



Conception

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An Overview of Conception

Conception is a **complex event** depending on several factors. For conception to occur:

- An egg must be released at the right time
- Sperm must be present in sufficient quantity and quality
- The environment for the sperm must be hospitable
- The egg and sperm must have clear pathways of travel in order to meet

Infertility is a condition which affects many couples. Treating infertility requires knowing its cause. Most often both partners of a couple have suboptimal fertility; therefore both must seek medical care. Infertility is typically diagnosed if a couple has not been able to conceive after one year of trying. If the woman is over 35 years old, she should be evaluated and treated after six months of trying.

Hormones and Conception

Many of the factors in reproduction are controlled by **hormones**. Several glands throughout the body secrete hormones which control ovarian and testicular function. These glands include:

- **Pituitary**, the 'master' gland that regulates all other glands. The pituitary produces thyroid stimulating hormone (TSH), adrenal stimulating hormone (ACTH), and gonadal stimulating hormones (FSH and LH).
- **Thyroid** regulates metabolism of all the cells in the body.
- **Adrenal** regulates blood pressure and produces male hormones.
- **Gonads** are the primary reproductive organs: the testes in the male and the ovaries in the female. These organs are responsible for producing the sperm and ova.

Several of these hormones are present in both women and men. For example, both men and women normally produce both **estrogen and testosterone**. Infertility is frequently a result of some of these hormones being out of balance. For instance, a menstrual cycle that is not 28 days in length usually implies a hormone imbalance. If this is corrected, fertility usually improves.

In some women, **hormone imbalance** may be due to impending menopause. Menopause does not occur overnight or at a set age, but occurs over several years called the premenopausal period. The pituitary gland produces a hormone called FSH which increases during menopause in response to decreasing ovarian function. The higher the FSH, the less likely that pregnancy will occur.

An imbalance of the hormone Prolactin can contribute to "**premature menopause**" in some women. This can be a subtle problem but there are tests to detect this (a TRH Stimulation test may be performed). This test entails being in a fasting state, having an intravenous line placed, and several blood tests being drawn after medication is given. Premature menopause can occasionally be postponed with medication.

Treatment of Infertility

The first step in infertility treatment involved detecting and treating any underlying hormone imbalance. Frequently, these treatments increase fertility without the need for more risky, invasive interventions.

For some couples, other treatments may be needed.

Clomiphene Citrate (Clomid, Serophene)

Clomiphene Citrate (Clomid, Serophene) is an **oral medication** usually taken by women, occasionally by men. This drug can stimulate the ovaries or testes. There is a small but finite risk for complications in women on clomid, including ovarian cyst formation. Rarely, more severe complications arise.

Human Menopausal Gonadotropins or HMG

This is a form of purified FSH, a hormone which stimulates the ovarian follicles to grow. HMG is given by a series of **injections** over several days. Treatment with HMG requires close monitoring with several office visits and ultrasounds during the cycle. This treatment carries a higher risk for problems, including multiple births.



Patient Education

Conception

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Intrauterine Insemination

Intrauterine Insemination (IUI) is an office procedure conducted if there is **insufficient sperm**, or poor sperm survival. An IUI consists of washing away the substances from the male that the sperm live in, as a female could have an allergic reaction to his body's secretions. The female's mucus is checked close to the time of ovulation. If the mucus and sperm are not compatible, then insemination is planned near the time of the woman's ovulation.

Male infertility is more difficult to treat than female infertility. The same hormones that affect female ovulation affect male sperm production. If these malfunction, then the ultimate outcome would include:

- Low total sperm count
- Low sperm motility (movement)
- Poor Morphology (shape)

Most medical reproductive endocrinologists are trained to treat males with an abnormal sperm count. Many urologists also treat male infertility.

Ultrasound

An ultrasound (also called a **sonogram**), has become an indispensable tool that has vastly changed how well we can treat infertility. Ultrasound is performed by someone specially trained in its use.

Using sound waves to create an image, this **safe, noninvasive test** can determine if and when ovulation is occurring:

- The female egg follicles show whether ovaries are functioning properly
- The uterine lining can determine its thickness & quality
- Uterine polyps and fibroid tumors which impede sperm travel can be detected

Infertility is a complex and unique medical problem.

Reproductive assistance is a field with many exciting developments on the horizon. Treatment can be time consuming, expensive and emotionally challenging, but the rewards are great.

Your Doctor is Nearby:

Endocrinology & Fertility

ARC Seton Northwest

11111 Research Blvd
Suite 475
Austin, TX 78759
512-338-8181

Located in the Seton Northwest Health Plaza, to the right at the main entrance.

Maya B. Bledsoe, MD, FACE

Dr. Bledsoe is Board Certified in Endocrinology and graduated from Texas A&M University in 1987. She joined ARC in 1992.

For more information on Conception, follow the directions below:

- Go to AustinRegionalClinic.com
- Click on **Specialties**
- Click on **Endocrinology** or **Fertility**

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