

New Non-Invasive Treatment Available for Osteoid Osteoma

New treatment options are available in the treatment of osteoid osteoma, including a non-surgical outpatient procedure.

The benign bone tumor, osteoid osteoma, may resolve on its own over time. However, if not, and in instances where pain is not effectively controlled by medication, minimally invasive procedures are available for treatment and pain management.

The standard treatment approach to osteoid osteoma is surgery, which is an invasive, inpatient procedure, and may require up to a week's stay in the hospital. Surgery may also require up to six months before a return to normal activities.

Radiofrequency ablation uses radio waves or electric current to generate enough heat to permanently damage a tumor. A doctor uses imagery guidance (x-ray, ultrasound, MRI) as he inserts a thin needle into the bone at the tumor site. This needle is used to heat the tumor to the point of destruction. Tumor pain usually resolves within a few days, and any pain from the ablation procedure lasts for a few days to a week. Weight-bearing activities may be limited for up to 3 months after radiofrequency ablation.

An even less invasive treatment option is magnetic resonance guided high intensity focused ultrasound, or MRgFUS (sometimes called MRgHIFU). This procedure uses high intensity, focused ultrasonic waves to destroy tumors without knives or needles.

At Stanford Health Care (formerly Stanford Hospital & Clinics), experts in this ultrasound technology now offer MRgFUS as an alternative to radiofrequency ablation or surgery in the treatment of osteoid osteoma. This treatment has been effective in the treatment of malignant bone cancers and is now being used as a non-invasive method to treat benign bone cancers. MRgFUS is performed as an outpatient procedure, under general, spinal or regional anesthesia. The patient returns home the same afternoon as the treatment.

Pain relief after MRgFUS is more rapid than it is after radiofrequency ablation, occurring within the first day after the procedure. The targeted nature of this focused ultrasound therapy preserves surrounding tissue, leaving it undamaged and allowing patients to return to normal activities within a week.

During this MRgFUS procedure, imaging is used to locate the root of the osteoid osteoma, a single, 20 second, low energy ultrasound treatment destroys the tumor and then imaging is once again used to confirm the success of the treatment. The images below show an osteoid osteoma tumor positioned for treatment (A), and on

the right, (B), magnetic resonance imaging shows the tumor before and after treatment.

Risks associated with this MRgFUS procedure are infrequent and not highly likely to occur. Learn more about risks associated with this form of treatment.