

UAB to study link between sleep and pain in knee osteoarthritis

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Researchers at the University of Alabama at Birmingham (UAB) want to know more about the relationship between sleep and pain.

"It certainly makes sense that pain can interfere with a good night's sleep, but there is growing evidence that poor sleep can itself lead to an increase in pain," said Megan Ruitter, Ph.D., a [postdoctoral fellow](#) in UAB's Division of Clinical Immunology and Rheumatology.

"Understanding this relationship could open up new avenues in pain management through the treatment of [sleep disorders](#)."

Ruitter is studying the sleep and pain relationship among patients with

[osteoarthritis of the knee](#). Osteoarthritis is a chronic joint disease affecting mainly the hands, knees, hips and spine. Pain from this disease is common, though the experience of the pain can widely vary among patients, regardless of how much the disease has progressed.

Ruiter is recruiting patients with [osteoarthritis](#) of the knee who are already participating in an ongoing pain study at UAB, the Understanding Pain and Limitations of Osteoarthritic Disease (UPLOAD) study, to also participate in a sleep study. Participants from the UPLOAD study who qualify for the sleep study will undergo sleep testing on two nights in the UAB Sleep Wake Disorders Center. The first night will be used to identify those without pre-existing sleep disorders, who will then undergo a second night of testing.

"There is reason to believe that poor sleep can cause a cascade of physiological problems that can lead to pain issues," said Laurence Bradley, Ph.D., professor in the Division of Clinical Immunology and Rheumatology and lead investigator of the UPLOAD study.

"Sleep is a modifiable phenomenon," Ruiter said. "Treating sleep to modify pain may allow more options than simply treating pain at the source, which is often extremely difficult."

Bradley said there may be three factors that primarily influence pain in these patients. There are [biological factors](#) such as blood pressure or [hormone levels](#), psycho-social factors like perceptions and expectations, as well as genetic factors.

In particular, Ruiter said that African-Americans are more likely than whites to have [knee osteoarthritis](#) and report greater severity of pain and disability from the disease. Ethnic differences in measures of objective sleep and pain processes in the central nervous system may represent important contributors, she said.

"We anticipate that African-Americans will report higher levels of pain and disability, along with higher self-reported sleep issues," said Ruitter. "We hope the study will shed light on the clinical usefulness of pain measures and sleep measures, and suggest new therapies to treat pain by treating the potential underlying sleep issue."

Patients interested in the knee osteoarthritis sleep study must be enrolled in the UPLOAD study, which is enrolling individuals ages 45-85 with and without knee osteoarthritis. The UPLOAD study is assessing ethnic differences in laboratory-induced pain and evaluating whether coping styles, other health conditions, economic factors, hormones and genes may explain these ethnic differences.

Provided by University of Alabama at Birmingham

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