Reproductive Endocrinology & Infertility Glossary

The following is a glossary of terms you may hear during your association with the University of Mississippi Health Care's reproductive endocrinology and infertility (REI) services.

**Adhesion** – A band of scar tissue that can connect, cover or distort organs, such as the tubes, ovaries, uterus and intestines.

**Amenorrhea** – Not menstruating (“not having one’s period”).

**Andrology** – A specialty focusing on evaluating and treating male infertility and sperm.

**Anovulation** – Not ovulating (“not releasing an egg”).

**Antisperm antibodies** – Antibodies that bind to sperm, which can block sperm movement and egg fertilization.

**Assisted hatching** – An assisted reproductive technology (ART) technique where one makes a small opening in the “shell” or membrane around the embryo just before transfer into the uterus. In specific situations, this can improve pregnancy rates. In other cases, it adds cost without helping, so it is not done universally.

**Assisted reproductive technology (ART)** – Treatments and procedures involving the handling of human eggs and embryos outside the body. This includes in vitro fertilization, egg donation and frozen embryo transfer, but does not include ovulation induction or insemination.

**Azoospermia** – The absence of sperm.

**Biochemical pregnancy** – A positive pregnancy test, but with levels of pregnancy hormones too low for documentation by ultrasound. Though these are meaningful to patients, when obstetricians list the number of pregnancies a woman has had, these are not included simply because they are common and usually are not predictive of future outcomes.

**Blastocyst** – An embryo that has grown for 5-6 days since fusion with sperm.

**Blastocyst culture** – An ART technique used to help embryos develop in the lab from days 4-6. Blastocyst cultured embryos are more likely to implant than day 3 or earlier embryos (because the healthiest embryos have been identified), but they can still have chromosomal and other problems that present post-transfer, so they don’t always implant.
Cervix – The lower portion of the uterus that connects it to the vagina and opens during labor to allow the passage of the infant.

Chromosomes – Structures located inside each cell in the body. These contain the DNA/genes that determine a person’s physical makeup.

Clinical pregnancy – A pregnancy after the missed menses for which the developing embryo can be seen on ultrasound.

Clomiphene citrate – A commonly prescribed fertility medication that works by binding to the estrogen receptor. The binding blocks the brain’s recognition of estrogen, which causes the brain to make more follicle-stimulating hormone (FSH), which then stimulates the cells in the ovary to produce more eggs and thereby more estrogen.

Conceptus – A general term referring to the product of the union of the oocyte and the sperm cell.

Corpus luteum – A special gland that forms on the surface of the ovary at the site of ovulation and which produces progesterone during the second half of the cycle. If a corpus luteum is removed prior to the development of the placenta, progesterone levels drop and the pregnancy may not go forward.

Cryobank – A facility where frozen sperm, eggs and embryo are stored.

Cryopreservation – Cold storage of embryos or sperm so that they can potentially be used in the future.

Diminished ovarian reserve (oocyte aging) – A decrease in the number or quality of eggs in the ovary.

Donor insemination – Using donated sperm for placement into the vagina or uterus for the purpose of achieving a pregnancy.

Donor oocytes – Eggs that have been donated by a woman other than the intended birth mother so as to help her become pregnant.

Donor embryos – Embryos that have been provided by one couple for another’s use (known donation or anonymous). Though many use the term “embryo adoption,” ASRM and other organizations try to avoid this particular language because embryos are different from newborns and older children.

Donor sperm – Sperm donated for the purpose of creating a pregnancy.

Ectopic pregnancy – A pregnancy outside of the uterus, most commonly in the fallopian tube. These can require close monitoring as, though death is very rare, ectopic pregnancy is the number one cause of death in the first trimester because of bleeding. If you have an ectopic pregnancy and experience heavy bleeding, severe pain, or other concerning symptoms, you should talk immediately with a doctor and may even need to call 911.

Egg – A female reproductive cell, also called an oocyte or ovum.

Egg freezing – A procedure used to cryopreserve unfertilized eggs taken from a woman’s ovary.
Egg retrieval – A procedure during an IVF cycle where the eggs are taken from inside to outside the body. The physician removes them under ultrasound guidance with a needle, so incisions (“cuts”) are rarely necessary.

Embryo – A fertilized egg in the early stages of growth, from fertilization by a sperm until the eighth week of pregnancy.

Embryo transfer – Placement of an embryo into a woman’s uterus through the cervix after in vitro fertilization.

Endometrial biopsy – A vaginal procedure where a small portion of the lining of the uterus is removed. Though brief, there can be moderate to severe cramping, so for many women 400-600 mg of ibuprofen one hour before the procedure is helpful.

Endometriosis – The presence of endometrial tissue (the normal uterine lining) in abnormal locations, such as the tubes, ovaries and other places in the pelvis.

Endometrium – The lining of the uterus.

Estradiol – The main estrogen produced by the ovary.

Estrogen – The “female” hormone produced mainly by the ovary from puberty to menopause. It has important effects on the heart, bones, lining of the uterus and other parts of the body.

Fallopian tube – A pair of tubes that connect the ovary to the uterus. Sperm usually fertilize an egg in the fallopian tube (not the uterus).

Fallopian tube factor – Also called tubal factor, it occurs when blockage, scarring or damage in one or both fallopian tubes make it hard for sperm to find the egg. When sperm can find the egg, some forms of tubal factor increase the risk for ectopic pregnancy.

Fertility – The ability to bear children.

Fertility preservation (oncofertility) – This refers to a range of approaches for preserving fertility prior to events (such as cancer therapy) that would likely sterilize a person or make subsequent biologic children unlikely.

Fertilization – When a sperm enters an egg and genetic material successfully combines to form an embryo.

Fibroid – A benign growth of the uterine muscle and connective tissue. Though it is medically called a tumor, it is incredibly rare for these to be cancer-like. They can cause abnormal uterine bleeding and, in some cases, interfere with fertility.

Fimbria – Finger-like outer ends of the fallopian tubes that grasp the egg and deliver it into the tube.

Follicle – The fluid-filled sac within the ovary that contains the developing egg prior to ovulation.
**Follicular phase** – The first half of the menstrual cycle when ovarian follicle development takes place. It starts with the first day of menses and ends with ovulation.

**Follicle-stimulating hormone (FSH)** – A hormone produced by and released from the brain that stimulates the growth of an egg.

**Frozen embryo transfer** – Placement of a thawed embryo into a woman’s uterus.

**Gamete** – A generic term referring to the building blocks of male or female reproduction (sperm or egg.)

**Gestational carrier** – A woman who carries an embryo to delivery. The embryo usually is derived from the egg and sperm of persons not related to the carrier so the carrier has no genetic relationship with the resulting child.

**Gonadal dysgenesis** – A situation where the ovaries or testes did not properly develop. Though without therapy complete gonadal dysgenesis can result in a prepubertal female appearance, there can be cases where the person has male (“XY”) DNA.

**Gonadotropins** – Hormones produced by the pituitary gland (in the brain) that influence reproductive function. The two primary hormones are follicle-stimulating hormone (FSH) and luteinizing hormone (LH).

**Gonadotropin hormone releasing hormone (GnRH)** – A hormone produce by the hypothalamus (in the brain) that stimulates the pituitary gland to release LH and FSH. GnRH like medications have multiple uses. For instance, in IVF it decreases the likelihood of ovulation (releasing an egg) prior to egg retrieval. It can also be used to treat endometriosis.

**Hormone** – A chemical signal produced by the body that regulates various organs.

**Human chorionic gonadotropin (hCG)** – A hormone produced early in pregnancy to keep the corpus luteum producing progesterone. This sustains a pregnancy until the placenta develops. When given as a medication, because it is structurally very similar to LH (luteinizing hormone), it can be a way of creating an “LH surge,” which is necessary for ovulation.

**Hydrosalpinx** – A blocked, fluid-filled fallopian tube. These can cause both pain and infertility. Of note, their effect on infertility is not just from blocking sperm from reaching the egg (and increasing the risk of ectopic pregnancy when they do meet). By leaking in to the uterus, the toxic fluid in a hydrosalpinx can disrupt a developing pregnancy even if doing IVF, where an embryo has been placed in the uterus directly.

**Hyperprolactinemia** – The overproduction of prolactin by the pituitary gland (in the brain). Prolactin is the hormone responsible for breast milk production. When levels are high, a woman won’t ovulate or have her periods regularly.

**Hypothalamus** – An area of the brain responsible for releasing multiple hormones.

**Hysterosalpingogram (HSG)** – An X-ray dye study of the uterus and fallopian tubes. Though in some situations this is the best way to study injury to the fallopian tubes (outside of doing surgery), the 30-60
seconds of dye introduction can cause significant cramping, so it is best to talk to your health care professional as to whether this is the right test for you.

**Hysteroscopy** – Examination of the inside of the uterus using a fiberoptic scope via vaginal placement through the cervical canal.

**Infertility** – The inability to conceive with unprotected intercourse or the inability to carry a pregnancy to term. Though this term is commonly used, most couples that have difficulty having children are really subfertile (meaning that the process is inefficient) rather than infertile (meaning that it is impossible without intervention). An evaluation is frequently performed after a year of difficulty, though it may be sooner if the woman is over age 35, there are known risk factors for infertility, or not conceiving causes significant stress.

**Immunologic or thrombophilic infertility factors** – These are conditions in the blood that debatably contribute to infertility or recurrent miscarriage. There has been significant debate regarding their evaluation and treatment, with very different approaches now being standard relative to just a few years ago, so it is important to talk with your doctor about the latest evidence.

**Implantation** – The process where an embryo attaches to the uterine lining in order to get nutrients and oxygen. This process is needed for the pregnancy to continue to grow.

**Intra-uterine Insemination (IUI)** – A treatment in which sperm is placed in the uterus to increase the likelihood sperm will find an egg, which increases the likelihood of pregnancy.

**Intracytoplasmic sperm Injection (ICSI)** – Procedure performed in an in vitro fertilization cycle that injects a single sperm into an egg to achieve fertilization. Though it can increase pregnancy rates in the setting of sperm problems, about 10% of the time an egg will “break” when performed and it adds cost to an IVF cycle, so one doesn’t want to perform it unnecessarily.

**In vitro fertilization/embryo transfer** – A procedure in which an egg and sperm are combined outside of the body and then returned when an embryo has developed.

**Laparoscopy** – A surgery that uses a fiberoptic camera that is introduced through a small incision in the abdomen. It can be diagnostic (“taking a look”) or operative (“fixing things”). Though advances in technology are allowing more procedures to be done this way (and usually with faster recovery from surgery), not all procedures can be performed or completed (even if started) with this approach.

**Luteinizing hormone (LH)** – A hormone made in the pituitary (in the brain) that helps with the maturation and release of an egg (ovulation).

**Luteal phase** – The interval lasting from ovulation to the first day of menses. Though luteal phase defects were a popular concept among physicians in the 1990s, more recent evidence suggests that these are very rare outside of a few specific circumstances, so if you believe you have one, you should talk with your health care professional about the latest evidence.

**Male factor infertility** – Infertility due to problems with the production or delivery of sperm.

**Microsurgical epididymal sperm aspiration (MESA)** – A surgery using an operating microscope to extract fluid and sperm from an epididymal tubule in the testicle. Because too few sperm are obtained this
way for insemination even in the best of circumstances, sperm obtained this way is used for in vitro fertilization (IVF) with intracytoplasmic sperm injection (ICSI).

**Miscarriage** – The loss of a pregnancy before the fetus can survive outside of the uterus. Of note, though this is changing among physicians, classically the term has been used interchangeably with “abortion.” As a result, if a doctor notes in a woman’s chart that she has had an abortion, that could mean she had a miscarriage and not a voluntary termination of pregnancy.

**Mock transfer** – Also known as trial transfer or uterine measurement. Up to 20% of women can have a closed cervix or tipped uterus that makes it difficult to return embryos to the uterus. Though the uterus changes dimensions with in vitro fertilization (due to shifts in hormones and blood flow), this advance evaluation makes the most difficult transfers less likely.

**Morphology** - A measurement of sperm shape.

**Motility** - A measurement of how well sperm moves (“progresses”) forward.

**Multi-cell embryo** - An embryo that has usually grown for at least 3 days.

**Oocyte** - The egg produced in the ovaries each month.

**Ovarian hyperstimulation syndrome (OHSS)** – The developing egg typically has excellent blood flow to it prior to ovulation. Whenever there is a lot of blood flowing in an area, some of the fluid tends to leak out, and this is why women can feel a bit bloated prior to ovulation. When the number of developing eggs increases, the amount of flow, and therefore the “leakiness” will increase as well. If you are having symptoms of OHSS, it is important to coordinate with your health care professional, keep track of your weight daily, and to remain hydrated. (Electrolyte-(salt) rich drinks such as Gatorade and Powerade are important for hydration in these situations. Avoiding fluids, which is what many women instinctively do when feeling bloated, is one of the worst things they can do.)

**Ovaries** – Structures on either side of the uterus that produce eggs and the hormones estrogen and progesterone. The comparable structures in the male are the testes.

**Ovulation** – The release of a mature egg from the ovary.

**Ovulation induction** – The use of medication to promote ovulation when a woman does not reliably do so spontaneously. This is different from superovulation, which is promoting the release of multiple eggs from women who ovulate regularly. Although not always the case, women needing ovulation induction generally need fewer eggs with which to conceive than in superovulation and they tend to be higher risk for multiple gestation.

**Ovulation predictor kit (OPK)** – A home urine test for LH (luteinizing hormone), which identifies the LH surge prior to the release of the egg.

**Ovulatory dysfunction** – Abnormal, irregular, or absent ovulation.

**Pituitary gland** – A gland located at the base of the brain, below the hypothalamus, which controls multiple endocrine glands that in turn influence human growth, development, reproduction, and more.
**Polycystic ovarian syndrome (PCOS)** – A common endocrine imbalance that is associated with increased male hormones (“hyperandrogenism”), irregular or absent menses, and an overabundance of small eggs (2-9 mm in size) in the ovary. Important contributors to PCOS are the genes one inherited from one’s parents and weight (which is a limited measure for insulin levels, which are particularly important). Though weight loss is difficult, may women with PCOS can improve the regularity of their cycles and long term risks (hypertension, diabetes, endometrial cancer, and more) through weight loss if they have excess weight to begin with.

**Post-coital test** – A rarely performed test to check the cervical mucus and assess the interaction with sperm.

**Pre-implantation genetic diagnosis (PGD)** – The biopsy of an embryo to identify a known genetic condition (sickle cell disease, cystic fibrosis, etc.).

**Pre-implantation genetic screening (PGS)** – The biopsy of an embryo to screen for a range of chromosomal problems that all embryos can potentially have (Down syndrome, etc.)

**Premature ovarian failure** – When a woman stops having menses prior to the age of 40 because there are few to no eggs remaining in the ovaries.

**Primary infertility** – An inability to conceive for a woman that has never had a child.

**Progesterone** – A hormone produced by the corpus luteum that prepares the lining of the uterus for implantation of a fertilized egg.

**Prolactin** – A hormone that stimulates breast milk production.

**Recurrent pregnancy loss (RPL)** – A history of two or more pregnancies that did not progress to a live birth. Of note, chemical pregnancies (detected by lab work but resolving prior to a missed period) do not count towards a history of RPL because they are common enough not to influence RPL causes, testing, or treatment.

**Secondary Infertility** – Inability to conceive or carry a pregnancy to term after a history of a successful previous conception.

**Semen analysis** – A laboratory evaluation of the sperm.

**Sonohysterogram (SHG) or hysterosalpingogram (HSG)** - Tests that involve the use of sterile water (SHG) or dye (HSG) to look at the anatomy of the uterus and fallopian tubes.

**Sperm** – Cells produced in the testes that can transfer genetic information (DNA) to an egg.

**Sperm washing** – A process used to clean and select for the healthiest sperm prior to insemination or ICSI.

**Superovulation** – The use of fertility medications to promote the release of more than one egg in a woman who would normally ovulate spontaneously.

**Testes** – The male reproductive structures located in the scrotum that produce testosterone and sperm.
**Testicular sperm extraction (TESE)** – A procedure for extracting sperm by removing a small piece of testicular tissue through an incision in the testes. The tissue is then processed to obtain sperm for use with ICSI as far too few sperm are obtained for insemination.

**Transvaginal oocyte aspiration** – A method of removing eggs from the ovary through the vagina with a needle.

**Tubal factor** – A cause of infertility related to structural or functional damage to one or both fallopian tubes.

**Tuboplasty** - Reconstructive surgery on the fallopian tubes to correct abnormalities that cause infertility. Of note, depending on the reasons for/type of surgery, tuboplasty can be associated with relatively low pregnancy rates and recurrence of the conditions existing prior to the surgery.

**Unexplained infertility** – Infertility without a clear cause despite evaluation.

**Uterine septum** – When the uterus develops in early fetal life, two halves come together and fuse. The portion connecting the two halves then breaks down so that the two uteruses become one. When this connecting portion doesn’t fully break down, what often remains in place is called a septum, which is a band of mostly fibrous tissue.

**Uterus** – A reproductive organ that contains, protects and nourishes the developing embryo/fetus.

**Ultrasound** – An imaging technique based on using sound waves. It can be used to measure the uterus, the ovaries, a developing pregnancy, and much more and is also used for more than just gynecologic evaluation.

**Vasovasostomy (vasectomy reversal)** – Microsurgical removal of scarred sections and reconnection of the layers of the vas deferens after a vasectomy. Ideally, this allows sperm to be ejaculated, though there is a recovery period, and the connections can become scarred after reconnection.

**Vagina** – A tube-like passage in a female connecting the external sex organs with the cervix and uterus.

**Zygote** – The earliest embryo stage resulting after fertilization of an egg by a sperm