

Fertility Rates by Age within 12 months

Age	Pregnant	SAB	Infertile
<25	86%	<10%	14%
25-29	78%	<10%	22%
30-34	63%	<15%	37%
35-39	52%	30%	48%
40-44	26%	30%+	64%

Younger women who are not pregnant more likely have a correctable problem than older women and should be referred after one year of attempted conception. Women >34 are less likely to have a correctable problem, but because there is less time for treatment, they should be referred within 6 months.

Tests of Ovarian Reserve

For each test, the following value is considered abnormal:

- Cycle Day 2-4 FSH >10 mIU/ml
- Cycle Day 2-4 Estradiol > 75 pg/ml
- Cycle Day 2-4 antral follicle count <10 (combined)
- Random AMH Level <1 ng/ml
- Clomid Challenge Test: Obtain CD3 FSH and E2. If either is abnormal, stop the test. If normal, give Clomid 100 mg CD5-9 and measure CD10 -11 FSH. FSH: >12 is abnormal.

PCOS Diagnosis (ICD9 256.4)

Must have 2 of 3 characteristics:

- 1) Menstrual irregularity (menses > q 35 days or erratic)
- 2) Clinical or laboratory evidence of elevated androgens
 - Hirsutism, balding, etc (acne is not included)
 - Elevated Testosterone, Free Testosterone, or DHEAS
- 3) Polycystic appearing ovaries:
 - Either 12 or more 2-9 mm follicles per ovary (average), or ovarian volume > 7 cc with increased ovarian stroma and follicles on outside (string of pearls).

Exclude:

- Thyroid disease: TSH and Free T4
- Hyperprolactinemia: fasting prolactin level
- Hypogonadotropic hypogonadism: FSH, E2
- Non-classical adrenal hyperplasia: 17-OHP

Fertility Essentials

- **Ovulation:** Likely if patient has regular, predictable menses with mid-cycle cervical mucus changes and/or premenstrual symptoms. Progesterone 7 days before menses >3 ng/ml confirms ovulation.
- **Patent tubes:** HSG. If one tube is patent, 75% of the time the other tube is patent at laparoscopy. Loculated dye suggests adhesions.
- **Sperm:** Most men with 1.5 ml of sperm, 15 million sperm/ml, 32% progressive motility and 5% normal forms with strict morphology will be able to get their partner pregnant within the first year of trying.

Other Factors

- **Endometriosis (ICD9 617.1)** – Even minimal disease can affect egg quality, but extent of disease correlates with infertility.
- **Age of the woman & ovarian age:** See charts on upper & middle left
- **Uterine factors:** 1 cm polyps (ICD9 621.0) and sub-mucous fibroids (ICD9 218.0) decrease fertility. Mural fibroids > 5 cm may affect fertility and removal should be considered, but can lead to tubal factor infertility.
- **Duration of infertility:** If > 2 years of infertility and workup is normal, average monthly pregnancy rate is 2% or less.

PCOS Screening and Management

- **Basic Screening:** 2 hour 75 mg OGTT, with fasting glucose, and lipid panel.
- **Cycle Management:** OCPs, Mirena IUD or Provera 14 days q month.
- **Anovulation:** Clomid - lowest effective dose is recommended. Start with 50 mg x 5 days in early follicular phase. Alternatives include Tamoxifen 20-40 mg, Anastrozole 2-3 mg, Letrozole 2.5-7.5 mg. Weight loss of 5-10% will often induce ovulation.
- **Hirsutism:** OCPs, Spironolactone 50-100 mg bid (requires contraception), Ornithine carboxylase crème (\$\$\$), Finasteride 2.5-5 mg qd (requires contraception).
- **Glucose intolerance:** Metformin 1500 mg daily for 8 weeks is average lowest effective dose. Byetta or Victoza if intolerant of Metformin.
- **Ovarian Drilling:** High rate of tubal adhesions, so best reserved for those past child-bearing.

To refer or to speak to our doctors about clinical questions, call 423-TRM-BABY

Recurrent Pregnancy Loss Evaluation (ICD9 629.81)

Definition: ≥ 2 consecutive losses with the same partner.

- 2 losses & no live birth, 60% loss next pregnancy.
- 2 losses & 1 live birth, 25% loss next pregnancy.
- **Genetic:** Maternal and Paternal Karyotypes – abnormal in 4% of cases. Refer to REI. IVF with PGD can decrease aneuploidy risk.
- **Saline sonogram or HSG:** Must have good AP image to exclude septum - resection to ≤1 cm improves outcomes.
- **Hormones:** Day 3 FSH, E2, fasting prolactin, & TSH abnormalities can be associated with loss and/or short luteal phase. 11 day temperature elevation is normal.
- **Clotting Factors:**
 - Anticardiolipin** – lethal. Tx w/ Heparin & 81 mg ASA.
 - Lupus Anticoagulant** – lethal. Treat as above.
 - Anti-beta-2-glycoprotein** – lethal. Treat as above.
 - MTHFR mutation** – associated. Treat with methylfolate, B6 & B12.
 - Factor V Leiden, Prothrombin Mutation, Protein C&S, ATIII, PAI-1 inhibitor levels and polymorphism** all have questionable associations.
- **Recurrent embryonic aneuploidy:** diagnosed with tissue or with IVF-PGS, which can improve live birth rates.

Vasectomy Reversal Success Rates

Time since vasectomy	Sperm Present	Pregnant at 12 mo
< 3 years	97%	76%
3-8 years	88%	53%
9-14 years	79%	44%
> 14 years	71%	30%

The general recommendation is if it's been 7 years, IVF is likely to be more successful.

Unexplained Infertility (2 yrs) – Pregnancy Rates & Number Needed to Treat (NNT) for women <35 years old.

Expectant Management	2% per month (NNT = NA)
Laparoscopy	4% per month (NNT = 60)
Clomid	4% per month (NNT = 60)
Clomid-IUI	9% per month (NNT = 30)
Gonadotropin-IUI	16% per month (NNT = 15)
IVF	>50% per cycle (NNT = 2)*

- **Rates are lower for women > 35** *TRM rates
- **If a couple fails 3 IUIs, it is most cost effective to proceed to IVF.**
- **For women in their 40s, Clomid-IUI is no better than chance.**

Miscellaneous

Prolactin:

- If a medication is the cause of hyperprolactinemia, then don't treat it, because you may disrupt the way the primary medicine works.
- Bromocriptine works just as well vaginally and has fewer side effects.

Intercourse:

- Sperm live up to 6 days. Sex every 2-3 days has nearly the same pregnancy rate as sex on the day of ovulation.
- If you wait to have sex until you see a temperature elevation on a basal body temperature chart, the egg may already be dead.

Clomid:

- Use the lowest effective dose because it can thicken cervical mucous and cause a thin the uterine lining.
- 75% of women who will respond will ovulate by 150 mg.
- If not pregnant within 6 ovulatory cycles, pregnancy is unlikely.

Fertility Preservation - Candidates include patients facing:

- **Chemotherapy/XRT.**
- **Elective oocyte preservation for delayed childbearing.**
- ***We will see cancer patients the same day to facilitate rapid treatment.**

TRM has a newsletter to keep you abreast of significant changes in the world of REI.

Sign up by sending a request to: requests@trmbaby.com