

SOUTHWESTERN NEWS

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Liposuction shown to be safe under proper conditions

DALLAS – Sept. 2, 2004 – Researchers at UT Southwestern Medical Center at Dallas have completed the first comprehensive study of the effects of liposuction on different parts of the body during and immediately following the procedure.

The study – currently online and appearing in two articles in September's issue of *Plastic & Reconstructive Surgery* – analyzed the physiological impact of liposuction, the most common type of plastic surgery, on the heart and lungs, as well as electrolyte changes caused in the body. It also examined what happens when lidocaine and epinephrine, drugs administered during liposuction, are metabolized inside body tissues. The articles follow two others from the same study published in the magazine's August issue.

Levels of lidocaine (an anesthetic used in fluids pumped into patients to reduce pain) and epinephrine (a drug used to constrict blood vessels and prolong lidocaine's efficiency) must be closely monitored during liposuction to ensure patient safety.

"The purpose of our study was to confirm that liposuction is a safe procedure, as well as find ways to make it even safer," said Dr. Jeffrey M. Kenkel, associate professor and vice chairman of plastic surgery and the study's principal investigator. "Like any surgical procedure, liposuction stresses the body to some degree. However, when performed by a board-certified plastic surgeon in an accredited medical facility, liposuction continues to be a safe operation."

Annually about 400,000 Americans – the majority women between the ages of 19 and 50 – undergo liposuction, the removal of fat tissue from under the skin.

"Bottom line, liposuction remains safe," said Dr. Kenkel. "However, not everyone is a good candidate for liposuction. Patients must be generally healthy and at low risks for anesthesia and surgery."

Liposuction is not recommended for patients with cardiovascular problems or high blood pressure, he said.

The study looked not only at the levels of epinephrine and lidocaine used during the procedure, but also at lidocaine once it's broken down into monoethylglycinexylidide, in different areas of the

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body in five healthy patients during and after surgery. It also showed that the heart, in some cases, worked two to three times its normal load, but was well tolerated by the healthy participants.

“This is the first study that examines the dynamics and pharmacokinetics (the process by which drugs are absorbed, distributed, metabolized and eliminated by the body) of how drugs used during large-volume liposuction affect human tissue, the body’s pulmonary system, plasma electrolytes, the liver and the heart,” said Dr. Spencer Brown, assistant professor of plastic surgery, director of plastic surgery research and co-author of the study.

“No one has ever done a microdialysis of tissue during liposuction surgery to analyze the physiology of lidocaine in the body. It was like taking a snapshot of what’s going on inside,” he said.

The study offers benchmarks for safe levels of lidocaine during surgery. UT Southwestern researchers are continuing studies on liposuction safety, having received a \$25,000 grant recently from the Aesthetic Surgery Education and Research Foundation (ASERF) for further research.

Also participating in the study from UT Southwestern were Drs. Rod Rohrich, chairman of plastic surgery, and Dr. Avron Lipschitz, a postdoctoral research fellow. Researchers from Mayo Medical Laboratories in Rochester, Minn., and Georg-August-Universitaet Goettingen in Germany also were included.

The study was supported by a grant from the National Endowment for Plastic Surgery.

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