



Realizing Dreams

Through Assisted Reproduction at University of Florida
Reproductive Medicine

BY DONNA WEBER
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UF
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Ken Drury, PhD., HCLD, IVF Laboratory Director

The journey to parenthood is sometimes a long and winding road for couples facing infertility. It can be one of uncertainty, frustration and hopelessness. But no one should give up hope. In fact, the University of Florida Reproductive Medicine's (UFRM) world-class fertility treatment center has helped many couple's dreams of having a child come true.

During their journey from Valdosta, GA, to the UFRM's Women's Health Center at Magnolia Parke in Gainesville, Jaret and Jennifer Johnson experienced many of the ups and downs and highs and lows that come with infertility. But their miracle baby, Jesselyn Leigh, born May 7, 2009, is a reward well worth the journey.

"We know we would not have our little princess without the wonderful people at UFRM and the countless blessings offered on our behalf," Jaret Johnson said. "For all of your hard work, we will be eternally grateful. We can't repay you for the extraordinary gift that you have given us. We humbly say

thank you for what you have done for us, for others, and for the work you will do in the future."

The UFRM provides patients with a full range of the most cutting-edge assisted reproductive technologies available including, in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), frozen-thawed embryo transfer, egg (oocyte) donation and preimplantation genetic diagnosis (PGD). IVF is a highly successful treatment and common treatment for infertility that has now allowed millions of couples worldwide, including the Johnsons, to conceive. It is accomplished in conjunction with stimulation of ovaries through

fertility medications, monitoring of hormone levels and follicle scans with ultrasound.

IVF is a complex method of assisted reproductive technology, and during their journey, the Johnsons learned how challenging the process can be. Jennifer Johnson went through four cycles of IVF, and the couple lost twin boys in 2008 before the birth of Jesselyn. Jonathan and Joshua were delivered at 20 weeks due to twin-to-twin transfusion syndrome, which resulted from the splitting of a single embryo. They lived just four short hours. Infertility itself can be

the IVF program for more than two decades. He is also president-elect of the Society for Assisted Reproductive Technology (SART), the primary organization that sets the standards for IVF in the US. Additionally, Dr. Williams pioneered the egg donation program at UF.

"We pride ourselves on our high IVF pregnancy rates and, when more than one factor has contributed to a couple's infertility, such as with the Johnson's, multi-faceted treatments are necessary to achieve the best result possible in the shortest amount of time," Dr. Orhan Bukulmez, M.D., chief of the Reproductive Endocrinology & Infertility division and medical director of the IVF program, said.

Dr. Alice Rhoton-Vlasak, who serves as president of the Florida Society of Reproductive Endocrinology and Infertility, is actively involved with UFRM's fertility preservation program for cancer patients. All three fertility specialists are among the few certified both in Obstetrics and Gynecology and Reproductive Endocrinology and Infertility by the American Board

of Obstetrics and Gynecology. An on-site fertility trained urologist, Dr. Sijo Parekattil, M.D., works in coordination with the reproductive endocrinologists to expedite male-factor infertility care.

Ken Drury, Ph.D., HCLD, IVF laboratory director, who has a special expertise in preimplantation genetic diagnosis (PGD), is also part of the team. PGD allows embryos developed through IVF to be screened for certain genetic disorders. In fact, the delivery of the first baby through PGD in the Southeast took place at UF in 1995.

In the Johnson's case, tests revealed that Jaret Johnson was born with a balanced Robertsonian translocation which



Jaret and Jennifer Johnson, and daughter Jesselyn Leigh

quite stressful, and like many couples, the Johnsons realized right away that the intimacy of a small, compassionate and friendly staff at UFRM was a tremendous help on their journey.

During their initial consultation with Dr. R. Stan Williams, the couple faced the reality of not being able to have a healthy child without "extraordinary medical intervention," Jaret Johnson said. "But with Dr. Williams' help we were committed in our efforts to have a child and were willing to do whatever it took."

Dr. Williams is chairman of the Obstetrics and Gynecology department at UF and has served as practice director of

four basic steps: ovarian stimulation, egg retrieval, fertilization and embryo transfer.

During the first step, fertility medications are given to the woman to encourage development of eggs. The medications stimulate the follicles to produce more than one egg in a cycle. Multiple eggs, usually seven to 15, are desired because some eggs fail to fertilize and further develop after the retrieval. Blood test and ultrasound are used to monitor follicle development and to determine the optimal time to retrieve the eggs from these follicles. Optimal time is just before ovulation when the eggs are almost ready for fertilization.

The next step, egg retrieval, takes place during a minor outpatient surgery procedure in which ultrasound is used to guide a hollow needle to aspirate the follicular liquid which surrounds each egg. In the IVF laboratory, the sperm and eggs are placed in a Petri dish and housed in a strictly controlled environment which enables fertilization to occur.

If fertilization occurs, the embryologist will continue to incubate the now fertilized eggs and monitor them for

several days during cellular division stages to make sure they develop into proper embryos. Extended culture is a recent advancement that allows embryos to develop to more advanced stages during culture for a longer period of time, up to five or six days. This enables the embryologist to select healthier and fewer embryos for the transfer which maximizes the chances of getting pregnant while minimizing the occurrence of multiple pregnancies. In some cases, another recent advancement, assisted hatching, is performed shortly before the embryo is transferred to the woman's uterus. A small hole is made in the protective outer layer of the egg with the use of a special laser system that helps the embryo "hatch" out and promote the implantation process. Assisted hatching is a procedure performed if early cleavage embryo transfer has to be pursued in patients with some unique indications.

Following successful embryo development, the last stage of treatment, embryo transfer, takes place. During this procedure the desired number of embryos, determined by the physician and patient, are transferred to the

woman's uterus. Any unused embryos may be frozen for future pregnancy attempts. About two weeks later, a pregnancy test announces the results to the patient.

Looking back, the Johnson's would gladly go through the IVF process again at UFRM. "Our advice to share with couples is to educate yourself about the procedures and don't spend too much time on the internet," Jaret Johnson said. "Don't be afraid to try non-traditional treatments, like acupuncture, in conjunction with your program. Most of all, find support in each other, your family and friends."

Additional services offered by UFRM include a successful egg donation program for women who are unable to use their own eggs, intra-uterine insemination, tubal reversal, fertility enhancing minimally invasive surgery and elective or emergency sperm banking prior to vasectomies, for males who are entering active military duty or in males recently diagnosed with cancer to help preserve their fertility for the future.

"We work together as a collaborative group," Dr. Bukulmez said. "And, as a result we can offer the kind of sophisticated treatments generally only found in a large university setting while maintaining the close, personal atmosphere our patients enjoy." As members of the academic medical center, UFRM doctors also conduct research, present and publish their findings in meetings and journals and teach medical students and residents. In addition, all physicians are actively involved with the national and international societies related to fertility and women's health.

UFRM physicians along with the exceptional registered fertility nurses and staff offer services at the Women's Health at Magnolia Parke and Shands medical center at the University of Florida. The fertility clinic at Magnolia Parke is situated at a patient-friendly suburban site with free parking, just off interstate 75. **GI**



Larissa Ali, MSc, T.S., embryologist and supervisor of the IVF Laboratory, checks eggs for fertilization under a special microscope system

To schedule a consultation, call 352-265-6200 or 800-ObGyn-UF. To learn more visit the Web site at <http://pro.med.ufl.edu>.

A Child is A *True Gift*

The Egg Donation Program at the University of Florida
Reproductive Medicine has resulted in happy endings for
many families.

BY DONNA WEBER





The journey to parenthood is not easy for couples facing infertility. Over time, it can turn their hopes and dreams of starting a family into a nightmare. Fortunately, advanced treatments can bring life-changing results to couples who have lost hope. In fact, the University of Florida Reproductive Medicine's (UFRM) world-class fertility services have helped many couples discover that life is sweeter when their dreams of having a child come true.

The UFRM's successful In Vitro Fertilization (IVF) program provides patients with a full range of the most leading-edge reproductive medicine technologies available in a warm, friendly and compassionate environment. Dr. R. Stan Williams, practice director of the IVF program for more than 20 years and chair of the Obstetrics and Gynecology Department at UF, pioneered the egg donation program in Gainesville. Dr. Williams now collaborates with a team of physicians who are board-certified in both Reproductive Endocrinology & Infertility and Obstetrics and Gynecology.

Oftentimes, women cannot use their own eggs for conception because of various infertility conditions, such as early menopause, advanced reproductive age, cancer treatments and other infertility issues. In other cases, women who have genetic abnormalities, which may be passed on to their children, may choose to use the eggs of a donor. The egg donation program at the UFRM offers these women a realistic chance at pregnancy, according to Dr. Orhan Bukulmez, M.D., Division Director of Reproductive Endocrinology & Infertility and Medical Director of the IVF Program. "Serving as an egg donor is a great gift to

offer a couple who desperately wants to realize their dream," Dr. Bukulmez said. "Egg donation is achieved by IVF using eggs retrieved from healthy donors who are selected after a series of physical and psychological screenings required by both the FDA and the UFRM program."

Healthy women between the ages of 21 up to 29 are carefully screened and counseled before being selected as an egg donor. After selection, they are carefully monitored throughout the process. Jean Melby, RN, coordinator of the egg donor program, develops a strong bond with both the egg donors and recipient parents. Melby has high praises for all of the egg donors. "In Gainesville we have many intelligent, talented college students and graduates with a wonderful attitude about life and their decision to help women in their effort to have children," Melby said.

Other donors include women who have one or more children and heard about the need for egg donors. "These women know first-hand helping other women who want a child is a beautiful thing," Melby said.

Egg donors remain anonymous, and their commitment to the process can take several months. The egg donor is treated with fertility drugs to stimulate the formation of a group of healthy eggs, usually 10-15, which are then removed from her ovaries during an egg retrieval outpatient procedure while under conscious sedation. The women usually go home about one hour after the procedure.

In the laboratory, the eggs are fertilized with the recipient husband's sperm and selected embryos that result are placed into the uterus of the recipient woman. Prior

to the transfer, the recipient is given hormones to make her uterine lining receptive to implantation of the embryo. Pregnancy rates are above 50 percent for recipients in good health, and frozen embryos may be available if an attempted pregnancy fails or if the intended parent wants another child in the future.

"It is rewarding to watch recipient parents build their families with help from generous egg donors," Melby said. "As one young donor told me, 'For the rest of my life, when I look back on this, I will know I have done a good thing.'"

Even though egg donors are anonymous, recipient couples have access to a donor's profile. The profile includes the donor's medical history, family history, educational background and key interests or talents. Patricia Durning, Ph.D., a clinical psychologist, counsels both donors and recipients on many aspects to consider for the egg donation program. UFRM experts are dedicated to ensuring that all parties understand the medical and legal obligations.

The commitment and compassion of UFRM's highly trained and experienced physicians, egg donor coordinator, counselor and staff have resulted in happy endings for many families. The program has helped many recipient couples from overseas as well.

If you are interested in learning more about the egg donation program as a donor or recipient, contact Jean Melby at 352-265-0680, extension 40245.

In addition to the egg donation program, UF's fertility practice in Gainesville offers state-of-the-art fertility procedures such as IVF, intracytoplasmic sperm injection, testicular sperm extraction, preimplantation genetic diagnosis, intra-uterine insemination, tubal reversal, fertility enhancing minimally invasive surgery and fertility preservation options for cancer patients.

Physicians and registered fertility nurses and staff at UFRM offer services at two locations: Women's Health at Magnolia Parke and Shands at UF. The fertility clinic at Magnolia Parke is situated at a patient-friendly suburban site just off interstate 75 with easy access and free parking. GI

To schedule a consultation, call 352-265-6200, or 800-ObGyn-UF. To learn more, visit the website at <http://repro.med.ufl.edu> or send an e-mail to Jean at melbyj@shands.ufl.edu.