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How Does AI Impact Plastic Surgery? – According To Dr. Steven Williams

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From TikTok filters shaping 2024's plastic surgery trends to AI flagging dangerous alcohol consumption before procedures, it's safe to say that new, surgeon-led technology is on the rise. "The honest answer is everyone is still figuring out what artificial intelligence means," Board-certified plastic and reconstructive surgeon and President of the American Society of Plastic Surgeons, **Dr. Steven Williams** tells ESSENCE. By definition, AI is technology that enables computers to simulate human intelligence. But for plastic surgery, "no one is sure exactly what those changes will be."

Between 2019 and 2022, cosmetic surgery procedures have grown by 19%, according to a 2022 report, and the global cosmetic surgery market is expected to grow from \$57.67 billion in 2023 to \$75.20 billion by 2030. With liposuction, breast augmentation, and blepharoplasty in the top five most popular cosmetic surgeries, the use of AI— from answering patient requests to scheduling and helping decrease physician workloads— already exists and is being marketed. Meanwhile, bigger life-altering changes, like AI formulating experiments for new drugs and surgical techniques (think: robot surgeons), are on the horizon.

Last year, Harvard Medical School Scientists found an age-reversal drug used to turn back time on cells. Meanwhile, the beauty industry's "anti-aging" craze has been on an upswing. This is why non-invasive and anti-aging procedures, such as lip fillers and botox, are at an all-time high, with 26.2 million of them performed in the United States in 2022.

And now, plastic surgeons are expected to “fix” their patients’ new AI-fueled insecurities, which makes technology “incredibly complicated because it can set unrealistic expectations and affect body image, especially in young teenagers,” Dr. Williams says of the demographic that has “almost constant” social media use.

“One of the largest changes in terms of immediate impact on plastic surgery has been social media,” he says. With the line between virtual and reality wearing thin, “generative AI may create artificial realities so real that there will be an increasing pressure for patients to seek surgical perfection and have unrealistic expectations about what plastic surgery can accomplish.” This is because new technology makes editing our face and body relatively easy— like using filters and facetune apps to mimic nose jobs, body sculpting and lip enhancements— leading to a disconnect in what patients can expect from plastic surgery, and their natural face.

For example, rhinoplasties are one of the world’s most popular cosmetic surgeries and are traditionally Eurocentric; basing the surgery off of generic nose molds. We may expect AI to be used to generate inclusive models, personalized for every patient. However, that may not be the case as “AI is created based on the electronic history of mankind and unfortunately, there are still strong biases incorporated in that history,” Dr. Williams says, since AI is modeled after and may adopt the racism of humans. Google, for example, recently had to apologize for backfired attempts at avoiding some of this bias in its generative models by skewing the output to be more racially inclusive, he noted. “There’s still a lot we’re trying to figure out with AI when it comes to non-bias.”

Despite looming questions about the impact of technology and AI in plastic surgery— from social media expectations to AI generative biases— “most plastic surgeons are attracted to the field particularly because of the idea that innovation continues to improve,” he says. Under human oversight, advancements like new medications or new surgeries are carefully researched and tested before they’re used on patients. He also notes that most new advancements have to go through a vetting process by the federal government before they are authorized to be used on patients. Because one thing’s for sure, “artificial intelligence will certainly be a part of all parts of healthcare at some point in the future.”

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