Reproductive
MEDICINE MATTERS
Spring 2006

Ask Abington

Dear Abington Reproductive Medicine,
I am a 38-year-old female who is interested in Preimplantation Genetic Diagnosis (PGD). While a patient at another practice, I was told that I did not produce the number of high-quality embryos needed for PGD. I came to Abington because your practice offers Autologous Endometrial Coculture AND PGD, but I've been informed that I cannot undergo both procedures. Why is this?

Sincerely,
L.C., New Hope

Dear L.C.,
You ask a very good question. But first, some background for our readers who are unfamiliar with PGD and Coculture. PGD offers a way to test embryos for genetic disorders before transferring them to the uterus. The procedure is particularly useful for patients with a serious, inherited disorder who wish to avoid passing the disorder onto their child. PGD can also be used to help prevent abnormal pregnancies and offer explanations for recurrent miscarriages or implantation failures.

Coculture is a possible treatment for patients who have not had success with more standard in vitro fertilization (IVF) treatments. The technique involves placing the patient's fertilized eggs on top of a layer of cells from her own uterine lining,

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Abington Welcomes Two Embryologists to Our Team

Abington Reproductive Medicine is pleased to welcome Cornell embryologist Rose Marie Moschini and PGD molecular biologist expert Nicholas Yun to our team.


Rose Marie Moschini


Nicholas Yun

After earning an undergraduate degree in biopsychology from Vassar College, Rose Marie attended Eastern Virginia Medical School, where she obtained a master's degree in biomedical sciences with a specialty in clinical embryology and andrology. Before coming to Abington, she served as a senior research specialist at the Weill Medical College of Cornell University's Center for Reproductive Medicine and Infertility. There, she performed numerous laboratory procedures, including sperm wash and recovery, oocyte (unfertilized egg cell) harvest and embryo manipulation and assessment. In 2004, she co-authored an article on achieving high pregnancy rates after freezing and thawing human blastocysts for *Fertility and Sterility*, the official publication of the American Society for Reproductive Medicine.

Here, Rose Marie plays a major role in ongoing quality control and performance improvement for our lab. She also performs advanced procedures such as micromanipulation, IntraCytoplasmic Sperm Injection (ICSI), assisted hatching and embryo biopsy.

Nicholas comes to Abington Reproductive Medicine from Medical Diagnostic Laboratories, LLC, where he served as a clinical DNA laboratory specialist. A certified molecular biologist, he holds a master's degree in laboratory science and is an active member of the American Society of Microbiology. In our lab, Nicholas uses Fluorescent In Situ Hybridization (FISH) to screen for abnormal numbers of chromosomes.◆

Dr. Barmat Makes Coculture Presentation at 2005 ASRM Meeting

At the 2005 annual meeting of the American Society of Reproductive Medicine (ASRM), held in Montreal, Canada, Larry Barmat, M.D., conducted an oral and poster presentation of Autologous Endometrial Coculture. Co-developed by Dr. Barmat while at Cornell University, Coculture involves placing embryos on the mother's uterine cells, thereby allowing the embryos to grow in a more natural environment. The procedure can bring new hope to patients with failed multiple IVF attempts and poor quality embryos.

Attendees were intrigued by the leading-edge procedure and asked many questions about its benefits and success rates.◆

Participants Needed for Ongoing Research Studies

Benefits Include Substantial Savings on Fertility Treatments and/or Compensation for Participation!

Many of the advanced techniques offered at Abington Reproductive Medicine have been pioneered and perfected through our ongoing research studies. Listed below are current research studies for which we are seeking participants. Benefits include substantial savings on fertility treatments and in some cases, financial compensation. For more information about any of the studies highlighted below, please call our office at 215-887-2010. You can also visit our Web site, www.abington-repromed.com, for the latest details about current and upcoming research studies.

- **In Vitro Fertilization Medication Study**
  Participants needed.
  Details: Abington is one of only eight fertility centers in the nation to be chosen for this landmark study that involves adjusting the dosage of infertility medications given to women undergoing in vitro fertilization (IVF). Traditionally, injectable infertility medications have only been available in 75 IU vials, which limited physicians to prescribing these medications in 75 IU increments. Recently, the FDA approved a new method of dosage and drug delivery for these medications.
  Methodology: Patients are randomly assigned their medication dosage and schedule. Medications are provided free of charge to participants for one IVF cycle.

- **IVF vs. Coculture Study**
  Participants needed: Females ages 38 and younger who have been diagnosed with infertility and require IVF to enhance their chances of conception.
  Details: This study compares the benefits and outcomes of standard IVF to Autologous Endometrial Coculture.
  Methodology: Participants are randomly assigned their treatment protocol (IVF with standard endometrial biopsy or IVF with Coculture).

- **Study Testing Accuracy of Ovulation Prediction Device**
  Participants needed: Females ages 21-65.
  Details: This study tests the accuracy of the Biometer, an FDA-approved device that predicts ovulation. Manufactured by Biosense, the Biometer is a small device resembling a digital thermometer that can be used to increase the chance of conception or as a more accurate method of natural family planning.
  Methodology: Study participants are required to use the Biometer to obtain daily ovulation readings for up to three menstrual cycles. The study also involves some laboratory and ultrasound monitoring, and participants are asked to record their experiences in a diary. Compensation is provided.

- **Participants Needed for Sperm Protein Detection Study**
  Participants needed: Men ages 25 through 50 (men who have had a vasectomy reversal can participate at any age) with normal sperm count and shape, who, together with their female partner, have proven infertility with no clinically identifiable cause and meet requirements for IVF. (Note: The participant's female partner must be under age 38.)
  Details: This study evaluates the effectiveness of the P34H DETECTOR, a state-of-the-art diagnostic kit that determines the presence or absence of the protein P34H in a semen sample. Recent research has demonstrated a correlation between low concentration levels of P34H (less than 30 percent) and male factor infertility.
  Methodology: Study participants must provide one semen sample to be analyzed using both the P34H DETECTOR and the P34H Western blot technique, the traditional P34H detection method.

Hypogonadotropic Hypogonadism Study
Participants needed: Females ages 40 and younger who have a clinical history of hypogonadotropic hypogonadism (absent or decreased function of the ovaries, caused by the absence of follicle stimulating hormone and luteinizing hormone).
Details: Luteinizing hormone (LH) and follicle stimulating hormone (FSH) are required create a fertilized egg. More specifically, LH is responsible for the final maturation and eventual ovulation of the egg. This study will examine the effectiveness of Luveris®, the purest form of LH available, on women with hypogonadotropic hypogonadism who wish to conceive.
Methodology: Study participants will be started on Gonal-F® (an injectable fertility medication that works directly on the ovaries to stimulate egg maturation) and then randomly assigned to receive three consecutive cycles of either Luveris or placebo. Patients will be required to undergo regular blood work and ultrasounds as well.

Visit us online:

Dr. Smith Leads Lab with Expertise and Compassion

Many readers have undoubtedly heard of the breakthrough research and procedures conducted at Abington Reproductive Diagnostics, our state-of-the-art testing lab located next to our main offices. As High Complexity Laboratory Director, Scott E. Smith, Ph.D., H.C.L.D., oversees the complex screenings performed by the lab's expert team of embryologists and andrologists.

Fellowship trained in embryo and uterine interaction, Dr. Smith established our onsite Preimplantation Genetic Diagnosis (PGD) program, making us the first lab in Pennsylvania to offer in-house PGD for chromosomal abnormalities. (PGD offers a way to test embryos for genetic disorders before transferring them to the uterus.) "When I first established the program, we were only able to screen embryos for five chromosomes," says Dr. Smith. "Now, we can screen for nine chromosomes and over 100 genetic disorders. We're also the only lab in Pennsylvania that performs onsite diagnosis for aneuploidy, a condition in which the embryo contains the wrong number of chromosomes in each cell."

Dr. Smith is quick to point out another key dimension of the PGD program. "PGD results can also be used to offer explanations for recurrent miscarriages or implantation failures, which are often caused by a chromosomal abnormality," he explains. "The chromosomes we can currently screen for happen to be those most commonly found in cases of spontaneous abortions and miscarriages. In this sense, we're able to help couples with previously unexplained infertility by giving them more concrete answers and guidance."

In addition to chromosome testing, our center also offers testing for over 100 single gene disorders including such diseases as Cystic Fibrosis, Tay-Sachs and other Jewish associated disorders and Muscular Dystrophy.

In the midst of all the state-of-the-art testing and equipment, Dr. Smith works hard to promote the lab's human side. "Our embryologists are very dedicated to their work and the patients they serve, often keeping in contact with them on a daily basis. Phone calls concerning fertilization results and embryo development are made by the embryologists themselves."

As for the future, Dr. Smith sees the list of genetic disorders that can be detected through PGD growing significantly. Plans are also in the works to offer onsite diagnosis for translocations, which occur when two pieces of non-matching chromosomes stick together. (Currently, translocation samples are sent to an outside lab for diagnosis.) "More people are learning about PGD and the many benefits it offers, and the procedure itself is becoming much more patient-friendly…it's a very exciting time to be part of this field," he says. ◆

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creating a more natural environment for embryo development.

While Coculture promotes faster embryo growth, the procedure's methodology makes the embryo biopsy required for PGD much more difficult. Therefore, it is our policy not to perform both procedures at once.

However, all hope is not lost. We can perform Coculture and PGD, just not at the same time. Be sure to discuss this with your physician at your next appointment. He or she can adjust your treatment protocol to include both procedures.

Best,

Jay S. Schinfeld, M.D.

Do you have a question for the Abington Reproductive Medicine physicians? E-mail us at info@abington-repromed.com with your inquiry, and your question may appear in a future issue of Reproductive Medicine Matters.

Abington Appearances

IVF Seminars
Mondays, April 10 and May 22
7 p.m.
Frobese Conference Center in the new Lenfest Pavilion at Abington Memorial Hospital

Potential patients are invited to join us for FREE informational seminars on in vitro fertilization (IVF). The seminars will be led by an Abington Reproductive Medicine physician and will feature staff members from the Toll Center. For more information or to register (required), call 215-887-2010.

Media Mentions

Dr. Larry Barmat Describes Benefits of New Treatment for Excessive Menstrual Bleeding

For women with excessive menstrual bleeding (also called menorrhagia), their monthly cycle can be a debilitating experience. Until recently, treatment options were limited to hormone therapy and hysterectomy (surgical removal of the uterus). Menorrhagia sufferers everywhere are now finding relief through a new, minimally invasive procedure called NovaSure® Endometrial Ablation. The procedure can be performed in an office or outpatient setting and generally takes less than five minutes.

Recently, WPVI Philadelphia/Channel 6 Action News interviewed our very own Larry Barmat, M.D., about NovaSure Endometrial Ablation as part of the station's Healthcheck segment. Dr. Barmat attested to the procedure's effectiveness and encouraged women suffering from menorrhagia to ask their physician about this breakthrough treatment option.◆

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