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Op-Ed
Teenagers and Cosmetic Surgery
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In 2003, more than 223 000 cosmetic procedures were performed on patients 18 years of age or younger, and almost 39 000 were surgical procedures such as nose reshaping, breast lifts, breast augmentation, liposuction, and tummy tucks [1]. As we consider under what circumstances plastic surgery is appropriate for teens, it is important to recognize that very few studies have been conducted to examine the risks for teens of these increasingly common procedures. Research is especially needed for the more controversial procedures such as breast implants, liposuction, and genital plastic surgery.

There is no question that reconstructive surgeries can benefit children and youth. Surgical procedures to correct cleft lips and palates, for example, are not controversial. Plastic surgery to correct unattractive facial features that can attract ridicule from other children, such as prominent noses and ears, are generally accepted in the United States. Cultural phenomena such as surgical makeovers on numerous television programs, however, make it increasingly difficult to agree on what constitutes a "normal" appearance and when the desire to improve one's appearance is questionable or even crosses the line to psychopathology [2]. In this commentary, I will focus on elective, cosmetic procedures on an otherwise healthy adolescent with no illness or defect.

Plastic Surgery in a Developing Teen
One of the concerns about plastic surgery on adolescents is that their bodies are still maturing. In addition to development that may occur in the late teens, growth charts indicate that the average girl gains weight between the ages of 18 and 21, and that is likely to change her desire or need for breast augmentation as well as liposuction. There are no epidemiological studies or clinical trials on the safety and long-term risks of these procedures for adolescents. Although the FDA approved saline breast implants for women ages 18 and older [3], it is legal for physicians to perform breast augmentation for anyone under 18 as an "off-label" use, and the number of teens 18 and younger undergoing breast augmentation tripled from 2002 to 2003. It was not until December 2004 that the American Society of Plastic Surgeons stated an official position against breast augmentation for patients under 18.

Understanding the Risks of Surgery
Will adolescents who want to improve their appearance rationally consider the risks? Studies by implant manufacturers report that most women have at least one serious complication within the first 3 years, including infection, hematomas and seromas, capsular contracture (a sometimes painful hardening of the breasts), loss of nipple sensation, and hypertrophic scarring [4]. Since breast implants typically last 10 years,

an adolescent will require repeated surgeries throughout her lifetime [4]. Breast implants also interfere with mammography and increase the likelihood of insufficient lactation when a woman tries to breast-feed.

The economic costs of surgery are substantial, since corrective surgery is rarely covered by health insurance. With many plastic surgeons offering breast implants on the installment plan, our Center (National Research Center for Women and Families) is contacted regularly by young women who need to have a broken or painful implant removed but are still paying for the initial augmentation surgery and unable to afford corrective surgery.

Liposuction also carries potentially serious risks. Primary risks include infection, damage to skin, nerves, or vital organs, fat or blood clots (that can migrate to the lungs, leading to death), and excessive fluid loss that can lead to shock or death. In addition, the different techniques are associated with complications such as skin or deep tissue damage, lidocaine toxicity, and fluid accumulation in the lungs [5].
The long-term physical, emotional, and economic sequelae of many popular cosmetic surgeries, including implants and liposuction, are unknown. Despite the documented risks, the general public has an inflated sense of the benefits and a minimized sense of the risks of plastic surgery [6]. Teenagers are often oblivious to the well-documented long-term health consequences of smoking, tanning, and other risky behaviors, and are likely to pay even less attention to the risks of cosmetic surgery, making informed consent difficult.

In addition to the influence of persuasive and pervasive advertising and television makeover programs that stimulate demand, it is difficult for a physician to neutrally present both the risks and benefits of an elective procedure that he or she is simultaneously selling [7]. Requiring parental consent for patients under 18 does not ensure informed consent, since research is lacking on long-term risks for many cosmetic procedures.

Screening

One way to help ensure that teenagers are mature enough to make decisions about plastic surgery is to screen potential patients using psychological testing. In media interviews, plastic surgeons often describe careful interviews aimed at determining why the teen wants plastic surgery. Unrealistic expectations or having the surgery to please a boyfriend is considered inappropriate, but having surgery so that “I will feel better about myself” or “clothes will fit better” are considered reasonable responses. By the same token, teenagers who use drugs, drive while inebriated, and have unprotected sex may also make those decisions to please themselves, and not others, so that response alone is not sufficient evidence of a mature decision. Currently, there is no evidence that effective screening is widespread.

Teen Self-Consciousness and Plastic Surgery

Teens expect that plastic surgery will improve their self-confidence, but does it? There are no empirical studies examining the long-term benefits among adolescents. One study found that body-image satisfaction improved after cosmetic surgery, but so did

satisfaction among the control group, suggesting that improved body image may occur with increasing age, regardless of whether the patient undergoes plastic surgery [8]. In fact, a longitudinal study that followed adolescents from age 11 to 18 found body image satisfaction rates were highest at age 18 in both sexes and that the satisfaction of individual participants varied as a function of their age and developmental stage [9]. This indicates that many adolescents who are very dissatisfied with their appearance will feel more satisfied a few years later, whether or not they undergo surgery. The same study also found that the physical features with which participants were most dissatisfied reflected culturally determined stereotypes of idealized attributes emphasized in books, mass media, and advertisements.

Research indicating that breast augmentation patients are 4 times as likely to commit suicide compared to other plastic surgery patients [10] raises questions about the mental health of the women who choose implants and the psychological benefits of the surgery. Liposuction is also of particular concern because of its association with eating disorders. The average onset of body dysmorphic disorder (BDD), defined as "a preoccupation with an imagined or slight defect in appearance that leads to significant impairment in functioning," is 16 years of age [11]. However, since the goal of cosmetic surgery is to improve and transform appearance, it may be difficult to distinguish between this desire and a pathological preoccupation [12].

Who decides?

Will most plastic surgeons make an accurate and objective judgment about whether a teenage girl is an appropriate candidate for plastic surgery? If plastic surgeons are performing surgeries that many physicians and psychologists would question, should medical societies and ethicists provide more guidance than is currently being provided by plastic surgery associations?

In the ideal world, informed consent would enable teens and their parents to decide carefully what is best for them. However, in the absence of longitudinal research, it is impossible for physicians to warn patients, or their parents, about the risks of performing cosmetic surgery on bodies that have not reached maturation, the operative complications and long-term physical effects of these surgeries and the psychological implications of surgery on developing body image, or the extent to which distorted body image common among adolescence may result in the pursuit of plastic surgery.

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