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NEWS RELEASE

## Botox Injections May Improve Facial-Wound Healing, Minimize Scars

BUFFALO, N.Y. -- Botulinum toxin, the same Botox used to treat facial wrinkles, helps facial wounds heal with less scarring, according to results of a study published in the August issue of Mayo Clinic Proceedings.

David Sherris, M.D., professor and chair of the Department of Otolaryngology at the University at Buffalo is senior author on the research.

"This study is the first blinded trial demonstrating that injecting Botox (the trademark name for botulinum toxin) when we close a facial wound results in less visible scars," said Sherris, an ear, nose and throat specialist who came to UB from the Mayo Clinic in 2004.

"This study is the culmination of work that Dr. Holger Gassner and I started at Mayo Clinic about seven years ago. The reason this works is because wide scars are the result of the local muscles pulling the wound apart during the healing phase," he said. "Botulinum toxin temporarily weakens the surrounding muscles, thereby lessening the pull on the wound during the acute healing phase of the first 2-4 months."

The trial involved 31 patients who had sustained wounds to the forehead or were having elective surgery to remove skin cancers of the forehead. This area was chosen because it is particularly susceptible to scarring, and because using Botox in this area has been shown to be safe and effective.

Patients seen between Feb. 1, 2002, and Jan. 1, 2004, were assigned randomly to receive an injection of either Botox or saline within 24 hours after the wound was closed. They were photographed at the time of the injection and six months later.

Two facial plastic surgeons who were not involved in the trial and were blinded to the type of treatment the patients received rated the wound-healing results on a scale of zero to 10, with 10 representing the best result. The researchers averaged the two scores for each patient to arrive at a final rating.

Results showed that the median scores for wounds injected with botulinum toxin were 8.9, compared to median scores of 7.1 for those injected with saline.

"This is the first medication found to minimize scarring," said Sherris. "The result is of substantial interest in the field of scar treatment. When a wound



Before revision surgery, this patient has a noticeable forehead scar that surgeons hope to minimize using Botox to help the wound heal.

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Following scar revision surgery, doctors injected the area with Botox to prevent muscles from pulling the wound apart during the healing process.

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Six months later, the scar treated with Botox is nearly imperceptible.

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**Contact**  
Lois Baker  
[ljbaker@buffalo.edu](mailto:ljbaker@buffalo.edu)  
716-645-5000 ext 1417

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occurs, especially on the face, people are always worried about the scar. We can now try to improve scars with these injections."

Although this study addressed only facial wounds, Sherris said he expects this technique to be applicable to wounds on other parts of the body, such as the chest and the extremities. The next step in the research is a multi-centered FDA trial for approval of this new technique, on which Sherris will be a principal investigator.

However, Sherris said doctors may choose to offer this treatment as a safe, off-label use of botulinum toxin prior to the completion of the FDA trials because it is already approved for other uses in the face.

Additional researchers involved in the study, all from the Mayo Clinic, were Anthony Brissett, M.D, Clark Otley, M.D, Derek Boahene, M.D., Andy Boggust, M.D., and Amy Weaver, statistician.

The study was supported by a clinical research grant from the Mayo Clinic.

The University at Buffalo is a premier research-intensive public university, the largest and most comprehensive campus in the State University of New York.