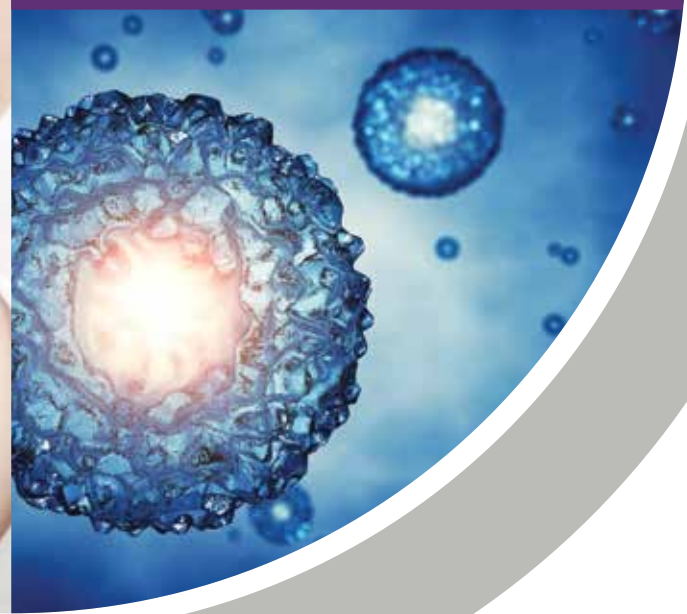


CONCEPTION IS *our life*



VIOS™
Fertility Institute

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Greetings,

We are pleased that you have selected Vios Fertility Institute to assist you in achieving optimal reproductive health, family planning, and successful pregnancies. The word “Vios” comes from the Greek word “Life.” We recognize the importance of life and are excited to help you build your family.

Our philosophy is to approach each patient individually and personally in a welcoming and reassuring atmosphere. It is our goal to provide you with a nurturing experience that is sensitive to the multiple challenges of infertility. We are dedicated to making your dreams a reality.

HELPFUL RESOURCES FOR YOUR FERTILITY JOURNEY.

Click the icons for more information.



YOUR TEAM

Meet and learn more about your care team.



FINANCIALS

Understand your options and responsibilities.



RESOURCES

Services that complement the fertility experience.



MIND & BODY WELLNESS

Steps to make this all a bit easier.



YOUR JOURNEY

The general path we will take to reach your goals.



FERTILITY OVERVIEW

Understanding the basics of fertility and conception.



TESTING

Understanding and preparing for needed testing.



DIAGNOSES

Understanding what your diagnosis means and next steps.



TREATMENT

Understanding what your treatment plan entails.

We look forward to your fertility success.

THE VIOS FERTILITY TEAM | ViosFertility.com





Amber R. Cooper, MD, MSCI, FACOG



Dr. Amber Cooper is a reproductive endocrinologist and medical director of CRMW who understands both personally and professionally the challenges of infertility. She is board certified in Obstetrics and Gynecology and Reproductive

Endocrinology and Infertility and completed both her residency and fellowship at Washington University in St. Louis. She has helped thousands of patients with complex cases achieve successful outcomes, preserve fertility and fulfill the dream of parenthood.

TO REACH DR. COOPER call 618.577.7926, or you can email her and the entire nursing team at TeamCooper@ViosFertility.com.

FELLOWSHIP: Reproductive Endocrinology and Infertility, Washington University St. Louis, 2007-2010

RESIDENCY: Obstetrics and Gynecology, Washington University in St. Louis, 2003-2007

MASTER OF SCIENCE IN CLINICAL INVESTIGATION: Washington University St. Louis, 2008-2010

DOCTOR OF MEDICINE: Loyola University Chicago Stritch School of Medicine, 1999-2003, Summa Cum Laude

BACHELOR OF SCIENCE: Michigan State University with High Honors, Honors College, 1995-1999

Julie S. Rhee, MD, FACOG



Dr. Julie Rhee is a reproductive endocrinologist and infertility specialist and founding physician of Vios Fertility Institute. She is board certified in Obstetrics and Gynecology and completed her fellowship in Reproductive Endocrinology and

Infertility at Washington University in St. Louis. She completed her residency in Obstetrics and Gynecology at Beth Israel Deaconess Medical Center, Harvard Medical School.

TO REACH DR. RHEE call 314.266.2062, or you can email her and the entire nursing team at TeamRhee@ViosFertility.com.

FELLOWSHIP: Reproductive Endocrinology and Infertility, Washington University Medical Center, 2012-2015

RESIDENCY: Department of Obstetrics and Gynecology, Beth Israel Deaconess Medical Center, Harvard Medical School, 2008-2012

DOCTOR OF MEDICINE: University of Massachusetts Medical School, 2004-2008

BACHELOR OF ARTS: Columbia University, New York, NY 1997-2001

Shawn Zimmerman, PhD



Dr. Shawn Zimmerman is the Lab Director and holds both a Master's of Science and Doctorate in Reproductive Physiology with a focus on molecular pathways. His primary interest is determining what

sequence of events allows for proper fertilization in the human body. His research has focused on what part the sperm plays during the process of fertilization and how this understanding can help infertility couples.

PHD: Reproductive Physiology, University of Missouri, 2007-2012

MS: Reproductive Physiology, Kansas State University, 2005-2007

BS: Animal Science, Kansas State University, 2000-2005

ViosFertility.com



Clinical Team

You will interact with a number of individuals from our clinical team. Below are some of the team members you will interact with most frequently. They will take your background information, prepare you for tests, review the plan the doctor has outlined during your consultation making sure treatment instructions and consent forms are clearly communicated and understood.

Your nurse or IVF Coordinator will order your medications and the nurse will provide instructions and guidance on proper dosage and timing. Our nurses along with other clinical team members will assist the doctor during exams, tests, and procedures. Our team is available daily by phone to answer any questions you have during business hours.

ANDREA BRANTLEY, RN

Clinical Nurse Coordinator

Andrea is a registered nurse and received her associates degree from the Jewish College of Nursing. She worked for four years in Labor and Delivery and 3 years in the NICU. Since 2002, she has worked in the field of fertility.

MEREDITH WOODY, RN, BSN

Clinical Nurse Coordinator

Meredith is a registered nurse and received her Bachelor of Science in Nursing from Barnes Jewish College of Nursing. Prior to moving into the fertility field in 2014, she spent nine years in women's healthcare.

AMIE LOWE, RN, BSN

Clinical Nurse Coordinator

Amie is a registered nurse and received her Bachelor of Science in Nursing from Southern Illinois University Edwardsville graduating magna cum laude. Since 2013, Amie has worked in fertility as an IVF Nurse and 3rd Party Coordinator.

KAREN MELTON, RMA

Medical Assistant

Karen is a registered medical assistant and received her degree from Robert Morris University. She spent time working in internal medicine before moving into the fertility field in 2001.

CHRIS HAMILTON, RMA

Medical Assistant

Chris received her medical assistant degree from Missouri College and has worked in large institutions and small private practices providing care to fertility patients since the early 90's.

CHRISTINA GRUEBEL, BSN

IVF Coordinator

Christina received her Bachelor of Science from Maryville University. Since 2009 she has worked in the fertility field in a number of roles including: IVF and 3rd party coordination and SART data and research.

Sonographers

Our sonographers will perform the majority of your ultrasound exams which most often are done transvaginally. They record all images during the ultrasound and answer questions during the exam or refer your questions to the doctor when she is reviewing your scans.

Lab Technician

Our laboratory technicians assess blood samples, based on ordered tests, to provide the doctor with specific hormone levels and pregnancy test results. They perform semen analyses to determine the count, motility (movement) and morphology (shape) of the collected specimen.

Administrative Staff

Our patient coordinators can help you schedule appointments, make copies of medical records and answer general office questions. To reach our patient coordinators call 314.266.2062.



Financials

We recognize the importance for you to understand your insurance coverage, financial options and responsibilities when it comes to your treatment.

It is our goal to help you navigate the process and find the best solution for you.

With our patients having varying degrees of insurance coverage and self-pay responsibilities, our financial and insurance team understands the complexity of the process and is here to guide you along the way.

- + **Insurance Coordinator** – prior to your first appointment (as long as you have filled out the Polaris new patient paperwork) our insurance coordinator will verify your fertility coverage so we will be able to discuss specific diagnostic and treatment options knowing what would or would not be covered under your insurance.
- + **Financial Counselor** – after your consultation with the doctor, our financial counselor will be available to answer any questions you have regarding your specific treatment plan, the process for claims sent to insurance, and payment plans for self-pay patients.
- + **Billing Specialist** – if a patient has insurance coverage, our billing specialist will work with the insurance company to ensure claims are processed and paid in a timely manner.

- + **Patient Account Specialist** – if you have questions on specific bills, what was covered by insurance, or what you are responsible to pay, you can speak with our patient account specialist.

It is our responsibility to provide you with clarity so you can make educated decisions on which path is best for you.

QUESTIONS TO ASK YOUR INSURANCE COMPANY

- + How do you define infertility?
- + Do I need a referral for infertility treatment? Can I use the clinic of my choice?
- + What do my benefits cover for infertility diagnosis and infertility treatment?
- + Are infertility diagnosis procedures covered (ex: office visits, blood work, ultrasounds)?
- + Are infertility treatments covered (ex: intrauterine insemination, in vitro fertilization, cryopreservation)? Do I need prior authorization for certain treatments?
- + Are fertility drugs covered or reimbursable? Are there any exclusions? Can I use the pharmacy of my choice?
- + What is my annual or lifetime maximum benefit for infertility treatment?
- + Is there an age limit for infertility treatment?



The Vios Promise program encompasses a variety of pricing package options for IVF, third party treatments and fertility preservation. From multi-cycle package pricing to special financing, our Promise program seeks to provide alternative financial options for our self-pay patients. Packages include:

- + IVF & Fresh/Frozen Embryo Transfer
- + Third Party IVF Cycles
- + Fertility Preservation
- + Oncofertility Preservation

Our patients also have access to medication options, including competitive pricing and pharmaceutical discount programs.

FINANCING PARTNER

Via our partnership with fertility financing specialists CapexMD, we are pleased to offer our patients the most comprehensive financing options available, with customized loan programs to meet their individual needs and help ease the financial stress of treatment and medications. For more information visit, www.capexmd.com.



Resources

We partner with a number of individuals, companies, and organizations that compliment what we do and provide help and guidance along the way.

Here are a few that we recommend and feel most patients can benefit from. While we continue to learn more about you and the path we will take, we will provide you with additional resources.

Infertility is a stressful process that is different for everyone (patient, partner, children, family). We recommend speaking to someone to help provide support, stress release techniques, and perspective on the infertility journey.

LICENSED PROFESSIONALS

HOPE N. HELLER, PH.D.

Professional Services, Inc.

10411 Clayton Road, Suite 305
St. Louis, MO 63131
hopenhellerphd.com

Hope N. Heller, Ph.D. is a compassionate psychotherapist who is dedicated to helping people adjust and cope with the challenges they face in life. As an individual, couples, and family therapist, Dr. Heller offers versatile counseling services that are personalized to best fit the needs of the client. With more than 25 years of experience, Dr. Heller assists clients to achieve and maintain a comfortable and content life.

SHELLIE FIDELL, MSW, LCSW, LLC

Missouri Baptist Doctors Building
3009 North Ballas Road,
Building A, Suite 228
St. Louis, MO 63131
314.630.4140
shellie@psychotherapyspecialists.com
www.shelliefidell.com

Shellie has been practicing for nearly 20 years and worked in various settings treating women's reproductive.

SAINT LOUIS BEHAVIORAL MEDICINE INSTITUTE

16216 Baxter Road, Suite 205
Chesterfield, Missouri 63017*
314.289.9411
slbmi.com

WOMEN'S REPRODUCTIVE MENTAL HEALTH AND WELLNESS PROGRAM

St. Louis Behavioral Medicine Institute specializes in Women's Reproductive Mental Health and Wellness. They assist with concerns related to pregnancy, nutrition, preconception counseling, the postpartum period, miscarriage, infertility, infant death, menstruation, and menopause. They offer psychological and psychiatric help to women of all ages about any issues related to the reproductive cycle.

**Note: St. Louis Behavioral Medicine Institute also has offices in the city of St. Louis and Belleville, IL but the Women's Reproductive Mental Health and Wellness Program is only offered at their Chesterfield location.*

SUPPORT ORGANIZATIONS

SHARE PREGNANCY & INFANT LOSS SUPPORT

636.947.6164
dcochran@nationalshare.org
nationalshare.org

The mission of Share Pregnancy and Infant Loss Support is to serve those whose lives are touched by the tragic death of a baby through pregnancy loss, stillbirth, or in the first few months of life. The primary purpose is to provide support toward positive resolution of grief experienced at the time of, or following the death of a baby. This support encompasses emotional, physical, spiritual and social healing, as well as sustaining the family unit.

Share Chapters meet regularly across the United States. For more information on dates, group topics and who to contact, visit: nationalshare.org/share-chapter/

RESOLVE

703.556.7172 | resolve.org

RESOLVE: The National Infertility Association is a non-profit, charitable organization, who works to improve the lives of women and men living with infertility.

RESOLVE Peer-led Support Groups are informal opportunities for women and men experiencing infertility to connect with one another, to discuss their situations and to receive support from others who have had similar experiences or who are struggling with similar issues. Group moderators are volunteers and are not mental health professionals. Attendance is free. Please contact the group host before attending your first meeting. Find a support group at: <http://www.resolve.org/support/support-groups.html>

ACUPUNCTURE

Acupuncture is a form of Traditional Chinese Medicine (TCM) that has been practiced for thousands of years. It can help treat conditions ranging from aches and pains to anxiety, depression, and infertility. For fertility patients, acupuncture can help regulate the menstrual cycle, normalize the endocrine system and fertility hormones, increases blood flow to the uterus, and can help reduce stress and anxiety. If you decide to see an acupuncturist, we highly recommend that you seek out a licensed acupuncturist who specializes in the complexity of fertility treatments.

WELLBODY CLINIC

Christine Kleinschmidt, L.Ac.
2716 Sutton Boulevard
Maplewood, MO 63141
314.644.5844
wellbodyclinic.org

Christine is a licensed acupuncturist devoted to helping her patients achieve health and wellness with Traditional Chinese Medicine (TCM). She follows a holistic model of evaluation and diagnosis that involves a thorough health questioning and acupoint palpation with tongue and pulse diagnosis to formulate a treatment plan appropriate and unique to each patient. Christine graduated from Southwest Acupuncture College in 2002 and completed her post-graduate work at the International Institute of Traditional Chinese Medicine in Beijing, China. She also has advanced herbal training with an emphasis on women's health.

REPRODUCTIVE LAW ATTORNEYS

We require patients to have legal counsel and written documentation prepared, with the help of a reproductive attorney, in cases involving third party candidates and unmarried couples (gamete sources). As reproductive law is a unique and ever changing landscape, we strongly suggest using an attorney who has a background in reproductive law.

TIM SCHLESINGER

165 North Meramec Avenue, Suite 110
St. Louis, MO 63105
314.244.3661
pcblawfirm.com

In his more than 30 years of practice, Tim Schlesinger has become well-known for his skill and experience in the areas of complex divorce, family law and assisted reproductive technologies (ART). His ART experience includes the preparation of surrogacy agreements, embryo and egg donation agreements, as well as the legal actions necessary to establish parentage when children are born as the result of these agreements.

THE LAW OFFICES OF MARY BECK

Joanna Beck Wilkinson, JD
232 N. Kingshighway, Unit 1109
Saint Louis, MO 63108
314.962.0292
Joanna@MaryBeckLaw.com
marybecklaw.com

Professor Mary Beck, RN MSN JD
2775 Shag Bark Court
Columbia, MO 65203
573-446-7554
Beckm@missouri.edu
marybecklaw.com

The Law Offices of Mary Beck was founded by Mary Beck in 1989, a former family nurse practitioner turned attorney who understands the challenges of adoption and surrogacy law. Joined in practice by her daughter, Joanna, they provide support to individuals and couples building their families through alternative options.



Infertility: What to Expect?



The anticipation has been building. You have an appointment scheduled with a fertility specialist because something isn't right. You come into the waiting room, sign in and sit down. Where your journey goes from here is unknown.

PLAN FOR THE UNEXPECTED

Facing a potential infertility diagnosis is difficult. For some, only a little intervention is needed to achieve a pregnancy. On the opposite end of the spectrum, for some, the path to parenthood is a long and difficult journey with highs, lows and unexpected twists and turns. There is no 'quick fix' and even if you fall on the 'little intervention' side of the spectrum, this process will be unlike anything else you've ever experienced.

BE OPEN TO ALL OPTIONS

Maybe a friend has experienced infertility and had success on her second intrauterine insemination (IUI) cycle or

you've done research and think ovulation medication and timed intercourse will work for you; however, that might not be the case for your fertility experience. It is important to be open to all possible treatment options: from an IUI or egg donor to a gestational carrier or multiple IVF cycles, your team will develop the best possible treatment plan to achieve a healthy pregnancy, but it may not be what you expected when you first walked in the door. While the hope is that treatment goes the direction you want, it may not, and having this mindset will make facing unexpected obstacles a little easier.

THE DEMANDS OF TREATMENT

Treatment is intense, takes a considerable amount of time, and requires flexibility. Fertility treatment is a very time specific experience but the timeline is specific to how your body responds to treatment. An initial plan will be outlined: including the number and type of medications and when

the initial cycle monitoring will occur. From there the plan will be adjusted as needed depending on how your body responds to the medication and the results of your most recent monitoring appointment. Medication dosage may increase, new medication may be added and monitoring appointments can be scheduled for the next day. Going into the treatment cycle with this in mind will make any last minute adjustments easier to digest.

SUPPORT

Support is key. Having someone, whether a spouse, partner, or trusted friend, to confide in and be an engaged participant makes the journey easier. You are given an enormous amount of information: medication schedules, procedure preparation, treatment requirements and results, etc. Having someone to take notes, ask questions and help with medication injections provides more clarity on the process. It is also important to note that as your care team, we are here to answer your questions (no matter how big, small or often) and support you in your pursuit of parenthood.

REMEMBER THE END GOAL

You are on this journey to become a parent. In a perfect world, you wouldn't be on this journey; you would already be a parent. It is easy to get bogged down in the details of the appointments, medications and treatments plans, but always the end goal is parenthood. In the end, how you get there doesn't matter. What matters is you have a happy, healthy family and we are here to support you every step of the way.



Vitamins for Egg Health

- + A blood test (chemistry panel) should be checked before starting the supplements.
- + It is ideal to start the supplementation three months prior to fertility treatment; however, starting these supplements at any time may help to improve egg quality.
- + It is recommended to take a prenatal vitamin with DHA daily along with these supplements.
- + STOP the supplements (except for the prenatal vitamin with DHA) with the trigger shot (HCG) or with ovulation.

Myo Inositol

DOSE: 2 g BID

- + Part of the B-vitamin family.
- + In animal studies, shown to help with blastocyst (embryo) development via cell morphogenesis and cytogenesis, lipid synthesis, structure of cell membranes and cell growth.
- + Good concentrations of myo-inositol within the follicular fluid are correlated with higher E₂ (estradiol) levels within the follicular fluid and better quality embryos.

Melatonin

DOSE: 3 mg QHS

- + Has antioxidant qualities.
- + Also known as the “sleep” hormone.
- + Helps scavenge the free-radicals that can damage delicate sperm and egg DNA.

NOTE: Do not take melatonin if you are on thyroid medication. It has been shown to increase T₃ and T₄ levels.

Co Enzyme Q10

DOSE: 200 mg TID

- + Commonly used for heart disorders.
- + Helps support and improve mitochondrial function (which is the powerhouse of the cell).
- + Required for mitochondrial ATP synthesis (provides energy).

Omega-3 fatty acid

DOSE: 1000 mg QD Fatty acid

- + In one study, a higher omega-6 to omega-3 ratio was associated with higher numbers of follicles.
- + Recommend increased omega-3 intake (leafy greens, nuts and seeds and high quality, purity tested fish oil supplement), and lower omega-6 fats intake (found in snack and fast foods, factory/grain-fed red meat and processed oils).

Vitamin C

DOSE: 500 mg QD

- + Antioxidant
- + Reactive oxygen species are continuously generated throughout metabolic processes which damage mitochondrial DNA, and contribute to the “age-related” decline in egg quality.
- + Helps prevent oxidative mitochondrial damage.
- + Supports healthy blood vessel structure.

Vitamin E

DOSE: 200 IU QD

- + Antioxidant
- + Helps prevent oxidative mitochondrial damage.
- + May improve glandular epithelial growth and development of blood vessels in the endometrium.

L-arginine

DOSE: 1000 mg BID

- + Amino acid
- + Encourages your pituitary gland to produce more Human Growth Hormone, which helps improve the quality and quantity of eggs.

DHEA

DOSE: 25 mg TID

- + Hormone in the body that begins to decrease after age 30.
- + May be beneficial in women with ovulation disorders.
- + Positive effects have been reported on egg and embryo quality.

Pycnogenol

DOSE: 100 mg QD

- + Super antioxidant and has anti-inflammatory effects.
- + Effective against fat soluble and water soluble free radicals.
- + Supports blood vessel structure.

PQQ

DOSE: 20mg 1 QD

- + PQQ has been shown to induce mitochondrial biogenesis—the growth of new mitochondria in aging cells. While CoQ₁₀ optimizes mitochondrial function, PQQ activates genes that govern mitochondrial reproduction, protection, and repair.

QD = daily

BID = 2x per day

TID = 3x per day

QHS = nightly



Mushroom & Herb Omelet

Eggs are rich in choline, which studies have shown can have significant positive effects on fetal development. They are also rich in many different vitamins and minerals as well as essential fats and are an excellent source of protein.

INGREDIENTS

- + 4 large eggs
- + 1 and 1/2 cups fresh mushrooms - sliced
- + 1 tablespoon fresh parsley - chopped
- + 1 teaspoon fresh oregano, basil or thyme - finely chopped
- + 2 teaspoons butter
- + salt and pepper to taste

INSTRUCTIONS:

In small bowl, whisk together eggs and spices. Set aside.

In a medium skillet at just above medium heat, saute the mushrooms in half the butter (1 teaspoon) until tender; set aside.

In same skillet, melt half of the remaining butter (1/2 teaspoon). Pour half of the egg mixture into skillet. Cook, lifting edge to allow uncooked portion to flow underneath.

When almost set, spoon half of the mushrooms over the omelet. Fold other half over the mushrooms; slide onto a serving plate.

**Recipe from mrbreakfast.com*



Black Bean and Avocado Salsa

Avocados are nutritional powerhouses packed with minerals, vitamins, essential fats, protein, carbohydrate and fiber. They are a fantastic source of vitamin E, which studies have shown can be beneficial in improving the lining of your uterus and can also help with embryo implantation.

INGREDIENTS

- + 2 jalapeños (seeded for less heat)
- + 1 clove garlic
- + ½ medium white onion
- + kosher salt
- + pepper
- + 1 can black beans
- + 2 scallions
- + 2 tbsp. fresh lime juice
- + 1 tbsp. olive oil
- + 1 avocado
- + ½ c. fresh cilantro

INSTRUCTIONS:

In a large bowl, combine the jalapeños, garlic, onion, 1/2 teaspoon salt, and 1/4 teaspoon pepper.

Add the beans, scallions, lime juice and oil and toss to combine. Fold in the avocado and cilantro. Enjoy!

**Recipe from womensday.com*



Roasted Cauliflower with Parmesan

Folate, found in cauliflower, promotes sperm viability and motility and supports normal fetal development.

INGREDIENTS

- + 1 large head of cauliflower
- + 2 tbs olive oil
- + ¼ tsp salt
- + Fresh ground black pepper, to taste
- + ½ cup fresh parmesan cheese, shredded

INSTRUCTIONS:

Preheat the oven to 450 degrees.

With a sharp knife, remove the core of the cauliflower head. Separate the cauliflower florets, cutting each in half to create one flat side.

In a large bowl, toss the cauliflower with olive oil, salt and pepper.

Spread florets out on a baking sheet and roast in the preheated oven for 10 to 12 minutes.

Remove from the oven and sprinkle parmesan cheese over the top. Place back in the oven for 3 to 5 minutes, or until the cheese has melted.

**Recipe from babymed.com*



Baby Spinach with Fresh Berries, Pecans & Goat Cheese in Raspberry Vinaigrette

Dark leafy greens, like spinach, are high in folate (a B vitamin) that has been shown to improve ovulation. Berries are high in antioxidants, which help protect eggs from damage. Both spinach and berries naturally increase a woman's libido.

SERVINGS: 4

INGREDIENTS

For the Dressing:

- + 2-1/2 tablespoons raspberry vinegar
- + 6 tablespoons vegetable oil
- + 1/4 cup honey
- + 1/2 teaspoon Dijon mustard
- + 2 tablespoons finely minced shallots, from one shallot
- + 1/4 teaspoon salt
- + 1/8 teaspoon freshly ground black pepper

FOR THE SALAD:

- + 1 (6-7 ounce) bag or carton baby spinach (about 6-7 cups)
- + 2 cups (1 pint) stemmed and sliced strawberries
- + 1 cup (1/2 pint) blueberries
- + 1/2 cup pecans, toasted
- + 4 ounces goat cheese (if currently pregnant exclude from recipe)

INSTRUCTIONS:

Combine raspberry vinegar, vegetable oil, honey, Dijon mustard, shallots, salt and pepper in a small sealable container and shake vigorously to blend (be sure honey doesn't stick to bottom). Alternatively, combine vinegar, honey, mustard, shallots, salt and pepper in a medium bowl. Whisking constantly, slowly drizzle in oil until emulsified.

In a large bowl, combine baby spinach, strawberries, blueberries and pecans. Add the dressing little by little and toss until greens are well-coated (you may have a bit left over but you'll use most of it). Taste and adjust seasoning with salt and pepper. Sprinkle crumbled goat cheese over top and serve. Enjoy!

**Recipe from onceuponachef.com*



Chile Garlic BBQ Salmon

Salmon is full of Omega3 Fatty Acids, which are proven to regulate blood flow to the reproductive organs.

INGREDIENTS

- + 3 pounds whole salmon, cleaned
- + 1/4 cup soy sauce
- + 1 tablespoon chile sauce
- + 1 tablespoon chopped fresh ginger
- + 1 clove garlic, chopped
- + 1 lime, juiced
- + 1 lime, zested
- + 1 tablespoon brown sugar
- + 3 green onions, chopped

INSTRUCTIONS:

Prepare outdoor grill for high heat.

Trim the tail and fins off of the salmon. Make several shallow cuts across the salmon's skin. Place salmon on 3 large, slightly overlapping sheets of aluminum foil.

In a bowl, stir together soy sauce, chile sauce, ginger, and garlic. Mix in lime juice, lime zest, and brown sugar. Spoon sauce over the salmon.

Fold the foil over the salmon, and crimp the edges to seal.

If using hot coals, move them to one side of the grill. Place the fish on the side of the grill that does not have coals directly underneath it, and close the lid. If using a gas grill, place the fish on one side, and turn off the flames directly underneath it; close the lid. Cook for 25 to 30 minutes. Remove to a serving platter, and pour any juices that may have collected in the foil over the top of the fish. Sprinkle with green onions.

**Recipe from allrecipes.com*



Spiced Chicken Tacos with Avocado & Pomegranate Salsa

Avocados are nutritional powerhouses packed with minerals, vitamins, essential fats, protein, carbohydrate and fiber.

They are a fantastic source of vitamin E, which studies have shown can be beneficial in improving endometrial lining (the lining of your uterus). It can also help with embryo implantation.

INGREDIENTS

- + 1 tsp. ground cumin
- + ½ tsp. garlic powder
- + ¼ tsp. chipotle chili powder
- + kosher salt
- + pepper
- + 1 tbsp. olive oil
- + 2 large boneless, skinless chicken breasts
- + 4 medium radishes
- + 2 scallions
- + 1 large avocado
- + ¼ c. pomegranate seeds
- + 1 tbsp. fresh lime juice
- + ½ c. fresh cilantro leaves
- + 8 small flour tortillas
- + sour cream

INSTRUCTIONS:

Heat oven to 425 degrees F. Line a rimmed baking sheet with foil. In a small bowl, combine the cumin, garlic, chili powders, and 1/2 teaspoon salt.

Heat the oil in a medium skillet over medium heat. Season the chicken with the spice mixture and cook until browned, 2 to 3 minutes per side. Transfer the chicken to the baking sheet and roast until cooked through, 8 - 10 minutes.

Meanwhile, in a medium bowl, gently toss together the radishes, scallions, avocado, pomegranate seeds, lime juice, and 1/4 teaspoon each salt and pepper; fold in the cilantro.

Slice the chicken into 1/4-inch-thick pieces. Fill the tortillas with the chicken and top with the pomegranate salsa. Serve with sour cream, if desired.

**Recipe from womansday.com*



Salmon Scallopini with Almond Orzo

Salmon is full of Omega-3 Fatty Acids, which are proven to regulate blood flow to the reproductive organs. Almonds are a great source of vitamin E, which increases the thickness of the uterine lining and improves sperm health and motility.

INGREDIENTS

- + Orzo
- + Butter
- + Sliced almonds
- + 1 (7-ounce) salmon fillet, cut into 1/4-inch-wide slices
- + Lemon juice
- + Drained capers

INSTRUCTIONS:

Cook 1/2 cup orzo according to package directions; drain, reserving 1/2 cup liquid.

Melt 1 teaspoon butter in a nonstick skillet over medium heat. Brown 2 tablespoons almonds; set aside.

Season salmon with salt and pepper. Sauté on both sides until done.

Divide orzo and salmon between 2 plates.

Add reserved liquid to skillet with 2 tablespoons juice and 1 tablespoon capers. Bring to a boil. Stir in 3 teaspoons butter and almonds.

Spoon over plates.

**Recipe from health.com*



The Menstrual Cycle

In order for a woman to have the potential to become pregnant, the following must be true of her menstrual cycle so that fertilization and implantation are possible:

- + The woman's ovarian and anterior pituitary hormones behave normally during her cycle to develop a mature egg and prepare the uterus for implantation.

GLOSSARY

Ovarian Cycle

FOLLICLE DEVELOPMENT

- + **Primordial Follicle:** A resting follicle that holds an immature egg.
- + **Primary Follicle:** A follicle that has grown to .1mm in diameter.
- + **Secondary Follicle:** A follicle that has developed a fully grown egg and is .2mm in diameter (note: not all follicles contain an egg).
- + **Preantral Follicle:** A follicle that is approximately .2-5mm in diameter.
- + **Antral Follicle:** A follicle that is approximately 10-20mm in diameter.

OVULATION: When the ovaries release a mature egg that is ready for fertilization.

CORPUS LUTEUM: Forms from the ruptured follicle after ovulation and helps prepare the uterus for implantation.

CORPUS ALBICANS: Forms from the breakdown of the corpus luteum when fertilization of the egg does not occur.

BASAL BODY TEMPERATURE (BBT): The body temperature at rest taken in the morning before arising from bed that can be used to help identify the time or presence of ovulation.

Anterior Pituitary Hormones

FOLLICLE STIMULATING HORMONE (FSH): A hormone released from the brain that causes follicles in the ovaries to grow.

LUTEINIZING HORMONE: A hormone released from the brain that triggers ovulation.

Ovarian Hormones

ESTROGEN (ESTRADIOL, E2): A hormone produced primarily in a woman's ovaries that helps regulate

ovulation and uterine lining development.

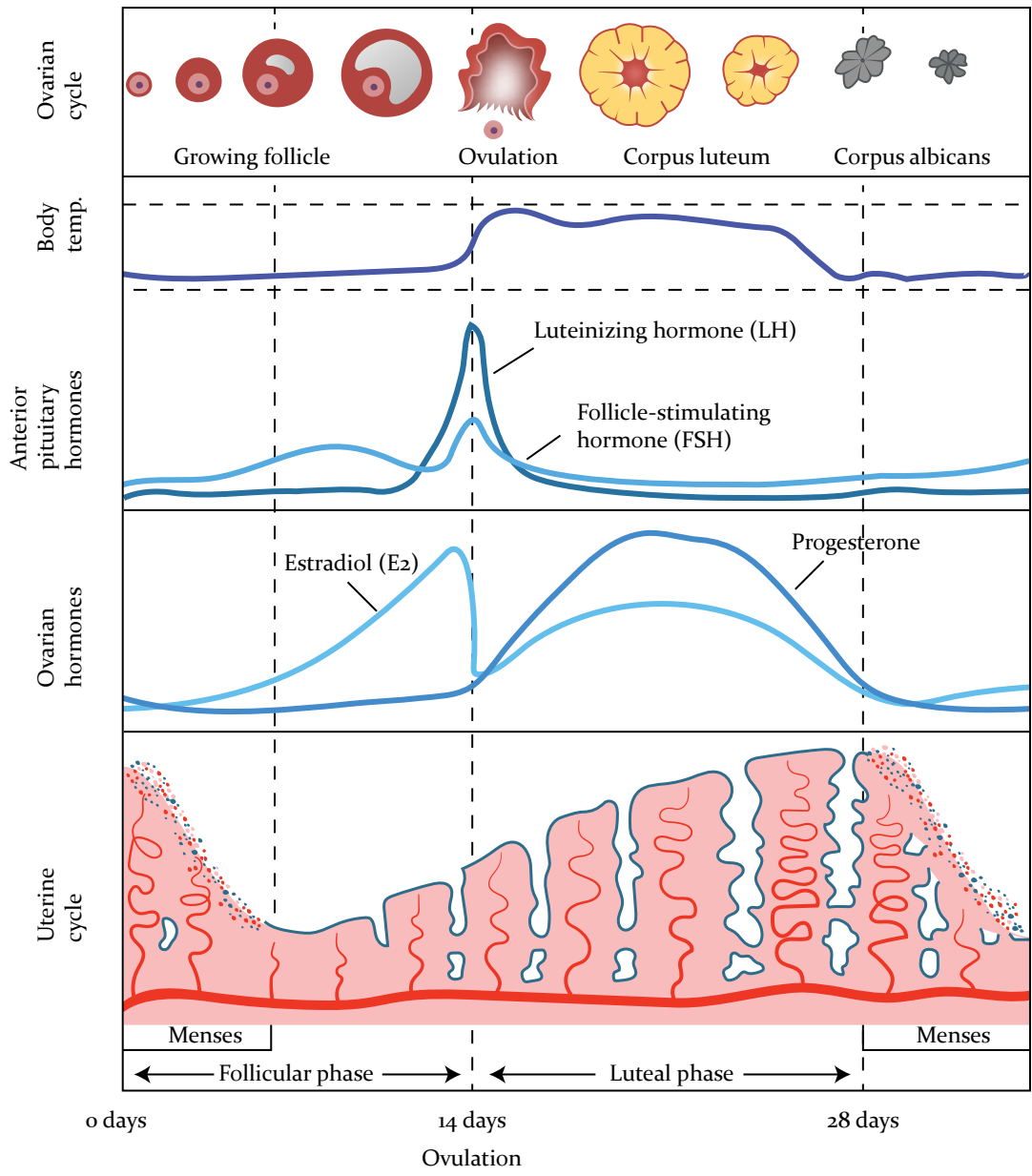
PROGESTERONE: A hormone that is produced by a woman's ovaries or a medication that prepares the uterine lining for implantation.

Uterine Cycle

MENSES: The discharge of blood and other tissue after ovulation when fertilization does not occur.

FOLLICULAR PHASE: The first phase of the menstrual cycle, from onset of menses to ovulation, in which ovarian follicular growth occurs, in response to hormones. This phase is variable in length in women, but on average lasts approximately 14 days.

LUTEAL PHASE: The second phase of the menstrual cycle beginning from ovulation until the onset of menses. It is associated with hormones that facilitate implantation of the embryo(s) and supports early pregnancy. This phase is typically 12-14 days in most patients.





Fertilization and Implantation

In order for fertilization and implantation to be possible the following must be true:

- + The woman ovulates a mature egg, has open fallopian tubes, and an unobstructed uterus.
- + The man's healthy sperm is able to travel to and fertilize the egg.

GLOSSARY

BLASTOCYST: The embryonic stage approximately five to six days after fertilization.

CLEAVAGE: The division of cells in the early embryo.

EMBRYO: A fertilized gamete or egg.

FALLOPIAN TUBES: Tubes protruding from each side of the uterus that allow the egg to travel from the ovary to meet sperm for fertilization, and the embryo to travel to the uterus for implantation.

FERTILIZATION: Union of a sperm with an egg to facilitate creation of an embryo.

HATCHING: When the embryo breaks out of its shell.

IMPLANTATION: The process of attachment of the embryo to the uterine wall.

MORULA: A stage in embryo development consisting of cells in a solid ball contained within the zona pellucida.

OVARY: An endocrine pelvic organ responsible for the release of eggs.

OVULATION: When the ovaries release a mature egg that is ready for fertilization.

OVUM: The female gamete, also referred to as egg or oocyte.

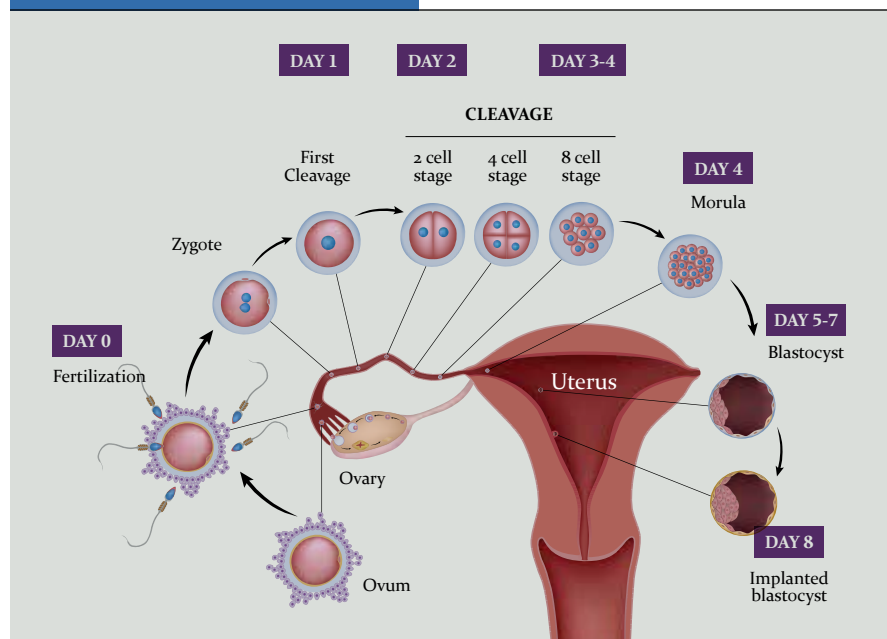
UTERUS: The female reproductive organ that carries a pregnancy.

TROPHOBLAST: The outer layer of the blastocyst.

ZONA PELLUCIDA: The outer shell of an egg.

ZYGOTE: A cell formed by fertilization of sperm and egg, prior to the first division.

The Natural Cycle





Your Journey

While everyone's infertility journey is different, the below gives you a general outline of what to expect moving forward. As a specific treatment plan is identified, we will provide more information on what is involved.

1

INITIAL CONSULT
approximately 75 minutes

- + Meet with your doctor to review your reasons for seeking fertility treatment and past medical history, outline testing needed to diagnosis or confirm issues, and lay out possible treatment options once test results are returned.
- + Meet with your nurse who will answer any questions you may have and discuss next steps.
- + Meet with a financial counselor to review insurance coverage and financial options that may be appropriate based on your treatment path.

CALL WITH YOUR PERIOD TO SCHEDULE:

2

BASELINE TESTING*
Day 2-5 of Your Cycle, approximately 45 minutes

- + During this appointment we will do your initial baseline work-up which consists of blood work, an ultrasound, and infectious disease testing.
- + If you have a partner, they will also be tested for infectious diseases. If the partner is male, a semen analysis will be performed. Male testing is not time-specific, so a separate appointment can be scheduled if needed.
- + Your nurse will call with the results of your tests. If there are any abnormal results that require additional testing, they will be discussed at this time.

**If you are not having a regular period, we can induce a period.*

3

SALINE SONO-HYSTEROGRAM (SHG)
Day 6-12 of Your Cycle, approximately 45 minutes

- + An SHG will be performed. The clinician will review the images with you and answer any questions.
- + An SHG is a good way to look at the uterine cavity but doesn't provide a good indication of the patency, or openness, of the fallopian tubes. A Hysterosalpingogram (HSG) will be ordered if a blockage of the fallopian tubes is suspected.



4

PRE-TREATMENT CONSULT

3 Weeks After Baseline Testing, approximately 45 minutes

- + All tests results will be reviewed/ discussed and a treatment plan will be solidified.
- + A financial counselor will be available to answer any questions based on the specific plan selected.

5

TREATMENT PREP AND MONITORING SCHEDULE

- + Each treatment has different requirements and processes needed to prepare. Generally speaking, most monitoring appointments for blood and ultrasound take 15-20 minutes. If you have questions for your nurse add an additional 15 minutes to your time in office.
- + Most treatment plans have some flexibility in scheduling timelines. If you are undergoing IVF, the schedule will have less flexibility because the treatment plan has a more precise effect on the body and therefore requires more frequent monitoring.

Log in to the patient portal and use our secure direct messaging system to contact clinical staff with any questions you have.

<https://portal.viosfertility.com/>

The portal is the fastest way to get your clinical questions answered, Monday through Friday, 7 AM to 5 PM. Any portal messages that are received after clinical hours will be answered the next morning. As always, our on-call phone line will be available after hours for urgent questions.”.

ViosFertility.com



Ovarian Reserve Testing

An ultrasound and bloodwork are performed on day 2-5 of your menstrual cycle to determine the quality and quantity of your eggs.

1 Antral Follicle Count (AFC) Ultrasound

PURPOSE

An AFC ultrasound is performed to count the number of primordial (resting) follicles in your ovaries which is indicative of the total number of primordial follicles in your ovaries.

PROCEDURE

Our ultrasonographer performs a transvaginal ultrasound to count the number of 2-9mm diameter antral follicles in your ovaries.

PREPARATION INSTRUCTIONS

- + Call with day 1 of your cycle so that we can schedule your AFC ultrasound, which needs to be performed on day 2-5 of your menstrual cycle.

RESULTS

Based on your age, there is an ideal range for the total number of antral follicles in both ovaries. A high count may indicate polycystic ovary syndrome (PCOS) or hyperstimulation to medication. A low count may indicate a diminished ovarian reserve.

2 Bloodwork

PURPOSE

Bloodwork is used to test the level of your follicle stimulating hormone (FSH), estradiol (E2), and anti-mullerian hormone (AMH) that help give an overall picture of the quality and quantity of your ovarian reserve.

PROCEDURE

A nurse, medical assistant, or lab technician draws your blood.

PREPARATION INSTRUCTIONS

- + Hydrate with plenty of fluids prior to your appointment so we can easily locate a vein to draw your blood.

RESULTS

FSH

- + Follicle stimulating hormone is the main hormone responsible for producing mature eggs.
- + Your FSH is returned as a numerical value with an ideal range for your age. Low FSH results signal anovulation (when the ovary doesn't release a mature egg), while extremely high FSH levels can indicate the onset of menopause.

E2

- + Estradiol, a type of estrogen, is secreted by the ovarian follicles as they grew and develop each month. Your E2 level is checked to help determine the accuracy of your FSH level.
- + E2 suppresses FSH. If your FSH is normal but your E2 level is high, it indicates that your FSH is being artificially suppressed by E2.

AMH

- + Anti-mullerian hormone is produced by granulosa cells during the primary, preantral and small antral stages. Production of AMH then begins to decrease and stops as follicles continue to grow. Since AMH is only produced in small ovarian follicles it is used to measure the size of the remaining egg supply.
- + Your AMH is returned as a numerical value with an ideal range for your age. A very high or very low number can indicate a lower fertility potential.

FACT

Females are born with 1-2 million eggs, which is their lifetime supply. During the course of their reproductive life only 300-400 of those eggs will be ovulated.



Hysterosalpingogram (HSG)

PURPOSE

An HSG is a diagnostic X-ray used to detect blockages of your fallopian tubes and can give some insight to any abnormalities on the inside of your uterus (uterine cavity).

PROCEDURE

During an HSG, contrast material is administered through a catheter (thin tube) that is inserted in the vagina, through the cervix and into the lower aspect of the uterus. The contrast should flow into the uterus and exit through the right and left tubal openings. If the fallopian tubes are normal, the contrast will flow into both tubes and spill into the abdominal/pelvic (peritoneal) cavity.

This is visualized by a very brief X-ray pictures or videos (fluoroscopy) while the contrast is administered. You may be asked to roll to the left or right to help improve the X-ray images and the movement of the contrast. Usually, the actual procedure is over within minutes.

HSG procedures can be performed by radiologists or your ObGyn physician, depending on the hospital and/or your physician's preference. Most facilities will require you to schedule this test during a precise time of your menstrual cycle, so it is important to adhere to these rules.

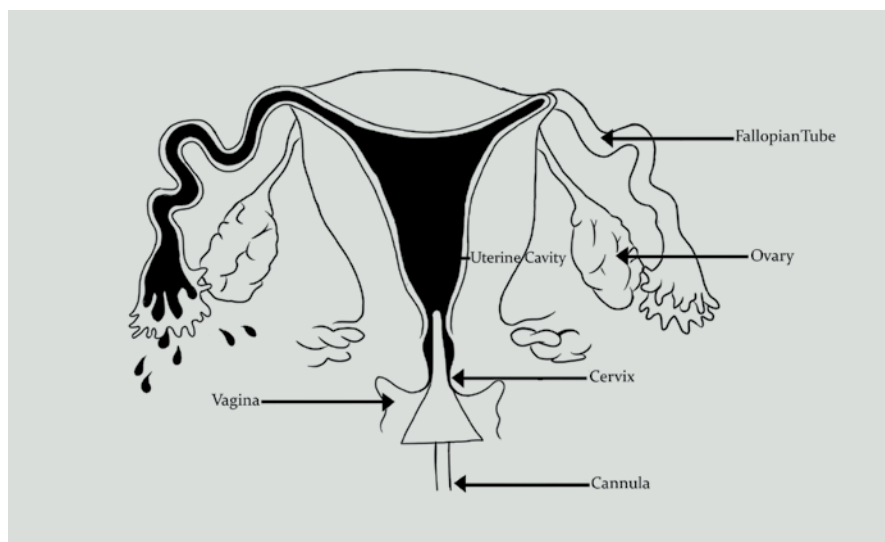
Many hospitals will require a urine sample before the procedure in order to do a pregnancy test. Most facilities will allow you to drive yourself, but some require you to have someone with you in case of cramping after the procedure.

PREPARATION INSTRUCTIONS

- + Please contact your ObGyn or the Radiology Department at your preferred hospital to schedule an appointment. Some facilities have very strict guidelines regarding the days of your cycle in which this test may be performed. Please discuss this with your nurse before calling to schedule.
- + We recommend taking 2-4 ibuprofen (400-800mg) 30-60 minutes before the procedure as it is not uncommon to experience some mild to moderate cramping during the procedure.
- + We recommend a short course of antibiotics around the procedure as well to decrease the small risk of any infection.
- + If you are on Metformin, please discontinue 2 days prior to your scheduled test. You may resume your Metformin 2 days after your procedure.
- + Please take a home pregnancy test the morning of your procedure. If the test is positive, you must cancel your test.

RESULT

A normal result is when the fallopian tubes and uterine cavity are free from obstructions. If the doctor is unable to clearly see the uterine cavity a saline sonohysterogram (SHG) may be ordered to detect any abnormalities.





Saline Sonohysterogram (SHG)

PURPOSE

An SHG is a diagnostic ultrasound used to detect any abnormal structures on the inside of your uterus (uterine cavity) and can give some insight into blockages of your fallopian tubes.

PROCEDURE

Our ultrasonographer performs the SHG vaginally by injecting a small amount of sterile saline solution through the cervix into your uterine cavity with a catheter. Your cavity then expands so any abnormal structures can be visualized. These include, fibroids or polyps, which could interfere with pregnancy or cause irregular bleeding. A spill of the saline solution may also be seen from your fallopian tubes, confirming they are open and unobstructed.

This test is generally done in the first half of your menstrual cycle, after bleeding has stopped and before ovulation has occurred, or at any other time while on birth control pills or as advised by your doctor.

PREPARATION INSTRUCTIONS

- + If antibiotics are prescribed, please follow the instructions for these as given by your nurse, and take all of the pills prescribed.
- + This test is not usually painful but can cause mild cramping and spotting during and after the procedure. You may take 2-4 ibuprofen (400-800mg) 30-60 minutes before the procedure to help alleviate this discomfort.
- + Contact us if you are experiencing pain, very heavy bleeding, abnormal vaginal discharge, and/or a fever.

RESULTS

A normal result is when the uterine cavity and fallopian tubes are free from obstructions. If the doctor is unable to clearly see the fallopian tubes a hysterosalpingogram (HSG) may be ordered to detect any blockages.

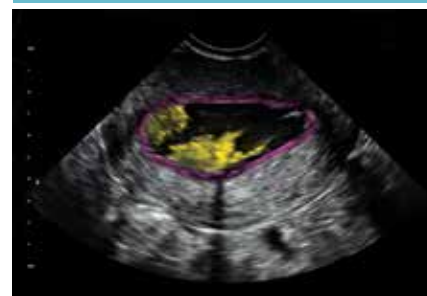
FACT An SHG allows visualization of the uterine cavity but does not provide a good indication of the patency, or openness, of the fallopian tubes. An HSG provides a clear visualization of the patency of the fallopian tubes but provides limited visualization of the uterine cavity.

Normal Uterine Cavity



ABOVE: A normal uterine cavity will be free from obstructions.

Obstructed Uterine Cavity



ABOVE: This ultrasound shows obstructions in the uterine cavity.



Semen Analysis

Specimens for semen analysis are accepted Monday through Friday **BY APPOINTMENT ONLY**.

PURPOSE

A semen analysis measures three major factors of sperm health: the count, the motility (movement), and the morphology (shape).

PROCEDURE

Patients can collect the specimen at home or collect onsite in our private collection room.

PREPARATION INSTRUCTIONS

+ It is necessary that you refrain from sexual activity/ejaculation for at least 2 days and no more than 5 days before producing the specimen. It is important that the initial portion of the ejaculate goes into the container, as it contains almost all of the sperm.

+ If you are bringing your specimen in rather than producing it at our facility, we need to receive the specimen **NO LATER THAN ONE HOUR** after it has been produced. While being transported to our facility, the container should be kept at body temperature (e.g. carried in an inside pocket next to the body). Temperature fluctuations can damage sperm thereby invalidating the results.

+ The specimen should be produced by masturbation directly into the labeled sterile container provided by your referring physician or by our staff. Do not use lotions or lubes as they can contain spermicides which kills the sperm. Collection of the specimen by methods other than masturbation produces very poor results.

RESULTS

SPERM COUNT

+ A normal count ranges between 20 and 200 million.

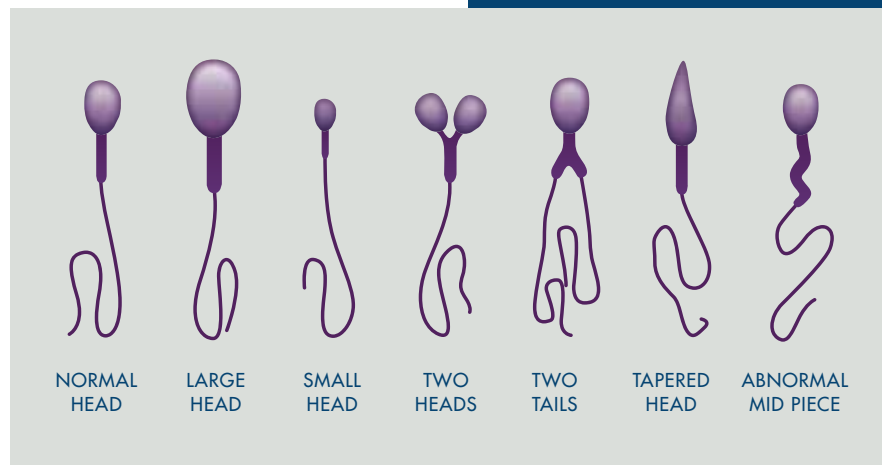
SPERM MOTILITY

+ A normal result is when more than 50% move normally one hour after ejaculation.

SPERM MORPHOLOGY

+ A normal result is when more than 50% are normally shaped.

Sperm Morphology



MEN CAN PRODUCE
MILLIONS OF NEW SPERM
EACH DAY BUT IT TAKES

2.5 to 3 months

for sperm to
mature so they are
able to swim and
fertilize an egg.



Diminished Ovarian Reserve (DOR)

Diminished Ovarian Reserve (DOR) is a decrease in the number and quality of the remaining eggs in the ovaries, or a poor response to ovarian stimulation. DOR is one of the major conditions leading to infertility in women.

Ovarian aging occurs naturally as women get older, making it more challenging to get pregnant and stay pregnant. However, DOR is not a condition exclusive to women over 40. It can affect younger women as well.

Approximately 10 percent of women begin this usually age-related decline of ovarian function much earlier in life, meaning that when their ovarian reserve is evaluated, it is found to be lower than what is expected for their age. This may mean that their chance for conception is reduced as compared to other age-matched women. However, a slightly suboptimal ovarian reserve screen (blood or ultrasound results; AMH and antral follicle counts are most common) in a woman who has not yet attempted conception does not always imply that she cannot get pregnant and consultation with a reproductive specialist is critical in these cases.

It is important to remember that many women with even very low ovarian reserve can conceive with their own eggs. Some may require individualized treatment that is tailored for their ovarian reserve status.

SYMPTOMS

In most cases, there are no specific symptoms or signs. Some women may notice slight changes in their menstrual cycles, such as shorter or longer cycles or spotting before full menstrual flow.

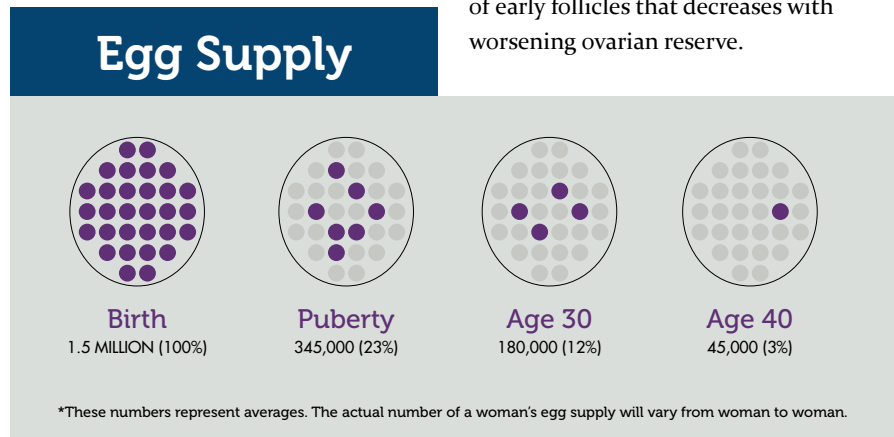
CAUSES

Known causes of diminished ovarian reserve include smoking, endometriosis, previous ovarian surgery, exposure to toxic chemicals, chemotherapy or radiation. In many cases, the cause is unknown and most likely reflects a combination of environmental and genetic causes.

DIAGNOSIS

The diagnosis of diminished ovarian reserve relies on both laboratory and ultrasound findings: high FSH (follicle stimulation hormone) or estradiol (estrogen) level in early follicular phase of the menstrual cycle, few recruitable, antral follicles on pelvic ultrasound, or low AMH (anti-mullerian hormone).

As a woman ages, her FSH and estradiol levels on her menstrual cycle day 2, 3, or 4 increases, and her antral follicle count decreases, which represents fewer numbers of eggs and follicles ready to respond to hormonal stimulation that month. Similarly, AMH is a marker of early follicles that decreases with worsening ovarian reserve.



ABOVE: While men can produce millions of new sperm each day throughout most of their life, females are born with their lifetime egg supply. This supply continually decreases with age, trauma (ex: ovarian surgeries or radiation) and through monthly ovulation. During a woman's reproductive life she will ovulate approximately 300-400 eggs.

Male Infertility

In most cases, there is no obvious sign that a man is infertile without testing.

The quality and quantity of his sperm are evaluated to determine the number and percentage that are healthy. When there is a low count or a high percentage of abnormal sperm the chances of the male's sperm fertilizing an egg are lowered.

There are several ways in which a male's sperm production can be considered abnormal, the most common being:

AZOOSPERMIA

when there is **no measurable** level of sperm in the semen.

OLIGOSPERMIA

when there is a **low concentration** of sperm in the semen. Often times, also exhibiting a higher percentage of abnormal sperm cells.

NECROSPERMIA

when the sperm is either **immobile or dead**.

CAUSES

The most common causes of male infertility are:

- + Sperm production as a result of genetic abnormalities, infections, chemicals or medications.
- + Sperm transportation as a result of infections, prostate related problems and vasectomies.

To test a male's fertility, a simple semen analysis is completed to measure the three major factors of sperm health: the count, the motility (movement), and the morphology (shape). A normal semen count ranges between 20 and 200 million. Motility and morphology are analyzed to determine the percentage of sperm that are shaped correctly and moving normally (within one hour of ejaculation). Ideally, more than 50% will be shaped normally and moving correctly.

Men can produce millions of new sperm each day, throughout most of their life, which then take 2 1/2 to 3 months to mature so they are able to swim and fertilize an egg.

LIFESTYLE CHANGES

Lifestyle changes can help improve a man's sperm quality and quantity within 2-3 months.



1

EATING HEALTHY & EXERCISING

Obesity increases the likelihood of abnormal sperm cells. Maintaining a healthy weight and eating a nutritious diet (including foods high in antioxidants) can improve sperm health.



2

QUIT SMOKING & REDUCE ALCOHOL CONSUMPTION

While studies show smoking doesn't cause permanent damage to sperm, it does decrease the count, quality of the shape, and movement of the sperm cells. Studies show consuming large quantities of alcohol can lower sperm health. Excessive drinking is also linked to erectile dysfunction, which lowers the chances of a pregnancy.



3

LIMIT HEAT EXPOSURE

Sperm health may be temporarily affected by frequent, direct, and long exposure to heat. Limiting time in saunas and hot tubs and placing a barrier between a laptop and lap can reduce this risk.



Ovulatory Disorders

Every month during the female menstrual cycle, an egg is released from the ovaries into the fallopian tubes in a process called ovulation. Prior to being released, the follicles, containing immature eggs, in the ovaries must grow and develop into mature eggs. In order for conception to be achieved, ovulation must occur.

For many women, eggs may not develop properly or are not released from the ovaries. This absence of ovulation is called ‘anovulation’.

Ovulatory disorders are one of the most common causes of infertility, and account for infertility in 25% of couples.

Monthly menstruation typically occurs every 21-35 days, although it is possible that a woman can have a period but not ovulate. If you have irregular or absent periods, further investigation is warranted.

CAUSES OF ANOVULATION

- + Low BMI or body weight
- + Excessive exercise
- + Hormonal imbalances
- + Medical disorders
- + Polycystic Ovarian Syndrome (PCOS)
- + Unknown

FACT

The absence of ovulation is called ‘anovulation’.

25%

OVULATORY DISORDERS ARE ONE OF THE MOST COMMON CAUSES OF INFERTILITY, AND ACCOUNT FOR INFERTILITY IN 25% OF COUPLES.

DIAGNOSING

OVULATORY DISORDERS

While it is unlikely that all of the below tests will be needed to diagnose anovulation, these tests can confirm a diagnosis.

FOLLICLE STIMULATING HORMONE

(FSH): A blood test will determine your follicle stimulating hormone level. Low FSH results signal anovulation, while extremely high FSH levels can indicate the onset of menopause.

PROGESTERONE LEVELS:

Through a blood sample, the amount of progesterone in the blood is measured and it can be determined whether or not ovulation has happened. This test must be done on a specific day of the menstrual cycle, after ovulation has likely occurred.

ULTRASOUND: An ultrasound can assess whether follicles are developing, the amount of follicles present, and the size of the ovaries. Smaller ovaries with very few follicles can indicate a patient is approaching menopause or has diminished ovarian reserve (a diminished egg pool).



Polycystic Ovary Syndrome (PCOS)

Polycystic ovary syndrome (PCOS) is one of the most common endocrine system disorders among women of reproductive age.

In a normal monthly cycle, follicles (immature eggs) develop and one egg is released into the fallopian tube during ovulation. In women with PCOS, the hormones needed for an egg to fully mature are not present, preventing ovulation from occurring and causing cysts to form on the ovaries.

SYMPTOMS

Infrequent or prolonged menstrual periods, excessive hair growth, acne, and obesity can all occur in women with PCOS. In adolescents, infrequent or absent menstruation may raise suspicion for the condition. Not all women with PCOS have difficulty becoming pregnant. For those that do experience difficulty, infrequent ovulation is a common cause.

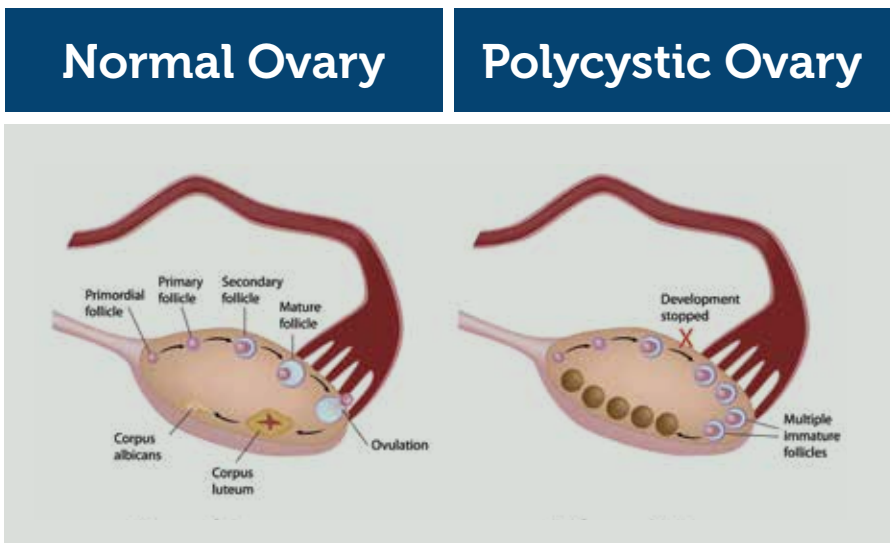
Though the exact cause of polycystic ovary syndrome is unknown, early diagnosis and treatment, along with weight loss may reduce the risk of long-term complications.

TREATMENT

The ovulation-inducing oral medications clomiphene citrate (clomid) and letrozole are the principal treatments used to promote ovulation.

For women not responsive to these medications, even with diet and lifestyle modification, there are additional treatment options available, such as stimulating the ovaries to produce eggs with follicle-stimulating hormone (FSH) injections followed by intrauterine insemination (IUI) or in vitro fertilization (IVF).

FACT PCOS, originally known as Stein-Leventhal Syndrome, was named after American gynecologists Irving F. Stein, Sr. and Michael L. Leventhal who first described the condition in 1935. The symptoms, of what is now known as PCOS, were first described in a publication in Italy in 1721.



ABOVE: According to the Polycystic Ovary Syndrome Foundation, 5-10% of women of childbearing age are affected by PCOS, with less than 50% of women diagnosed. This leaves millions of women undiagnosed. PCOS is responsible for 70% of infertility issues in women who have difficulty ovulating.



Primary Ovarian Insufficiency (POI)

Primary ovarian insufficiency (POI) refers to significantly diminished or absent ovarian function before age 40 and affects 1-2% of girls and women.

If your ovaries fail, they don't produce normal amounts of hormones or release eggs regularly. Infertility is a common result.

POI is sometimes referred to as premature menopause, but POI does not always mimic the natural menopausal transition. Women with POI may have irregular or occasional periods for years, waxing and waning of symptoms, and occasionally pregnancy.

Signs and symptoms of POI are often related to diminishing estrogen production and altered hormone profiles.

SIGNS AND SYMPTOMS

- + Shortening menstrual cycles and/or pre-cycle spotting
- + Ovulating unusually early in the menstrual cycle or not ovulating at all
- + Irregular or skipped periods, which may be present for years or not be recognized until after a pregnancy or stopping birth control pills
- + Hot flashes
- + Night sweats
- + Vaginal dryness
- + Irritability
- + Difficulty concentrating
- + Mood lability

Primary ovarian insufficiency likely results from one of three processes: failure to establish an initial egg pool, more rapid egg depletion, or follicular (egg and surrounding cells) dysfunction.

CAUSES OF FOLLICLE

DEPLETION INCLUDE

CHROMOSOMAL DEFECTS

Certain genetic disorders are associated with primary ovarian insufficiency. These include Turner's syndrome, a condition in which a woman has only one X chromosome instead of the usual two, and many other conditions in which part or a piece of the X chromosome is missing or there is a mosaicism of cell lines. There are several other genetic mutations on a variety of chromosomes that have been associated with POI.

TOXINS

Chemotherapy and radiation therapy (for cancer or autoimmune conditions) are the most common causes of toxin-induced ovarian failure or oocyte depletion. These therapies may damage the genetic material in cells. Other environmental toxins such as cigarette smoke, chemicals, pesticides and viruses may hasten ovarian failure.

SURGERY

When surgery on the ovary involves removal of ovarian tissue (cyst removal, endometriosis surgery, ovarian drilling, ovarian torsion) or alters ovarian blood supply at the time of pelvic or tubal surgery, thousands of eggs are lost and cannot be replenished.

AN IMMUNE SYSTEM RESPONSE TO OVARIAN TISSUE

Your immune system may produce antibodies against your own ovarian tissue, harming the egg-containing follicles and damaging the egg. What triggers the immune response is unclear, but exposure to a virus is one possibility.

RECEPTOR OR SIGNAL ABNORMALITIES

The proteins produced by the brain to communicate with and/or stimulate the ovaries may be altered or abnormal. Conversely, the ovarian receptors these proteins bind to may be abnormal or dysfunctional.

While this list includes established causes of POI, over 90% of women diagnosed will have no identifiable cause using current diagnostic tests. We are dedicated to the research surrounding POI, diminished ovarian reserve, and other causes of abnormal ovarian aging.

FACT

American endocrinologist Fuller Albright first used the term "primary ovarian insufficiency" in 1942. POI is also known as primary ovarian failure.

Recurrent Pregnancy Loss (RPL)

Losing a pregnancy is devastating and heartbreaking. For those who have lost multiple pregnancies, the feelings of sadness, isolation and hopelessness can be even more overwhelming. Sadly, this painful experience is very common – the risk of miscarriage in any given pregnancy is about 15%. Taking the time to diagnose potential problems, then creating a treatment plan tailored to the individual patient is the best way to overcome recurrent miscarriage.

It is important to understand that when a miscarriage happens, it is not your fault. It is extremely rare that a miscarriage occurs due to the actions of a pregnant woman. Going for a run, having sex, taking (most) medications or suffering a light fall will not cause a miscarriage. It is also important to allow time to heal, both physically and emotionally. Many patients take a small break from treatment after a loss.

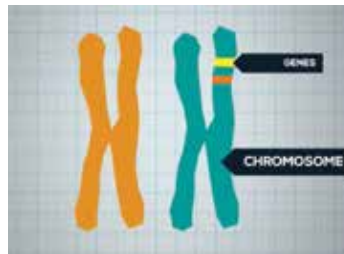
Most miscarriages occur in the first 13 weeks of gestation, with a miscarriage formally defined as losing a pregnancy during the first 20 weeks. It is best to consult a physician after experiencing two consecutive miscarriages.

We understand the hardship patients experience after a loss, and work diligently on your behalf to ensure you are supported and championed on your journey to fertility success.

COMMON CAUSES OF MISCARRIAGE

GENETIC CAUSE

The most common cause of miscarriage, genetic abnormality accounts for the vast majority of losses. A genetic abnormality is present when there is an extra or missing chromosome in an embryo. The root cause of genetic issues are unknown, but age is often a component. With age, genetic abnormality rises in men and women. The most effective way to diagnose and treat genetic abnormality is to genetically screen embryos using preimplantation genetic screening prior to an embryo transfer. This allows the healthiest embryos to be chosen for treatment.



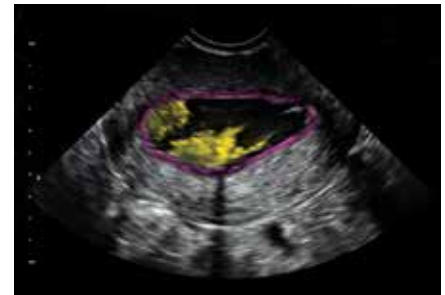
ABOVE: A child inherits 23 chromosomes from its mother and 23 chromosomes from its father.

HORMONE IMBALANCE

When certain hormones are imbalanced, such as low progesterone levels, recurrent miscarriage can occur. Hormone imbalances are typically treated through prescribed medication.

UTERINE ABNORMALITY

Certain uterine abnormalities, such as fibroids or a uterine septum, can cause difficulty with embryo attachment to the uterine wall. Surgical treatments can correct uterine issues, boosting chances of pregnancy success.



UNDIAGNOSED MEDICAL CONDITIONS

Certain medical conditions and diseases can increase the chance of miscarriage. For example, immune system disorders and blood clotting disorders, as well as thyroid dysfunction and diabetes can cause miscarriage when left untreated. Infections such as listeria, gonorrhea and measles can also increase risk of pregnancy loss.

UNEXPLAINED

With so many variables, it can be difficult to pinpoint a precise cause. Even without a diagnosable cause, the American Society of Reproductive Medicine asserts that most losses are due to genetic abnormality.



Fertility Preservation for Medical Indications

In cases where a chronic illness, medical condition or cancer can leave one infertile or potentially cause fertility issues in the future, fertility preservation options are available, including egg freezing, sperm freezing, and embryo freezing.

CANCER DIAGNOSIS

For women and men who have been diagnosed with cancer, egg freezing and sperm freezing are options that can protect one's eggs and sperm prior to chemotherapy, radiation or surgery, all of which can be toxic to both eggs and sperm. Embryo freezing is also an option for patients who have a partner and would like to undergo IVF to freeze embryos instead of eggs or sperm. Given the timely need of cancer treatments, our reproductive endocrinologists will

collaborate directly with oncologists to ensure optimal coordination of your cancer treatment and fertility preservation, and after treatment, counsel you appropriately on your options and need for any intervention.

PREMATURE OVARIAN

INSUFFICIENCY

For women who have been diagnosed with premature ovarian insufficiency, early menopause, or have a genetic predisposition to early menopause, fertility preservation is another option to preserve viable eggs or embryos for future use.

AUTOIMMUNE DISEASE

Women with chronic autoimmune diseases, such as rheumatoid arthritis and lupus, may choose fertility preservation due to medications that they need to use, that could potentially

harm the ovaries and cause infertility. Similar to chemotherapeutic agents, not all medications are harmful to the ovaries. If this is the case, your physician may measure baseline fertility markers and follow them periodically throughout and after treatment and counsel you appropriately on your options and need for any intervention.

SPERM FREEZING

To preserve sperm, a process called vitrification is used. This process freezes the sperm very quickly to minimize the number of cells damaged by the freezing process. A test sample of the sperm is thawed some time later to determine how well the specimen survived the process, as each patient's sperm reacts differently. Frozen sperm is stored at -196 Fahrenheit in nitrogen tanks that are monitored daily by lab technicians. Pregnancies have occurred using sperm frozen 10-12 years earlier. After 12 years, the likelihood of frozen sperm producing a pregnancy is unknown. When the sperm is needed for treatment, it is placed at room temperature for 30 minutes to thaw and then warmed to body temperature before being prepared for the required treatment. Once sperm has been thawed, it cannot be refrozen.



EGG FREEZING

The process of slow freezing was used to preserve a woman's unfertilized eggs until as recently as the mid 2000's. The process was not ideal due to the size of an egg cell (by far the largest cell in the human body) and a reliable, repeatable process was never established. During the slow freeze, ice crystals could develop which oftentimes resulted in shredding or rupturing of the delicate cells during freezing and/or thawing.

Since the mid 2000's a process called vitrification has been used to successfully freeze a woman's egg. Vitrification is the process of flash-freezing or freezing the egg to a glass-like state. During this process an antifreeze solution is used to prevent the formation of ice crystals. Frozen eggs are stored at -196 Fahrenheit in nitrogen tanks that are monitored daily by lab technicians. There are no indications that the quality of frozen eggs deteriorates over time. When the eggs are needed for treatment, they are quickly warmed and removed from the solution before being prepared for the required treatment.

EMBRYO FREEZING

Until as recently as the mid 2000's, slow freezing was the preferred method of embryo preservation, with the first embryos being frozen in the mid 1980's. Cryoprotectant chemicals were used to limit the formation of ice crystals, which can damage the cells during freezing and/or thawing. Due to the success of vitrification in freezing unfertilized eggs, it has now become the preferred technique for freezing embryos. Frozen embryos are stored at -196 Fahrenheit in nitrogen tanks that are monitored daily by lab technicians and can be frozen for up to 10 years. When the embryos are needed for a transfer, they are thawed approximately three hours before the procedure is to take place. The process of vitrification is highly successful and has led to nearly identical success rates for both fresh and frozen embryo transfer.

FINANCIAL SUPPORT

A number of organizations provide support to patients diagnosed with medical conditions that affect future fertility potential. Each program provides varying benefits, different qualification requirements, and application processes. For more information contact the specific program.

HEART BEAT PROGRAM

The Heart Beat Program offers select fertility medications at no cost to females who have been diagnosed with cancer.

For more information visit:
www.ferringfertility.com/savings/heartbeat or call: 888.347.3415

LIVESTRONG FERTILITY

LIVESTRONG Fertility provides donated fertility medications and discounted reproductive services to women diagnosed with cancer.

For more information visit: <http://images.livestrong.org/downloads/we-can-help/2014-LIVESTRONG-Fertility-Application-Women.pdf> or call: 855.220.7777.

BABY QUEST FOUNDATION

Baby Quest Foundation provides grants to individuals and couples needing financial support for fertility treatments.

For more information visit:
www.babyquestfoundation.org.



Fertility Preservation for Social Indications

FOR WOMEN

Advanced reproductive technology offers women the freedom and control to pause their “biological clock” until they are ready to start a family. Due to advanced medical technologies, there has never been a better time for women to take control of their fertility.

Pregnancy rates decline rapidly after age 35, although a steady age-related decline starts to begin as early as in one’s late 20’s. Both the quality and quantity of egg supply decreases with age, leading to both increased rates of infertility and miscarriage. Freezing eggs allows a woman to use “younger” eggs, leading to easier conception and potentially healthier pregnancy outcomes. Pregnancy rates using frozen eggs are now comparable to that of fresh (non-frozen) eggs.



FOR MEN

While a man can produce millions of new sperm each day throughout most of his life, there are situations in which a man may prefer to freeze sperm. During this simple process, a man will ejaculate into a sterile container. The sample is then frozen through the process of vitrification.

A man can produce multiple specimens over a relatively short time period until the desired number of frozen sperm has been reached.

SPERM FREEZING

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Genetic Testing

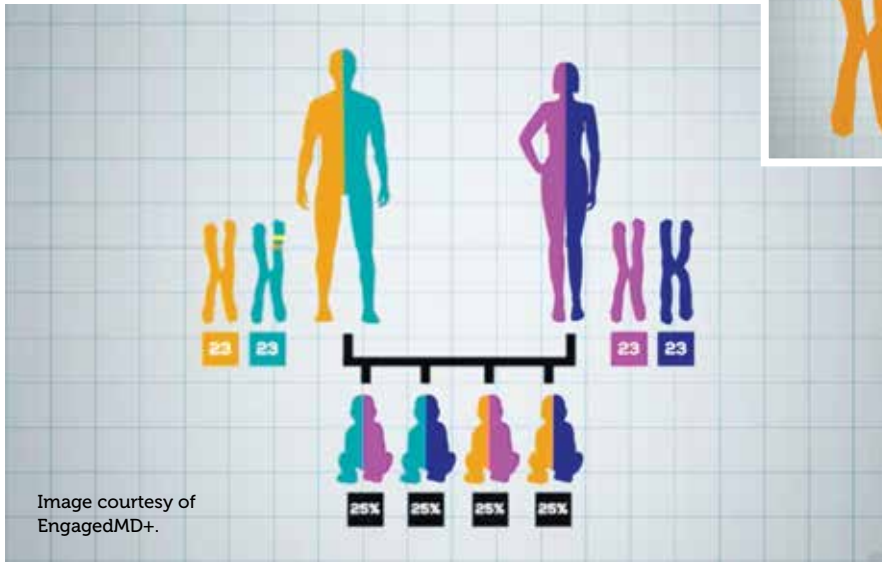
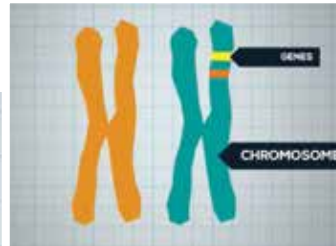


Image courtesy of EngagedMD+.



FACT A child gets 1/2 of their genes, which are housed in chromosomes, from their mother and 1/2 from their father. The genes of this child can be combined in one of four ways, each with a 25% chance of occurrence.

IMAGE COURTESY OF ENGAGEDMD+

In each cell of the body, 23 pairs of chromosomes are present. When these chromosomes are incorrectly arranged or when an extra chromosome is present, missing or partially altered, a chromosomal abnormality known as aneuploidy is present.

Genetic testing of embryos is an additional step in the IVF process and is incorporated after eggs are fertilized and have begun their development as embryos.

If any of the below items apply, PGS and/or PGD may be recommended.

- + Two or more miscarriages have occurred
- + Two or more IVF cycles have not yielded a pregnancy
- + Family history of genetic disease
- + One or both partners are a carrier of genetic disease
- + One or both partners are diagnosed with genetic disease

- + The female partner is of advanced maternal age
- + The male partner is of advanced paternal age

PRECONCEPTION GENETIC CARRIER SCREENING

We recommend all patients be screened for genetic disease, especially patients at a higher risk for certain genetic diseases due to their ethnic background. If you and your partner are carriers for the same genetic disease, we will recommend the use of PGD (see below) to ensure no affected embryos are implanted.

PREIMPLANTATION GENETIC DIAGNOSIS (PGD)

During PGD, 1 to 2 cells are removed from an embryo to test for a specific, known genetic condition. PGD is commonly used when one partner has been diagnosed with or both partners are carriers of a known genetic condition. After PGD, embryos without the genetic condition are then transferred into the uterus for implantation.

The most commonly tested genetic conditions are Cystic Fibrosis, Spinal Muscular Atrophy, Tay Sachs, Sickle Cell and Thalassemia. However, with advanced technology, PGD is available for most diseases, including rare genetic disorders.

PREIMPLANTATION GENETIC SCREENING (PGS)

With PGS, 1 to 2 cells are removed from the embryo and are genetically screened for multiple chromosomal abnormalities, such as trisomy 21 (Down Syndrome). PGS may be utilized if multiple miscarriages have occurred or if the female partner is of advanced maternal age. This test only determines if there are extra or missing chromosomes. PGS is available to all patients and can help increase pregnancy rates and decrease miscarriage rates.

PGS can also be used for family balancing by determining the sex of the embryo with nearly 100% accuracy.

Intrauterine Insemination (IUI)

Intrauterine Insemination (IUI) is the first step in fertility treatment for many couples. It is a less costly and more conservative fertility treatment option with positive success in ideal patients.

An IUI is accomplished by placing highly concentrated sperm directly into the uterus. An IUI boosts the chance of conception by increasing the number of sperm that reach the fallopian tubes.

For couples with unexplained infertility, IUI is a commonly used treatment option. It is also used for couples with ovulation issues, mild endometriosis, and mild male infertility issues with sperm or erectile dysfunction.

With certain diagnoses, IUI will not be an effective treatment option. If any of the below apply, a different treatment approach will be necessary.

- + Severe damage or blockage of the fallopian tubes
- + Premature ovarian failure
- + Diminished ovarian reserve
- + Severe endometriosis
- + Low sperm count
- + Low scores on sperm motility and morphology
- + History of pelvic infection
- + Three or more IUIs have failed to result in pregnancy

THE IUI PROCESS

There are a couple of treatment options available to someone considering an IUI cycle. They include a monitored oral (Clomid) medication cycle with an ovulation induction trigger shot (hCG) or an injectable medication (FSH) cycle and an ovulation induction trigger shot.

- 1 If injectable medications are needed, in order to stimulate ovarian (egg) development and prepare for ovulation, the woman is typically given fertility medications for a time period of 5-14 days. A patient doing an oral medication cycle will take the medication for 4-5 days. While on stimulation medications, regular monitoring via ultrasound and blood test is required. Ultrasound monitoring measures egg follicle growth as well as the increasing thickness of the uterine lining. Blood work monitors estrogen levels, which rise as follicles develop.
- 2 Once follicle development and estrogen levels reach optimal numbers, the final medication step is a trigger shot. If medically inducing ovulation, the trigger shot places eggs in the final stage of maturation and begins the ovulation process. Once the shot is administered, the IUI procedure will take place within 12-36 hours.
- 3 On the day of the procedure, the male is asked to produce a semen specimen at home or in our office. Men must abstain from ejaculation for two days before producing a semen sample in order to produce optimal sperm count numbers.

- 4 In a process called sperm washing, the sperm are separated from other semen components, creating a highly concentrated sample for the procedure. Sperm washing is done in a laboratory and requires no longer than an hour to complete.

For the IUI procedure, washed sperm are placed directly into the uterine cavity using a thin, flexible catheter. The procedure only requires a few minutes to complete.



FACT Intrauterine insemination is also known as artificial insemination, a term that is used less often today, as intrauterine insemination more accurately describes the procedure.

In Vitro Fertilization (IVF)

Since the first successful in vitro fertilization procedure in 1978, over five million babies have been born worldwide through IVF. IVF is the most common fertility treatment utilized by patients today.

IVF is an assisted reproductive technology in which eggs are retrieved from a woman and inseminated with sperm from a man in a laboratory to create embryos. After closely monitoring embryo development, one or multiple embryos are transferred to the uterus of a woman. If any resulting embryos remain, they are frozen through a process known as vitrification.

THE IVF PROCESS

There are several steps in an IVF cycle, which typically requires two to three months to complete. The below process briefly summarizes what to expect. It is written with the assumption that a patient has already undergone testing and medical evaluation.

1 PREPARATION FOR OVARIAN STIMULATION

In order to control the timing of the cycle, decrease the chances of cyst production, and synchronize follicle production (fluid-filled sacs that contain immature eggs), a patient may be placed on a birth control pill for one month.

FACT

Louise Joy Brown was the first IVF baby born on July 25, 1978 in North West England.

2 OVARIAN STIMULATION AND MONITORING

+ In a natural monthly cycle, the body usually releases one egg from the ovaries into the fallopian tubes. In an IVF cycle, we aim to increase the number of eggs produced in order to create multiple embryos for treatment.

+ Ovarian stimulation increases follicle production, which in turn increases the number of mature eggs within the ovaries for an egg retrieval. To stimulate the ovaries, medication administered through a tiny needle injection is taken daily for 8-14 days.

+ While on stimulation medication, regular monitoring via ultrasound and blood test is required. Ultrasound monitoring measures egg follicle growth as well as the increasing thickness of the uterine lining. Blood work monitors estrogen levels, which rise as follicles develop.

+ Once follicle development and estrogen levels reach optimal numbers, the final medication step is a trigger shot. The shot allows the eggs to develop to the final stage of maturation and begins the process of ovulation.

3 EGG RETRIEVAL PROCEDURE

+ The egg retrieval will take place approximately 36 hours after the trigger shot. During the 15-minute procedure, a patient is placed under sedation for comfort. Using ultrasound guidance, a needle is guided into each follicle and aspirated or “sucked through” for collection.

+ The amount of eggs obtained during a retrieval will vary based on a patient’s

response to stimulation, ovarian reserve, age, and multiple other factors.

+ Some patients experience spotting, bloating, and mild discomfort after a retrieval. Most patients are fully recovered within one or two days.



Image courtesy of EngagedMD+.

ABOVE: Eggs are retrieved using a needle with the guidance of transvaginal ultrasound.

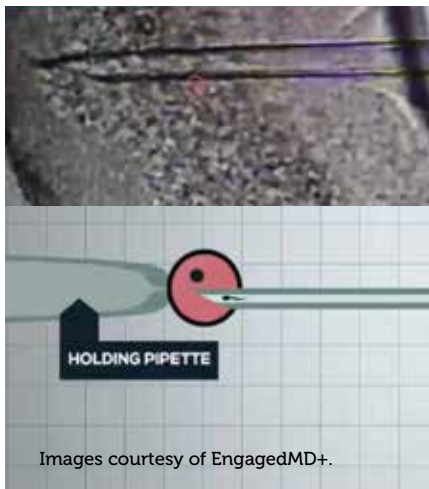
4 SPERM COLLECTION

+ Fresh or frozen sperm can be used to inseminate the eggs. If a fresh sample is being used, on the same day of the egg retrieval, a sperm sample must also be collected at the center in a private collection room or at your home. It is best to abstain from ejaculation for two or more days prior to sample collection.

+ It is important to note that lubricant and condoms cannot be used during collection as both can kill sperm. In cases where ejaculation is not possible, a minor surgical procedure can be completed to obtain a sperm sample from the testes.

5 EGG FERTILIZATION THROUGH SPERM INJECTION

Eggs and sperm are then taken to an embryology lab, where they are placed in optimal conditions to foster growth. The eggs can be inseminated via two methods — conventional insemination, where hundreds of thousands of sperm are placed in the same dish as the egg, allowing fertilization to occur, or via Intracytoplasmic Sperm Injection or ICSI, where embryologists inject each egg with an individual sperm. The eggs and sperm are then placed in an incubator to allow fertilization and further development of the embryos.



Images courtesy of EngagedMD+.

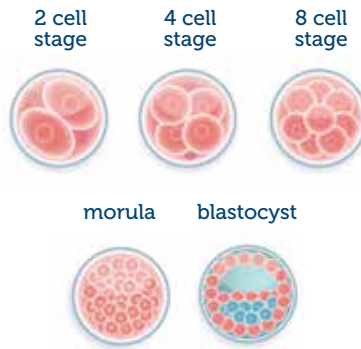
6 MONITORING OF EMBRYO DEVELOPMENT

Embryologists will closely monitor growth and development of the embryos, starting the observation of fertilization.

For various reasons such as the failure of an egg to fertilize, genetic abnormality, or inadequate embryo development, not all fertilized eggs will develop into healthy embryos.

If you elect to do preimplantation genetic screening (PGS) or preimplantation genetic diagnosis (PGD) your embryos will be biopsied and frozen while testing is complete. A transfer will be performed on a subsequent cycle.

EMBRYO DEVELOPMENT



7 EMBRYO TRANSFER PROCEDURE

Dependent upon embryo development, embryos are typically transferred anywhere from three to six days after fertilization. An embryologist will evaluate each embryo and select the most viable embryos for transfer. To improve the chances of a healthy singleton baby, it is usually recommended to transfer one embryo, depending on age of the patient and quality of embryos to select from.

Using a soft, ultra-thin catheter, under ultrasound guidance, an embryo is transferred into the uterus. The procedure takes two minutes and can be compared to a pap smear in terms of discomfort. No anesthesia is required.

BELOW: *With the help of ultrasound guidance, the embryo(s) will be transferred into the upper portion of the uterine cavity using a thin, flexible catheter.*



Image courtesy of EngagedMD+.

8 FREEZING OF REMAINING EMBRYOS

Embryos are cryopreserved, or vitrified, using a fast-freezing process called vitrification. This is a critical procedure in the IVF cycle that we entrust to the most skilled and experienced embryologists in the region.

Should the fresh cycle not result in a pregnancy, the remaining frozen embryos can allow for additional pregnancy opportunities. Expert cryopreservation techniques allow for a higher embryo survival rate during the thawing process prior to an embryo transfer.

Scientific techniques have advanced greatly over the years, allowing the success rates of a frozen embryo transfer to be comparable to that of a fresh embryo transfer.

9 PREGNANCY TEST

Known as the “two week wait,” patients undergo a blood pregnancy test approximately two weeks after an embryo transfer.

IVF CYCLE ALTERNATIVES

Fertility treatment is a personal decision, and each couple may have their own approach. For any couples not comfortable with standard IVF protocol, we offer alternatives.



Creative Conception Program: Third Party Reproduction



VIOS creative conception program

Third party reproduction refers to the use of eggs, sperm, or embryos that have been donated by a third person to enable an individual or couple to become parents.

This is a viable option for patients who struggle with infertility or genetic conditions and for single individuals or same sex couples.

Third party reproduction can take on many forms depending on the patient's situation. Embryos, eggs and sperm can come from a combination of the patient, partner, known donor (a relative or friend) or an anonymous donor (through donor agencies). Depending on the situation, the pregnancy can be carried by the patient, partner, or a gestational carrier. Medical, emotional, financial, and legal considerations must all be taken into account when deciding on the best path.

EMBRYO DONATION

The process of in vitro fertilization (IVF) allows a woman's eggs to be fertilized by a man's sperm. The resulting embryo(s), whether fresh or frozen, will be prepared and then transferred into the uterus of the woman carrying the pregnancy. If a frozen embryo is used and not all were transferred, they remain frozen. If a fresh embryo is transferred and there are additional embryos not transferred they can be frozen for future use.

EGG DONATION

If eggs are being donated by a relative or friend, she must undergo a thorough medical and psychological evaluation prior to moving forward. If the donor eggs are selected through an agency or frozen donor egg bank, the woman donating the eggs will also be required to go through the medical and psychological evaluation. Once the eggs are acquired, they will be prepared for transfer via in vitro fertilization into the uterus of the woman carrying the pregnancy.

SPERM DONATION

If sperm is being donated by a relative or friend, he must undergo a thorough medical and psychological evaluation prior to moving forward. If sperm is selected through a sperm bank, the man donating the sperm will have already gone through the medical and psychological evaluation. Once the sperm is acquired, they will be prepared for the intended treatment procedure.

GESTATIONAL CARRIER

A gestational carrier is a woman, with no biological relation to the child, who carries a pregnancy for another couple or individual for various medical or psychosocial indications. All gestational carrier candidates must undergo a thorough medical and psychological evaluation prior to proceeding with treatment. The embryo is transferred to the gestational carrier's uterus, which has been prepared hormonally to carry the pregnancy.

(OVER)

**VIOS CREATIVE
CONCEPTION PROGRAM**

Egg Donor Agency List

This page is provided for informational purposes only. Please do not enter into any agency contracts, or select an egg donor or gestational carrier, prior to completing all screening tests. The egg donor selection should be the final step, prior to starting your IVF treatment.

Recommended Anonymous Egg Donation Agencies:

**ALTERNATIVE REPRODUCTIVE
RESOURCES (ARR)***
arr1.com

2000 N Racine Ave, Suite 2181
Chicago, IL 60614
773.327.7315

CONCEIVEABILITIES*
conceiveabilities.com

2 N. Riverside Plaza, Suite 1430
Chicago, IL 60606
877.201.7211

DONOR EGG BANK USA+
donoreggbankusa.com

1355 Piccard Drive
Rockville, MD 20850
855.344.2265

**FAMILY SOURCE
CONSULTANTS (FSC)***
familysource
surrogacy.com

123 E. Ogden Ave., Suite 201A
Hinsdale, IL 60521
1000 Essington Rd.
Joliet, IL 60435
630.325.4617

**FERTILITY SOURCE
COMPANIES***
fertilitysource
companies.com

24012 Calle de La Plata
Laugna Hills, CA 92653
877.375.8888

GRACEFUL CONCEPTION+
gracefulconception.com

825 South Waukegan Road A8#118
Lake Forest, IL 60045
847.234.9606

THE STORK'S NEST AGENCY*
storksnestagency.com

9465 Counselors Row, Suite 200
Indianapolis, IN 46240
317.805.4822

Fertility Consultation

Fertility Consultation, to assist in additional agency/candidate selection and counsel:

Fee for consulting service, in addition to the egg donor or surrogate agency fee

DONOR CONCIERGE*
donorconcierge.com

175 North Redwood Dr., Suite 150
San Rafael, CA 94903
415.663.6097

**LOTUS BLOSSOM
CONSULTING, LLC***
<http://lotusblossom>
consulting.com

3131 McKinney Ave, Suite 600
Dallas, TX 75204
847.989.8628

* finds egg donors and surrogates

+ finds egg donors only



Timed Intercourse and Ovulation Induction

In order for a woman's body to have the potential to become pregnant she must ovulate (release) a mature egg. During the follicular phase, or first phase, of a woman's menstrual cycle, follicle stimulating hormone (FSH) is released from her brain, which stimulates the growth of an average of 10-12 egg follicles. One of these follicles will become the lead follicle, growing into a mature egg while the others will die off. On approximately day 14 of her cycle, a second hormone, luteinizing hormone (LH), is released from the brain, which triggers ovulation. Approximately 24-36 hours after the LH surge the egg is released from the ovary and has approximately 24 hours to be fertilized by a sperm cell. If the egg is not fertilized within this timeframe it will dissolve and the woman will continue into the luteal phase, or second phase, of her menstrual cycle which will begin to prepare her body to start the cycle over the following month.

TIMED INTERCOURSE

Timed intercourse is the simplest form of treatment a couple can receive. With a limited timeframe for fertilization to occur, it is important to have intercourse at the appropriate time. Monitoring tracks approximately when you will ovulate so you have a greater potential for fertilization.

TRACKING OVULATION

If a woman's menstrual cycle is irregular, she may not be ovulating on a consistent basis or at all. Ovulatory disorders are one of the most common causes of infertility, and account for infertility in 25% of couples.

One way to evaluate ovulation is to track your basal body temperature (BBT), which is your lowest body temperature typically occurring during sleep. Your BBT will rise slightly just before ovulation occurs due to the production of hormones that indicate ovulation. If your BBT doesn't increase the hormone indicating ovulation is not present.

OVULATION INDUCTION

If a woman is not ovulating, we can use a combination of ovulation induction (fertility) medications to help grow follicles and time the release of the egg so that intercourse can be timed appropriately to increase the chances of fertilization.

While each patient is unique, we follow a general timeline when prescribing medications and monitoring progress to determine when ovulation will occur and when intercourse should be had.

THE OVULATION INDUCTION CYCLE

While each individual's cycle will vary slightly, this is a general timeline.

DAY 1:
(of your menstrual cycle) Call the clinic to arrange an appointment.

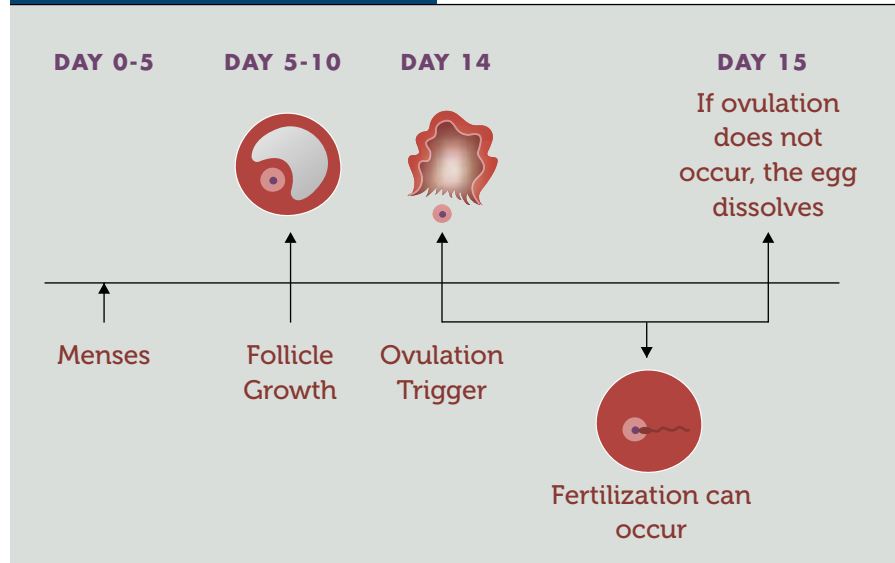
BY DAY 5:
start taking medication.

DAY 12:
blood and ultrasound tests.

AFTER DAY 12:
possibly repeat ultrasound.

For some couples, induction medications with timed intercourse is all that is needed to achieve a pregnancy.

The Follicular Phase



LEFT: *This is a general timeline based on a 28 day cycle. Individual cycles will vary woman to woman.



AT VIOS FERTILITY INSTITUTE,
our philosophy is to bring the science
of medicine and the art of care to
each patient in a customized, welcoming
and reassuring atmosphere.

EVERYONE'S FERTILITY JOURNEY IS DIFFERENT.
Our team approach focuses on helping
you navigate the journey and make your
dreams of parenthood a reality.

**We look forward to
your fertility success.**

THE VIOS FERTILITY TEAM