

# **Infertility Injectables**

(Cetrotide®, chorionic gonadotropin, Follistim® AQ, ganirelix acetate, Gonal F®/RFF®/Redi-ject®, leuprolide acetate solution, Menopur®, Novarel®, Ovidrel®, Pregnyl®)

(Intramuscular/Subcutaneous)

Document Number: IC-0067

Last Review Date: 02/01/2022 Date of Origin: 11/28/2011

Dates Reviewed: 12/2011, 11/2012, 02/2013, 03/2014, 08/2014, 07/2015, 04/2016, 09/2016, 04/2017,

04/2018, 05/2019, 05/2020, 02/2021, 02/2022

## I. Length of Authorization

Coverage will be provided for 3 months and may be renewed.

## **II.** Dosing Limits

#### A. Quantity Limit (max daily dose) [NDC Unit]:

Drug	QL	Frequency
Cetrotide	1 vial	Daily
Follistim AQ	1 cartridge	Per 2 days
ganirelix acetate	1 prefilled syringe	Daily
Gonal-f/RFF	1 vial	Per 2 days
Gonal-f RFF Redi-ject	1 pen	Per 2 days
leuprolide acetate solution	Two 14-day kits	28 days
Menopur	6 vials	Daily for up to 20 days
Novarel/Pregnyl/ human	One 5,000 unit vial	Per 1.25 days
chorionic gonadotropin (hCG)	One 10,000 unit vial	Per 2.5 days
Ovidrel	1 prefilled syringe	Daily; once per cycle

#### B. Max Units (per dose and over time) [HCPCS Unit]:

Drug	HCPCS	MU	Frequency
Cetrotide	J3490	$0.25~\mathrm{mg}$	Daily
Follistim AQ	S0128/ J3590	4	Daily (female infertility)
		7	Daily (ART)
		6	Weekly (spermatogenesis)
ganizaliy agatata	S0132/	1	Doily
ganirelix acetate	J3490	1	Daily



		4	Daily (female infertility)
Gonal-f	J3590	6	Daily (ART)
		4	Three times weekly (spermatogenesis)
Gonal-f RFF/RFF Redi-ject	S0126/	4	Daily (female infertility)
Gonar i itrivitri iteur ject	J3590	6	Daily (ART)
leuprolide acetate solution	J9218	1	Daily
Menopur	S0122/	6	Daily for up to 20 days (female infertility)
Wellopur	J3590	6	Weekly (spermatogenesis)
Novarel/Pregnyl/human		10	Daily; once per cycle (female infertility)
chorionic gonadotropin (hCG)	J0725	100	90 days (cryptorchidism)
		144	90 days (hypogonadism)
Ovidrel	J3590	250 mcg	Daily; once per cycle

## III. Initial Approval Criteria

Coverage is provided in the following conditions:

## Infertility in Females † $^{1-12}$

- Patient of child-bearing age; AND
- Patient in whom clomiphene alone does not result in fertilization (unless contraindicated or participating in a Assisted Reproductive Technology (ART) program); **AND**
- Patient meets the additional drug-specific criteria below:

Drug	Criteria
<ul><li>Ganirelix</li><li>Leuprolide</li><li>Cetrotide</li></ul>	Patient is undergoing controlled ovarian stimulation (COS)
<ul><li>Novarel</li><li>Pregnyl</li><li>hCG</li></ul>	<ul> <li>Used for the induction of ovulation in the anovulatory infertile patient in whom the cause of infertility is not due to primary ovarian failure; OR</li> <li>Patient's treatment is part of an ART program; OR</li> <li>Treatment of corpus luteum dysfunction (i.e., luteal phase support) after receiving ovulation induction protocol with FSH/LH (menotropins)</li> </ul>
- Ovidrel	<ul> <li>Used for the induction of ovulation in the anovulatory infertile patient in whom the cause of infertility is not due to primary ovarian failure; OR</li> <li>Patient's treatment is part of an ART program</li> </ul>
- Menopur	Used for the development of multiple follicles as part of an ART program
- Gonal-f/ RFF/RFF Redi-ject	<ul> <li>Used for the induction of ovulation in the anovulatory infertile patient in whom the cause of infertility is not due to primary ovarian failure; OR</li> <li>Patient's treatment is part of an ART program</li> </ul>
- Follistim AQ	<ul> <li>Used for the induction of ovulation in the anovulatory infertile patient in whom the cause of infertility is not due to primary ovarian failure; OR</li> <li>Patient's treatment is part of an In Vitro Fertilization (IVF) or Intracytoplasmic Sperm Injection (ICSI) Cycle</li> </ul>



### Spermatogenesis Stimulation in Males † (Φ Gonal-f only) <sup>2,4,5</sup>

• Patient meets the drug-specific criteria below:

Drug	Criteria		
<ul><li>Follistim AQ</li></ul>	Primary or secondary hypogonadotropic hypogonadism not due to primary testicular		
- Gonal-f	failure; AND		
- Menopur	Must be used in combination with hCG		

### Novarel; Pregnyl; human chorionic gonadotropin (hCG) ONLY:

#### Hypogonadotropic Hypogonadism in Males † 8,9,12

- Patient has primary or secondary hypogonadotropic hypogonadism; AND
- Used alone or in combination with menotropins or follitropin therapy

#### Prepubertal Cryptorchidism † 8,9,12

- Patient's condition is not due to anatomical obstruction
- † FDA-labeled indication(s); ‡ Compendia recommended Indication(s); Φ Orphan Drug

#### IV. Renewal Criteria 1-12

Coverage can be renewed based upon the following criteria:

- Patient continues to meet indication-specific relevant criteria such as concomitant therapy requirements (not including prerequisite therapy), performance status, etc. identified in section III; AND
- Absence of unacceptable toxicity from the drug. Examples of unacceptable toxicity include severe hypersensitivity reactions and anaphylaxis, abnormal ovarian enlargement, ovarian hyperstimulation syndrome (OHSS), ovarian torsion, ectopic pregnancy, severe pulmonary complications (e.g., atelectasis, acute respiratory distress syndrome, exacerbation of asthma, etc.), severe vascular complications (e.g., thrombosis, embolism, etc.), ovarian neoplasms, etc.

## V. Dosage/Administration 1-12

Drug	Indication	Dose
	(controlled ovarian stimulation)	0.25 mg subcutaneously once daily during the early- to mid-follicular phase. Administer on either stimulation day 5 or 6 and continue daily until the day of hCG administration.



Drug	Indication	Dose
Follistim AQ	Infertility in females	Up to 250 IU subcutaneously daily until the day of hCG administration.
	Patients undergoing IVF or ICSI Cycle	Up to 500 IU subcutaneously daily until the day of hCG administration.
	Spermatogenesis induction in males	Up to 450 IU subcutaneously per week (in 2 or 3 divided doses).
Ganirelix acetate	Infertility in females (controlled ovarian stimulation)	250 mcg subcutaneously daily during the mid to late portion of the follicular phase and continued daily until the day of hCG administration.
Gonal-f	Infertility in females	Up to 300 IU subcutaneously daily until adequate follicular development is indicated. In general, treatment should not exceed 35 days.
	Patients undergoing ART	Up to 450 IU subcutaneously daily until adequate follicular development is indicated. In general, therapy should not exceed 10 days.
	Spermatogenesis induction in males	Up to 300 IU subcutaneously three times a week in conjunction with hCG.
Gonal-f RFF/ RFF Redi-ject	Infertility in females	Up to 300 IU subcutaneously daily until adequate follicular development is indicated. In general, therapy should not exceed 35 days.
	Patients undergoing ART	Up to 450 IU subcutaneously daily until adequate follicular development is indicated. In general, therapy should not exceed 10 days.
leuprolide acetate solution	Infertility in females (controlled ovarian stimulation)	0.5 to 1 mg subcutaneously once daily
Menopur	Patients undergoing ART	Up to 450 IU subcutaneously daily until adequate follicular development is indicated. Therapy should not exceed 20 days.
	Spermatogenesis induction in males	Up to 150 IU subcutaneously three times per week
& chorionic	Infertility in females	5,000 to 10,000 USP units intramuscularly one day following the last dose of menotropins.
gonadotropin	Hypogonadotropic hypogonadism in males	Intramuscular injection:  • 500 to 1,000 USP units three times a week for 3 weeks, followed by the same dose twice a week for 3 weeks; <b>OR</b>



Drug	Indication	Dose
		• 4,000 USP units three times weekly for 6-9 months, after which the dosage may be reduced to 2,000 USP units three times weekly for an additional 3 months
	Prepubertal cryptorchidism	<ul> <li>Intramuscular injection: <ul> <li>4,000 USP units three times a week for 3 weeks;</li> <li>OR</li> <li>5,000 USP units every 2<sup>nd</sup> day for 4 injections; OR</li> <li>15 injections of 500 to 1,000 USP units over a period of 6 weeks; OR</li> <li>500 USP units three times weekly for 4-6 weeks</li> <li>If unsuccessful, another course is begun 1 month later, giving 1,000 units per injection</li> </ul> </li> </ul>
Ovidrel	Infertility in females & Patients undergoing ART	250 mcg subcutaneously one day following the last dose of the follicle stimulating agent.

## VI. Billing Code/Availability Information

## HCPCS & NDC:

Drug	Company	HCPCS	1 Billable Unit	Package Size	NDC
Cetrotide	EMD Serono	J3490	N/A	0.25 mg vial	44087-1225
hCG	generic	J0725	1000 USP units	10,000 USP MDV	multiple
		S0128/		300 IU cartridge	00052-0313
Follistim AQ	Merck	J3590	75 IU	600 IU cartridge	00052-0316
		99990		900 IU cartridge	00052-0326
ganirelix	generic	S0132/	250 mcg	250 mcg pfs	multiple
gaintenx	generic	J3490	250 meg	250 meg pis	munpie
Gonal-f	EMD Serono	S0126/	75 IU	450 IU MDV	44087-9030
Gollai i	EMD Serono	J3590	7510	1050 IU MDV	44087-9070
Gonal-f RFF	EMD Serono	S0126/	75 IU	75 IU vial	44087-9005
Gonari Krr	EMD Serono	J3590	75 10	75 TO VIAI	44087 3003
				300 IU pen	44087-1115
Gonal-f RFF Redi-ject	EMD Serono	J3590	75 IU	450 IU pen	44087-1116
				900 IU pen	44087-1117
leuprolide acetate	generic	J9218	1 mg	14 mg MDV	multiple
Mononum	Famina.	S0122/	75 III	75 III wiel	EEECC-7501
Menopur	Ferring	J3590	75 IU	75 IU vial	55566-7501
N1	Ferring	J0725	1000 USP units	5,000 USP MDV	55566-1502
Novarel				10,000 USP MDV	55566-1501
Pregnyl	Merck	J0725	1000 USP units	10,000 USP MDV	00052-0315



Ovidrel	EMD Serono	J3590	N/A	250 mcg pfs	44087-1150
Note: S HCPCS codes are not payable by Medicare					

#### VII. References

- 1. Gonal-f RFF [package insert]. Rockland, MA; EMD Serono, Inc; December 2020. Accessed January 2022.
- 2. Gonal-f Multi-Dose [package insert]. Rockland, MA; EMD Serono, Inc; December 2020. Accessed January 2022.
- 3. Gonal-f RFF Redi-ject [package insert]. Rockland, MA; EMD Serono, Inc; February 2020. Accessed January 2022.
- 4. Follistim AQ [package insert]. Whitehouse Station, NJ; Merck & Co. Inc; June 2020 Accessed January 2022.
- 5. Menopur [package insert]. Parsippany, NY; Ferring Pharmaceuticals, Inc; May 2018. Accessed January 2022.
- 6. Cetrotide [package insert]. Rockland, MA; EMD Serono, Inc; September 2018. Accessed January 2022.
- 7. Ovidrel [package insert]. Rockland, MA; EMD Serono, Inc; May 2020. Accessed January 2022.
- 8. Novarel [package insert]. Parsippany, NY; Ferring Pharmaceuticals, Inc; November 2020. Accessed January 2022.
- 9. Pregnyl [package insert]. Whitehouse Station, NJ; Merck & Co. Inc; December 2019. Accessed January 2022.
- 10. Ganirelix acetate [package insert]. <a href="https://www.accessdata.fda.gov/drugsatfda\_docs/label/2020/021057s020lbl.pdf">https://www.accessdata.fda.gov/drugsatfda\_docs/label/2020/021057s020lbl.pdf</a>. December 2020. Accessed January 2022.
- 11. Leuprolide acetate [package insert].

  <a href="http://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=browseByLetter.page&productLetter=L%20-%20drugName623#drugName623">http://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=browseByLetter.page&productLetter=L%20-%20drugName623#drugName623</a>. Accessed January 2022.
- 12. Chorionic gonadotropin [package insert].

  <a href="http://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=overview.process&ApplNo=017016">http://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=overview.process&ApplNo=017016</a>. Accessed January 2022.
- 13. Albano C, Felberbaum RE, Smitz J, et al. Ovarian stimulation with HMG: results of a prospective randomized phase III European study comparing the luteinizing hormone-releasing hormone (LHRH)-antagonist cetrorelix and the LHRH-agonist buserelin. European Cetrorelix Study Group. Hum Reprod. 2000;15(3):526-531.
- 14. Agrawal R, Holmes J, Jacobs HS. Follicle-stimulating hormone or human menopausal gonadotropin for ovarian stimulation in in vitro fertilization cycles: a meta-analysis. Fertil Steril 2000; 73:338-43.
- 15. Ludwig M, Doody KJ, Doody KM. Use of recombinant human chorionic gonadotropin in ovulation induction. Fertil Steril 2003; 79:1051.



- 16. Bouloux P, Warne DW, Loumaye E. Efficacy and safety of recombinant human follicle-stimulating hormone in men with isolated hypogonadotropic hypogonadism. Fertil Steril 2002; 77:270-273.
- 17. Dickey RP, Nichols JE, Steinkampf MP, et al. Highly purified human-derived follicle-stimulating hormone (Bravelle) has equivalent efficacy to follitropin-beta (Follistim) in infertile women undergoing in vitro fertilization. Reprod Biol Endocrinol. 2003 Oct 3;1:63.
- 18. Matsumoto AM, Snyder PJ, Bhasin S, et al. Stimulation of spermatogenesis with recombinant human follicle-stimulating hormone (follitropin alfa; GONAL-f®): long-term treatment in azoospermic men with hypogonadotropic hypogonadism. Fertility and Sterility 2009;92(3):Pages 979-990.
- 19. Human recombinant luteinizing hormone is as effective as, but safer than, urinary human chorionic gonadotropin in inducing final follicular maturation and ovulation in invitro fertilization procedures: results of a multicenter double-blind study. J Clin Endocrinol Metab. Jun 2001;86(6):2607-2618.
- 20. Kousta E, White DM, Franks S. Modern use of clomiphene citrate in induction of ovulation. Hum Reprod Update 1997; 3:359.
- 21. Reissmann T, Schally AV, Bouchard P, Riethmiiller H, Engel J. The LHRH antagonist cetrorelix: a review. Hum Reprod Update. 2000;6(4):322-331.
- 22. Roulier R, Chabert-Orsini V, Sitri MC, Barry B, Terriou P. Depot GnRH agonist versus the single-dose GnRH antagonist regimen (cetrorelix, 3 mg) in patients undergoing assisted reproduction treatment. Reprod Biomed Online. 2003;7(2):185-189.
- 23. van Santbrink EJ, Fauser BC. Urinary follicle-stimulating hormone for normogonadotropic clomiphene-resistant anovulatory infertility: prospective, randomized comparison between low dose step-up and step-down dose regimens. J Clin Endocrinol Metab 1997; 82:3597.
- 24. Strehler E, Abt M, El-Danasouri I, De Santo M, Sterzik K. Impact of recombinant follicle-stimulating hormone and human menopausal gonadotropins on in vitro fertilization outcome. Fertil Steril 2001; 75:332-6.
- 25. Practice Committee of the American Society for Reproductive Medicine. Aging and Infertility in women. Fertil Steril. 2006 Nov;86(5 Suppl 1):S248-52.
- 26. Eijkemans MJ, Imani B, Mulders AG, et al. High singleton live birth rate following classical ovulation induction in normogonadotrophic anovulatory infertility (WHO 2). Hum Reprod. 2003 Nov;18(11):2357-62.
- 27. Zegers-Hochschild F1, Adamson GD, de Mouzon J, et al. International Committee for Monitoring Assisted Reproductive Technology (ICMART) and the World Health Organization (WHO) revised glossary of ART terminology, 2009. Fertil Steril. 2009 Nov;92(5):1520-4. doi: 10.1016/j.fertnstert.2009.09.009. Epub 2009 Oct 14.
- 28. diDonato P, Nola VF, Pittman TV, et al: Leuprolide acetate for inducing ovulation in women undergoing ovarian stimulation. J Reprod Med 1995; 40:715-716.

Proprietary Information. Restricted Access – Do not disseminate or copy

29. Padilla SL, Smith RD, & Garcia JE: The Lupron screening test: tailoring the use of leuprolide acetate in ovarian stimulation for in vitro fertilization. Fertil Steril 1991; 56:79-83.



without approval.

30. Toth B, Baston-Büst DM, Behre HM, et al. Diagnosis and Therapy Before Assisted Reproductive Treatments. Guideline of the DGGG, OEGGG and SGGG (S2k Level, AWMF Register Number 015-085, February 2019) - Part 1, Basic Assessment of the Woman. Geburtshilfe Frauenheilkd. 2019;79(12):1278–1292. doi:10.1055/a-1017-3389.

## **Appendix 1 – Covered Diagnosis Codes**

### Cetrotide, ganirelix, Gonal-f/RFF/Redi-ject, leuprolide acetate solution, & Ovidrel

ICD-10 Codes	ICD-10 Description	
N97.0	Female infertility associated with anovulation	
N97.1	Female infertility of tubal origin	
N97.2	Female infertility of uterine origin	
N97.8	Female infertility of other origin	
N97.9	Female infertility, unspecified	

#### Follistim AQ, Gonal-f, & Menopur

ICD-10 Codes	ICD-10 Description
N46.01	Organic azoospermia
N46.021	Azoospermia due to drug therapy
N46.022	Azoospermia due to infection
N46.023	Azoospermia due to obstruction of efferent ducts
N46.024	Azoospermia due to radiation
N46.025	Azoospermia due to systemic disease
N46.029	Azoospermia due to other extratesticular causes
N46.11	Organic Oligospermia
N46.121	Oligospermia due to drug therapy
N46.122	Oligospermia due to infection
N46.123	Oligospermia due to obstruction of efferent ducts
N46.124	Oligospermia due to radiation
N46.125	Oligospermia due to systemic disease
N46.129	Oligospermia due to other extratesticular causes
N46.8	Other male infertility
N46.9	Male infertility, unspecified
N97.0	Female infertility associated with anovulation
N97.1	Female infertility of tubal origin
N97.2	Female infertility of uterine origin
N97.8	Female infertility of other origin
N97.9	Female infertility, unspecified



#### Novarel, Pregnyl, & chorionic gonadotropin

ICD-10 Codes	ICD-10 Description	
E23.0	Hypopituitarism	
E29.1	Testicular hypofunction	
N46.01	Organic azoospermia	
N46.021	Azoospermia due to drug therapy	
N46.022	Azoospermia due to infection	
N46.023	Azoospermia due to obstruction of efferent ducts	
N46.024	Azoospermia due to radiation	
N46.025	Azoospermia due to systemic disease	
N46.029	Azoospermia due to other extratesticular causes	
N46.11	Organic Oligospermia	
N46.121	Oligospermia due to drug therapy	
N46.122	Oligospermia due to infection	
N46.123	Oligospermia due to obstruction of efferent ducts	
N46.124	Oligospermia due to radiation	
N46.125	Oligospermia due to systemic disease	
N46.129	Oligospermia due to other extratesticular causes	
N46.8	Other male infertility	
N46.9	Male infertility, unspecified	
N97.0	Female infertility associated with anovulation	
N97.1	Female infertility of tubal origin	
N97.2	Female infertility of uterine origin	
N97.8	Female infertility of other origin	
N97.9	Female infertility, unspecified	
Q53.9	Undescended testicle, unspecified	

#### Appendix 2 – Centers for Medicare and Medicaid Services (CMS)

Medicare coverage for outpatient (Part B) drugs is outlined in the Medicare Benefit Policy Manual (Pub. 100-2), Chapter 15, §50 Drugs and Biologicals. In addition, National Coverage Determination (NCD), Local Coverage Determinations (LCDs), and Local Coverage Article (LCAs) may exist and compliance with these policies is required where applicable. They can be found at: https://www.cms.gov/medicare-coverage-database/search.aspx. Additional indications may be covered at the discretion of the health plan.



# Medicare Part B Covered Diagnosis Codes (applicable to existing NCD/LCD/LCA): N/A

Medicare Part B Administrative Contractor (MAC) Jurisdictions			
Jurisdiction	Applicable State/US Territory	Contractor	
E (1)	CA, HI, NV, AS, GU, CNMI	Noridian Healthcare Solutions, LLC	
F (2 & 3)	AK, WA, OR, ID, ND, SD, MT, WY, UT, AZ	Noridian Healthcare Solutions, LLC	
5	KS, NE, IA, MO	Wisconsin Physicians Service Insurance Corp (WPS)	
6	MN, WI, IL	National Government Services, Inc. (NGS)	
H (4 & 7)	LA, AR, MS, TX, OK, CO, NM	Novitas Solutions, Inc.	
8	MI, IN	Wisconsin Physicians Service Insurance Corp (WPS)	
N (9)	FL, PR, VI	First Coast Service Options, Inc.	
J (10)	TN, GA, AL	Palmetto GBA, LLC	
M (11)	NC, SC, WV, VA (excluding below)	Palmetto GBA, LLC	
L (12)	DE, MD, PA, NJ, DC (includes Arlington & Fairfax counties and the city of Alexandria in VA)	Novitas Solutions, Inc.	
K (13 & 14)	NY, CT, MA, RI, VT, ME, NH	National Government Services, Inc. (NGS)	
15	KY, OH	CGS Administrators, LLC	