Addiction Transfer Following Bariatric Surgery

This is the first in a series of white papers produced by Bariatric Wisdom that discusses the challenges and opportunities facing patients who have had bariatric surgery.

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Food addiction is a serious problem. Bariatric patients know this condition only too well. Or think they do. In this white paper, Dr. Dana will discuss some aspects of the condition of addiction and how transfer addiction can become an issue following bariatric surgery. Let’s begin with what addiction is, and various ways to treat it.

What is addiction?
How do you define addiction?
Compulsive physiological & psychological need for a habit. Addiction is the persistent compulsive use of a substance or behavior known by the user to be harmful. A physical, emotional or behavioral dependence on a substance or behavior that a person feels powerless to stop.

What can you become addicted to?
Alcohol, shopping, sex/porn, gambling, prescription narcotics, exercise, overeating, risk taking, internet use, tobacco, the list is seemingly endless.

Why do people become addicted?
Dopamine, of course! Endorphins are powerful feel-good chemicals that occur naturally in our brains. We manipulate those chemicals in a variety of ways to elevate our moods. A day at the beach, a walk in the park, playing with children, reading a book, cheering on a sports team are always we manipulate
Endorphins to feel good. Endorphins are associated with feelings of satiety, pleasure, comfort, and well-being.

**How do you know if a behavior is an addiction?**

Any behavior that is performed compulsively to manipulate emotions or create a sense of well-being has the POTENTIAL to be an addiction.

**What is transfer addiction in bariatric patients?**

Post surgery life can be challenging. The dozen donuts or the boxes of candy that once soothed the patient can’t be eaten after surgery. The reasons for wanting to eat those donuts or that candy have not gone away. Some bariatric patients transfer their sugar, carbohydrate or cheese, etc. addictions to other substances and activities that allow them to soothe the emotions once calmed by cakes, candy, and other foods. Some transfer a food addiction to excessive exercise or shopping. Alcohol, drugs, and sexual activity are other more troubling transfer addictions seen in post surgery patients.

**What can we do?**

“Just say no,” I don’t so! Willpower is not the issue due to the brain’s ability to adapt (neural adaptation). Even if we say no, the brain will keep wanting more and more of the substance to obtain the same sensation.

**Some newer theories:**

Scientists have competing ideas for why gastric bypass patients show higher rates of alcohol abuse after surgery:

One earlier school of thought or theory said it was addiction transfer. It suggested that people who have had weight loss surgery can no longer use food to deal with emotions and will then adopt new addictions after weight-loss surgery.

More recent evidence suggests there may be physical reasons: after gastric bypass and also not as significantly vertical sleeve gastrectomy, there are hormonal and metabolic changes that make these individuals more susceptible to alcoholism but not necessarily other addictions. It’s also possible that there is truth in both explanations. There may also be another cause we have not yet discovered.

Addiction transfer assumes that people who are obese are predisposed to addiction. Researchers state that addiction transfer takes place in many forms: gambling, shopping, exercise, sex, chain smoking, etc. It can be difficult to identify the roots of addiction; some experts say it is physiological, and others say it is due to unresolved psychological issues. The physiological explanation for addiction refers to the use of substances or behaviors like food, drugs, alcohol, gambling or sex to stimulate the dopamine receptors (a reward chemical that gives us a pleasurable feeling) in the reward center of the brain. This ongoing bombardment of the dopamine receptors begins to wear them out, which require more of whatever substance or stimulant is being used to create the same effect.
Many researchers attribute addiction to a combination of environmental and genetic factors. Some experts say that consuming a substance or behaving compulsively provides an outlet for people who believe they are unable to take direct action in their lives. This may all be a part of one mechanism. Interestingly there’s little evidence of higher alcoholism rates after the bariatric surgery of gastric banding. Unlike gastric bypass or sleeve, gastrectomy banding does not permanently alter the stomach’s hormones or underlying structure. The difference between these surgeries suggests that alcohol abuse is related to structural changes that affect hormones, enzymes, and messages to the brain.

“In 2012, Conason published a study in JAMA Surgery that found a significant increase in alcohol use for patients after gastric bypass, but not gastric banding. The study also found no significant increase in patients’ use of other drugs, including cigarettes, or compulsive behaviors such as gambling. “If it were addiction transfer, we’d be seeing it across the board,” Conason said. A 2011 study from surgeons at Stanford University (Dr. Dana participated in the first phase of this study.) found that six months after surgery, gastric bypass patients reached higher blood alcohol levels more quickly than they did before surgery. This type of peak and valley is similar to that of cocaine and heroin, for example, which also both produce brief, intense rushes that leave users wanting more.

What does one do to break an addiction?

- Find healthy ways to get endorphin/dopamine sensations.
- Listen to yourself, to your family and friends about any compulsive behavior they observe.
- Develop coping behaviors that do not involve excess. Meditation is often helpful.
- Find a Bariatric Patient Support Group, reach out to others for help.
- Find a bariatric coach.
- Find a therapist.
- Re-affirm to your hopes and dreams for your life post surgery.
- Make yourself accountable to friends and family as you moderate your compulsive/addictive behavior.
- If the behavior becomes problematic, get help from your Doctor or Therapist or

Speak to an addictions professional: https://www.addiction.com/addiction-specialist/

But it’s also possible that increased alcohol dependence has nothing to do with alcohol absorption in the stomach.

There are two online screening tools that might be helpful:

FOR ALCOHOL: www.alcoholescreening.org
FOR DRUGS: www.drugscreening.org

Ultimately, the patient must get help and support. Addiction is a disease that cannot be treated alone.
FOOTNOTES:
General research and information from American Society for Metabolic and Bariatric Surgery.

Addiction Transfer Genetics
Pharmacokinetics Personality
Other Psychosocial

Dopamine-Reward Deficiency Increased by food, alcohol, and many substances of abuse Volkow et al., 2005
D2 receptor occupancy reduced in morbidly obese Wang, et al., 2002
Conflicting D2 neuroimaging data post-RYGB Steele et al., 2010

"Neuroimaging studies suggest that obese people and substance abusers have abnormal levels of dopamine in the brain, contributing to cravings.

‘They always feel that something is lacking, and in order for them to feel OK, they need to use something that boosts the dopamine in brain,’ says Gene-Jack Wang…"
Addiction Transfer Model Sogg, 2007; Buffington, 2007;

Patients may “exchange” problematic eating behavior for a different inappropriate coping mechanism i.e. problematic drinking
Pre-surgery: Binge eating • Mood elevation
Post-surgery: Alcohol misuse • Mood elevation
Studies: Maluenda et al., 2010  Hagedorn et al., 2007

REFERENCES:

Alcoholism after gastric bypass: Is it in your mind or gut? http://scienceline.org/2015/01/alcoholism-after-gastric-bypass-is-it-in-your-mind-or-gut/

ASMBS 2011 Behavioral Health Session:
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CURRENT RESEARCH:
Dutta et al., 2006
Methamphetamine case report
Wendling & Wudyka, 2011
Narcotic addiction case report
Buffington, 2007
Ertelt et al., 2008

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