

E-cigarette vaping negatively impacts wound healing

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A new study shows that e-cigarette vaping negatively affects skin wound healing, causing damage similar to that of traditional cigarette smoking. Researchers, led by a team from Boston Medical Center (BMC), found

exposure to both e-cigarette vaping and traditional cigarettes in experimental models resulted in increased tissue death, which delays wound healing. These findings, published in *JAMA Facial Plastic Surgery*, provide important information for providers on how to counsel their patients considering surgery on the negative impacts of both traditional and e-cigarettes on their wound healing progress and safety.

The adverse effects of traditional cigarette smoking on [wound healing](#) has been well established in the surgical field. Surgeons recommend that patients quit smoking for several months prior to surgery, whenever possible. However, alternative options to traditional smoking, such as electronic cigarette "vaping" are gaining popularity, and there has not yet been significant research done about whether it is a safer alternative to traditional smoking, particularly in the perioperative period.

In this study, the researchers exposed [experimental models](#) to one of the following: traditional cigarettes, electronic cigarettes, or to no cigarettes. They checked serum cotinine levels, a biomarker for exposure to tobacco smoke, in both positive control and experimental groups to ensure comparable nicotine exposure was achieved in both these groups.

The researchers then created skin flaps, which were grafted back on each of the models from which it was created, and monitored the grafts daily for viability and wound healing. After two weeks, the researchers found that there was a statistically increased rate of [tissue death](#) on grafted flaps in groups exposed to either e-cigarettes or traditional cigarettes.

"Based on our findings, e-cigarettes are not a safe alternative to traditional cigarettes as it relates to timely wound [healing](#)," says Jeffrey Spiegel, MD, chief of [facial plastic surgery](#) at BMC and the study's corresponding author. "Providers, and patients, need to understand the risks of both types of smoking so that they can make the best decision to

keep the patient as safe as possible before and after surgery."

Provided by Boston Medical Center

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