Medical Coverage Policy | Infertility Treatment Mandate

EFFECTIVE DATE: 01/01/2014
POLICY LAST UPDATED: 10/21/2014

OVERVIEW

The policy addresses medical necessity criteria and coverage guidelines related to the treatment of female infertility using assisted reproductive technology such as artificial intrauterine insemination (IUI) or in-vitro fertilization (IVF). While IUI is addressed in this policy, this service is not impacted by benefit limits or the prior authorization process. However, the member must meet eligibility criteria for coverage.

Testing to determine the diagnosis of infertility are covered services and not applicable to the infertility benefit or this policy

PRIOR AUTHORIZATION

Prior authorization is required for BlueCHiP for Medicare and recommended for Commercial product for or in vitro fertilization (IVF) cycle only. No prior authorization is needed for any cycle in which IUI only is rendered.

Infertility Treatment Preauth Form.doc

POLICY STATEMENT

Infertility services (IUI and IVF) are covered services for married female individuals (including valid common law marriage, according to the statutes of the state in which the couple was married) when all of the criteria for infertility treatment are met. IUI and procedures specific to male subscribers do not recommend/require pre authorization.

1. The member must be an individual in whom fertility would naturally be expected

2. A female member must have a documented inability to conceive after a period of one year of unprotected intercourse with exposure to sperm or 6 months if 35 years or older

   For a member who has miscarried, the time she attempted to conceive prior to achieving that pregnancy shall be included in the calculation of the one-year or 6-month period above, as applicable.

   For women without male partners or without exposure to sperm, infertility is the inability to conceive after six artificial insemination (AI) either intra-cervical insemination or intra-uterine insemination (IUI) cycles performed by a qualified specialist using donor sperm. (These 6 cycles with donor sperm are not a covered benefit as a diagnosis of infertility is not established until the cycles are completed.) These failed six cycles must include the following number of documented failed medicated assisted IUI cycles to qualify for IVF services:

   Female members < 35 years-old: 3 medicated IUI cycles
   Female members 36-39 years-old: 2 medicated IUI cycles

Female members > 40 no medicated IUI cycles are required

3. The male and female must be presumably healthy without a history of past sterilization (or reversal)

4. For women, a postmenopausal state is not the cause of infertility, unless the member is under age 43 and had premature ovarian failure

Many BCBSRI plans have yearly benefit limits of 3 of IVF attempts in a 12 month period and a lifetime maximum of 8 IVF/ attempts not resulting in a successful pregnancy. Medical criteria do not extend those limits. Limits do not apply to IUI.

Up to 4 IVF/ cycles that do not result in pregnancy and delivery, may be authorized if the medical criteria are met. Services greater than 4 are not medically necessary as the there is no peer reviewed literature to support the continued success of further attempts. If the technique is changed after unsuccessful attempts (eg use of a donor egg after failure without a donor egg), additional cycles not to exceed the benefit limit may be approved

Donor Eggs and Sperm
We cover donor gametes (eggs) if obtained through a program (such as, infertility clinics, fertility centers, hospitals or labs) with global reimbursement. If provision of gametes is from a direct donor, a separate reimbursement is associated with this provision, based on the CPT code filed. Any donor stipend for donated eggs or sperm is the member's responsibility. Donor medications used solely for in vitro fertilization are covered under the embryo recipient's pharmacy benefit, by way of manual adjustment with receipts from the donor.

The following services are not covered:

- Freezing and storage of blood, gametes, sperm, embryos, or other tissues for future use
- Reversal of voluntary sterilization
- Infertility treatment for an individual that previously had a voluntary sterilization procedure
- Women who meet the definition of normal menopause
- Surrogate parenting.

A determination that the contractual exclusion does apply, (i.e., that inability may be related to a previous sterilization procedure) is an administrative denial even though it is based upon clinician review. Such denials are not medical necessity determinations.

Previous sterilization:
There is a contract exclusion for infertility services provided to a person who previously had a sterilization procedure. If one spouse has had a sterilization procedure, it is presumed that the other spouse is not considered infertile. This is the basis for a contractual exclusion of infertility services. In such a case, it is presumed that the sterilization procedure is the cause of the inability to conceive or sustain a pregnancy, whether or not there has been a procedure to reverse the sterilization. The sterilization procedure will also be presumed to be the cause of the inability to conceive or sustain a pregnancy in cases where the individual seeking infertility services also has a disorder that is felt to cause such inability to conceive or sustain a pregnancy.

Exception:
Only in cases where there is medical certainty that a prior sterilization procedure is in no manner related to the present inability to conceive or sustain pregnancy will it be determined that the contractual exclusion is not applicable.

Clinician review required:

Requests for infertility services for a married individual who has undergone a previous sterilization procedure or whose partner has undergone a previous sterilization procedure will undergo review by a clinician.

Normal menopause:

BCBSRI considers normal menopause to be exclusionary. We consider amenorrhea and an elevated *follicle stimulating* hormone (FSH) after age 42 to be equivalent to normal menopause. Menopause occurring prior to age 42 is not considered normal menopause, as defined in this policy.

MEDICAL CRITERIA

After 4 IVF cycles that do not result in pregnancy and delivery, the requesting physician must provide details of a revised methodology and the predicted success rate, supported by literature statements, of using the revised IVF methodology. The physician shall indicate that the patient has been informed of the predicted success rate and accepts the proposed services.

Medical necessity criteria consider all past IVF/IUI attempts regardless of past benefit/insurance coverage. Therefore these criteria require the requesting physician to document the number and type of all past IVF/IUI attempts

BACKGROUND

January 1, 2014, Qualified Health Plans (QHPs) are required to cover Essential Health Benefits (EHBs), as defined in Section 1302(b) of the Patient Protection and Affordable Care Act. As groups renew in 2014, most benefit plans will need to include these EHBs (some exceptions may apply to certain large groups; consult your Subscriber Agreement or Benefit Booklet for details).

Infertility treatment is included in the Rhode Island Benchmark Plan that defines the EHBs for RI QHPs. Federal mandates regarding EHBs supersede RI state mandates with regards to removing any annual and lifetime dollar limits.

§ 27-20-20 Coverage for infertility. – (a) Any nonprofit medical service contract, plan, or insurance policies delivered, issued for delivery, or renewed in this state, except contracts providing supplemental coverage to Medicare or other governmental programs, which includes pregnancy related benefits shall provide coverage for the medically necessary expenses of diagnosis and treatment of infertility for women between the ages of twenty-five (25) and forty-two (42) years. To the extent that a nonprofit medical service corporation provides reimbursement for a test or procedure used in the diagnosis or treatment of conditions other than infertility, those tests and procedures shall not be excluded from reimbursement when provided attendant to the diagnosis and treatment of infertility for women between the ages of twenty-five (25) and forty-two (42) years. Provided, that subscriber copayment, not to exceed twenty percent (20%), may be required for those programs and/or procedures the sole purpose of which is the treatment of infertility.

(b) For the purposes of this section, "infertility" means the condition of an otherwise presumably healthy married individual who is unable to conceive or sustain a pregnancy during a period of one year.

(c) The health insurance contract may limit coverage to a lifetime cap of one hundred thousand dollars ($100,000).

Fertility Treatment

Once the condition of infertility or recurrent pregnancy loss has been established fertility services

typically include artificial intrauterine insemination (IUI), and assisted reproductive technology (ART) services such as in-vitro fertilization (IVF), including assisted oocyte fertilization, also known as intra-cytoplasmic sperm injection, frozen/cryo embryo transfer, preimplantation genetic testing, zygote intra-fallopian transfer and gamete intra-fallopian transfer, donor oocyte procedures, and assisted embryo hatching.

Definitions:

Artificial Intrauterine Insemination (IUI)

Artificial insemination by IUI process bypasses the cervix, allowing the sperm to target the ova without being slowed or stopped by the lower portions of the reproductive tract. For this reason, ICI (intracervical insemination) is rarely used. When IUI is used in conjunction with ultrasound to track follicular development, the procedure can be timed to maximize the chances for getting pregnant. Fertility drugs may also be used.

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In Vitro Fertilization (IVF)

In vitro fertilization is a method of assisted reproduction that involves combining an egg with sperm in a laboratory dish. If the egg fertilizes and begins cell division, the resulting embryo is transferred into the woman's uterus where it will hopefully implant in the uterine lining and further develop. IVF bypasses the fallopian tubes and is usually the treatment choice for women who have badly damaged or absent tubes.

Services received as part of an IVF procedure may include office visits, drugs, lab and pathology, surgical procedures, etc. Mechanically assisted fertilization (MAF) may be performed as part of an IVF procedure. Such procedures include Zona "drilling" or (PZD) where the zona pellucida of the oocyte is mechanically interrupted so as to assist sperm entry, and intracytoplasmic sperm injection (ICSI).

Modifications of the IVF procedure include such procedures as GIFT (gamete intrafallopian transfer), ZIFT (zygote intrafallopian transfer), PROST (pronuclear stage transfer), TEST (tubal embryo stage transfer) and TET (tubal embryo transfer). While many of the services received during these procedures are similar to IVF, in GIFT, eggs and sperm are transferred to the fallopian tube where fertilization occurs. In ZIFT, PROST, TEST, and TET, fertilized embryos are transferred at various stages of development into the fallopian tube, either from the fimbrial end via laparoscopy or through catheterization of the uterine end, the latter with or without ultrasound guidance.

A typical IVF cycle consists may consist of the steps noted below steps:

1. Controlled ovarian hyperstimulation.
   Fertility drugs are administered to the women to stimulate the ovaries so that multiple follicles and eggs develop. In a normal cycle, the ovaries typically make and release only one egg.

2. Egg retrieval.
   The eggs are typically removed from the ovaries in an outpatient surgical setting. The fertility doctor uses a needle passed through the vagina under ultrasound guidance to aspirate the fluid from the follicles and pull out the egg.

3. In vitro fertilization.
   The eggs are placed with sperm in the laboratory dish, or the embryologist may use a procedure known as intracytoplasmic sperm injection (ICSI) in which one sperm is injected directly into the egg for fertilization.

4. Uterine embryo transfer.
   The embryos are transferred into the woman's uterus using a tiny catheter and ultrasound guidance.

5. Monitoring and support.
   The fertility specialists will monitor the woman to check blood levels to assess the quality of the uterine lining. If the woman gets pregnant, she will have an ultrasound two weeks after a positive result to check for the fetal heartbeat.

IVF Cycle Timeline

Below is a standard IVF cycle outline that summarizes the important steps involved in treatment.

- Birth Control Pills (Approx. 14-21 days)
- Medication to stimulate ovulation (Approx. 12-15 days)
- Baseline Ultrasound; Stimulation (Approx. 10-12 days);
- Trigger Shot; Egg Retrieval (36-37 hours after trigger shot);
- Embryo Transfer (3-5 days after retrieval);
- Pregnancy Test (14 days after retrieval);
- Ultrasounds 1st - Approx. 6 ½-7 weeks pregnant, 2nd - Approx. 7 ½ - 8 ½ weeks pregnant
- Release to OB at 8-10 weeks pregnant.

Age of the female is highly correlated with pregnancy and delivery success. Prior attempts have limited predictive value until 4 or more IVF failures have occurred. With a limited benefit, clinicians and patients may adopt strategies that maximize success rates within the benefit (e.g. selecting donor eggs in an older woman who has failed 2 non donor cycles or starting with donor eggs).

Assisted Hatching

One key component of a successful attempt at in vitro fertilization is implantation of the embryo in the uterus. Although the exact steps in implantation are poorly understood, one critical component is thought to be the normal rupture of the surrounding zona pellucida with escape of the developing embryo, termed hatching. It is hypothesized that during the in vitro component of the in vitro fertilization (IVF), the zona pellucida becomes hardened, thus impairing the hatching process. Alternatively, some embryos may have some inherent inability to induce thinning of the zona pellucida before hatching. In either case, mechanical disruption of the zona pellucida (i.e., assisted hatching) has been proposed as a mechanism to improve implantation rates.

Randomized controlled trials and meta-analyses of these trials have not found that assisted hatching significantly improves the live birth rate compared to a control intervention. Meta-analyses of heterogenous studies have found that the clinical pregnancy rate is improved with assisted hatching.

Embryo Co-Culture

In routine IVF procedures, the embryo is transferred to the uterus on day 2 or 3 of development, when it has between 4 and 8 cells. However, with this approach the implantation rate is estimated to be between 5% and 30%, potentially related to the fact that under normal conditions the embryo reaches the uterus at a blastocyst stage of development. Embryo co-culture techniques, used successfully in domestic animals, represent an effort to improve the culture media for embryos such that a greater proportion of embryos will reach the blastocyst stage, in hopes of improving the implantation and pregnancy rate. In addition, if co-culture results in a higher implantation rate, fewer embryos could be transferred at each cycle, resulting in a decreased incidence of multiple pregnancies. A variety of co-culture techniques have been investigated, involving the use of feeder cell layers derived from a range of tissues, including the use of human reproductive tissues (i.e., oviducts) to non-human cells (i.e., fetal bovine uterine or oviduct cells) to established cell lines (i.e., Vero cells or bovine kidney cells). However, no standardized method of co-culture has emerged, and no controlled trials have evaluated an improved implantation or pregnancy rate associated with co-culture. (3-8) For example, Wetzels and colleagues reported on a study that randomized IVF treatments to include co-culture with human fibroblasts or no culture. (8) Patients in the 2 groups were stratified according to age (older or younger than 36 years) and prior IVF attempts (yes vs. no). The authors reported that fibroblast co-culture did not affect the implantation or the pregnancy rate. Updated literature reviews did not identify any additional published studies that would prompt reconsideration of the relevant policy statement.

There is a lack of controlled trials demonstrating improved outcomes with co-culture, and no standardized method of co-culture has emerged in the literature.

Cryopreservation of Ovarian Tissue

Cryopreservation of ovarian tissue or an entire ovary with subsequent auto- or heterotopic transplant has been investigated as a technique to sustain the reproductive function of women or children who are faced with sterilizing procedures, such as chemotherapy, radiation therapy, or surgery, frequently due to malignant diseases. A variety of articles have focused on the technical feasibility of such an option. There are a few individual case reports of return of ovarian function using this technique. (9, 10) There are also several case series describing live births using cryopreserved ovarian tissue. (11-13) However, in general, the technique is not standardized and has not been sufficiently studied to determine the success rate. (14, 15) In 2011, Johnson and Patrizio commented on whole ovary freezing as a technique of fertility preservation in women with disease or disease treatment that threaten their reproductive tract function. (16) They concluded, "Although theoretically optimal from the point of view of maximal follicle protection and preservation, the risks and difficulties involved in whole ovary freezing limit this technique to experimental situations."

This technique has not been standardized, and there is insufficient published data that cryopreservation of ovarian tissue is an effective and safe reproductive technique.

Cryopreservation of Oocytes

Cryopreservation of oocytes was originally investigated primarily as an alternative to embryo cryopreservation due to ethical or religious reasons. More recently, it has been examined as a fertility preservation option for reproductive-age women undergoing cancer treatment, both single women and those who do not want the option of embryo cryopreservation. The mature oocyte is very fragile due to its large size, high water content, and chromosomal arrangement. For example, the mature oocyte is arrested in meiosis, and as such, the chromosomes are lined up in a meiotic spindle. This spindle apparatus is easily damaged both in freezing and thawing. Survival after thawing may also be associated with sublethal damage, which may further impact on the quality of the subsequent embryo. Moreover, due to the large amount of water, when the oocyte is frozen, ice crystals can form that can damage the integrity of the cell. To reduce or prevent ice crystals, oocytes are dehydrated using cryoprotectants, which replace the water in the cell. The most common method of freezing oocytes is a controlled-rate slow-cooling method. A newer technique involves a flash-freezing process known as vitrification. This technique is faster, yet requires a higher concentration of cryoprotectants.

There are insufficient published data on the safety and efficacy of cryopreservation of oocytes; data are only available from select clinical settings and select populations.

Blastocyst Transfer

This refers to the extended culture of oocytes/embryos, i.e., for greater than 4 days. The rationale behind blastocyst transfer is that embryos progressing to the blastocyst stage have a much greater chance of implanting successfully in the uterus and resulting in an ongoing pregnancy. Due to the higher probability of implantation, it is thought that fewer blastocysts can be transferred, ultimately resulting in a decreased incidence of triplets and higher-order pregnancies.

According to evidence from RCTs, observational studies and meta-analyses of published studies, blastocyst transfer results in higher live birth rates compared to cleavage stage transfer. Based on evidence from RCTs of a higher live birth rate than cleavage-stage embryo transfer, as well as on supportive clinical input, blastocyst transfer may be considered medically necessary

Intracytoplasmic Sperm Injection (ICSI) for male factor infertility

ICSI is performed in cases of male factor infertility when either insufficient numbers of sperm, abnormal morphology, or poor motility preclude unassisted in vitro fertilization. Using ICSI, fertilization rates of up to 76% have been reported, considerably better than the competing technique of sub-zonal insemination (up to 18%), in which sperm are injected into the perivitelline space (as opposed to into the oocyte itself), and by definition better than the negligible to absent fertilization rates seen in patients with male factor infertility. Fertilization rates represent an intermediate outcome; the final outcome is the number of pregnancies per initiated cycle or per embryo transfer, reported in the largest series as 44.7% and 49.6%, respectively. (26-30) These rates are very competitive with those of the standard in vitro fertilization (IVF). A 2012 committee opinion of the American Society of Reproductive Medicine and Society for Assisted Reproductive Technology stated that ICSI is a safe and effective treatment for male factor infertility. (31) The document also stated that ICSI for unexplained fertility, low oocyte yield and advanced maternal age does not improve clinical outcomes. The opinion included a statement that ICSI may be beneficial for patients undergoing *in vitro* fertilization with preimplantation genetic testing, *in vitro* matured oocytes and cryopreserved oocytes.

There are data indicating that intracytoplasmic sperm injection for male factor infertility has a relatively high rate of successful pregnancy.

Cryopreservation of Testicular Tissue

Testicular sperm extraction refers to the collection of sperm from testicular tissue in men with azoospermia. Extraction of testicular sperm may be performed at the time of a diagnostic biopsy or performed as a subsequent procedure, specifically for the collection of spermatozoa. The spermatozoa may be isolated immediately and a portion used for an ICSI procedure at the time of oocyte retrieval from the partner, with the remainder cryopreserved. Alternatively, the entire tissue sample can be cryopreserved with portion thawed and sperm isolation performed at subsequent ICSI cycles. This technique appears to be a well-established component of the overall ICSI procedure; cryopreservation of either the isolated sperm or the tissue sample eliminates the need for multiple biopsies to obtain fresh tissue in the event of a failed initial ICSI cycle. (32) However, a unique application of cryopreservation of testicular tissue is its use to potentially preserve the reproductive capacity in prepubertal boys undergoing cancer chemotherapy; the typical cryopreservation of an ejaculate is not an option in these patients. It is hoped that re-implantation of the frozen-thawed testicular stem cells will re-initiate spermatogenesis, or alternatively, spermatogenesis could be attempted in vitro, using frozen-thaw spermatogonia. While these strategies have been explored in animals, there are inadequate human studies. (33, 34)

Cryopreservation of testicular tissue in adult men with ozoospermia is a well-established component of the ICSI procedure.

Intracytoplasmic sperm injection (ICSI) has a relatively high rate of successful live births for treatment of male factor infertility due to low sperm count and/or impaired sperm motility. ICSI for male factor infertility and cryopreservation of testicular tissue in adult men with azoospermia as part of an ICSI injection procedure received support from clinical reviewers. These techniques may be considered medically necessary.

The evidence is insufficient to permit conclusions concerning the effectiveness of the following reproductive techniques: assisted hatching; co-culture of embryos; cryopreservation of ovarian tissue or oocytes; cryopreservation of testicular tissue in prepubertal boys; and storage and thawing of ovarian tissue, oocytes, or testicular tissue. For these procedures, there is a lack of published data on live birth rates, the incidence of multiples and neonatal and child outcomes, compared to established reproductive techniques. Therefore, these procedures are considered not medically necessary

COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate Evidence of Coverage, Subscriber Agreement or Benefit Booklet for applicable Infertility services coverage.

CODING

BlueCHip for Medicare and Commercial Products

The following infertility/in vitro fertilization services CPT Codes are covered under the member's infertility benefit when the benefit and medical necessity criteria are met.

55870 58323, 58970, 58974, 58976, 76948, 89250, 89251, 89253, 89254, 89257, 89260,
89261, 89264, 89280, 89281, 89255, 89268, 89272, S3655, S4011, S4013, S4014, S4015, S4016, S4017,
S4018, S4020, S4021, S4022, S4023, S4025, S4026, S4028, S4030, S4031, S4042,

Note: BCBSRI participating facilities primarily use "S" codes when reporting infertility/in vitro fertilization services.

The following codes are male infertility services and no preauthorization is needed. Services are covered under the members infertility benefit.

55870, 58321, 58322, 58323, 89257, 89260, 89261, 89264, S3655, S4026, S4028, S4030, S4031, S4035

The following codes for tests and procedures are non-covered

0058T, 0059T, 55400, 88240, 88241, 89258, 89259, 89290, 89291, 89335, 89337, 89342, 89343, 89344,
89346, 89352, 89353, 89354, 89356, S4027, S4037, S4040

The following services may also be used for the diagnostic evaluation of infertility and therefore not considered part of the infertility benefit. These services are covered under the applicable benefit.

55200, 58750, 88349, 89300. 89310, 89320, 89321, 89322, 89325, 89329, 89330, 89331, 58350,

Providers filing for sperm evaluation, hyaluronan binding assay should file the following CPT unlisted code: 89398

Note: Since there is no applicable CPT code for TESE (testicular sperm extraction) or TESA (testicular sperm aspiration), MESA (Maximum Entropy Spectral Estimation) claims will be submitted with an unlisted code and the claim will follow the standard unlisted procedure format.

RELATED POLICIES

None

PUBLISHED

Provider Update	Jan 2015
Provider Update	June 2014
Provider Update	Nov 2013
Provider Update	April 2012
Provider Update	Mar 2011
Policy Update	Aug 2010
Policy Update	May 2009
Policy Update	Aug 2008
Policy Update	April 2008
Policy Update	Oct 2007
Policy Update	April 2007
Policy Update	Aug 2006
Policy Update	Aug 2005
Policy Update	April 2011
Policy Update	April 1998

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