"You're listening to Brain Talk, from the Johns Hopkins Brain Science Institute."

**Dr. Peterlin:** "Most people will experience a headache of some kind throughout their life time, specifically if you looked at the US general population studies when we're talking about headache in general or generic headache. Those numbers reach over 91% in both women and men throughout the life time."

**Dale:** "Dr. Lee Peterlin is the Director of Headache Research at Johns Hopkins School of Medicine. Even though headaches are incredibly common, there is still a lot we don't know about them. Today on Brain Talk, recent advances in headache research.

Scientists have determined there are about 200 types of headaches, falling into 2 categories. In the primary category are tension headaches or migraines that have no underlying cause. In the second category are headaches that come from specific incidences such as head trauma or a malformation of blood vessels."

**Dr. Peterlin:** "Migraine is probably the most common headache disorder presenting to a physician's office or a clinician's office for the chief complaint of headache, but when you talk about what is the most common headache experience in the general population, not even presenting to a doctor's office, that would be tension type head."

**Dale:** "A tension headache is slightly dull, not severe, and doesn't interfere with daily life in the way that a migraine can. A migraine is defined as a headache that lasts more than 4 hours. It can be pounding and make you feel nauseous or sensitive to light."

**Dr. Peterlin:** "About 36 million people in the United States will suffer from migraines. This is the disorder that will be associated with missing work or missing your kid's baseball game or not being able to fully participate in social or work related functions."

**Dale:** "12-15% of people in the U.S. will get at least 1 migraine over the course of a year. Dr. Peterlin and her team are doing ground breaking research on the connection between obesity and migraines. Statistics show people are at a greater risk of getting a headache if they are obese. Dr. Peterlin says new research is showing that exercise can be as effective at preventing headaches as medication."

**Dr. Peterlin:** "Irrespective of whether you lost weight or not, people who exercise at least three days a week for approximately 40 minutes showed a reduction in headache frequency. So I will tell my patients, whether they are obese or not, that exercise can be a non-pharmacological therapeutic intervention to help their headaches."

**Dale:** "Dr. Peterlin and her researchers and also looking closely at what role diet plays in headache frequency. It's known that red wine and MSG are headache triggers, but know there's interest in finding out how low fat and low card diets influence headaches. Dr. Peterlin has some preliminary results."

**Dr. Peterlin:** "It does seem that in those folks who are successfully losing weight on the low carb diet that there has been a reduction in their headaches. But what I don't know is how that compares to those who are just on a low fat diet. But there may be that there is some problem with how migrainers metabolize carbohydrates or fats."
Dale: "The next frontier in headache research is figuring out how to get images of headache inflammation by using technology similar to MRIs or brain scans."

Dr. Peterlin: "I have got lots of patients who say, "look, I know there is something wrong with my brain, I just want you to show me, I just want to be able to prove it to people that there is something wrong". So I think it would be quite exciting if we could actually image the inflammation. I think a lot of patients would feel validated being able to show, "look there really is something wrong with me"."

Dale: "To learn more about the science of headaches log on to brainscienceinstitute.org. I'm Dale Connolly, and this is Brain Talk from Johns Hopkins University."