Journal of Oral Implantology – Tooth loss is not simply an aesthetic problem for adults. It can have severe consequences to overall dental health, including complications with speech, eating, and overcompensation of mouth due to the deficiency. To combat these issues, people often turn to dental implants to replace lost teeth. As the number of tooth replacements increase, it is imperative to design an implant that will uphold the integrity of an individual's mouth structure.

Researchers from the University of Dammam in Dammam, Saudi Arabia, and the University of Kentucky in Lexington, Kentucky, published a study in the *Journal of Oral Implantology* that investigated how the design of the implant affects the mouth. Specifically, if using a microthreaded-neck design would preserve more of the crestal bone, the part of the bone at the top (or "neck") of the implant that supports the replacement teeth. The researchers conducted a systematic review of 23 articles to test their hypothesis.

These articles were derived from three electronic scientific databases, and published between January 1995 and June 2016. The review analyzed the effectiveness of using an implant with a microthreaded-neck design versus the more traditional machine- or rough-surface implants. The researchers concluded that the addition of deeper threads on the implant allowed for more stabilization between the implant and the bone, especially with weaker bones. They also noted that the threads created more bone-to-implant contact and allowed for more of the bone to be preserved.

The researchers stated that, "This research was one of the early projects that provide high evidence from literature on the design of the most current generation of dental implants. That includes a continuous micro-rough or nano-rough surface extending up to the implant neck, along with microthreads in the cervical region. So, the aim of this systematic review was to evaluate and analyze the effect of a microthreaded-neck implant on [crestal bone loss], as determined by various clinical trials."

This study shows that thread geometry does affect the amount of stress and strain that is put on the implant, and that crestal bone loss can be minimized. This finding helps practitioners to make a more informed decision when choosing a type of implant for their patients. The researchers believe that additional randomized controlled trials are necessary to evaluate how the microthread implant will affect different types of bone loss under different implantation

techniques.

Full text of the article, “Microthreaded Implants and Crestal Bone Loss: A Systematic Review,” *Journal of Oral Implantology*, Vol. 43, No. 2, 2017, is available at http://joionline.org/doi/full/10.1563/aaid-joi-D-16-00170

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About *Journal of Oral Implantology*

The *Journal of Oral Implantology* (JOI) is the official publication of the American Academy of Implant Dentistry. It is dedicated to providing valuable information to general dentists, oral surgeons, prosthodontists, periodontists, scientists, clinicians, laboratory owners and technicians, manufacturers, and educators. The JOI distinguishes itself as the first and oldest journal in the world devoted exclusively to implant dentistry.