

## FOR IMMEDIATE RELEASE

### **Bone fracture healing enhanced by the use of biodegradable magnesium bone plates and screws**

[Rosemont, IL, February 1, 2015] Over 6 million bone fractures occur each year in the United States arising from trauma, birth defects, sports injuries, and osteoporosis. With an aging population and corresponding increase in the incidence of osteoporosis, the prevalence of bone fractures is projected to increase in the near future. As a result, fracture treatment remains a key clinical focus of the bone tissue-engineering field.

Metal plates and screws are used in the treatment of fractures to stabilize bone fragments during healing. Typically made from permanent metals such as titanium, these fixation devices were selected originally for their strength and compatibility with living tissue. However, a strong association has been found between these devices and long-term complications that often require their removal. Such complications may include pain, tissue irritation, infection, and bone refracture, as well as weakening and necrosis (death) of the surrounding bone.

Researchers at the University of Pittsburgh's School of Dental Medicine hypothesized that fixation devices made of biodegradable magnesium alloys—a mixture of magnesium and other metals that decompose into simpler compounds over time—would facilitate the healing of fractures while eliminating the need for fixation device removal. An article in the February issue of the *Journal of Oral and Maxillofacial Surgery*, entitled “Fracture Healing Using Degradable Magnesium Fixation Plates and Screws,” features a study comparing the effects on fracture healing of these fixation devices and those composed of titanium.

Results showed that the magnesium alloy not only did not inhibit fracture healing, it unexpectedly was found to enhance healing, leading to the conclusion that magnesium alloy plates encourage new bone formation.

Read the complete study findings at 56496: J Oral Maxillofac Surg 73:295-305, 2015.

*The Journal of Oral and Maxillofacial Surgery* is published monthly by the American Association of Oral and Maxillofacial Surgeons to present to the dental and medical communities comprehensive coverage of new techniques, important developments and innovative ideas in oral and maxillofacial surgery. Practice-applicable articles help develop the methods used to handle dentoalveolar surgery, facial injuries and deformities, TMJ disorders, oral cancer, jaw reconstruction, anesthesia and analgesia. The journal also includes specifics on new instruments and diagnostic equipment and modern therapeutic drugs and devices.

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