

## The IVF Antagonist Protocol Sample Schedule

**Antagonist Protocol:** This protocol uses injectible drugs called antagonists (Cetrotide and Antagon) to prevent premature ovulation. Unlike Lupron, which has short lived stimulatory effects, antagonists shuts down the pituitary gland immediately. The antagonists protocol is generally in women who are donating eggs and in some women who are at risk for not stimulating well with Lupron.

This protocol is not our first line treatment because in unselected patients this protocol has lower pregnancy rates than the Down-Regulation Protocol.

### **Down-regulation**

Day 1 This is the first day of your menstrual period (spotting does not count). You **must** call on this day to notify us.

Days 1-3 After you notify us, we will tell you to start birth control pills. Most patients will stay on the pills between 9 and 28 days. (Check with your nurse for the exact number of days.) The pills have several purposes but mainly help us time the events of your IVF cycle.

Your menses should begin a few days after stopping the birth control pills.

Menses **Call us on this date.** At this point, we will a time for you to come in for a baseline ultrasound and blood work to make sure your eggs are “quiet,” meaning your ovaries are not actively developing eggs.

### **Stimulation**

Day 1 If your ovaries are quiet, you will begin to take gonadotropins. Gonadotropins are hormones which cause eggs to grow. Many different brands are available, (Bravelle, Follistim, Gonal-F, Menopure and Repronex) but most are equally effective. The dose and brand will be selected by your physician prior to your treatment. Given in high doses, gonadotropins will cause multiple eggs to grow at the same time.

Day 4 Return to clinic for a blood test to measure estrogen. This test helps determine when we need to have you return for an ultrasound and if we need to increase, decrease or continue at the same dose of gonadotropin.

Typically, we will know your estrogen levels by 2 p.m. You will be contacted by phone by 5 p.m. with your result and instructions regarding your medicine and when to return to clinic.

Day 6 Most patients will return on this date for their first ultrasound and for a second estrogen level. Ideally, your estrogen level will be rising. We will also be able to see how big the follicles are getting. Over the course of the

next 2-6 days, you will likely have several other follow up appointments to monitor your progress.

Days 7-12 As directed by the physicians, you will return to clinic intermittently to monitor follicle growth. Generally by day 7, your follicles are big enough and your estrogen is high enough that you could spontaneously ovulate. If this happened, we would have to cancel the cycle. To prevent ovulation, the antagonist is begun and continued until the day of hCG.

hCG Day When an adequate group of eggs has reached maturity (usually 2 follicles measuring  $\geq 18\text{mm}$ ), you will be instructed to take an hCG injection. The brands of hCG include Ovidrel, Pregnyl and Profasi. hCG will complete the maturation process of the egg and promote ovulation.

On this day you will stop taking the antagonist and gonadotropins.

### **Egg Retrieval**

36 hours  
after hCG

You will get an egg retrieval. This is a 15-30 minute, minor surgical procedure which requires minimal intravenous (IV) sedation. The procedure takes place in our office in the procedure room. After you are comfortably sedated, a needle will be inserted into each ovary. We use an ultrasound to guide the needle.

We will aspirate the fluid from the follicles to obtain eggs. Not every follicle will release an egg and it is not always possible to aspirate every follicle. Therefore, sometimes the number of eggs retrieved does not equal the number of follicles that we can see on ultrasound.

You will know this day how many eggs we have retrieved.

These eggs will be fertilized in the lab with the sperm provided by your partner. Ideally, your partner will provide a fresh sample on the day of your retrieval.

### **Fertilization and Embryo Development**

Day after  
retrieval

On this day you will learn how many of your eggs fertilized normally and be told when to expect an embryo transfer.

You will also begin taking progesterone on this day. Progesterone prevents menses from arriving prematurely. The IVF process can cause some women to produce inadequate amounts of progesterone.

You will take progesterone on a daily basis. If you do not get pregnant, you may stop the medication. If you are pregnant, you will continue the progesterone until 7 weeks of pregnancy.

Progesterone comes several ways: as an intramuscular injection, as a vaginal cream or vaginal suppository. The injections are the most widely used and we have the most experience with them. However, there is encouraging data to support the use of the vaginal progestones.

2-5 days

after retrieval Over the next few days, the fertilized eggs turn into embryos. Our embryologists will carefully cultivate your embryos to maximize the chance that they progress through critical developmental stages. Embryos advance through several stages: zygote (fertilized egg) to cleavage stage (an embryo with more than one cell) to morula (a dense ball of small cells) to blastocyst (an embryo with a fluid filled cavity).

At what stage and what day the embryos are placed back into the uterus depends on how many embryos you now have and how well they are dividing.

**On the third day after retrieval**, the embryos are still at cleavage stage. These embryos are graded on a 1-5 scale with 1 being the best quality embryo. Grade 1 and Grade 2 embryos have the highest chance of resulting in pregnancy. If a couple has only a few, or no embryos of high quality, generally we recommend putting back into the uterus on this day.

If a woman has five or more Grade 1-2 embryos, we may recommend waiting until the blastocyst stage, which generally occurs on the 5<sup>th</sup> day after retrieval.

Blastocyst transfers have the highest pregnancy rate per embryo (implantation rate). Because not all good embryos will tolerate culture for 5 days, unless you have ample numbers of good quality embryos on day 3, we usually won't recommend blastocyst transfer.

14 days after  
retrieval

You will get a pregnancy test (blood test for hCG level). If pregnant, continue on progesterone. If you are not pregnant you will discontinue progesterone.

16 days after  
retrieval

If pregnant, a repeat hCG test will be performed. If the levels are rising appropriately, you will be scheduled for an ultrasound in approximately 2 weeks.