

Delaware Valley Institute of Fertility & Genetics

# Conceptions

Fall 2000

## AN EXCITING IVF ADVANCE

### The basics of blastocyst culture and transfer.

By Kimberly Beth Gleason, Ph.D.,  
director of DVIFG's Reproductive Laboratories

Blastocyst culture and transfer is a recent procedure developed through in vitro fertilization (IVF) that is intended to maximize the establishment of pregnancy, while minimizing the health risks of multiple gestations. A blastocyst is an embryo in its later stages of development. Derived from a fertilized egg that divides sequentially from one cell on the first day of in vitro culture to well



over 100 cells by the fifth day of culture, a blastocyst's physiology is quite complex (see "The Making of a Blastocyst").

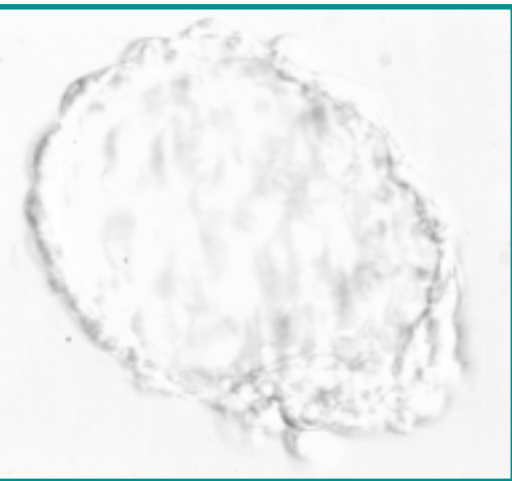
IVF has made it possible for many couples to fulfill their dreams of having the babies they always wanted, but it has its risks and limitations. If the physician transfers too many embryos, the risk of multiple gestations is great. Choosing the "best" embryos to transfer into a patient's womb after three days of culturing is not always

easy either. Beautiful babies can come from average or poor quality embryos, and excellent quality embryos may not grow into healthy fetuses. Since blastocysts essentially "select" themselves, choosing which embryos to transfer becomes less subjective.

Only the strongest, healthiest embryos have the ability to grow into a blastocyst after five days of culturing under optimum conditions. This "natural selection" of embryos boosts the success rates of transfers and eventual healthy deliveries. Moreover, by establishing a blastocyst transfer program, fertility specialists can transfer one to two embryos on day five of culturing, and in turn, reduce the incidence of multiple births. By not being classified as "high risk," patients can then enjoy healthy and less stressful pregnancies.

Like traditional methods, blastocyst culture also can generate excess embryos to freeze for use at a later date. This is great for couples that hope for a sibling or two. Preliminary findings on freezing blastocysts and thawing them for transfer look promising.

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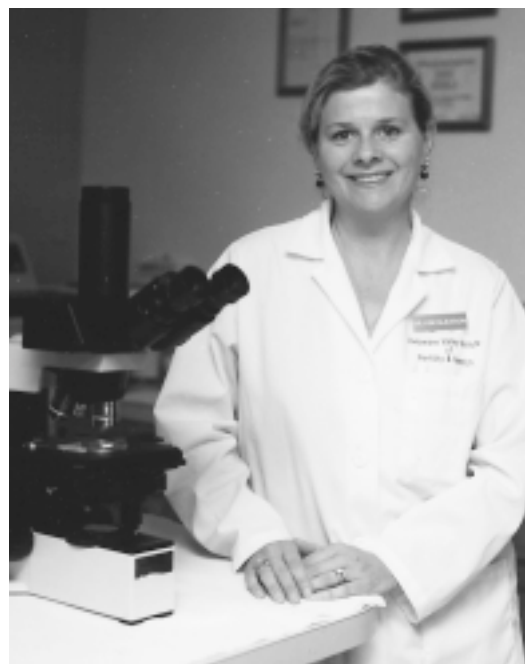


## **The Making of A Blastocyst**

*By the 5th day, the many cells of the blastocyst, too numerous to count with the naked eye, are differentiated and dedicated by function. The blastocyst is composed of a single outer layer of cells (the trophoctoderm), a center fluid-filled cavity (the blastocoel), and a tightly bundled cluster of cells (the inner cell mass). The trophoctoderm will become the placenta; the blastocoel will expand as the embryo grows and eventually help the embryo to escape from its shell and implant into the uterus; and the inner cell mass will later become the fetus.*

While blastocyst culture and transfer is beneficial for some patients, it's **not** for everyone. The best candidates for this procedure have several high quality, advanced (6 to 8 cell) embryos on the third day of culturing. Usually couples start IVF with numerous eggs after retrieval, with only a high percentage of mature eggs being fertilized, and with only the healthiest of those embryos advancing to the 6 to 8 cell stage. If couples have only two mature embryos on day three, there's no advantage to culturing them for the purpose of selection. Therefore, the best candidates for blastocyst culture and transfer have lots of eggs and follicles (cysts where eggs develop). Generally, the younger the patient, the greater the number of eggs and the better the embryo quality. It's also a good option for people who are at high risk of having multiple births.

The disadvantage of opting for blastocyst culture and transfer is that nature may take its course and deem no embryos fit to be transferred. Despite the advances made so far, there's still a realistic chance that couples may sacrifice having any transfer at all if they opt for the blastocyst route instead of traditional methods.



*An expert on in vitro fertilization (IVF), andrology and embryology, Kimberly Beth Gleason, Ph.D. is exceptionally skilled in the procedures of embryo micromanipulation and extended embryo culture. In her role as director of DVIFG's Reproductive Laboratories, Dr. Gleason performs blastocyst culture and transfer, making DVIFG's state-of-the-art facilities one of the only centers in the area to offer this IVF advance to patients. If you have any questions regarding the blastocyst procedure, please contact Dr. Gleason at (856) 988-0072.*

## **Fast Fact**

Blastocyst embryo transfer has been practiced in the livestock industry since the 1970's. More than 100,000 healthy births have been reported in the cattle industry alone.

# NEWS You Can Use

## DIAPER DANGER

A two-year German study published in the British journal Archives of Disease in Childhood found that baby boys who wear disposable diapers could have fertility problems when they grow up. The researchers reported that all 48 boys studied ranging in age from newborns to toddlers experienced a rise in scrotal temperature (as much as 2.1 degrees F) when they wore plastic-lined diapers versus cloth diapers.

The researchers believe that increased testicular temperature during a boy's early years can negatively affect semen quality. Other fertility experts dismiss the results as pure speculation with not enough proof. It's the internal temperature of the testes that matters, not the external temperature, they say. Before getting rid of your plastic-lined diapers, check with your pediatrician.



## A GIRL INDICATOR

If you're experiencing severe morning sickness in your first trimester, it may mean that you're having a girl. According to an eight-year Swedish study of pregnant women, 48.6 percent of those studied had girls. But of women hospitalized for severe morning sickness, 55.7 percent had girls.

Researchers believe that morning sickness may be linked to human chorionic gonadotropin, a hormone more concentrated in females than in males at birth.

## REST AFTER INSEMINATION

Researchers from McGill University in Montreal found that just 10 minutes of bed rest following intrauterine insemination (IU) can boost pregnancy rates significantly. The

116 patients studied were randomly assigned to either move immediately after the procedure or to lie in bed for 10 minutes. Those who took the 10-minute rest achieved a 29 percent pregnancy rate. Only 10 percent of the active patients became pregnant.

## IVF AND WOMEN OVER 40

A recent study conducted at the Assaf Harofeh Medical Center in Israel found that women over age 43 had little success in achieving a healthy pregnancy via in vitro fertilization (IVF) with their own eggs. Of the 431 women over age 41 studied, 376 (87 percent) reached the egg retrieval stage. The delivery rate was only 2 percent to 7 percent for women ages 41 to 43. None of the patients over age 44 delivered babies, and no patients over age 45 became pregnant.

The researchers believe that the low success rates were due to factors common to women approaching menopause: poor egg quality and quantity. Women over 41 who use donor eggs for IVF, however, have a 56 percent chance of delivering a baby.

## FERTILITY FOR ALL

Sixty percent of Americans believe that insurance should cover at least some infertility treatments, according to a recent survey commissioned by the Bertarelli Foundation, an international infertility awareness group in Geneva, Switzerland. The top reason given by those polled is that everyone should have the chance to be parents, not just those who can afford it.

Look for more "News You Can Use" on our web site at: [www.startfertility.com](http://www.startfertility.com)

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## Have an insurance question?

Contact Carla Scott, DVIFG's staff insurance expert, for a free consultation. Call (856) 988-0072, extension 5, to schedule yours today.



*Conceptions* is published quarterly for a select group of OB/GYNs and their patients. To receive extra copies of the newsletter or to be placed on our mailing list, please call Carla Scott at (856) 988-0072 or e-mail her at: [info@startfertility.com](mailto:info@startfertility.com).

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[www.startfertility.com](http://www.startfertility.com)

## Happy Birthday to . . .



**Matthew Aaron Garza**, born on March 3, 2000, to Judith and Isaias Garza.

**James Edward Phillips**, born on March 15, 2000, to Stephanie and John Phillips.

**Logan Carrie Sweeney**, born on June 16, 2000, to Beth and Robert Sweeney.

**Scott Gregory Melon**, born on July 10, 2000, to Jack and Leigh Melon.

**Jacqueline Danielle Unger**, born on August 6, 2000, to Caroline and Dan Unger.

**Nino Romano**, born on August 22, 2000, to Jodi and Douglas Romano.

**Ashley Diane Wetzel**, born on August 23, 2000, to Toni and Robert Wetzel.

**Ryan Alexander Eno**, born on August 30, 2000, to Carla Stephenson and Marc Eno.

**Aaron Zubatch**, born on September 16, 2000, to Michelle and Brian Zubatch.

**Jessica Lauren Wilder**, born on September 21, 2000, to Susan and Michael Wilder.

**All the babies and parents are doing well. Thank you, DVIFG!**



DVIFG recently welcomed Melissa Bennett, RD, CDE to its staff. A Registered Dietician and Certified Diabetes Instructor, Bennett (pictured above) will offer nutritional counseling and educational literature to patients. She received her B.S. degree in Dietetics from the University of Delaware and has over a decade of experience as a clinical dietician and educator.

"DVIFG is thrilled to have a nutritionist on staff to complete our full spectrum of fertility care. Some couples have infertility problems due to excess weight or metabolic disorders," says Chung H. Wu, M.D., of DVIFG. "A nutritionist can help solve these problems and increase the likelihood of conceiving. Moreover, our research has shown that being at your optimum weight and health can boost conception."

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