

The Fight Against INFERTILITY

Philadelphia is a leader in the field of infertility research and in the development of many of those near-miraculous techniques that turn wishes into reality for many people: a baby, a child of their own.

By Barbara Ann Rosenberg

Dr. Martin Freedman has 12 children, but only three of them (ages 10, 8 and 5) are actually his. The other nine? He played a role in their conception, and without his perseverance and special ministrations, they might never have been born.

Freedman is a reproductive endocrinologist, a fertility specialist, who became a star in 1987 when he scooped his mentors and became the first doctor in the Philadelphia area to successfully implant a frozen embryo into the uterus of a woman. In 1988, a baby girl was born, the near-miraculous conclusion of an experiment in cryopreservation and in vitro fertilization. At the time, Freedman was director of the infertility clinic at Albert Einstein Medical Center; now he is director of the Toll Center for Reproductive Sciences at Abington Memorial Hospital.

Cryopreservation and in vitro fertilization sound like terms from a science fiction novel, but they are very real, relatively recent techniques that have been developed to combat the problems of infertility, techniques that allow a physician to extract ripe eggs from the ovaries, fertilize them in what is commonly known as a "test tube" and then, if necessary, freeze them for future use, with the goal of producing a pregnancy when they are placed in the woman's uterus.

Laparoscopy is another of the space-age procedures being used to combat infertility; laser beams are aimed through the scope to clear up such problems as endometriosis, a condition that causes the lining of a woman's uterus to become displaced, clogging the ovaries and fallopian tubes and preventing her from conceiving.

There is also the "pump," a tiny device that delivers a measured dose of hormones to stim-

ulate ovulation. Fifteen to 20 percent of all infertility in women is caused by a failure to ovulate regularly or at all, according to Dr. Luigi Mastroianni, professor of obstetrics and gynecology and holder of the William Goodall chair at the University of Pennsylvania.

PENN'S PIONEERS

Mastroianni and his associate, Dr. Celso-Ramon Garcia, were pioneers in the field of infertility research; largely as a result of their efforts, the infertility clinic at the Hospital of the University of Pennsylvania gained a national reputation. Mastroianni notes that most of the women who seek medical help for failure to ovulate willingly accept treatment by hormones — fertility drugs — even with the potential of multiple births. "But," Mastroianni explains, "the potential for multiple births has lessened considerably. There are now ways to monitor the activity of the ovaries. We do that by actually looking at the ovaries through an ultrasound probe placed in the vagina."

The HUP clinic also pioneered research in insemination and cervical secretions, as well as freezing human embryos. In fact, Freedman originally came to Philadelphia to work with Mastroianni before striking out in 1984 to chair his own in vitro fertilization program at Einstein.

When in 1987 and 1988, the results of Freedman's experiments hit the front pages of the *Philadelphia Inquirer* and many other newspapers, he said, with a touch of modesty, "It's worked. It's worked well."

Mastroianni says that HUP is freezing pre-embryos, commonly called "eggs," too, but hasn't needed to use them. He explains that of the 10 or so eggs that are fertilized in the

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A Triumph Over Infertility

Marissa, 3, answered the telephone, not at all unusual for a child of that age. "My mommy doesn't know your name," was her response to my inquiry for Mrs. Riley, her mother.

What is unusual is that Marissa is the first child in the entire mid-Atlantic area to have been born of a frozen embryo. The date was April 19, 1988, an exciting "first," and the newspapers, radio and TV stations all took appropriate note of the event.

Dr. Martin Freedman, then director of the infertility clinic at the Albert Einstein Medical Center, bore indirect responsibility for the pregnancy. "He's like Marissa's second father," says Teresa Riley. They love each other so much. And Kevin, my husband, is just as happy."

The Riley's weren't crazy about the idea of having what was to them a very private matter — the birth of their child who was conceived as a result of the implantation of a frozen embryo — blasted all over the media. "In no way did we want the publicity," says Teresa Riley. "But we permitted it because we wanted everyone to know the wonderful work that Dr. Freedman had done and how happy he made us."

And Marissa describes how



Marissa Riley

she came about in her own, wise, 3-year-old way. "Dr. Freedman took a piece of Mommy and a piece of Daddy, mixed it up, then put it in the freezer for four months. Then he took it out and put it into Mommy — and along came Marissa."

As her mother says, "Marissa is 3 going on 21."

— Barbara Ann Rosenberg

Infertility

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laboratory in any given IVF cycle, three are implanted in the woman's uterus. "We freeze the residue," he says, so that if the first implant doesn't take, we don't have to go through the whole procedure (of collecting eggs) again.

"But we've been lucky," he says. "Until recently all our patients have gotten pregnant on the first go-round, the first implant. When we needed to use the frozen pre-embryos, though, it turned out to be just as successful, resulting in a pregnancy."

His associate, Garcia, agrees that the team at HUP prefers using "fresh ova to produce a pregnancy, as a routine matter, but we will use the frozen eggs if necessary."

Freedman has been using frozen embryos on a fairly regular basis over the last few years — often enough to have resulted in nine live births. Just a few months ago, patient Phyllis Heller (not her real name) delivered her second child, the result of an implant from a batch of her eggs that were frozen more than two years ago. Her first child was born in January 1990 and the second in December 1991. "Dr. Freedman gave me something I never expected to have — two wonderful children. It's like a miracle," says Heller, radiant in her praise.

"It's so much easier the second time, with the eggs already frozen. I didn't have to go through the process to stimulate ovulation again. (Heller produced 12 eggs the first time and only three were implanted then, leaving nine "in the bank.")

"But this procedure is something that most people don't understand," says Heller, "so we just didn't talk about it, even with some of the family, but I certainly could have used some support at the time. The general public has no idea of what you have to go through, either emotionally or physically."

Heller notes that she was anxious to know about the Jewish attitude toward in vitro fertilization, and her rabbi told her that it was acceptable, but not much more.

"It was a book — *And Hannah Wept* by Michael Gold — that gave me the greatest insight into the Jewish views on infertility and adoption, but we didn't need to adopt, I'm thrilled to say."

Questioned about the potential problems associated with his first birth from a frozen embryo when he was at Einstein, Freedman commented, "It appears to be a safe procedure. To date we've seen no congenital abnormalities develop, or at least, no greater percentage than in a regular fertilization."

At the end of the 1990 calendar year, there were roughly 591 babies born in the United States from frozen embryos, according to the most recent statistics provided by the American Fertility Society. "When we fertilize an egg, we always make sure we treat the embryos with the respect they deserve," says Freedman.

The chief advantages of cryopreservation, Freedman says, "is that it saves couples the emotional and physical trauma of having to go through the whole procedure of removing the eggs from the woman's body and fertilizing them again." That collection procedure, he notes, "takes its toll." (Eggs are collected from the ovaries by a surgical procedure known as a laparoscopy.)

Cryopreservation is also a means of reducing medical costs. The patients currently enrolled in the IVF program at Einstein are paying \$5,500 to \$7,500 for the collection and fertilization of their eggs.

"For women with severe endometriosis or women who have been told they need chemotherapy to combat another medical problem, having embryos 'in the bank' can be a tremendous boon. Then the eggs are available when the appropriate time comes for the woman to receive them."

Freedman is just one of Philadelphia's dedicated physicians and researchers in the field of infertility. Others, like Dr. Chung Wu at Thomas Jefferson University and Dr. Delfino Bartosic at Graduate Hospital,

also trained at HUP and have gone on to become independently renowned in their field. "They're on the cutting edge of reproductive endocrinology," says Mastroianni of his former students.

And Wu himself has trained yet another generation of doctors interested in infertility, one of whom, Dr. Shahab Minasian, now heads the clinic at the Medical College of Pennsylvania.

Until recently, Mastroianni and Garcia, who came to HUP more than 20 years ago to set up a clinic to deal with infertility problems, might have been known as "the fathers of infertility" in Philadelphia. With Minasian's appointment, they have now earned the designation "grandfathers."

The Division of Human Reproduction at HUP has a total of eight reproductive endocrinologists, including Dr. Steven J. Sondheimer, who earned a national reputation in the management of endometriosis. This team deals with every aspect of reproductive health. "We have a significant cadre of basic scientists to work with and back up the young clinicians," says Garcia. "Our advances in microsurgery and laser surgery have made a huge difference. When we can perform that kind of surgery to deal

with ectopic (tubular) pregnancy and preserve the fallopian tubes, we preserve a woman's fertility."

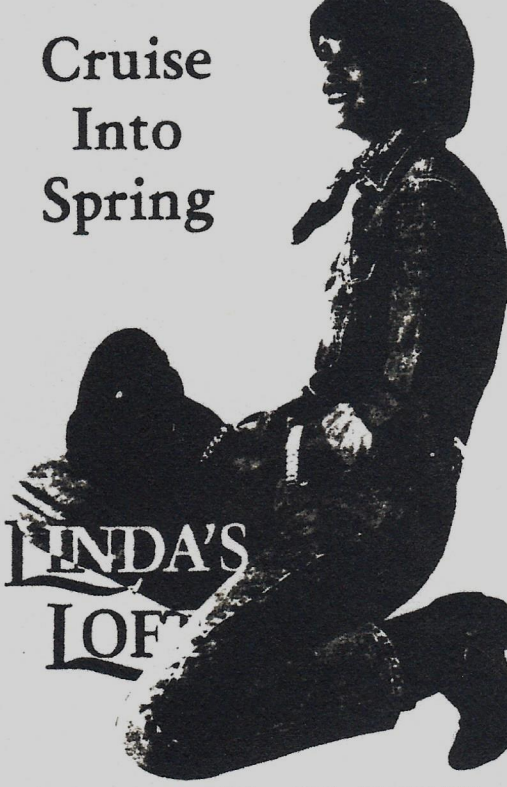
"Women are really fascinating," says Mastroianni, referring not to their glamour but to their reproductive cycles. "They have a built in biological clock and are only able to produce about 500 eggs in their lifetime, whereas men release billions of sperm."

"Men," he continues, "can reproduce well into senescence, provided their health is OK, but even if women stay supremely healthy, it's all over for them at menopause. Except," he comments, his eyes twinkling mischievously, "for those who still have their uterus and really wish to bear a child." Somewhat tongue in cheek, he notes that science has progressed to the point where, theoretically, a fertilized egg could be implanted and a child carried to term, supplemented by hormonal therapy, by a woman at any age.

He warns, however, that the potential for problems increases as women postpone childbearing. "At any age over 25 there's a gradual decline in fertility and more incidence of endometriosis and the problems associated with it. It's one of the major problems that cause infertility

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plus quartz, which is very expensive."

Noting the benefits of a drinking-water system, Fisher says some filters can take out impurities down to a half a micron. These systems not only improve water taste, color and odor, they also eliminate harmful bacteria and organic chemicals. The resulting water is better than bottled water, which may sit on the grocer's shelf for weeks accumulating bacteria.

CABINETRY

Cabinets are to kitchens what furniture is to the other rooms of the house, an integral part of the total design, according to Steve Skinner, showroom manager at First Kitchen and Bath in Elkins Park.

Custom cabinets, built to the buyer's requirements, generally take six to eight weeks for delivery, while stock cabinets, manufactured to standard specifications, usually take two weeks, according to Skinner.

Today's cabinets come in a tremendous range of styles, materials and colors; bleached wood and light oak are still favorites, with wood and plastic laminates the most popular materials. They also offer more sophisticated storage than they once did. Cabinets come with roll-out shelves, built-in lazy

susans, dividers for trays and pan lids, narrow shelving for cans and foodstuffs and space for tall bottles, according to Skinner.

The latest look in cabinets is "white wood doors that have picked up a hint of color with grains of pale pink, peach, green and blue," says Nancy Forman, whose company offers over 120 different cabinet-door styles in five shades of white and 40 stains. "There's more fashion now in wood cabinets. Our designs are often country in style with complex, highly detailed furniture finishes. These are quality cabinets that will hold up long-term." Forman also notes that customers can panel their appliances to match the cabinets.

When it comes to remodeling a kitchen, the choices are limitless. Fortunately, there are many well-qualified designers to help you attain just the right look in your dream kitchen, the heart of your home. ■

Rhonda Hoffman, associate editor of the Jewish Times, is thinking about replacing the yellow and orange flowered wallpaper, the tired looking brown and beige linoleum floor and the harvest gold stove and dishwasher in her 1970s kitchen.

these days, and we don't know why. But with the advances in microsurgery, we can really correct a lot of it."

Men have come in for increasing scrutiny when researchers go looking for the causes of infertility. "The technologies are directing attention to the male," says Bartosic. "It's been going on for some time, but in the past several years the technology has been vastly improved for such things as washing the sperm before implantation to prevent any possible problems with rejection."

Bartosic calls attention to a product that she sees as one of the major advances, psychologically at least, for couples trying to have a child. "One of the most wonderful things is an over-the-counter kit that measures the LH (the hormone that triggers ovulation), letting them know when the time is ripe for conception.

"It takes a lot of the pressure off," she says, sympathizing with the procedures that preceded the release of these kits, which are currently being marketed by Tambrands (the firm that makes Tampax) and Becton Dickinson.

Garcia points out that infertility is a scourge of women in every economic bracket, and the clinic at HUP treats them all. "Infertility is a disease that doesn't look at the pocket-book," he comments. "We are interested in helping to improve every aspect of women's health, and consequently, women's lives." ■

Barbara Ann Rosenberg writes for a variety of local and national publications on health, food, travel, business and other topics.