OSU leads disaster resilience center

By Michael Collins

Correspondent

CORVALLIS – A team of Oregon State University researchers will help lead the Community Resilience Center of Excellence, a five-year, \$20-million initiative to help communities improve resilience to natural disasters.

The center will be based at Colorado State University, and is a partnership of 10 institutions, funded by the National Institute of Standards and Technology at the U.S. Department of Commerce.

It will develop computer tools to help local governments create resiliency in buildings and critical infrastructure, lessen the impact of extreme weather and other hazards, and recover rapidly in their aftermath.

"Engineering plays a big role in how resilient the built environment is in response to a variety of hazards," said Daniel Cox, professor in the OSU School of Civil and Construction Engineering and associate director for the center. "The research at the center will help communities engineer and improve critical systems by providing them with the tools to make well-informed decisions."

The goal of the center will be creation of the NIST-Community Resilience Modeling Environment. Encompassing all forms of natural disasters, this computer model will incorporate a risk-based approach to decision-making.

OSU civil and construction engineering associate professor Michael Scott and assistant professor Andre Barbosa will assist with the project, providing expertise in structural engineering and computer modeling. Scott has helped create OpenSees, a software framework for developing models to simulate the performance of structural and geotechnical systems in earthquakes; Barbosa has conducted extensive research on reliability and risk-based analysis of civil infrastructure systems.

Reduce the stress of chronic illness

By Dr. Kim Hapke, ND

Correspondent

If you suffer from chronic illness, you are not alone. Almost half the U.S. population suffers from at least one chronic condition such as hypertension or arthritis. Seventy-five percent of people over age 65 suffer from two or more chronic conditions. As a patient, it's important to find a doctor with whom you communicate well. Together, you can work to find the best medication to reduce symptoms with minimal side effects. Once this is done there are still likely to be frustrating symptoms or recurrences. Medication is only one piece of managing chronic conditions. Two other areas to address are stress management and emotional well-being.

Being ill is stressful. Creative symptom management reduces stress. Taking a day off of work early on, rather than pushing through and risking incapacitation, reduces stress in the long run. Scheduling bodywork or experimenting with different forms of exercise can reduce painful symptoms. Support groups in-person or online can

offer good ideas for managing specific conditions.

Many patients will say their condition is worsened by stressful events in their lives. Symptoms force one to look at stressful situations with the knowledge that certain situations actually make one sick. One starts to make different choices.

Certain conflicts may not be worth taking on, certain projects at work seen as less rewarding. Adding to everyday stress, a patient's favorite method of dealing with stress is often taken away. Pain might make exercise impossible, a favored diet may create symptoms. Illness pushes us out of our comfort zones into experimenting with new behaviors. Perhaps sleep is more important at this point than exercise, or new foods more beneficial.

Early on, it may not be clear that stressful events are negatively affecting health. Growing self-awareness is an important step. Get curious about information coming from your body. Why this symptom? Why now? What else is going on around me? There are many ways to grow self-awareness, including journaling, meditation and yoga,

but a curious attitude is more important than the method. Trust your body to tell you what helps and hurts it. Over time patterns will emerge. Don't forget good days have clues to positive influences on your health as well.

What one does with this new information becomes stress management, whether it is getting out in nature, looking for a new type of work, or spending time with people who truly make us feel good.

Chronic illness takes an emotional toll. Patients experience grief and anger as they lose the ability to partake in favorite activities. Unpredictability of symptoms adds stress to the day and makes patients fearful of certain activities or situations. Proper sleep is affected by painful symptoms. Emotions easily handled when well-rested get out of control when we are tired.

When people first come in with symptoms, what they want is their previous life returned to them, unaltered. While this is usually impossible, chronic illness can be one of life's many opportunities for growth.



The Center

The Center is the premiere location throughout Central Oregon for diagnosis and treatment of problems associated with the musculoskeletal system, which includes bones, joints, ligaments, tendons, muscles and nerves.

Since 2012, Dr. Timothy Bollom, an orthopedic surgeon specializing in sports medicine, has been seeing patients in Sisters at St. Charles Family Care. He treats patients of all ages and diverse backgrounds, with a focus on comprehensive diagnosis and treatment of knee and shoulder disorders. From simple arthroscopy to total joint replacement, he utilizes minimally invasive techniques and a sports medicine philosophy of returning patients to normal activity as quickly as possible.

The Center is home to some of the region's most highly skilled orthopedic surgeons, neurosurgeons, and specialists. From conservative measures to sophisticated, minimally invasive operative techniques, our dedicated doctors and staff offer the care you need for the best possible outcome. To make an appointment, go to www.thecenteroregon.com.





