

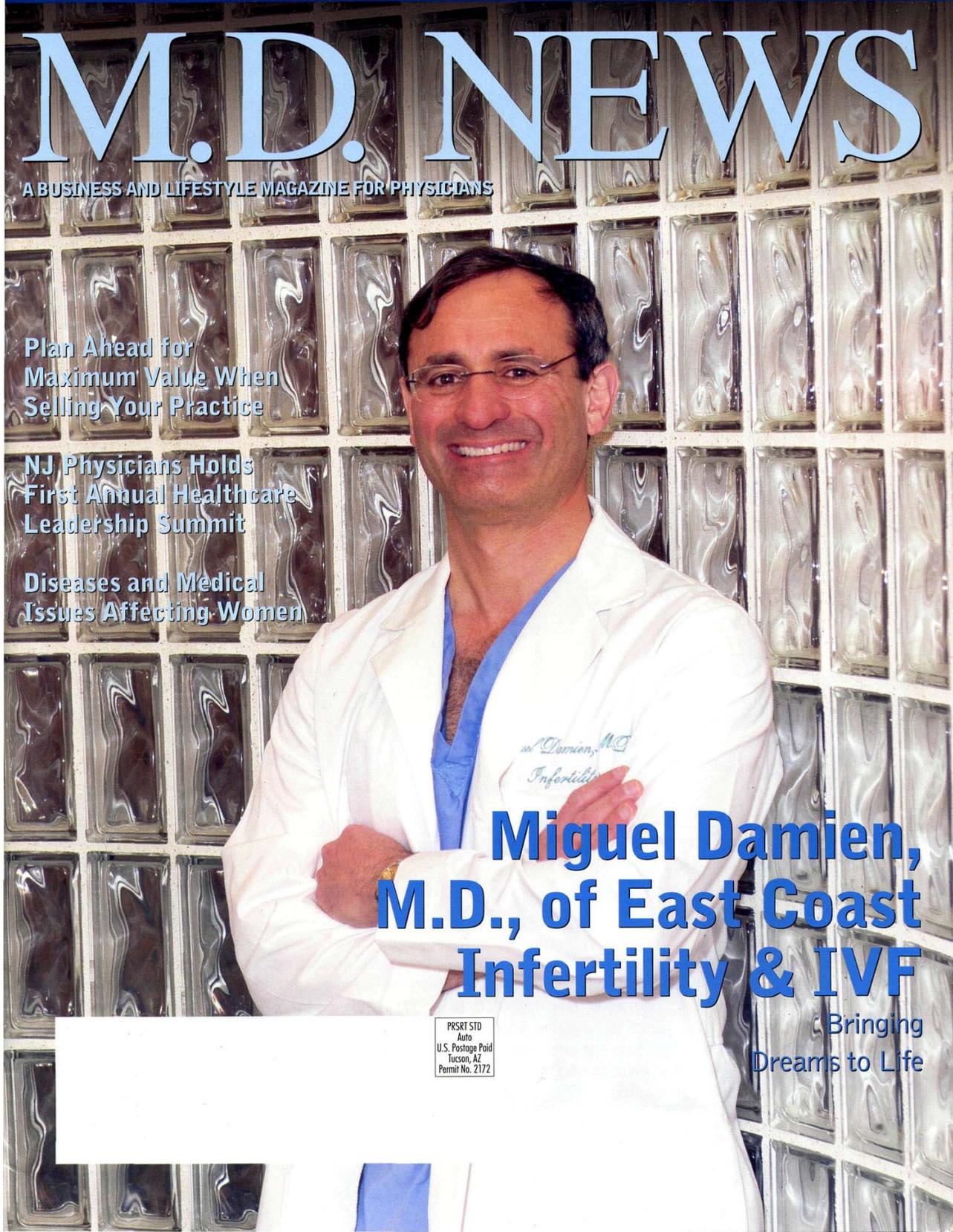
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**Miguel Damien,
M.D., of East Coast
Infertility & IVF**

Bringing
Dreams to Life

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Miguel Damien, M. D., of East Coast Infertility & IVF

Bringing Dreams to Life

By Iris Goldberg

Dr. Damien is board certified in both reproductive endocrinology and infertility. He is a frequent lecturer on the subject of infertility and reproductive medicine.

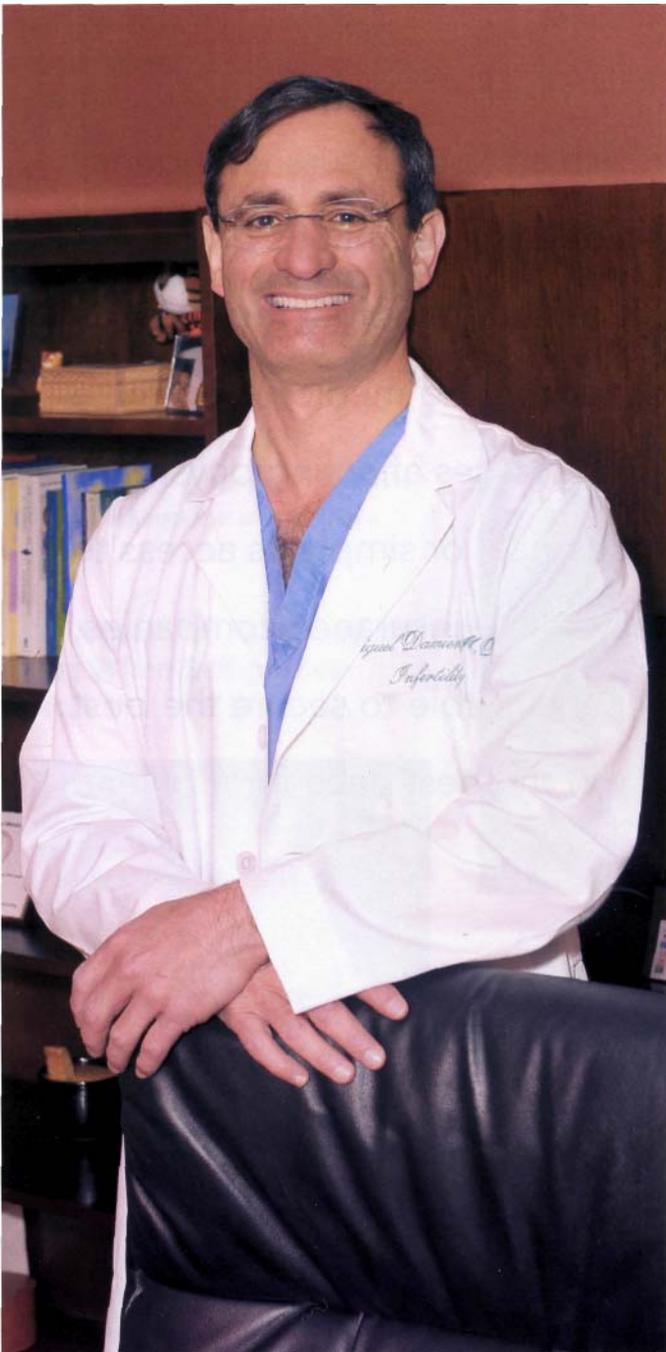


PHOTO BY KEN ALSWANG

The diagnosis of infertility is overwhelming, to say the least, for the many couples who have repeatedly tried to conceive a child without success. Being faced with the news that medical intervention is necessary can be very intimidating to the newly diagnosed. Medical jargon, along with recommendations for tests and treatments that are totally unfamiliar, can cause anxiety and frustration, leading some to eventually give up on their precious dreams of creating a family.

At East Coast Infertility & IVF, the goal is to compassionately and respectfully guide patients through the entire process of evaluation and treatment, avoiding the pitfalls of misinformation. Medical Director, Miguel Damien, M.D. and staff are dedicated to providing their patients with a thorough education, answering all questions while explaining and discussing the options for dealing with each couple's situation. Dr. Damien wants patients to have a genuine understanding of the problem and available treatments prior to making any decisions. "I work really hard to make sure that patients truly understand their decisions and the complexity of the world of infertility before they move forward with treatment," he emphasizes.

In addition to an extensive evaluation process which includes a full complement of diagnostic testing, East Coast Infertility & IVF provides counseling and treatment for infertile couples that range from prescribing pharmaceutical therapies, to simple, as well as advanced surgical procedures, to a host of on-site sophisticated infertility treatments. Whatever the problem may be, Dr. Damien and the staff at East Coast Infertility & IVF have expertise in treating the entire gamut of infertility disorders and leave no stone unturned in resolving the unique challenge presented by each couple under their care.

Reproductive problems can be caused by a myriad of disorders, some relatively benign and easy to address and others that require significant and at times, cutting edge intervention. Sometimes the problem is a condition that can be treated with medication and Dr. Damien needs only to advise patients on the appropriate remedy such as hormone therapy for women who are not ovulating regularly or men who have prolactin or thyroid imbalances. The majority of patients, however, have real infertility issues that need to be treated more aggressively. In 40% of couples the problem can



PHOTO BY MICHAEL GOLDBERG

During minimally invasive laparoscopic surgery, Dr. Damien is able to get a close up view of the fallopian tubes, ovaries and uterus.

be attributed to a female factor and 40% are the result of a male factor. For the other 20% of couples treated, both partners have an infertility issue.

Sometimes, explains Dr. Damien, a woman may be having difficulty conceiving because of a problem that is not fairly obvious. She is ovulating normally with regular menstrual cycles and does not have any other medical conditions that might interfere with conception. Her partner has also been thoroughly evaluated and he, too, is healthy and has normal sperm production. "Most of the time, in these situations, it is found that the woman has a problem within her pelvis, either scarring from pelvic inflammatory disease (PID) or endometriosis," Dr. Damien reports. For these women Dr. Damien must exactly identify what this problem is so that he can address it. A non-invasive procedure, which is performed through fluoroscopy, is a hysterosalpingogram which produces images of the uterus and the fallopian tubes. If this fails to elucidate the cause of the infertility, Dr. Damien will perform minimally invasive procedures that enable him to see inside the pelvis.

Laparoscopy is minimally invasive surgery during which Dr. Damien inserts a telescope-like device (laparoscope) through a small incision in the abdomen. This allows him to see directly inside the

pelvic region and provides him with a close-up view of the fallopian tubes, ovaries and uterus. If he finds endometriosis, a disease of the endometrium (lining of the uterus) which causes infertility because of scarring and change in the uterine environment, Dr. Damien is able to correct the problem during the laparoscopic procedure. This is done by using a carbon dioxide laser to remove all of the disease, greatly increasing the chance of a successful conception.

Dr. Damien usually performs laparoscopy in conjunction with hysteroscopy which involves inserting a hysteroscope, which is also a telescopic device, through the cervix into the uterus, allowing direct examination of the inside of the uterus. Hysteroscopy is used to identify and correct such uterine abnormalities as polyps, fibroids and intrauterine adhesions. Dr. Damien, who has more than twenty years of experience with reproductive surgery, stresses the importance of laparoscopic and hysteroscopic procedures in helping some women avoid in vitro fertilization (IVF), which is a much more expensive and aggressive method of bypassing uterine scarring and other correctable problems within the pelvis. "Sometimes you can really help women by just fixing the problem and allowing them to conceive naturally," he says.

In some cases, however, correcting these problems does not result in a successful conception. For these couples, who continue to have difficulty getting pregnant, Dr. Damien suggests superovulation therapy, which hopefully will result in conception that can still take place inside the uterus. The first step in superovulation therapy is to administer medications that will increase the number of mature eggs produced by the ovaries. During the normal reproductive cycle, two hormones—follicle stimulating hormone (FSH) and luteinizing hormone (LH) — are required to initiate and complete the process of egg maturation. During superovulation therapy, Dr. Damien injects women with fertility medications to raise these hormone levels and thereby increase the number of eggs produced. Fertility is then further enhanced by performing an intrauterine insemination with semen collected from her partner. The semen sample is prepared in a way that allows the placement of an enriched, highly motile concentration of sperm directly into the uterus through the cervix. Some of the causes of infertility that can be effectively treated with superovulation therapy include: ovarian dysfunction, endometriosis, cervical factor infertility, male factor infertility and sometimes, infertility for which the exact cause cannot be identified. Dr. Damien is careful to point out that this treatment has a greater likelihood of resulting in multiple births and, therefore, is not entered into cavalierly but rather when other methods have proven to be unsuccessful.

One of the most prevalent female factors causing infertility is a problem with ovulation. A common ovulatory disorder is polycystic ovary syndrome (PCOS). Women with PCOS usually have insulin resistance which interferes with ovarian function. As a result, women with PCOS do not release an egg (ovulate) regularly and have ovaries with small cystic structures. Women with PCOS usually have very irregular menstrual cycles (oligomenorrhea) and



PHOTOS BY MICHAEL GOLDBERG

If Dr. Damien finds scar tissue he is able to remove it during the laparoscopic procedure.

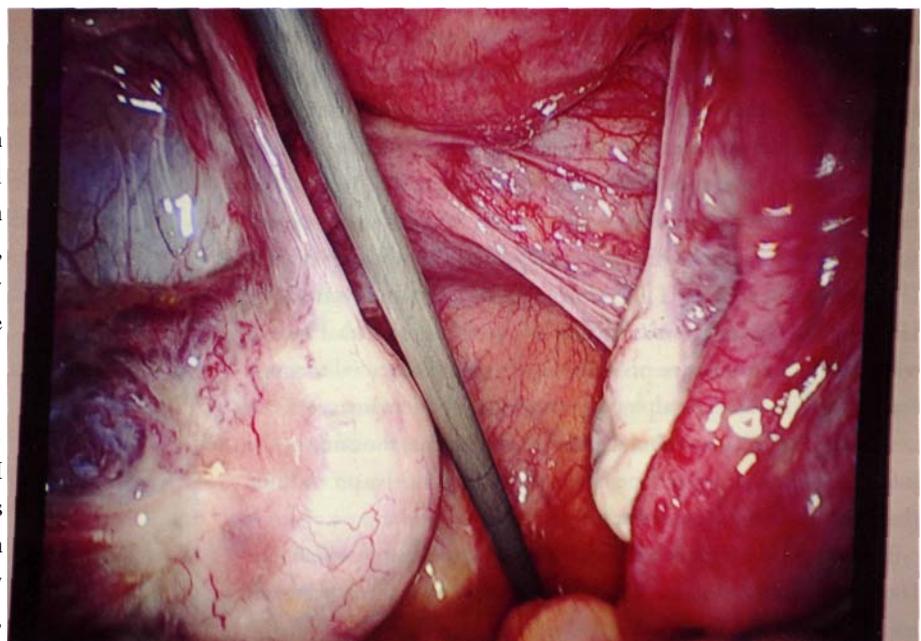
sometimes a total lack of periods (amenorrhea). Dr. Damien successfully treats some women with PCOS using a combination of oral medications. Metformin is primarily used to control diabetes.

This insulin-lowering medication has been shown to reverse the endocrine abnormalities seen in PCOS over the course of a few months. Clomid is a medication that induces ovulation. When taken together; these medications help some women with PCOS conceive. If treatment with oral medications is not successful, Dr. Damien administers injectable fertility medications, called gonadotropins, which are highly effective. This method, however, is more likely to create multiple pregnancies.

Besides PCOS, there are other ovulatory disorders that inhibit conception. Some women do not produce enough FSH because of inactive pituitary glands and this diminishes ovarian function. These women would definitely require injectable fertility medications as well. For other women, theyounger woman. With egg donation, also

ovaries have failed and no longer produce eggs. This is particularly true for some older women. Dr. Damien can help these women become pregnant using eggs donated by another, in many cases,

Dr. Damien removes the ovarian cyst prominently shown on the left of the photograph during an outpatient laparoscopic procedure



referred to as oocyte donation, the egg donor experiences ovary stimulation in the same way as a woman who is stimulating her own egg development in planning for in vitro fertilization (IVF).

IVF is a process which utilizes fertility medications to stimulate the ovaries for production of mature eggs. Currently, IVF is offered at East Coast Infertility & IVF to women with blocked or absent fallopian tubes and to couples with a variety of infertility disorders who have not responded to conventional treatment. Some of these conditions include endometriosis, unexplained infertility, infertility caused by immunologic problems, and sperm defects. In a typical IVF procedure at East Coast Infertility & IVF, a woman is treated with fertility drugs to regulate her menstrual cycle and stimulate the development of high-quality eggs. This process helps to ensure that a sufficient number of healthy eggs are available for fertilization. Her eggs are then retrieved by Dr. Damien and prepared for insemination using sperm from her partner. Fertilization occurs in a laboratory dish specially prepared with a culture medium that supports and nourishes the fertilized eggs. Within about 72 hours after fertilization, the embryos are transferred into the woman's uterus.

As is done in any IVF procedure, during oocyte donation, the donor is monitored through ultrasound and blood work to determine when her follicles have developed. The donor's eggs are then retrieved by Dr. Damien. Ideally, the recipient's cycle will be synchronized with the donor's cycle with the use of hormonal medications. This enables the lining of the recipient's uterus prepare to support the pregnancy. The male partner of the recipient provides a semen sample on the day the donor eggs are retrieved. The semen and eggs are fertilized in the laboratory. Three days later, Dr. Damien transfers the growing embryos into the uterus of the recipient.

When the evaluation process that is undergone by couples treated at East Coast Infertility & IVF reveals that the male partner has an infertility problem, Dr. Damien stresses the importance of testing men thoroughly to determine whether this is due to a hormonal imbalance or a medical condition such as celiac disease or hemochromatosis, or severe male factor infertility due to a primary testicular problem, which requires a procedural intervention. When the man is found to have a significant sperm deficiency, Dr. Damien is able to treat this quite effectively, by using a combination of in vitro fertilization and intracytoplasmic sperm injection (IVF with ICSI).

ICSI is a very efficient method of achieving fertilization of eggs in the IVF lab after they have been retrieved from the female who has undergone ovulation stimulation. IVF with ICSI involves the use of specialized micromanipulation tools and equipment that allows Dr. Damien to select and then pick up individual sperms in a tiny specially designed hollow ICSI needle. This needle is then carefully inserted through the outer shell (zona) of the egg and into the cytoplasm. After the sperm is injected into the cytoplasm, the needle is carefully removed. The next day the eggs are checked for



PHOTO BY KEN ALSWANG

Dr. Damien shown viewing developing embryos at East Coast Infertility & IVF's onsite embryology lab.

evidence of normal fertilization. After 72 hours the embryos are transferred into the uterus of the female partner.

Assisted hatching is a procedure which enhances pregnancy rates for certain women undergoing IVF alone or IVF with ICSI. As with all IVF procedures performed by Dr. Damien, assisted hatching is accomplished on site in East Coast Infertility & IVF's fully equipped, state-of-the-art laboratory. During assisted hatching, a laser is used to make a small hole in the zona surrounding the embryo just prior to transfer to the uterus, in order to help the embryo break out of the shell. This increases the likelihood that the embryo will implant into the wall of the uterus, thus resulting in a successful pregnancy.

For some couples, the challenge is not necessarily getting pregnant but staying pregnant and conceiving a normal embryo that will develop into a healthy baby. Preimplantation genetic diagnosis (PGD) and preimplantation genetic screening (PGS) are cutting edge techniques utilized by Dr. Damien to diagnose genetic abnormalities prior to achievement of a pregnancy. In order to have these screenings, couples must undergo IVF. After the woman's eggs are retrieved and fertilized with her partner's sperm, they are held for three days. By that time, the embryos created will have developed to the eight cell stage. At that stage, Dr. Damien can cut the zona of each embryo using micromanipulation techniques, and gently aspirate one of the eight cells. A slide is made using this cell and is sent to a special laboratory for evaluation. The seven cell embryos

are then returned to the culture medium where they continue to develop until the laboratory results are known and appropriate embryos can be selected for transfer.

PGD is a valuable procedure for couples who are at risk for single gene disorders that run in their families, such as Tay Sachs disease, cystic fibrosis, or other devastating hereditary diseases. PGS for aneuploidy determines if the embryo contains an abnormal number of chromosomes. This is particularly helpful for couples who have suffered recurrent miscarriages. Chromosome abnormalities decrease the chance of implantation, increase the probability of miscarriage and increase the likelihood of having a pregnancy with a chromosome problem like Down's syndrome. The possibility of chromosome abnormalities is especially concerning in older women. Other genetic disorders such as Duchenne's muscular dystrophy or hemophilia are sex-linked, affecting only males. Since PGS also determines the sex of the embryo, for couples concerned about these diseases, only female embryos would be selected for transfer. Some couples request PGS solely to guarantee the sex of their child. Utilizing these techniques which allow genetic defects to be known prior to implantation spares many couples the agony of having to terminate a pregnancy, suffer through recurrent miscarriages or bring a severely diseased child into the world.

Dr. Damien is always investigating other cutting edge procedures that will further increase the range of infertility treatment offered at East Coast Infertility & IVF. During the upcoming year he will be performing research and clinical trials involving the cryopreservation (freezing) of human oocytes (eggs). Human sperm have been successfully frozen for decades and the first human embryo freezing that generated a pregnancy was undertaken in 1983. To the frustration of many in the field, human egg freezing has not yet reached the same level of acceptance or consistency. It is Dr. Damien's hope that his work in this area will lead to the ability to offer patients the potential benefits of human egg freezing. These include:

- Formation of donor "egg banks" to facilitate and decrease the cost of oocyte donation.
- Provision of egg cryostorage for women wishing to delay reproduction.
- Cryopreservation of ovarian tissue taken from women about to undergo chemotherapy or radiation.

After graduating from Dartmouth College, Dr. Damien received his medical degree from the Dartmouth Medical School. His post-doctoral training included an internship in surgery as well as a residency in Obstetrics and Gynecology at the Harvard Medical School. Fellowships in Reproductive Endocrinology and Infertility were completed at the Harvard School of Medicine and the University of Connecticut. Dr. Damien is board-certified in Reproductive Endocrinology and Infertility. He has performed research and published studies on ovulation induction, IVF and cryopreservation of embryos. He is a frequent lecturer on the subject of infertility and reproductive medicine.

When discussing the comprehensive and cutting edge medical care offered at East Coast Infertility & IVF, Dr. Damien makes it a point to emphasize the importance of coupling this with emotional support and psychological counseling. "I really want to get to know the couples that I'm treating to understand how they are dealing with their infertility," he shares. Dr. Damien personally counsels couples as well as providing access to psychologists and social workers who help patients, who sometimes have feelings of inadequacy or guilt, understand that infertility is a medical problem and not the fault of either partner. "I try to guide them through the psychological mine field of this treatment and help them just feel better about themselves as they go through this," explains Dr. Damien.

With office locations in Monmouth and Ocean counties, East Coast Infertility & IVF has been helping infertile couples to realize their dream of creating life since 1989. Dr. Miguel Damien and his most capable and dedicated staff attentively and compassionately guide patients through all steps of infertility treatment.

While making the journey to have families of their own, infertile couples become part of the caring and supportive family at East Coast Infertility & IVF. •

Dr. Damien personally counsels couples to help them cope with their feelings about infertility.



PHOTO BY KEN ALSWANG

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