games, etc.), or the same room, but without a single distraction; just pure white walls. The blood pressure of the subjects in the “distraction” condition quickly returned to pre-stress levels, but that of the subjects in the “no distraction” condition remained elevated throughout the post-stress period. These subjects also reported having twice the number of anger-related thoughts. Moreover, the effects were most pronounced in the more temperamentally hostile subjects. In a current study, which is supported by the National Heart, Blood, and Lung Institute of NIH, on which he will be reporting at the upcoming APS meeting, he has extended this paradigm so that his subjects now go out of the laboratory while wearing a portable blood pressure monitor, and carrying an electronic diary in which they record their thoughts and emotions at periodic intervals throughout the day. Dr. Gerin will show preliminary data from this study, showing that even a small anger provocation, which takes place in the artificial confines of a research laboratory, tends to remain uppermost in the subjects' minds as they go out into their world, and engage in their natural activities.

In summary, this symposium summarizes an exciting, cutting-edge means of thinking about the effects of stress, anger, and hostility as they exert an impact on cardiovascular disease.

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Findings underscore the importance of physical education classes within our schools

Concordia University Study Underscores Importance of School Physical Education Classes for Children's Health, Especially for Disadvantaged Youth

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Denver, CO - Should cash-strapped schools cut back physical education classes in order to fund other areas? According to a recent study conducted by Dr. Jennifer McGrath at Montreal's Concordia University, shortening the amount of time children spend in physical education classes at school will result in many children, especially more disadvantaged children, not meeting recommended guidelines for physical activity, and this will likely have adverse consequences on their future health.

The goal of the study was to determine whether children's physical activity and sedentary behavior differed according to their socioeconomic background. Lower socioeconomic background refers to being poorer, less educated, or even coming from more disadvantaged neighborhoods. It is known from other studies that adults from lower socioeconomic backgrounds have more sedentary behavior and physical inactivity. Barriers to physical activity, including limited access to facilities, lack of safe recreational areas, and high expenses, are disproportionately high among those with lower socioeconomic backgrounds.

Over 3600 children, aged 9, 13 and 16 from 190 schools across the Canadian province of Quebec, answered questions about how often they played sports and engaged in physical activity, how often they had physical education classes at school, and how much time they spent watching television or playing videogames (as part of the original 1999 *Quebec Child and Adolescent Health and Social Survey* conducted by Sante Quebec). Socioeconomic background was measured for the parents and the schools. Parents answered questions about their education level and their household income. The socioeconomic level of the school was derived from indices created by the Quebec Ministry of Education and included maternal under-education, global poverty, and a socioeconomic environment index.

The results showed that children from poorer and less educated families were less physically active and had more sedentary behavior than children from wealthier and more educated families. Similarly, children attending schools with lower socioeconomic levels were less physically active and had more sedentary behavior than those attending higher socioeconomic schools. However, regardless of whether they came from rich or poor families or schools, all children received the same amount of school physical education classes. School physical education classes were the only source of physical activity for some disadvantaged youth. These findings underscore the importance of physical education classes within our schools and have considerable implications on policy decisions as they relate to school funding. Schools ought to provide sufficient physical education classes to ensure that *all* children meet the recommended guidelines for physical activity.

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Embargoed until: 03/02/2006

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NEW STUDY LINKS EMOTIONAL DISTRESS AND LABORATORY MARKERS OF HIV/AIDS PROGRESSION

Denver, CO - A recent study conducted at the Behavioral Medicine Research Center, University of Miami (FL) indicates that heightened feelings of stress, depression and anxiety in persons with HIV/AIDS are associated with laboratory indicators of disease progression, including more copies of HIV in the blood and fewer “helper” T-cells. Findings were presented for the first time at the American Psychosomatic Society Annual Meeting in Denver (CO).

The study, led by Jeffrey Greeson, M.S., and Barry Hurwitz, Ph.D., found that the link between emotional distress and HIV progression status is largely accounted for by over-activated “cytotoxic” T-cells. According to Greeson, “Our study is the first to show that negative psychological states may account, in part, for individual differences in HIV disease severity through a mechanism by which immune cells known to defend against HIV are deleteriously impacted.”

The cross-sectional study included a diverse sample of 167 HIV+ men and women. All study participants were on combination antiretroviral therapy. The investigators used a sophisticated statistical modeling procedure and controlled for the presence of AIDS-related clinical symptoms to reduce the likelihood that higher distress levels could be attributed to physical signs of more advanced disease.

“The data suggest that HIV infection, as well as the stress and negative emotions commonly associated with this condition, may *simultaneously* contribute to over-activated immunity,” Greeson said, “and perhaps increased susceptibility to disease progression.”

Study authors acknowledged that their current findings are considered preliminary until results can be replicated using a longitudinal design. That investigation is reportedly underway.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: 3 p.m. March 1, 2006 (MST)

Study Sheds Light on Maternal Depression Through Early Parenthood Years

Researchers Call for Further Research, Preventive Programs

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Denver, CO - A significant percentage of women experience high levels of depressive symptoms during early parenthood years, and further research could help identify at-risk mothers and serve as a baseline for intervention programs, concluded a study by a University of Colorado at Denver and Health Sciences Center researcher.

These findings are based on a 2000 national study that collected data on 1,646 American women of various socioeconomic backgrounds. The study identifies several differences between those who reported symptoms associated with depression and those who did not. More than 15 percent of mothers surveyed reported high levels of depressive symptoms up to 35 months after childbirth and into their children's toddler years.

Among women raising children ages 4 to 35 months, researchers identified at least 10 risk factors associated with maternal depression, including the absence of breastfeeding, financial stress, a lack of adequate emotional and child care support, and the demands of caring for children who need specialized health care long after infancy.

Lead author Jenn Leiferman, PhD., an assistant professor of preventive medicine and biometrics at the Colorado University School of Medicine, presented the study's findings on March 1 at the American Psychosomatic Society's annual meeting in Denver.

"Past research indicates that up to 25 percent of women experience some level of depression during the first year following childbirth, but much less is known about the risks for maternal depression beyond the perinatal period into the early years of parenthood," Leiferman said. "We believe future research must focus on these risk factors to better understand maternal depression and the long-lasting implications for women and their children."

The vast majority of previous research has focused primarily on the immediate post-partum period. However, the new data could be used to identify women at risk for depression months and even years after childbirth and serve as a baseline for effective intervention programs, she added.

"Untreated depression can have negative implications for women and children. Existing research indicates that depressed mothers show lower levels of involvement and interaction with their children, and are less likely to display sensitive and consistent care giving," Leiferman said. "As a result, their children can suffer mental distress and emotional, physical and behavioral problems. These are all very convincing reasons why more research is critical to preventive efforts."

The University of Colorado at Denver and Health Sciences Center is one of three campuses in the University of Colorado system. Located in Denver and Aurora, Colo., the center includes schools of medicine, nursing, pharmacy, and dentistry, a graduate school and a teaching hospital. For more information, visit the Web site at www.uchsc.edu.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed Date: Thursday, March 2, 2006

“Keeping it All Inside” Can Worsen Chronic Low Back Pain

Denver, CO - The anger management styles of patients with chronic low back pain can affect the severity of their pain, according to a new research study conducted by John W. Burns, PhD., Associate Professor of Psychology, and Amanda Holly, a Psychology graduate student, at Rosalind Franklin University of Medicine and Science in North Chicago, IL.

In a presentation at the American Psychosomatic Society’s Annual Meeting, Dr. Burns explained that, when situational factors cause chronic low back pain patients to alter how they normally deal with anger, low back muscle tension can increase significantly. Therefore, chronic low back pain patients who typically express anger but are forced by circumstances to keep the anger inside (e.g., when speaking to a supervisor at work) may suffer worse pain as a result.

As part of Dr. Burns’s study, 88 chronic low back pain patients performed a mental stress task while being criticized (“stress with harassment”). Half of the subjects were then allowed to express anger (Anger Express), and the other half were prevented from expressing their anger (Anger Inhibit). The Anger Inhibit subjects exhibited greater low back muscle tension than those in the Anger Express group. Specifically, Dr. Burns found that, in patients who expressed anger, low back muscle tension levels that were elevated during harassment returned to resting levels during the expression time, while those who inhibited anger maintained elevated low back muscle tension even after a five-minute recovery period.

Rosalind Franklin University of Medicine and Science educates medical doctors, health professionals, and biomedical scientists in a personalized atmosphere. The University is located at 3333 Green Bay Road, North Chicago, IL 60064, and encompasses the Chicago Medical School, College of Health Professions, Dr. William M. Scholl College of Podiatric Medicine, and School of Graduate and Postdoctoral Studies. Visit at www.rosalindfranklin.edu and www.lifeindiscovery.com.

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Embargoed until: *March 1, 2006*

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BYU STUDY CLARIFIES THE RELATIONSHIP BETWEEN RELIGION AND
HEALTH

Denver, CO - Many people recognize that religion can make them feel good and cope in effective ways. But did you know that it can also have real effects on biological factors in one's body? That is the finding of a study on the relationship between spirituality and religiosity and psychosocial and physical health conducted by Kevin Jordan, BA, and Patrick Steffen, Ph.D., research scientists in the Clinical Psychology Department at Brigham Young University. Results of the study were presented for the first time at the American Psychosomatic Society Annual Meeting, held March 1-4 in Denver, Colorado.

This study was conducted to better understand the relationship between religion and health in a sample of Mexican immigrants. It involved a sample of 72 Mexican immigrants who had lived in the United States for an average of 8 years. All persons filled out questionnaires designed to assess spirituality, church attendance, and self-reports of physical health, depressive symptoms, social support, and perceived stress. Physical health was also measured using C-reactive protein, a marker of inflammation.

Results showed that spirituality *but not church attendance* was related to decreased C-reactive protein, better self-reported health, decreased depressive symptoms, increased social support, and decreased perceived stress.

For Mexican immigrants, such findings suggest that spirituality can have a positive effect on biological factors in one's body such as C-reactive protein. Elevated levels of C-reactive protein increase one's risk for hypertension and cardiovascular disease. Spirituality may play a positive role in decreasing such risk.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: *March 2, 2006*

ENZYME IN SALIVA MAY BE A NEW BIOMARKER OF STRESS

Denver, CO - An enzyme found in saliva may be an indicator for how individuals respond to stress, according to a collection of studies recently presented at a symposium at the American Psychosomatic Society Annual Meeting.

Researchers found that levels of alpha amylase - an enzyme produced in saliva that aids in the body's digestion of macromolecules, such as carbohydrates and starch - varied as participants were placed in diverse types of stressful situations.

"The results from the studies suggest that alpha amylase levels in saliva increase as individuals deal with a variety of stressful situations," said Laura Stroud, PhD, a researcher at Brown Medical School and The Miriam Hospital and chair of the symposium. "Using saliva to measure how people respond to stress makes it easier for researchers to study stress outside of the laboratory and in children."

Five studies were presented at the symposium - each one focusing on how alpha amylase levels in saliva responded to stress in a variety of different populations: infants, children, healthy adults, adults with altered lipids, and depressed mothers.

1. Stroud's portion of the symposium reported that levels of alpha amylase rose in healthy children and adolescents that were faced with academic and social stressors, similar to those they encounter at school. Social stressors led to greater increases in the amylase levels compared to academic stressors.
2. A study presented by Urs Nater, PhD, of Emory University, showed that the lowest levels of alpha amylase in saliva were found in the morning and the highest levels at night. In addition, an individual's mood and level of chronic stress influenced the levels of alpha amylase throughout the day.
3. Laura Klein, PhD of Pennsylvania State University, presented results from her study that monitored levels of alpha amylase in participants after consuming caffeine and completing a math test. Alpha amylase went up more following the math test in participants who consumed caffeine. "We found that measuring the alpha amylase gave us a window on the biochemistry of the stress response."
4. Alpha amylase levels were observed in depressed and non-depressed mothers as well as their infants in a study led by Alison Shea, M.Sc. from the University of Toronto. Shea found that the levels of alpha amylase in mothers and their babies were similar and that depressed mothers produced different levels of the enzyme compared to non-depressed mothers. "Alpha amylase levels may provide an additional measure of stress vulnerability in psychiatric populations."
5. Sheila West, PhD, also from Pennsylvania State University, examined levels of alpha amylase in participants after they submerged one foot in cold water. She found that those with the largest increase of levels of alpha amylase also had significant increases in heart contractility - the force at which the heart is pumping- suggesting that the level of amylase is connected to the sympathetic nervous system activity during stress.

Douglas Granger, Ph.D., Associate Professor at Pennsylvania State University, and chair of the symposium summarized, "Until very recently, the depth of our knowledge about links between saliva alpha amylase, stress, behavior, and health was very shallow. Within the last several months, our research consortium has accumulated information at a very rapid pace. We see evidence that alpha amylase is responsive to stress in children and adults, and is associated with externalizing problem behavior, poor cognitive and academic performance, and health problems. Although the emerging findings from the initial studies are intriguing, there remains much to be learned." ###

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: March 2, 2006

DYSREGULATED COPING AND PHYSIOLOGICAL REACTIVITY ARE ASSOCIATED WITH
DYSREGULATED IMMUNE RESPONSES IN HIV PATIENTS

Denver, CO - The problem with stress may not be how much stress you encounter, but how you cope with it, and how quickly you recover from it, in terms your immune system--and potentially, on disease outcomes.

Connections between coping, immune, and physiological response systems, and the implications for progression of HIV are being investigated in 200 HIV-positive patients followed over 5 years in an outpatient clinic in inner-city Baltimore. The research is funded through a National Institutes of Health grant awarded to Lydia Temoshok, Ph.D., Professor of Medicine at the University of Maryland School of Medicine, and Director of the Behavioral Medicine Program, Institute of Human Virology, Baltimore.

Previous published research by Dr. Temoshok and her colleagues in Rome, Italy and at the University of California San Francisco showed that a dysregulated "Type C" style of coping with stress (under-recognition and under-expression of stress, needs, and emotion; and a dissociation between psychological and physiological reactions) was associated with suboptimal immune responses and/or faster disease progression in patients with malignant melanoma (the most deadly type of skin cancer) and HIV or AIDS. These studies have set the stage for Dr. Temoshok's current research, which is testing her hypotheses about possible underlying immune mechanisms for the relationship between Type C coping and disease outcomes in HIV.

The immunological component of the study focuses on the production of beta-chemokines when stimulated *in vitro* by the HIV core protein p24. Beta-chemokines are potent HIV inhibiting molecules of the immune system which latch onto and block one of the main HIV co-receptors or doorways by which the dominant HIV strain enters cells. Higher production of beta-chemokines has been associated with a more favorable clinical status in HIV.

Type C coping was measured by a validated "vignette similarity rating method," developed by Dr. Temoshok, in which a participant reads a paragraph about a character behaving, emoting, thinking, and interacting in ways that are typical of Type C coping (or other types of coping), and then rates how similar or dissimilar one is from that character.

To measure participants' physiological reactivity to and recovery from stress, their heart rate and blood pressure, both systolic and diastolic, were monitored at 90-second intervals before, during, and after two emotion-induction tasks.

Data on the first 100 participants in the current study, which will be presented at the March 2006 American Psychosomatic Society Annual Meeting by Dr. Temoshok, show a strong relationship between Type C coping and *lower* production of HIV-inhibiting beta-chemokines. Adjusting for age and medication use, elevated cardiovascular reactivity to stressors, and a decreased ability to return to a resting state were significantly associated with decreased beta-chemokine production.

These results suggest that interventions to change maladaptive Type C coping and physiological response tendencies could constitute a safe and effective complementary HIV treatment strategy. The development of synthetic molecules or drugs that mimic the receptor-blocking characteristics of beta-chemokines are a current focus of intense biomedical and pharmaceutical efforts. The thrust of Dr. Temoshok's research suggests that behavioral and/or biofeedback interventions to change dysregulated behavioral and physiological coping patterns could enhance--naturally and without potential side effects-- the production of the body's own HIV-protective chemokines. ###

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Embargoed until: *March 4, 2006*

DEPRESSION AND CARDIOVASCULAR MORBIDITY IN THE MEDICARE HEALTH OUTCOMES
STUDY

Denver, CO - Depression Linked to Heart Disease and Stroke in Medicare Elderly.

Recent studies have established that depression is a risk factor for the most common type of heart disease, coronary artery disease. Depression after a heart attack doubles the death rate within six months. But does depression play an important role in heart disease among the elderly? And should new research change Medicare policy for the treatment of heart disease?

A new report based on the Medicare Health Outcomes Study finds that depression in the elderly is strongly linked to heart attacks, heart failure, and stroke. Depression nearly doubled the risks for each of these cardiovascular conditions, and tripled the risk for chest pain at rest, compared to people without depression. The effect of depression on these conditions is greater for people over the age of 65, compared to those under 65.

“This is the first report,” said Lawson Wulsin, MD, an author of the study and professor of psychiatry and family medicine at the University of Cincinnati, “to show that the caustic relationship between depression and heart disease, which we have learned about in studies of samples ranging between a few hundred to a few thousand, also applies to a large sample of over 166,000 people enrolled in Medicare. This data could help reshape Medicare policy on the treatment of heart disease to routinely include attention to depression as a treatable risk factor.”

The effect of depression on heart attacks, heart failure, and stroke was comparable to the effect of diabetes, an established major risk factor for heart attacks, heart failure, and stroke. And the relationship between depression and these three conditions could not be explained by the effects of age, gender, smoking, or diabetes.

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Embargoed until: Friday, March 3, 2006

**HOSPITAL WORKERS ARE RESILIENT, BUT WORKING WITH SARS TAKES ITS TOLL,
CANADIAN STUDY SHOWS**

Denver, CO - Healthcare workers who cared for SARS patients in Toronto Hospitals were resilient during this stressful experience, but many of them may not want to do it again, finds a study presented at the American Psychosomatic Society Annual Meeting.

Led by a team of psychiatrists and clinicians from the various hospitals, the study compared healthcare workers who worked directly with SARS patients in Toronto hospitals with those working in Hamilton hospitals who did not treat SARS patients. In all, 769 healthcare workers were surveyed 13 to 26 months following the SARS outbreak.

“On one hand we are reassured to see that hospital workers who were working in Toronto during the outbreak of Severe Acute Respiratory Syndrome do not appear to develop serious psychiatric conditions because of it,” said Dr. Robert Maunder, one of the principal investigators from Mount Sinai Hospital. “On the other hand, we should be concerned about the number of healthcare workers who have cut back on work hours, or cut back on patient contact or are planning changes like that as a result of their SARS experience.”

The Toronto workers indicated that these changes were due to their SARS experience. “We found that plans to reduce healthcare work were closely associated to feelings of burnout in the Toronto workers” said Dr. Maunder, “The results allow us to be fairly confident that working in hospitals that cared for SARS patients has had ongoing consequences. The healthcare workers were telling us that they are not incapacitated by the experience – they are functioning quite well, in fact. But many of them may not want to do it again. That is a big concern now because the experts are predicting a worldwide pandemic of influenza sometime in the near future.”

Dr. William Lancee, also a principal investigator at Mount Sinai Hospital, said that based on the study’s interview results, staff reducing the amount of time they worked if a similar outbreak would equate to an approximate eight per cent reduction in workforce (in Toronto hospitals). “That may not sound like a lot, but if hospital workers choose to leave the workforce as a pandemic is emerging, the system will likely find it hard to cope with the loss.”

Fortunately, there is still time to respond to the stresses of SARS and to prepare for the next large infectious outbreak. “We think that the greatest impact of this study may be to help the planning for the next outbreak” said Dr. Maunder, “The message is that we need to provide the required practical resources and moral support to frontline workers when they are asked to do extraordinary work. They put their own safety, and sometimes the safety of their families, on the line to do their work during an infectious outbreak. Their voices need to be heard so that their experience can guide us in meeting the challenge of the next emerging infection.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: *March 3, 2006*

**THE HEALTH OF MOMS AND BABIES IS AFFECTED BY PSYCHOLOGICAL AND SOCIAL
STRESS DURING PREGNANCY**

Denver, CO - The miracle of birth can occur under the most difficult circumstances, but we've long known that things like natural disasters and war can threaten the well-being of moms and babies. Researchers are now showing that less catastrophic stressors, such as being a member of an ethnic minority group or having money and job worries, can also be dangerous for pregnancy and infant development.

Dr. Mary Coussons-Read of the University of Colorado at Denver and Health Sciences Center, Dr. Chris Coe of the University of Wisconsin, Dr. Clayton Hilmert of North Dakota State University, and Dr. Jeanne Ruiz of the University of Texas Medical Branch shared their findings during a symposium at the American Psychosomatic Society Annual Meeting, held March 1-4 in Denver, CO.

Stressors ranging from feelings of stress to being a member of an underrepresented minority group to prenatal infection can endanger an apparently healthy pregnancy and impair infant behavior and health. Among the findings reported were that perceived stress can increase levels of chemicals associated with pregnancy complications in otherwise healthy women, that African American and Hispanic women reporting high levels of social and racial stress were more likely to have low birthweight infants than majority women, and that both infection and psychological stress slow the behavioral development and health of infant monkeys.

These findings show that even non-life-threatening stress experiences can adversely affect pregnancy and infant health, and emphasize the importance of not only physical, but social and psychological care, for expectant moms.

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Release from American Psychosomatic Meeting, Denver, CO

Contact: Mirjam Knol

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Embargoed until: Thursday, March 2, 2006

Depression is consequence of having type 2 diabetes

Denver, CO - It is known that depression occurs more frequently in diabetes patients than in non-diabetes patients. But the reason for this is still not clear.

Is depression directly related to changes in the body due to the diabetes? Or is depression a result of the burden of having diabetes?

These were the questions that Mirjam Knol, Ph.D. student at the University Medical Center Utrecht in The Netherlands, wanted to answer. Results of the study were presented at the American Psychosomatic Society Annual Meeting, held 1-4 March in Denver, CO.

Data from a large study, called the Utrecht Health Project, were used to study these questions. "We divided the participants of the study into four groups:

- people who knew they had diabetes because their doctor told them;
- people who did not yet know they had diabetes, but by whom the blood test showed they did have diabetes
- people in whom the blood test showed a pre-diabetes level
- people with a normal blood test

All participants filled in a questionnaire to determine if they suffered from depressive feelings."

In the group who knew they had diabetes, twice as many persons suffered from depression, in comparison with participants with a normal blood test. On the other hand, in the group who had diabetes but did not know it, depression did *not* occur more often than in the comparison group.

These results suggest that depression is linked to the diagnosis of diabetes.

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Embargoed until: *March 1, 2006*

One working week of partial sleep deprivation affects subjective health and immune function

Denver, CO - The feeling of insufficient sleep is well known to most individuals. How does this feeling correspond to measures relevant for health and well-being? Is a good night's sleep enough to recover? Very little is known of how we react to sleep restriction in the long-term, or how fast we can recover after such a strenuous period. As presented at the American Psychosomatic Society Annual Meeting, John Axelsson, Torbjörn Åkerstedt, Mats Lekander and colleagues at the Karolinska Institutet in Sweden, have studied healthy individuals before, during and after five days of restricted sleep, this being equivalent to a working week with too little sleep.

The aim of the study was to analyze acute and longer-term effects of restricted sleep (4hs per night for five days) on hormonal and immunological measures and on self-rated health, an important health marker. Nine healthy subjects participated in a strict 6-week sleep protocol, in which subjects slept in the sleep laboratory for 12 days. For 9 of these days, multiple blood samples were drawn for analyses of endocrine and immune measures. To test whether restricted sleep disturbed immune reactivity, blood samples were stimulated with bacterial like substances and later analyzed with respect to immune activity. As a result of restricted sleep, self-rated health decreased gradually and recovered to baseline levels only after three days of recovery. Against the hypothesis, immune reactivity (e.g. pro-inflammatory cytokines) increased after five days of restricted sleep, but only in the late evening and early night hours. In conclusion, it was shown that an ecologically valid model (corresponding to one working week) with restricted sleep clearly affects perceived health and immune function.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: *March 2, 2006*

**STUDIES OF MIND-BODY INTERACTIONS MADE POSSIBLE
BY MONITORING THE STOMACH'S ACTIVITY**

Denver, CO- Everyone knows how sensitive the stomach is to the stress and emotions we experience every day. From nausea, to changes in appetite, to diarrhea and constipation, it is easy to appreciate the strength of the connection between our brain and our gut. As presented at the American Psychosomatic Society annual meeting in Denver, CO, reaching an improved understanding of the nature of these connections - and what we might be able to do to avoid their effects - is being made easier by a research technique called electrogastrography.

The electrogastrogram is a measure of the electrical activity of the stomach. It is easily recorded from the surface of the skin over the abdomen. As we experience nausea and other unpleasant symptoms in response to psychological stress or as a result of an illness or enduring condition, the electrogastrogram tends to reveal an abnormal pattern of activity. It's the same activity that's exhibited by patients with gastrointestinal disorders like dyspepsia. Getting a better handle on the causes and effects of abnormal stomach activity with the use of electrogastrography promises to inform the development of successful interventions for afflicted individuals.

Max Levine, Ph.D. and Kenneth Koch, M.D. of Wake Forest University Health Sciences, Eric Muth, Ph.D. of Clemson University, and Karin Meissner, Ph.D. of the Institute of Medical Psychology in Munich reported on the exciting studies being done in this area. For instance, manipulations of psychological stress can induce the abnormal pattern of stomach activity that accompanies nausea, and stress-reduction strategies like obtaining control and the ability to predict the course of a stressful event reduce both nausea and abnormal stomach activity. The management of various eating disorders may also be enhanced by research into the contribution of abnormal stomach activity to disturbed patterns of ingestive behavior. Currently, more work is being done with electrogastrography in an effort to elucidate the intricate relationships between the functioning of the stomach and the symptoms we commonly experience.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: Saturday, March 4, 2006

‘SEVERE FATIGUE IN ADOLESCENTS: PREVALENCE AND CORRELATES’

Denver, CO - “Youngsters in today’s society are so often tired...” This is frequently reported by teachers and parents. And indeed, scientific data show that severe fatigue is widespread among high school students, especially in girls. Surprisingly, complaints of fatigue can hardly be attributed to so-called life style characteristics, such as extracurricular activities and is particularly related to depressive and anxious feelings.

That is the finding of an extensive study by the University Medical Center Utrecht in The Netherlands. Maïke ter Wolbeek, psychologist, recruited 3460 adolescent boys and girls to measure their level of fatigue symptoms by means of a questionnaire which is also used in clinical research with chronic fatigue syndrome patients.

As presented at the American Psychosomatic Society Annual Meeting no less than 20.5% of girls reported levels of fatigue which are comparable with those of chronic fatigue syndrome patients. In boys the rate of severe fatigue was 6.5%. People often suggest that fatigue among adolescents is due to life style characteristics such as shortness of sleep, late night parties and alcohol use. However, this study demonstrated that these factors only play a minor role. Importantly, fatigue was highly related to the degree of depressive and anxious feelings of the students. Moreover, when fatigue lasted longer, the severity of fatigue, depression and anxiety was higher and more complaints of pain, unrefreshing sleep and memory and concentration problems were reported.

Another significant finding was that in girls the level of fatigue increased between the age of 12 and 18. This was not observed in boys and might well be evoked by the increase of female sex hormones during puberty. In line with this idea is the observation that girls who had their first period at earlier age, reported more complaints of fatigue when they were older. (To be published in *Pediatrics*, 2006)

Currently Maïke ter Wolbeek and her colleagues are examining whether severe fatigue is related to disturbances in the immune system and in the production of (stress) hormones. Long term follow up research will test whether persistent fatigue is a risk factor for the development of chronic fatigue syndrome.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: *March 1, 2006*

Psychological stress increases risk of metabolic syndrome in the elderly

Denver,CO - Psychological stress increases the risk of the metabolic syndrome, a clustering of cardiovascular risk factors. Dr. Nicole Vogelzangs of the VU University Medical Center in Amsterdam, the Netherlands will present results of a study on stress and the metabolic syndrome at the American Psychosomatic Society Annual Meeting in Denver, CO.

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The results of the study are based on the Health, Aging, and Body Composition (ABC) study, an epidemiological study, partly supported by the NIH, on the physical condition of elderly men and women residing in Pittsburgh, Pennsylvania, and Memphis, Tennessee. Health ABC participants included 2917 men and women between the age of 70 through 79 years.

The metabolic syndrome was evaluated by high blood pressure and blood glucose, dyslipidemia and obesity. Also measured were symptoms of depression or anxiety, negative life events, and social support. Participants who suffered from any one of these factors, had 22% more chance of developing the metabolic syndrome than participants who experienced none of these factors. Participants who experienced two or more of these factors had 39% more chance of developing the metabolic syndrome.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: Saturday, March 4, 2006

The Problems with Your Heart Start In Your Head

Denver, CO - Does stress really lead to heart problems? If so, how? Today, as part of a symposium at the 64th Annual Meeting of the American Psychosomatic Society, prominent researchers presented the latest brain imaging research that provides evidence that the brain may be the culprit behind the stress - heart disease relationship. "Everyone has heard the tales of people who work too hard or who are in difficult relationships and have heart attacks because of the stressful lives they lead. So much so that it's often taken for granted that stress may contribute to heart disease and people don't ask why," said Peter Gianaros, Ph.D., assistant professor of psychiatry, University of Pittsburgh School of Medicine and moderator of the symposium. "Through new imaging technology like MRI and PET, we have found that the answer may lie in how the brain handles stress and negative emotions." As part of the symposium, "Neuroimaging of Autonomic-Cardiac Reactivity in Health and Disease," several researchers from the United States, Great Britain, and Japan presented brain-imaging studies of healthy and depressed individuals. Julian Thayer, from the Ohio State University, discussed the pathways in the brain that can link stress and other negative emotions with the mechanisms that control the cardiovascular system. Greg J. Siegle (Ph.D.), from the University of Pittsburgh School of Medicine showed how patients with depression differ from non-depressed people in how the activity in their amygdalae and cingulate cortex relate to cardiovascular function. Scott C. Matthews (M.D.) from the University of California San Diego also showed how activation in the amygdala is related to cardiac function in people with major depressive disorder. Depression is a major risk factor for cardiovascular disease, and those with depression often have increased activation of the amygdala and decreased activation in parts of the cingulate cortex –two areas that also regulate heart rate and blood pressure. Peter Taggart (M.D.), from University College, London discussed his imaging studies of how stress may induce serious abnormalities of heart rhythm. Hideki Ohira, (Ph.D.), of Nagoya University and Dr. Gianaros presented results of two neuroimaging studies showing how stress may contribute to brain atrophy and compromised immune function.

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Release from American Psychosomatic Meeting, Denver, CO

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Richard Surwit; (919) 684-4317; surwi001@mc.duke.edu

Redford Williams; (919) 684-3863; redfordw@duke.edu

Embargoed until: 12:45 PM CT, Thursday, March 2, 2006

INTERACTIONS BETWEEN GENES AND ENVIRONMENT MAY AFFECT HEALTH MORE THAN GENES OR ENVIRONMENT ACTING ALONE

Denver, CO – Is it nature or nurture – your genes or the environments you experience through life – that is the major player when it comes to your health and well-being? It will probably come as no surprise that it's both, with our genes playing a key role in how we respond – biologically and psychologically – to stressors large and small that we encounter in daily life.

This is the conclusion from research in four studies conducted by teams from the Vrije Universiteit in Holland, the Medical College of Georgia and Duke University Medical Center. Results of the studies are being presented in a symposium at the American Psychosomatic Society annual meeting.

In a study testing blood pressure and heart rate reactivity to acute mental tasks in a sample of 372 adolescent and middle-aged fraternal and identical twin pairs, Eco De Geus, Ph.D., of the Vrije Univeriteit found that some genetic factors have a larger effect on blood pressure when it is measured under stress. As De Geus put it, "Some genes may lie dormant when life is sweet and calm, but swing into action when we are stressed."

Two studies from Duke University Medical Center evaluated effects of a particular mutation in the gene that makes monoamine oxidase-A (MAOA-uVNTR), an enzyme responsible for breaking down serotonin as well as other neurotransmitters in the brain. One form of this mutation causes the gene to make more of the enzyme, while the other form results in less enzyme being made.

"There has been considerable speculation that serotonergic nerves in the brain play an important role in glucose metabolism and obesity," said Richard Surwit, Ph.D., a medical psychologist at Duke who led one of the studies. "Drugs that block serotonergic receptors, such as olanzapine, can produce significant weight gain and diabetes, while drugs that stimulate serotonergic neurons, such as fenfluramine, can induce weight loss and improve metabolism.

The data show that the relationship between serotonin function in the brain and blood levels of glucose and insulin as well as body mass index appears to be dependent on whether one has the active or inactive form of the MAOA-uVNTR mutation.

"It appears that people who carry a particular form of this gene may be more susceptible to developing obesity and diabetes and may be more responsive to therapies that impact on this enzyme," Surwit said.

In a separate study, a Duke research team looked at more than 300 study participants half of whom were primary caregivers for either a close relative or spouse with Alzheimer's disease and half who were similar to the caregivers but had no caregiving responsibilities. Their data show a significant effect of the MAOA-A gene on the excretion of stress hormones, particularly in men.

"It appears that men with the less active form of the MAOA gene who were subjected to the chronic stress of caregiving, exhausted their ability to mount a stress hormone response during the day and evening hours," said Redford Williams, MD, director of the Behavioral Medicine Research Center at Duke and lead researcher on the findings. "Their ability to excrete cortisol and adrenaline during the day and evening was significantly lower than that of men with the more active form of the gene, and all the women with both forms of the gene. Ultimately, their body's biological ability to cope with stress became impaired. This exhaustion of their ability to mount a hormonal stress response could place men with the less active form of the gene at higher risk of developing a broad range of health problems as their caregiving duties continue."

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Research being conducted at the Medical College of Georgia is evaluating several families of genes known to affect bodily functions involved in the stress response as they affect the risk of developing hypertension, or high blood pressure. “It has been difficult to show effects of stress on the development of hypertension,” said Harold Snieder, Ph.D., “because it may be that only a subset of people – those that show a genetic susceptibility – develop high blood pressure after chronic exposure to stress. Our research shows that effects of different candidate genes on the development of high blood pressure during adolescence depend on the environmental stressors that are present, the gender and the ethnicity in a group of European American and African American youth that have been followed for 15 years.”

Advances in genetic research have raised the prospect of individualized medicine, namely optimizing both drug and behavioral therapies and preventive measures by taking into account predicted differences in response based on genetic make-up. Findings presented in this symposium underscore the fact that environmental exposures influence how genes affect both mental and physical health. Understanding how differing environmental and behavioral exposures, including individual experiences such as nurturing or stress, alter how our genes affect our health is vital if the prospect of individualized medicine is to be realized.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: *March 1, 2006*

UCSF / VA STUDY SHOWS SOCIAL SUPPORT CONNECTED TO FASTER RECOVERY FROM COLDS

Denver, CO – Still frustrated by that lingering cough, stuffy nose, or sore throat that just won't go away? Rather than wallowing in your sickness or reaching for antibiotics, try calling a supportive friend or family member and you may recover faster.

Researchers at the University of California, San Francisco (UCSF) and the Philadelphia Veterans Administration Medical Center have found that individuals who believe they have good social support are sick for fewer days when suffering from a cold or other respiratory illness, compared to individuals with low levels of perceived social support.

Study results showed patients who rated themselves as having higher amounts of social support had a 39 percent greater probability of recovering from an illness two weeks after a hospital visit. A person with a high level of perceived social support was defined as someone who believes that he or she has friends, family members, or a significant other available to help out in times of need.

“These findings support the theory that health and illness are affected not only by biological factors, but also by a combination of psychological and social factors,” said lead investigator Sara Levin, analyst and IMPAACT project coordinator at UCSF. “A social support network of family and friends is an especially important element in this equation.”

Levin presented the study findings for the first time at the American Psychosomatic Society Annual Meeting, on March 1-4, 2006, in Denver, CO. “We found higher social support to be independently associated with faster recovery times,” added Levin. “Further investigation is needed to determine the type and level of impact social support has on biological or psychological response to illness.”

The social support study involved 704 patients who were seeking care in a hospital emergency department for a respiratory illness, such as a cold or cough, and who completed a follow-up phone survey after their hospital visit.

The study is part of the Improving Antibiotic Use in Acute Care Treatment (IMPAACT) Project at UCSF (<http://medicine.ucsf.edu/impaaact>). It is jointly sponsored by the Agency for Healthcare Research and Quality and the Health Services Research and Development Service of the Department of Veterans Affairs. The study investigates social support levels, antibiotic usage, and illness duration in thousands of patients across 15 hospitals in eight US cities: Albuquerque, NM; Augusta, GA; Bronx, NY; Chicago, IL; Kansas City, MO; Pittsburgh, PA; San Antonio, TX; and San Diego, CA.

For more information or to request an interview with the investigator, please contact Vanessa deGier at vdegier@pubaff.ucsf.edu or 415/476-2557.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: *March, 4, 2006*

INHERITED BRAIN FUNCTION MAY PROMOTE RISK FOR DEPRESSION AND HEART DISEASE

Denver, CO - Depression is a debilitating health threat and a risk factor for heart disease. Inherited factors and life experiences influence risk for these related diseases, but the exact causes are unknown.

Dr. Serina Neumann, an Assistant Professor of Psychiatry at the Eastern Virginia Medical School, reports on a genetic variation that may promote negative mood, such as depression, and cardiac regulation as presented at the American Psychosomatic Society Annual Meeting.

Since changes in brain chemicals, such as acetylcholine, have been related to both depression and heart disease, it is possible that variation in genes directing acetylcholine function may contribute to differences in integrated brain activity responsible for regulating negative mood and cardiac activity.

Thus, the relation of brain activity (measured by functional magnetic regional imaging) in response to emotional tasks to variation a gene regulating acetylcholine availability, the choline transporter gene (CHT1), and variability in resting heart rate (modulated by acetylcholine) was studied.

Variation in this CHT1 gene is labeled "G" or "T". Each person inherits two copies of the "G" variant (GG), two copies of the "T" variant (TT), or one of each (GT).

In 32 adults, people who inherited two "G" variants (GG) in the CHT1 gene had different brain activity in regions shown to help regulate negative emotion and cardiac regulation than those who inherited a "T" variant (TT or GT).

This first evidence suggests that this CHT1 variant is related to brain activity that may promote negative mood, such as depression, and differences in cardiac function.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: *March 4, 2006*

Genes affecting blood pressure change as children become adults

Denver,CO - As children transform into adults some of the genes involved in controlling their blood pressure change as well, according to a study of more than 500 pairs of twins.

The study of black and white identical and fraternal twins showed that changes in gene expression between ages 14 and 18 accounted for up to one third of the blood pressure variation that occurred by age 18, says Dr. Harold Snieder, genetic epidemiologist at the Medical College of Georgia in Augusta.

The findings were presented March 4 in Denver during the 64th Annual Scientific Conference of the American Psychosomatic Society.

“We know this is a period of great change, between 14 and 18 years of age, as children are growing, hormones are raging and the stability of adulthood has not yet been reached,” says Dr. Snieder. Those factors prompted him and his colleagues to look at what happens to blood pressure and related hemodynamics – such as heart rate and how much blood the heart pumps with each beat – near the beginning and end of the biologically tumultuous times.

Researchers left much-discussed obesity out of this equation, focusing instead on genes and environmental factors directly influencing blood pressure and hemodynamics. The huge twin cohort and some complex mathematical modeling made it possible to quantify the role of genetics.

They found genetics played a moderate to high role, explaining between 25 and 64 percent of the individual differences in blood pressure and hemodynamics, Dr. Snieder says. Genes also played a major role – between 60 and 100 percent – in the consistency they saw in the measures over the four-year period.

Most surprisingly, he says, was the emergence of novel genetic influences that accounted for up to a third of the total variation at age 18.

“A substantial part of the individual differences between the twins were due to new genetic effects between this period of age 14 and 18,” says Dr. Snieder. “There are new genes being switched on that are involved in blood pressure and factors underlying blood pressure. I think that is the most interesting finding: the large amount of new genes that come into play.”

Even though the genes responsible for blood pressure regulation remain unknown, it’s widely believed – and some previous studies in adult twins have shown – that the genes are consistent over a lifetime, Dr. Snieder says.

“The next step is following these kids for a long period of time to see whether the genetic effects stabilize or, after another three or four years, there is another large jump in new genetic effect,” he says. Despite conventional thinking, this scientist who focuses on genetics, was not totally surprised to see the novel genes show up during puberty – although the amount of change surprised him – but suspects gene expression may be consistent from that point onward.

“We need to know what the genes are to develop new medications and treatments and this shows that at different ages there appear to be different genes,” says Dr. Snieder, who already is working to identify some genes that may influence unhealthy increases in blood pressure that occur over time.

A second finding that bears further study is that the importance of non-shared environmental influences became more important in the black twins over the four-year period, says Dr. Snieder.

Non-shared influences could mean one twin starts riding a bike to school while the other continues taking a bus or even that they start going to different schools.

Environmental factors are wide-ranging – including diet, physical activity, socioeconomic issues and stress – and difficult to accurately measure, Dr. Snieder says.

However, if factors negatively influencing blood pressure in blacks can be identified, it could contribute to solving health disparities such as blacks tending to have higher rates of hypertension that start at a younger age, he says.



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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: March 1, 2006

**OHIO UNIVERSITY STUDY SHOWS DRINKING WATER REDUCES NEGATIVE REACTIONS
DURING BLOOD DONATION**

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Denver, CO - It has been recognized that novice blood donors are at increased risk for unpleasant blood donation-related symptoms, such as dizziness and lightheadedness, and the experience of such symptoms can contribute to a decreased likelihood of donating blood in the future. However, drinking water prior to blood donations appears to reduce unpleasant reactions.

That is the finding of a study conducted by Dr. Stephen Patterson and colleagues at Ohio University. Results of the study were presented for the first time at the American Psychosomatic Society Annual Meeting, held March 1-4 in Denver, CO.

The research examined the effects of drinking water prior to blood donation as a means of reducing subjective physiological reactions to blood donation in novice blood donors, with the ultimate goal of increasing donor retention.

“This study suggests that in investigating ways to enhance donor satisfaction and potentially increase donor retention, the volume of fluid lost during the blood donation procedure must be considered,” Patterson said. “In this study, having individuals drink at least a two cups of water one-half hour prior to blood donation reduced negative physiological reactions.”

The investigation involved 45 relatively novice donors who were randomly assigned to either 710 ml of water or no water thirty minutes before donation. Following donation, all participants completed the Blood Donations Reactions Inventory (BDRI) which includes questions concerning subjective physiological reactions and post donation interventions administered by the phlebotomist such as placing a cold compress on the forehead or reclining the donation chair.

Results indicated that those who received water reported fewer negative reactions and fewer phlebotomist interventions as compared to those who did not drink water before donating.

Overall, the findings suggest that a simple and inexpensive water loading procedure can be used to enhance donor satisfaction and potentially increase donor retention.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: *March 2, 2006*

Studies Show Benefits of Controlled Breathing to Mind and Body

Denver, CO - Yoga masters have known it for thousands of years. Now scientists have evidence that learning how to breathe correctly can improve everything from panic attacks to hypertension to chronic pulmonary obstruction.

Results of three studies by medical physicians and psychologists on breathing training were presented for the first time at the American Psychosomatic Society's annual meeting in Denver, March 2.

In one study completed at Stanford University, researchers now at Southern Methodist University, used biofeedback to help panic patients regain control of their breathing which in turn reduced hyperventilation and panic attacks.

When people hyperventilate they breathe deep and fast, and carbon dioxide in the body lowers. This can induce anxiety and panic and, if done chronically, it takes a physical toll on the body. Lower levels of carbon dioxide cause tingling in the hands and feet, restrict blood flow to the brain and can inflame airway passages. The latter is particularly problematic for asthmatics, who also suffer from a higher prevalence of panic attacks than the general population.

To learn how to avoid taking deep breaths, but to breath slow and shallow, patients in the panic study were given a hand-held biofeedback device. The device measured the amount of carbon dioxide exhaled. Using this device, patients learned how to successively breathe slower, shallower, and more regularly over the course of the four week's treatment.

Results showed that panic patients drastically reduced the number of attacks, with a majority still free of complaints after one year. An additional pilot study showed that asthma patients were better able to control and reduce their symptoms using the same breathing techniques.

Israeli researchers have demonstrated a novel way to effectively treat hypertension and congestive heart failure without side effects by using paced breathing guided by a device. Patients used the device at home for 15-minute sessions each day. Seven clinical trials have demonstrated a significant reduction in uncontrolled blood pressure and in the reduction of complaints related to anxiety and physical activity in diabetic-hypertensive patients. Patients with congestive heart failure experienced therapeutic benefits and improvement in quality-of-life. How does it work? Studies suggest that the device lowers the sympathetic nervous system activity and reduces resistance to blood flow by relaxing the muscles surrounding the small blood vessels.

Finally, University of Michigan researchers demonstrated physical and mental benefits from breathing training with patients suffering from chronic obstructive pulmonary disease, common in longtime smokers. In that study, patients used biofeedback to learn how to alter their heart rate and breathing patterns to improve the efficiency of carbon dioxide and oxygen exchange in their lungs.

Results from this study showed that after breathing retraining patients had higher levels of oxygenated blood, greater mobility and better tolerance for shortness of breath. Patients also reported a better overall quality of life.

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Release from American Psychosomatic Meeting, Denver, CO

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Embargoed until: 12:01 a.m. MST Friday March 3, 2006

Hearts Hurt When Spouses Spat

Artery Disease Tied to Hostility for Wives, Loss of Control for Husbands

Denver, CO - Hardening of the coronary arteries is more likely in wives when they and their husbands express hostility during marital disagreements, and more common in husbands when either they or their wives act in a controlling manner.

Those are key findings of a study of 150 healthy, older, married couples – mostly in their 60s – conducted by Professor Tim Smith and other psychologists from the University of Utah. Smith was scheduled to present the findings Friday March 3 in Denver during the annual meeting of the American Psychosomatic Society, which deals with the influence of psychological factors on physical health.

“Women who are hostile are more likely to have atherosclerosis [hardening of the coronary arteries], especially if their husbands are hostile too,” Smith says. “The levels of dominance or control in women or their husbands are not related to women’s heart health.”

“In men, the hostility – their own or their wives hostility during the interaction – wasn’t related to atherosclerosis,” he adds. “But their dominance or controlling behavior – or their wives dominance – was related to atherosclerosis in husbands.”

Smith summarizes: “A low-quality relationship is a risk factor for cardiovascular disease.”

Smith conducted the study with University of Utah psychologists Cynthia Berg, a professor; Bert Uchino and Paul Florsheim, both associate professors; and Gale Pearce, a Utah postdoctoral fellow now on the faculty of Westminster College in Salt Lake City.

Marital Disputes in the Laboratory

The study – which began in 2002 and ended in 2005 – involved 150 married couples with at least one member between 60 and 70 years of age and the other one no more than five years older or younger. The couples were recruited through newspaper advertisements and a polling firm. Those who participated had no history of cardiovascular disease and were not taking medicine for it.

Each husband and wife was paid \$150 to participate, and also received free of charge a \$300 CT scan to look for calcification in their coronary arteries – the arteries that supply the heart muscle and that can cause a heart attack when clogged. Smith says that in otherwise healthy people, calcification represents hardening and narrowing of the arteries that puts them at risk for later heart attack.

Each couple was told to pick a topic – such as money, in-laws, children, vacations and household duties – that was the subject of disagreements in their marriage. Then, while sitting in comfortable chairs and facing each other across a table, each couple discussed the chosen topic for six minutes while they were videotaped.

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Psychology graduate students coded the videotaped conversations so that “each comment that reflected a complete thought” was given a code indicating the extent to which it was friendly versus hostile, and submissive versus dominant or controlling.

For example, comments like, “You can be so stupid sometimes” or “you’re too negative all the time,” were coded as hostile and dominant. Another dominant or controlling comment would be, “I don’t want you to do that; I want you to do this.”

“A warm, submissive comment would be, ‘Oh that’s a good idea, let’s do it,’” Smith says. “A less warm one would be, ‘If it’s important to you, I’ll do what you want.’ An unfriendly, submissive comment is, ‘I’ll do what you want if you get off my back.’”

Smith says some of the marital discussions were calm and peaceful, but in some cases, the couples were quite hostile, prompting the psychology graduate students to refer them to marriage counseling. The researchers assumed that a couple’s behavior during the discussion reflected their long-term pattern of behavior, although a marital spat in front of researchers likely “is a muted version of what goes on at home,” Smith adds.

Two days after their discussion, each couple underwent a CT scan of the chest at the University of Utah’s Center for Advanced Medical Technologies. Doctors used a standard scale to score each person’s level of coronary artery calcification – an indicator of atherosclerotic plaque buildup in the arteries that supply blood to the heart.

Since the participants were healthy, none of the “silent” atherosclerosis revealed by the CT scans amounted to a medical emergency. “But there were people who had scores high enough they needed to discuss it with their doctor, because statistically it placed them at a high risk of a coronary event,” Smith says.

Findings of the Study

The researchers found:

- The more hostile the wives’ comments during the discussion, the greater the extent of calcification or hardening of the arteries. And “particularly high levels of calcification were found in “women who behaved in a hostile and unfriendly way and who were interacting with husbands who were also hostile and unfriendly.”

- The extent to which either wives or husbands acted in a dominant or controlling manner was unrelated to the severity of hardening of the arteries in the wives.

- The extent to which wives or husbands spoke with hostility had no relationship to the severity of hardening of the arteries in the husbands.

- Husbands who displayed more dominance or controlling behavior – or whose wives displayed such behavior – were more likely than other men to have more severe hardening of the arteries.

“Another way to say it is that either being controlling or being married to someone who is controlling is enough to promote atherosclerosis in men,” says Smith “So in couples where there was not a struggle for control – where it wasn’t a contest – those men had much lower levels of atherosclerosis.

To sum it all up, hostility during marital disputes was bad for women’s hearts, while controlling behavior during marital disputes was bad for men’s hearts.

“Disagreements are an unavoidable fact of relationships,” says Smith. “But the way we talk during disagreements gives us an opportunity to do something healthy.”

“If you were concerned about men’s heart health, you would ask couples to find ways to talk about disagreements without trying to control each other. If you were concerned about women’s heart health, you would encourage couples to find ways to have disagreements that weren’t hostile.”

And for spouses concerned about each other, avoid both hostility and controlling behavior during disagreements, he adds.

Putting the Findings in Context

Previous research indicates “close relationships are good for our heart health. Having relationships places you at lower risk than feeling lonely and isolated,” Smith says. But the new study suggests “that the quality of those relationships is important.”

In addition, “the dimensions of quality that are important differ for men and women. Conventional views of harmony versus discord – how warm versus hostile interactions are – are indeed important for women. But a different dimension of quality is more important for men, and that has to do with power and control in relationships.”

Smith says a common factor is anger: wives’ anger from feeling hostility or being subject to hostility; and husband’s anger from experiencing or at least perceiving a challenge to their sense of control.

That “certainly is consistent with a large body of prior literature on emotions, relationships and health,” he adds. “What’s novel about this study is taking a snapshot of how couples talk to each other and relating that to a silent, progressive and potentially deadly disease.”

Smith also offers another caution about the findings.

“People get heart disease for lots of reasons,” he says. “If someone said, ‘What’s the most important thing I can do to protect my heart health?’ my first answers would be, ‘Don’t smoke,’ ‘Get exercise’ and ‘Eat a sensible diet.’ But somewhere on the list would be, ‘Pay attention to your relationships.’”

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Dedicated to the Integration of Biological, Psychological and Social Factors in Medicine

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Release from American Psychosomatic Meeting, Denver, CO

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**FUNCTIONAL MRI STUDY REVEALS THE ASSOCIATION BETWEEN IMPAIRED
RECOGNITION OF THE SELF AND OTHER**

Denver, CO - Alexithymia is a psychological disorder that is associated with difficulty identifying, realizing and expressing one's own emotion. Alexithymia is not a 'lack of emotion' but represents a 'deficit in recognizing one's own emotions.' Researchers at the National Institute of Mental Health in Japan are studying the neural correlates of alexithymia in order to better understand the disorder.

Yoshiya Moriguchi MD, research scientist in the Department of the Psychosomatic Medicine in the National Institute of Mental Health in Japan will present the results of a brain imaging study of alexithymia at the scientific meeting of the American Psychosomatic Society, held March 1-4 in Denver, Colorado.

In this study, researchers used animation to evaluate brain activity in patients with alexithymia, in comparison to individuals without alexithymia. The task involved making judgments about the animation, which showed two triangle-shaped figures interacting in different ways; pleased, angry, teasing, surprising, or deceiving. Patients with alexithymia performed more poorly on the task; they were not as accurate in identifying the type interaction between the animated figures. Brain activity, as measured by functional MRI, also differed between the groups. Patients with alexithymia had lower brain activity in the medial prefrontal cortex and the degree of activation in the medial prefrontal cortex was associated with the ability to see things from another person's perspective, as measured by a psychological questionnaire.

These results suggest a biological substrate for symptoms of alexithymia, which are associated with both an individual's ability to understand their own emotions, as well as the emotions, intentions, or behaviors of others.

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Release from American Psychosomatic Meeting, Denver, CO

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ADOLESCENT RECURRENT PAIN: PREVALENCE AND PREDICTORS

Denver, CO Recurrent pain causes great discomfort and impairment to children, adolescents, and adults. The complex condition is a type of chronic pain that is experienced in intense episodes, on a monthly or weekly basis. The most common types of recurrent pain are headaches, stomachaches and back pain. New research looks at the prevalence of recurrent pain across the critical teenage years and finds links between psychology and pain.

Researchers Elizabeth Stanford, M.A., and Edith Chen, Ph.D., of the University of British Columbia, and Christine Chambers, Ph.D., of Dalhousie University, used Statistics Canada's National Longitudinal Survey of Children and Youth (NLSCY) to complete their study looking at recurrent pain in adolescence. The NLSCY is a nationally representative survey of Canadian children. Stanford, Chen and Chambers studied a cohort of 2,488 10-11 year old children who were studied 5 times over 10 years.

Children in the survey reported how often they had head, stomach and back pain, as well as their levels of anxiety/depression and self esteem. Results showed that recurrent pain is common during the adolescent period. For example weekly head pain was reported by over a quarter of the teenagers at all time points measured. Overall, girls reported having more frequent pain than boys.

Having a high level of anxiety/depression was found to be associated with high levels of head, stomach and back pain two years later. Low self esteem was found to relate to having higher levels of back pain two years later.

This study's findings are important because they show that recurrent pain is very common during the adolescent period and suggest that psychological factors may contribute to the development of the condition.

Results from the study will be presented at the American Psychosomatic Society annual meeting, held March 1-4 in Denver, CO.

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