



## Male & Female Obesity Affect the Ability to Conceive

### *What Patients Need to Know*

Evidence continues to strengthen the relationship between a person's weight and his/her fertility. In women, both too little and too much weight can alter what might otherwise be optimal reproductive ability. A growing body of literature indicates that obesity is associated with menstrual cycle dysfunction and can decrease fertility even in women with normal menstrual cycles. Studies have also shown that overweight men experience diminished fertility, likely due to altered sexual function and abnormal semen parameters, which may be attributed to obesity.

#### **The Impact of Weight on Female Fertility**

Studies looking at overweight and obese women compared with normal weight women using assisted reproductive technology (ART) treatments have shown negative effects including lower pregnancy rates, increased miscarriage rate, and a decreased probability of live birth.

Frequently, the effect of weight on a woman's fertility primarily relates to ovulatory dysfunction with 30 to 47 percent of obese women experiencing menstrual irregularities.<sup>1</sup> However, increased time to pregnancy is not due to ovulatory dysfunction alone. In ovulatory obese women, the probability of natural conception is 4 percent lower than in women with a BMI > 29.<sup>2</sup> While the mechanism is unclear, it is known that excess fatty tissue can alter the hormonal balance and this may have a negative impact on oocyte quality, endometrial receptivity, and an embryo's developmental potential.

#### **The Impact of Weight on Male Fertility**

Studies have shown the association between male partner obesity and male factor infertility. In couples undergoing fertility treatment, the incidence of male obesity (BMI ≥ 30) was three times higher in men with male factor infertility compared with other causes of infertility.<sup>3</sup>

Furthermore, obese men with diets higher in fats often have:

- Lower sperm concentration
- Abnormal sperm motility
- A hormonal imbalance, characterized by decreased levels of testosterone and elevated levels of estrogen, which may impair signals from the brain that regulate sperm development

#### **IVF Treatment Complications**

As a woman's BMI increases so do the risks and complications associated with infertility treatment. Obese women undergoing ART are at risk for numerous complications related not only to the weight itself, but also to the associated medical comorbidities.

Complications in obese women may include:

- Increased dose of gonadotropins and longer stimulation
- Higher rate of cycle cancellations for inadequate response
- Lower oocyte yields
- Greater technical difficulty retrieving eggs and an increased risk of bleeding or damage to surrounding organs
- Greater risk of anesthesia-related complications

#### **Recommendations for Overweight and Obese Patients Trying to Conceive**

At Shady Grove Fertility, we always recommend and encourage overweight and obese patients to move towards the normal weight range based on their height through healthy diet and exercise. Simply put, weight loss improves health and outcomes.

We focus on structured weight loss programs that include behavioral modification in addition to regular exercise with a minimum of 30 minutes of moderate activity at least 3 days per week. Frequently, ovulatory function and pregnancy rates improve significantly after a modest weight loss (5 to 10 percent of body weight) in anovulatory obese women.

If men are able to achieve a healthier BMI, this, too, can greatly improve their sperm production. Sperm takes about 72 days to mature, which means that men who lose weight or make positive lifestyle changes may only need to wait around 3 months before seeing improvements in sperm quality.

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#### References:

1. Fertil Steril® 2015; 104:1116-26.
2. Van der Steeg et al. Hum Reprod. 2008 Feb;23(2):324-8.
3. Sermondade et al. Hum Reprod Update. 2013 May-Jun;19(3):221-31.





# FERTILITY UPDATE

SHADY GROVE FERTILITY

## BMI & Fertility Treatment Guidelines

A normal (or "ideal") BMI falls between 19 and 25. The reason behind BMI guidelines for patients undergoing treatment at Shady Grove Fertility is two-fold.

When a surgical element requiring sedation, such as an egg retrieval—which occurs in the case of IVF treatment—is involved, we must enforce a BMI-cut off to lower the inherent risks that excess weight presents. One such risk includes the inability to adequately manage a patient's air way during the procedure.

When surgery is not a part of the protocol, as in the case with intrauterine insemination (IUI), a BMI cut-off is in place in order to mitigate the increased risks associated with pregnancy complications.

### BMI TREATMENT CUT-OFFS

In Vitro Fertilization - 40

Intrauterine Insemination - 44

**LEARN MORE ABOUT BMI AS IT RELATES TO ABILITY TO CONCEIVE AND FERTILITY TREATMENT OUTCOMES ▶**

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