The following was written by William G. Ondo, MD, a Professor of Neurology at Baylor College of Medicine, as well as associate director at the Parkinson’s Disease Center and Movement Disorders Clinic in Houston, Texas. Dr. Ondo has authored more than 200 original articles, review articles, and book chapters, and has edited two text books on Movement Disorders. His current research interests include Parkinson’s disease, restless legs syndrome, tremor, and the use of botulinum toxins.

Pain is broadly defined as any unpleasant sensation with a negative affective component. The symptoms of restless legs syndrome (RLS) meet that criteria. However, the majority of patients specifically state that the sensation is not “painful,” though certainly unpleasant. Traditional pain symptoms probably occur in about 20% of RLS patients, although 80% may report some pain.1,2 This mostly depends on semantics and how pain is defined. The McGill pain survey, a commonly used questionnaire about pain, generally correlates with questionnaires about RLS, but the adjectives most commonly endorsed in the survey (annoying, nagging, tingling, etc.) are not very specific for pain.3 Furthermore, visual analogue pain scales—where people draw a line on a scale between zero and ten—do not correlate with RLS scales in studies.

When is RLS Painful?
There are several different scenarios where patients may have traditional pain with RLS. First, pain may specifically be seen as part of the urge-to-move sensory component. This is part of the primary RLS description. Second, patients may have pain and an urge to move that are two separate features. This occurs most commonly with concurrent neuropathy, which is any damage or impairment of the nerves in the legs or feet. Patients with neuropathy are probably at increased risk for RLS, but they may also have a burning, superficial pain in their feet (neuropathic pain). True RLS (urge to move) isolated to the feet is very rare. In my experience people usually will not distinguish these two symptoms—pain in the feet versus the urge to move the legs—unless very carefully questioned. A third cause of pain may be the consequences of learned helplessness (knowing you are going to get the unpleasant symptoms and anticipating them) and sleep deprivation, which lowers pain threshold.

Finally, painful symptoms may be caused by chronic long-term treatment with dopaminergics (i.e. Mirapex, Requip), because a change in the quality of the symptoms to a more painful sensation may be part of augmentation. This last cause is controversial because it is unknown whether RLS may gradually evolve into pain even without dopaminergic treatment, or if pain is more noticed because the dopaminergics effectively treat the urge to move.

Understanding Pain with RLS
Scientific studies have shown some similarities between RLS and pain. It should be noted that neither condition is entirely understood. Tests of pin-prick to the feet pain ratings (static hyperalgesia) in RLS patients were significantly elevated in the lower limb, whereas sensation to light touch (allodynia) were normal.4 In patients with chronic pain, both are abnormal. In the subset of subjects whose RLS was successfully treated with dopaminergics (which do not treat pain), the pin-prick hyperalgesia testing normalized. There is little data to suggest dopaminergics
treat pain in general. However, descending dopaminergic tracts in the spinal cord are suggested to be involved in RLS and may also be involved with suppression of pain in general.

In general, large treatment studies of RLS with dopaminergics have not formally assessed pain. In our experience, dopaminergic medications dramatically improve the urge to move in RLS, but do not consistently improve pain. Gabapentin enacarbil* (Horizant®) is a novel drug that is absorbed more effectively than its predecessor gabapentin (Neurontin®). It works differently than dopaminergics and was recently approved by the FDA for RLS. In trials, visual analogue pain scales specifically improve, and as opposed to dopaminergics, this drug probably helps chronic pain in general. Another similar drug, pregabalin (Lyrica®), may have the same effect. Opioids (narcotics) are also used to treat both RLS and pain. There are no formal trials to evaluate these drugs in painful RLS, but they probably help. Improved sleep may also help pain.

Summary
In my opinion, pain specialists often incorrectly treat RLS. In most cases, there are major differences between RLS management and pain management, and some medications used to facilitate pain management can actually worsen RLS. Local numbing injections and steroid shots are also ineffective for true RLS. That said, if a therapy is effective and felt to be safe for any individual patient, there is no reason to change.

* Gabapentin enacarbil (Horizant®) was approved in April 2011 for the treatment of RLS. It is available by prescription.

References:

William G. Ondo, MD
Professor of Neurology at Baylor College of Medicine
Associate Director, Parkinson’s Disease Center and Movement Disorders Clinic

The Restless Legs Syndrome Foundation is dedicated to improving the lives of the men, women, and children who live with this often devastating disease. The organization’s goals are to increase awareness of restless legs syndrome (RLS), to improve treatments, and, through research, to find a cure.