

Study finds that ultrasonic instrument may be helpful for rhinoplasty

September 19 2011

The ultrasonic bone aspirator, which uses sound waves to remove bone without damage to surrounding soft tissue or mucous membranes, may be a useful tool for surgeons performing cosmetic rhinoplasty (cosmetic surgery of the nose), according to a report in the September issue of *Archives of Facial Plastic Surgery*.

Cosmetic surgeons have a variety of tools with which to perform [rhinoplasty](#), such as bone saws, carbide rasps and power-assisted rasps, according to background information in the article. "Unfortunately, each tool has limitations that decrease its usefulness," write the authors. For example, the tools may cause deformities, damage surrounding structures and tissue, prove difficult to use in addressing mobile [bone fragments](#) or obstruct direct visualization. The authors sought to study the ultrasonic bone aspirator, a device that uses [sound waves](#) to remove bone without injuring nearby tissue, in cosmetic rhinoplasty.

Jewel D. Greywoode, M.D., and Edmund A. Pribitkin, M.D., from the Thomas Jefferson University Hospital, Philadelphia, conducted a retrospective review of 103 consecutive patients who underwent cosmetic rhinoplasty at a tertiary care academic facial plastic surgery practice. The ultrasonic bone aspirator was used for conventional procedures and also in novel ways for further aesthetic refinement, such as addressing deformities and sculpting mobile bone fragments. Both cartilage treated with the device and untreated [cartilage](#) were evaluated by histologic (microscope) analysis for injury to tissue. Researchers documented patient and surgeon satisfaction as well as complications.

Patients were followed up with at one week, one month, three months, six months and one year after the procedure. The mean (average) length of follow-up was 3.2 months, with a range of zero to 14.2 months.

The most common application of the ultrasonic bone aspirator was for smoothing of the nose's bony edges, which was performed in all patients. Outcomes were considered satisfactory for all patients. Minor complications occurred in seven patients (6.8 percent) treated with the ultrasonic bone aspirator. Injuries to skin and soft tissue were not experienced by any study participants.

The authors concluded that the ultrasonic bone aspirator could be a useful tool for surgeons performing cosmetic rhinoplasty. The device, they explain, allows precise, graded removal of bone without damage to surrounding soft tissue or [mucous membranes](#); can be used for procedures such as refinement of subtle irregularities and asymmetry of the nasal bones; and does not seem to have a significant risk of complications. "Multiple applications in nasal surgery can be found," the authors write, "and although long-term results are lacking, the device's positive safety profile and early results warrant further use and investigation."

More information: *Arch Facial Plast Surg.* 2011;13[5]:316-321

Provided by JAMA and Archives Journals

Citation: Study finds that ultrasonic instrument may be helpful for rhinoplasty (2011, September 19) retrieved 2 May 2024 from <https://medicalxpress.com/news/2011-09-ultrasonic-instrument-rhinoplasty.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.