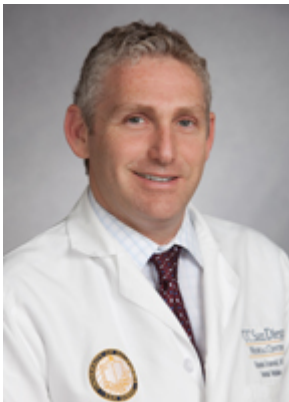


Corner Clinic

This month we discuss why contestants on a popular reality show regain weight, toxic shock syndrome and tampons, and if too much exercise can harm fertility

By UC San Diego Health Experts | June 30, 2016

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Why do contestants on *The Biggest Loser* regain weight?

Eduardo Grunvald, MD, director of UC San Diego Weight Management Program

Weight loss is a very complicated process that requires individual assessment and treatment. For some people, losing a few pounds is quite simple, but for most people it isn't easy to lose weight and keep it off. A recent study published in the journal *Obesity* followed the original contestants of the television show *The Biggest Loser* for six years. Not surprisingly, all but one regained at least some weight. It is common for people considered overweight or obese to regain weight.

Why? Well that's where it becomes very personal. For some people, behavioral fatigue associated with the lifestyle changes and constant vigilance needed for weight loss sets in. For others, acute stress, like the loss of a loved one or unemployment, may negatively impact their health. From a biological standpoint, the body has evolved to defend itself from famine and starvation, and when the body senses the decrease in calorie intake, hormones kick in to stimulate appetite — much of it subconsciously. The brain's reward system — tightly linked to these hormones, as well as the nerves that sense our nutrient storage and metabolism — makes it much more difficult to resist one's favorite foods. And, at the same time, the body becomes more efficient at burning fuel (calories), resulting in the disproportionate slowing of a person's metabolism.

This is what happened with the show's contestants, which wasn't news, but what did surprise us was that the contestants' metabolism didn't return to a normal value — that is, it didn't speed up

again when the contestants returned to their weight before they slimmed down. The results of this study shouldn't be generalized to the average population because most people will not lose weight through such an aggressive diet and exercise plan. In addition, these contestants may have been severely overweight for biological reasons that impacted their abnormal metabolic response. Each person is different with respect to how and why each gains weight, and individuals respond differently to a given weight loss approach.

Obesity should be treated like a chronic disease, and long-term weight management often requires the same approach used for other chronic conditions. For example, if you stop treating someone for diabetes, the condition relapses or worsens. That's the biggest problem with weight loss. People do not focus on the maintenance that is needed throughout their lives, they focus only on the period of weight reduction. Instead, people should consider sustainable weight loss plans. For some people, lifestyle changes are enough to shed pounds, but for most who are afflicted with significant excess weight, the biological defense against sustained weight loss may require more intense assistance.

Lastly, both patients and doctors should focus on improving health as much as shedding pounds. If one individual is only 20 pounds overweight but is metabolically unhealthy (for example, type 2 diabetes), and another is 40 pounds overweight but has no underlying health problems, the former may benefit much more from weight reduction. Many times, medical professionals are needed to evaluate health risks beyond the scale, and sometimes additional tools, such as medications and weight loss surgical procedures, are necessary for long-term weight loss maintenance.



Do I need to worry about getting toxic shock syndrome from tampons?

Erin Gross, MD, obstetrician/gynecologist with UC San Diego Health

Toxic shock syndrome (TSS), although potentially life-threatening, remains extraordinarily rare. It is caused by toxins released by bacteria, such as *Staphylococcus aureus*, and is associated with menstruation in only about half of cases. In the early 1980s, a collection of cases associated with super-absorbent tampons brought TSS into the limelight. Since that time, the number of TSS cases have decreased as tampons have been redesigned and awareness has increased. Nevertheless, women who use tampons do have a slightly higher risk of developing TSS, but the overall risk is low, with about 1 in 100,000 people per year.

Why tampons?

S. aureus, which produces the exotoxin responsible for TSS, thrives in warm, moist environments with plenty of food – and tampons fit that bill. Risks for developing TSS include using high absorbency tampons and keeping tampons in for long periods of time. However, TSS can develop in non-tampon users as well as a result of skin infections, surgery and burns. The bacteria that

cause TSS are always around us, and researchers are still working to find out why some people develop TSS and others do not. The good news is that as we get older, we develop antibodies to the toxin that causes TSS, which may help protect us.

Symptoms of TSS include flu-like symptoms, such as fever, low blood pressure and a sunburn-like rash. Patients can also develop nausea, vomiting and diarrhea. It is crucial to seek medical care if you think you may be ill. Early and aggressive care can be life saving.

So what can you do to protect yourself?

Even though TSS is an extremely rare complication of certain bacterial infections, you can lessen your chances of TSS by doing the following:

- → When on your period, use the lowest absorbency tampon you can.
- → Change your tampon at least every eight hours and consider using pads overnight if you need longer protection.
- → If you ever develop symptoms that cause you worry, do not hesitate to call your doctor.



Can too much exercise impair fertility?

Sanjay Agarwal, MD, director of Fertility Services at UC San Diego Health

It is important to recognize that engaging in exercise and maintaining an appropriate weight are good for both physical and mental wellbeing before, during and after pregnancy. Many women are passionate and highly competitive with regards to their athletic ability. Under most circumstances, this is not to be discouraged. However, when trying to conceive, it can be useful for some women to keep exercise in

moderation.

A 2012 Danish study showed moderate exercise (example: brisk walking, leisurely cycling, golfing or gardening) or vigorous physical activity (example: running, fast cycling, aerobics, gymnastics or swimming) improved fertility in women considered overweight (a BMI of greater than 25).

The same study showed that women with a normal weight (a BMI of less than 25) or low weight (a BMI of less than 18) also had a small increase in fertility with moderate exercise. However, this group of women had a decrease in fertility with as little as one hour of intense exercise per week. The more hours per week they spent engaging in vigorous physical activity, the higher the negative effect on their fertility.

How do we explain these findings?

One of the processes that is required for fertility is for the woman to release eggs (ovulation). Extreme physical activity can interfere with this process by reducing hormones made by the brain

that are responsible for stimulating ovarian function and leading to ovulation. As a result, it is not uncommon for female athletes that engage in strenuous exercise to have irregular or absent ovulation and periods. Being too thin or being overweight can also interfere with ovulation and other mechanisms important for fertility.

What does this mean to you?

If you are trying to conceive and are overweight, either moderate or vigorous exercise is likely to be good for your fertility. Alternatively, if you are of normal or low weight and engage in even as little as one hour of strenuous exercise per week, you may be impairing your fertility, and by reducing the intensity of your exercise to a more moderate level, you may improve your fertility.

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