

Gonadotropins

Gonadotropins are sex hormones secreted by the pituitary gland. These include FSH (follicle stimulating hormone) and LH (luteinizing hormone). FSH stimulates the ovaries and causes follicles to develop. LH initiates the release of the egg from the follicle, or ovulation. Both hormones can be extracted from the urine of postmenopausal women and used to stimulate ovulation.

Gonal F, Follistin, and Repronex are some of the other names Fertinex, Humegon brand names for the medication containing FSH and LH. Combinations of *Gonal F, Follistin, and Repronex* may be prescribed during a single treatment cycle. All are administered by either subcutaneous or intramuscular injection. Ovulation is always triggered by an injection of hCG during *Gonal F, Follistin, and Repronex* treatment cycles.

Side Effects & Risks

Common side effects of Gonal-F, Follistin, and Repronex treatment are bloating, weight gain, pelvic discomfort and mood swings. A potentially dangerous condition called ovarian hyperstimulation syndrome develops in less than 5% of all cycles. The ovaries suddenly become enlarged and fluid may collect in the abdominal cavity causing bloating. A weight gain of 5 to 10 pounds and severe pelvic pain may occur. Hospitalization may be required if ovarian hyperstimulation syndrome progresses to a severe state. This can be a life-threatening condition.

In correlation induction cycles human menopausal gonadotropins may cause more than 1 egg to be released in a single cycle. There is a 20-30% chance of multiple pregnancy, the majority being twins. 1.2% of cycles or approximately 8% of pregnancies will, however, be triplets or more. Such high order multiples are basically un-preventable. In IVF cycles, the risk of multiples, determined by how many embryos are transferred.

Certain studies have suggested that some ovulation induction drugs, possibly including *Gonal F, Follistin, and Repronex*, may be associated with an increased risk for ovarian cancer. Research in this area is on going.

Patient Instructions:

1. Investigate your insurance coverage for injectable fertility drugs and assess your financial situation **before** beginning a treatment cycle. These medications are very expensive (usually more than \$60 per vial or ampule). Refer to **CHR Financial Policy**.
2. Schedule an appointment with a member of the staff **before you begin your treatment cycle** to learn how to prepare and administer the medications (including hCG). You will need to sign an informed consent before beginning the treatment cycle,

3. Notify your office on Day 1 (the first day of full flow) or 2 of your menstrual cycle. If this falls on a weekend or holiday, please call your office and speak with the clinical manager on-call. You will be told if you need to schedule an appointment for blood hormone and ultrasound baseline studies before starting the medication. Your physician will determine when you will begin taking the medication, the time it should be given, the dose, and when you need to return for monitoring. **Refer to Cycle Monitoring.**
4. Make sure you obtain your dose of hCG from your pharmacy by Day 7 of your cycle.
5. Discontinue the injections when you are told that your blood hormone levels indicate that the follicles are mature.
6. Administer the hCG injection when instructed. Refer to hCG.
7.
 - a. ART (IVF, GIFT, ZIFT) patients – Check with your ART coordinator regarding timing of last intercourse before the hCG injection. Do not have intercourse following the injection.
 - b. Non-ART patients – Have intercourse every 2-3 days until Day 9 or 10. Then contact your office for instructions. If inseminations are planned, you will be told to schedule 1 & 2. The timing and number of procedure (s) will be determined by your physician. Refer to **Intrauterine Insemination**
8. Discuss additional medication(s) with a staff member, and schedule a follow-up appointment if necessary.
9. Call your office when your menstrual period begins after a treatment cycle. A new cycle cannot be started if residual ovarian cysts are present. Patients frequently skip a month before beginning another cycle stimulated by medication.
10. Consult with your physician if you do not conceive after 3 cycles of treatment.

Other Instructions:

Preparing the Medication:

1. Always wash your hands before preparing the medication. Hand washing is the single most important factor in the prevention of infection.
2. ***Gonad F, Follistim, Fertinex, Humagen, and Repronex*** come in 75 IU and 150 IU ampules. Read the labels carefully to make sure you are administering the correct dose of medication.

75 IU DOSE	1 AMPULE OR VIAL OF 75 IU
150 IU DOSE	2 AMPULES OR VIALS OF 75 IU OR 1 AMPULE OR VIAL OF 150 IU
225 IU DOSE	3 AMPULES OR VIALS OF 75 IU OR 1 AMPULE OR VIAL OF 75 IU AND 1 AMPULE OR VIAL OF 150 IU

3. Preparing medication in an ampule.

- a. Hold the ampule of powder upright. Gently tap the upper end of the ampule several times with your index finger. This moves all the medication to the bottom.
- b. Open 1 ampule of mixing solution and the ampule(s) containing the medication by wrapping an alcohol pad around the necks of the ampules and snapping them off.
- c. Uncap the needle. Draw 1 ½ -2cc of the mixing solution (sterile diluent) into the syringe. Avoid pushing in the plunger because it may cause the solution to spill.
- d. If you are using 1 ampule of medication, inject the mixing solution into the ampule containing the medication and proceed to 7.
- e. If you are using 2 or more ampules of medication, inject the mixing solution into an ampule containing the medication. Draw the water solution from the first ampule into the syringe and inject it into a second ampule containing your prescribed amount of medication (up to 6 ampules) in 1 ampule of mixing solution (about 1 ½ - 2cc). More than 6 ampules of medications must be given in 2 injections. Proceed to 7.

4. Preparing medication in a vial.

- a. Open 1 vial of mixing solution and the vial(s) containing the medication powder by flipping the plastic seal off of each vial. Wipe the tops of each vial with an alcohol pad.
- b. Uncap the needle. Draw 1 to 2 cc of air into the syringe.
- c. Invert the vial containing the mixing solution. Insert the needle through the top of the vial and inject the air. Do not remove the needle from the vial.
- d. With the vial still inverted, see that the needle tip is in the liquid. Draw the mixing solution into the syringe.
- e. If you are using 1 vial of medication, inject the mixing solution into the vial containing medication powder and proceed to 7.

f. If you are using 2 or more vials of medication, inject the mixing solution into a vial containing the powder. Invert the vial containing the powder solution. Draw the medication into the syringe and inject it into a second vial containing powder. Continue using this method until you have mixed your prescribed amount of medication (up to 6 vials) in 1 vial of mixing solution. More than 6 vials of medication must be given in 2 injections. Proceed to 7.

5. Withdraw the needle and pull the plunger back slightly.
6. Put the cap back on the needle and twist it off. Replace it with a clean needle.
7. Point the needle up. Gently flick on the syringe to force any air bubbles to the top. Push the plunger up to the first line. A small amount of air will remain in the syringe
8. If you touch (contaminate) the needle after the medication is in the syringe, put the cap back on the needle and twist it off. Replace it with a clean needle.
9. Lay the syringe on a clean flat surface.
10. Refer to **Intramuscular Injections** or subcutaneous injections depending on Medication used.