

The Importance of Psychological Well-being for Patients Undergoing Elective Surgery

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Abstract

America is becoming more positive towards plastic surgery, despite Coronavirus complicating the 'business as usual' for many practices, 2021 may have been a better outlook for plastic surgeons.

Whichever procedure you may be thinking of; it is important to understand your duty of care toward preparing your psychological well-being.

A patient that has a healthy psychological well-being is more likely to have a good recovery from a surgical procedure.

Neurotransmitters, dopamine and serotonin, are responsible for feelings of well-being and motivation. Exercise can increase serotonin and dopamine levels. Dopamine is associated with habit and reward. By forming habits like regular exercise, it can help elicit the psychological well-being for patients recovering from elective surgery.

Keywords: Dopamine, elective surgery, neuroplasticity, psychological well-being, recovery, serotonin, surgery

Introduction

Is there a new normal starting to shape a more positive perspective for plastic surgery in America? According to the American Society of Plastic Surgeons (ASPS, 2021) ^[1] elective surgical procedures performed in 2020 were down 15%, this could be because of practice closures due to the coronavirus disease (COVID-19) pandemic. However, women interested in first time cosmetic plastic surgery has risen 11% since pre COVID-19 pandemic levels, and this figure is higher (24%) for women who have previously had surgery or a cosmetic procedure (ASPS, 2021) ^[1].

The top elective surgical procedures in 2020 were: nose reshaping, eyelid surgery, facelift, liposuction, and breast augmentation (ASPS, 2021) ^[1].

Use of virtual meeting setting during the COVID-19 pandemic may have influenced the upturn of facial surgery, in 2019 the top two procedures were breast augmentation and liposuction (ASPS, 2019) ^[2].

The new normal may now bring about an increase in elective surgery for other areas of the body compared to what the top elective surgical procedures were in 2020.

Whatever procedure you may be thinking of, there are a variety of important considerations to ensure that you set yourself up for success physically and psychologically.

Materials

A Positive Psychological Well-being

There are many psychological factors that can influence a patient's recovery from elective surgery. Having a holistic view of the procedure can help prepare a patient for some of these expectations. However, it is difficult to prepare patients for the cognitive and emotional intricacies post-surgery (Gil *et al.*, 2018) ^[3]. To help a patient prepare themselves for the

cognitive and emotional side it is important for a patient to consider initiating proactive steps.

Research the procedure, this may seem obvious but reading articles and watching videos of the procedure can provide a view of what to expect. It is important that you review the procedure with your surgeon, ask questions so you are clear what to expect pre- and post-surgery, including follow up appointments and once you have reached a full recovery, closing the physician-patient relationship.

It is normal to feel some uncertainty and emotional exposure during the process from surgery to recovery; a patient will have built trust and rapport with the surgeon which creates a psychologically safe space for the patient. A patient should consider how they may feel and what to expect at the end of the process when it is time to close the physician-patient relationship. A good emotional support network at home can help a patient through this process. There is a high probability of returning patients, so the physician-patient relationship may close and re-open several times.

It is important to assess the background, training and experience of the surgeon. There should be evidence of this on their website, an internet search will provide background information on the surgeon and practice. Social media will provide reviews, however online reviews are others perception, reviews may only be as good as the day the reviewer had.

Check that the surgeon is board certified, a board certified plastic surgeon will be using the most up-to-date procedures and equipment. Board certified surgeons have undergone extensive training, and they are committed to lifelong learning. Board certification status can be checked through the American Board of Plastic Surgery (ABPS) website.

The surgeon should address the psychological well-being of the patient, as well as the physical health of the patient.

Surgeons should engage in mental health conversations with patients to foster an innovative collaboration for the psychological well-being of the patient (Paredes *et al.*, 2020)^[4].

We have seen throughout the COVID-19 pandemic the importance of vaccination. Vaccination is not just for COVID-19, but also for other infectious diseases, such as influenza. We all have a duty of care to consider, and if able to do so, get vaccinated. This is not only for the self-care of a patient, but also that for those around us, and in the case of elective surgery to help safeguard healthcare professionals. A discussion with a healthcare professional can recommended relevant vaccinations.

Due to the persistent physiologic changes that have been noted in patients that have had COVID-19, a post COVID-19 patient looking for elective surgery may have a higher risk of complications (Mankarious *et al.*, 2021, p. 3)^[5]. There are a variety of measures in place to safeguard the patient, but it is important to understand the risks involved, and for the patient to do their part to minimize these risks.

In 2000 I had elective surgery as an in-patient in Hereford Hospital, United Kingdom (UK), and at that time I had not been involved in as much physical activity as I am today, other than daily dog walking. Although my diet was relatively healthy I did not feel prepared psychologically for this surgery. Post-surgery my recovery took longer, I had frequent low mood and I got a surgical site infection (SSI) complication, which took some time to resolve. Psychologically I felt vulnerable and insecure, especially when I left the hospital where I was under a false sense of psychological security. I did not feel like doing any exercise and it was some time post-surgery before I undertook regular walking as part of my convalescence.

In 2021 I underwent an elective surgical procedure through Carmel Cosmetic and Plastic Surgeons, Indiana, US (carmelcosmeticsurgeons.com). I was an outpatient under the care of Dr. Grasee, a board certified plastic surgeon. Throughout the pandemic I had been active at the onsite gym at work, at least two times a week, and I was also frequently running, normally between three and five miles, 3-4 times a week. My diet was relatively healthy. I felt that I was prepared psychologically for the surgery. My recovery was quick, and other than a potential SSI there were no complications (an SSI was not confirmed). Having the procedure that I had, the probability of a complication may have been relatively high. Post-surgery I had no feelings of low mood, or decreased psychological security. I walked about half a mile to a mile the first week from day three, then increased this to a daily three mile walk from the second week.

Recovery times recommended following my surgical procedures in 2000, and 2021, were similar in the duration of weeks for convalescing and the activities I could initially undertake. Recovery from the second procedure was much quicker even though I was over twenty years older.

There is a correlation between a healthy psychological well-being of a patient and a good recovery following surgery (Fitzsimons *et al.*, 2000; McKormick *et al.*, 2006)^[6,7]. If a patient is not in a good psychological well-being it could negatively affect their recovery, so it needs to be considered how a patient can ensure they arrive at the operating theatre with a healthy psychological well-being. To do this it is important to understand the mechanisms that bring about a status of psychological well-being, and how a patient can be prepared.

Discussion

How Habits Create a Positive Psychological Well-being

Neuroplasticity is the ability of the brain to change and learn, neuroplasticity can help us form habits and positive behaviors. Our brains like habits, habit learning is repetition and predictability. Our behavior and thinking are driven by habit (Scarlett, 2019, p. 190)^[8]. Habits reduce stress, they reduce cognitive demand and give a sense of control (Wood *et al.*, 2002, p. 1281-1297)^[9].

Research by Duhigg (2012)^[10] shows that whether habits are of cognitive thought or motor, structures in the cerebral hemispheres of the brain play a key role to help us form habit. The cerebral hemisphere contains the dopamine creating structure, the substantia nigra. Dopamine is associated with habit and reward, therefore if we have a rewarding experience dopamine is created, and when the behavior is repeated then our brain creates dopamine in anticipation (Scarlett, 2019, p. 192)^[11].

Dopamine is responsible for our feelings of well-being, motivation and satisfaction. If a patient forms positive healthy habits pre-surgery, such as regular exercise and healthier eating, these habits can help to reduce the probability of low psychological well-being during recovery, the habits are repeated for the rewarding dopamine creating behavior.

Serotonin modulates behavioral processes, for example, mood, memory and appetite (Berger *et al.*, 2018)^[12]. Aerobic exercise, such a brisk walking, can improve well-being by increasing brain serotonin function (Young, 2007)^[13]. Undertaking activities that will increase serotonin function can help maintain psychological well-being.

It is normal to feel some type of low mood and emotional reaction during post-operative recovery, by forming good sleep patterns and habits that promote a rewarding experience prior to surgery, a patient can help themselves to overcome short-term low mood. To be of optimal benefit regular exercise and healthier eating habits need to be started before the planned surgery, and need to continue throughout the recovery phase.

Using Habits for Psychological Well-bein

Regular exercise can enhance cognition and improve mood and mental health (APA, 2020)^[14]. To maintain the psychological well-being of a patient through the recovery phase healthy eating and regular exercise should be undertaken. This can reduce the likelihood of post-surgery low psychological well-being, and could reduce the risk potential of complications. There is evidence concerning a relationship between wound healing and psychological health (Britteon *et al.*, 2017, p. 775)^[15].

Bruce (2020)^[16] suggests exercising for 30 minutes, three times a week, and gradually increase this to five times a week. Inviting a friend or partner and make the exercise fit in your schedule will help form the habit. Walking is a great exercise that may fit most post-operative recovery plans. Low psychological well-being can be prevented by regular exercise (Mikkelsen *et al.*, 2017)^[17]. Exercise regimes should be formed prior to surgery so that they are a habit. This will increase the positive effect that exercise brings to psychological well-being and aid the patient to a full recovery.

Depending on the surgery performed there may be some initial limit to exercise, it is desirable to get moving as soon as practically possible. A reduction of physical activity level is related to a decrease in psychological well-being, therefore the positive effect that regular exercise has on psychological

health are unquestionable (Maugeri et al., 2020) [18]. It is important to consult with your surgeon with regards to exercise and intensity during the recovery phase.

Conclusions

Preparing for a positive psychological well-being prior to undergoing elective surgery is essential to ensure a full recovery. Healthy eating and regular exercise should become a habit before surgery, as well as after surgery, this will increase dopamine and serotonin levels that provide a foundation for a healthy physical and psychological well-being.

Before deciding to have Surgery

- Making regular exercise such a walking a habit.
- Follow a healthy eating plan, and drink plenty of water.
- Research the procedure.
- Assess the background, training and experience of the surgeon and practice, ensure the surgeon is board-certified.

Initial Consultation with the Surgeon

- Discuss your psychological well-being, ask questions on the procedure and what outcome to expect, build the relationship with your surgeon, understand follow-up appointment expectations, and closing the physician-patient relationship.
- Follow the advice from your surgeon, nurses and healthcare professionals to prepare you for your procedure.
- Continue healthy eating and exercise reward habits.

Post-Surgery

- Follow the post-surgery advice from your surgeon, nurses and healthcare professionals.
- Continue healthy eating habits.
- When you can, ensure that habit formed regular exercise continues, such as walking five times a week for 30-40 minutes, and drink plenty of water.

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