“I’ve had light spotting all week,” Lesly Burns anxiously tells Kaylen Silverberg, M.D., as soon as he walks into the examining room for her checkup. “Should I be worried?” After one ectopic pregnancy, nine months of fertility drugs, and repeated disappointments, Burns, 32 and seven weeks pregnant, is afraid she’s about to lose what she and her husband have spent two years working and hoping for.

Dr. Silverberg, a reproductive endocrinologist in Austin, Texas, doesn’t answer as he inserts a vaginal ultrasound probe and examines the fuzzy images on the screen. Then he stops on what looks like a small gray peanut in a black bubble. “Well, you’ve got a baby with a heartbeat,” he announces triumphantly. “See the flutter?” Burns lifts her head to look at the tiny, quivering spot. Her husband, who’s standing next to her, How a fertility doctor fights the odds as he tries to help couples conceive Miracles

By Jeannie Ralston
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leans in and grabs her shoulder. They both begin to cry.

Dr. Silverberg assures Burns that brown spotting is fairly common in early pregnancy, and that once a heartbeat is detected and the pregnancy is seven weeks along, there’s only a 5 percent chance of miscarriage. Then he opens his arms and embraces her.

As Dr. Silverberg walks from the room, the 39-year-old father of three is beaming: “I’m so excited for them. They’ve been through a lot.” But then his assistant gives him sobering news. Neither of the frozen, in vitro-produced embryos that were being thawed for implantation in a patient has survived.

Dr. Silverberg stops in his tracks. “From a real high,” he says, “to a real low.”

That’s the nature of an infertility practice. The highs—helping a couple have a baby—are extraordinary; the lows—the continual frustration for those who can’t conceivably have children are devastating. More than 5.5 million couples in the U.S. experience infertility each year. But 88 percent of those who follow through with treatment will become pregnant, thanks to surgery that clears up problems in the reproductive tract, or fertility drugs, or in vitro fertilization (IVF), in which eggs are extracted and fertilized in a laboratory, then implanted into the uterus.

Clockwise from above: Dr. Silverberg studies a patient’s records. A technician works with eggs under a microscope to prepare them for in vitro fertilization. The doctor and a patient discuss X rays of her uterus and fallopian tubes, taken after she had surgery on her uterus

The 33-year-old patient is sitting on the examining bed with her shoulders slumped like wilted flowers. She has a 3-year-old son and has been trying to conceive again for 18 months (30 to 40 percent of Dr. Silverberg’s patients have secondary infertility, or trouble having another child). Dr. Silverberg has determined via ultrasound that she’s about to ovulate on her own. “So, you can have intercourse starting on Saturday and have sex every other day. Or you can come in and we’ll do an IUI [intrauterine insemination],” he says. “Intercourse is more fun, but you have a higher rate of pregnancy with IUI. You’ve got to decide if this is for business or pleasure.”

The woman frowns. “I guess I could schedule an IUI.” “Yeah, after a year and a half, I’d get more aggressive,” he says as he scribbles a note in her file. “Any questions?”

“Well, yes,” she says, exasperated. “It worked before—why wouldn’t it work again? You know, the mysteries of the universe.”

Much of what a fertility doctor does is deal with the mysteries of the universe. Creating a baby is not an exact science with predictable results. It is the most enigmatic, miraculous function of the body. As such, it involves a tremendous number of variables that can affect one woman to the next, one month to the next—especially as a woman grows older.

What doctors do know is that six things need to happen for a pregnancy to result: The male partner has to produce sperm; the ovaries must ovulate regularly; the fallopian tubes must not be blocked; the uterine cavity needs to be of a normal size and shape; the cervix must be able to open and make mucus (which protects sperm from the acidic environment in the vagina); and there can’t be pelvic scarring or endometriosis (when the uterine lining begins to grow outside of the uterus).

With most new patients, doctors begin a process of elimination to try to pinpoint the cause—or causes—of infertility. This might include a semen analysis, an ultrasound to look at the uterus, X rays to determine whether the tubes are open, and laparoscopic surgery (in which a tube with a camera on one end is inserted inside the body through a small incision, and surgical instruments are inserted through a second incision in order to cut away scar and endometrial tissue). Dr. Silverberg performs a laparoscopy on about 60 to 65 percent of his patients—in cases when he has reason to suspect pelvic scarring or endometriosis, or when other causes have been ruled out.

A major source of problems is ovulation dysfunction, which afflicts roughly 40 percent of infertility patients (see “Sources of Trouble,” page 133). “The good news is that it’s the easiest thing to fix because of drugs,” Dr. Silverberg says to a woman with irregular ovulation who’s in his office for a consultation. The mildest drug is called Clomid, which comes in pill form. It essentially signals the brain that there’s no estrogen, so the pituitary gland works harder to make more of the follicle-
Dr. Silverberg talks with a couple who’ve recently learned they’re pregnant through IVF (right). A woman who was treated for endometriosis waits for a checkup (below) stimulating hormone, increasing the chances of ovulation. (A follicle is a fluid-filled sack in the ovary that contains an egg.)

Fertile couples have a 20 percent chance of getting pregnant each month when they don’t use birth control; those who see fertility specialists for treatment have about a 1 to 3 percent chance on their own. Clomid ups their odds to between 8 and 12 percent. Roughly 95 percent of women who get pregnant on Clomid do so in the first six months, so if a patient hasn’t conceived in this time, many doctors, including Dr. Silverberg, recommend more aggressive drugs.

These drugs—Fertinex, Gonadotropin, and Follicle—have to be injected, and instead of causing the body to make more follicle-stimulating hormones, they are follicle-stimulating hormones. When a patient ovulates—often with more than one egg—Dr. Silverberg usually performs two IUIs (where weak sperm are weeded out of a semen sample and the healthiest are placed inside the uterus). The chance of getting pregnant each month on these drugs is 25 to 30 percent.

But this treatment has drawbacks. Side effects include mood swings and irritability. But the major concern is the risk of multiple births. “These are the drugs you read about in The National Enquirer: ‘Woman Delivers Neighborhood,’” Dr. Silverberg says to the couple he’s counseling. When they gasp, he explains that he’s not trying to scare them. “I just want you to know that we have to watch you very carefully.” This means monitoring a patient with ultrasound every three days during her cycle to see how many follicles are growing. If she’s producing too many too fast, he’ll reduce the dose. If the situation looks particularly ripe for a litter, he’ll cancel the cycle and the insemination.

Nationally, the rate of multiples is about 10 percent with Clomid and 25 percent with stronger drugs. Most are twins. The multiples rate for in vitro fertilization is between 35 and 38 percent. For in vitro patients, Dr. Silverberg will implant only two or three fertilized embryos in women under 40, and only four or five in women over 40 (usually only one or two embryos will survive). “Sometimes women will ask me to implant eight and I say, ‘No way.’ That’s when you get into big trouble,” he says.
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When did you ovulate?” Dr. Silverberg asks, as he looks intently at the ultrasound screen. The 42-year-old patient lying on the examining bed answers quickly: August 9th. “Are you sure?” She says she kept track carefully. She hasn’t been using drugs (otherwise Dr. Silverberg would know her ovulation date precisely). She’d been trying to get pregnant on her own after having polyps (growths on the uterine lining) removed. She’s supposed to be seven weeks pregnant, and there on the screen is the amniotic sac and the small squiggle of a fetus. But Dr. Silverberg doesn’t see the fetal heartbeat, usually visible at six and a half weeks.

On the screen, he measures the sack and the fetus. “Let’s see, the sack is small, and that makes me wonder about the dates. Everything lines up for a later conception.”

“So,” his patient ventures cautiously. “You don’t see a heartbeat?”

“Not at this point,” Dr. Silverberg answers. The woman, who’s had four miscarriages, lets out a whimper. “That doesn’t mean I’m throwing in the towel,” he continues calmly. “You could have miscalculated the dates. Or there could have been a delayed implantation. Or,” as a nurse turns on the light, “it could be a nonviable fetus.”

The woman has mascara smeared across her cheeks; beside her, her husband rubs his eyes. “This is not the news I want to give you, believe me. At this point, I’d say it’s fifty/fifty. Maybe forty-nine/fifty-one against you, given your history.” Dr. Silverberg asks her to come back in a week for an ultrasound. If they see a heartbeat, the dates were merely off; if they don’t, the pregnancy wasn't successful.

She groans when she hears she has to wait an entire week. The tears come harder. “I don’t know how I’ll do it,” she says through her weeping.

Tension and tears are ever present in a fertility doctor’s office. (In this case, the fetus was nonviable, and the woman underwent a dilation and curettage, followed by tests, to determine whether chromosomal abnormalities caused the miscarriage.) “You get a lot of crying when a cycle has failed and the couple has to come back,” Dr. Silverberg says, shaking his head in sympathy. Also frustrating: When a woman is ready to try another cycle of drugs, but the doctor calls it off because she’s developed a cyst. Cysts are formed by follicles that didn’t release an egg the previous month, and can reduce the chances of getting pregnant. They go away on their own during a drug-free cycle. “Here the woman is all ready emotionally for another round. She’s prepared to take time off from work. Then she has to wait,” he says.

The hardest cases for Dr. Silverberg are the five or six couples a month who are told that they should probably give up trying. “Some people will tear up and nod their heads and say, ‘I think you’re right.’ A few will go to another doctor,” he says. For those who insist on continuing, Dr. Silverberg recommends a different procedure, such as donor eggs (a treatment his office doesn’t yet offer), in which the eggs of another woman are fertilized with the patient’s husband’s sperm and implanted into the patient’s uterus.

Dr. Silverberg, who makes it a point to develop a close relationship with all of the couples he treats, suggests a psychologist when they have difficulty coping with the process. He doesn’t believe that stress prevents success (it can inhibit ovulation, but with drugs that isn’t a problem), but he sees how it can wreak havoc on a marriage. “Infertility can make a woman doubt herself. ‘Am I a real woman? Will I be a good mother?’ What horrible questions to have to ask,” he
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says. "And women have a lot of bitterness about the process. They’re the ones who are poked and prodded and undergo everything uncomfortable."

One of Dr. Silverberg’s nurses, Julie Anderson, sums up why treatment can be so emotionally volatile: "There are two things involved here—money and hormones—and they don’t mix." Indeed, couples who are using injectable drugs will shell out $1,600 to $1,800 a month; those undergoing in vitro will spend $8,000 to $12,000 per cycle. And many procedures are only covered partially—if at all—by insurance. In addition, the drugs can produce major mood swings that only exacerbate the tension.

THE 41-YEAR-OLD WOMAN IN A HOSPITAL gown and bonnet is lying on a table in a chilly operating room in Austin’s St. David’s Hospital with her knees strapped to metal stirrups. On her feet are white socks with red penguins. "I got these in New Zealand," she tells Dr. Silverberg, who’s in full surgical dress and sitting between her legs.

"Good. We’ve always had good luck with patients who wear socks from New Zealand," he jokes.

The embryologist enters the operating room, gingerly carrying a syringe. The woman’s husband, who has adult children, has had a vasectomy reversal. With his resulting low sperm count, in vitro offers them the best hope of a successful pregnancy.

Two days earlier, Dr. Silverberg had inserted an 18-inch needle into the top of the woman’s vagina and diagonally into her ovaries, and retrieved 12 mature eggs. The eggs were then taken to the hospital lab, and five hours later the embryologists selected the healthiest-looking sperm from her husband’s sample and injected one into each egg. This process is called intracytoplasmic sperm injection, and is reserved for women whose partners have very poor-quality sperm. (In regular in vitro procedures, 10,000 sperm are put in a petri dish with each egg and allowed to fertilize on their own.)

After the sperm were inserted, the eggs were put back into an incubator. Of the 12 eggs that Dr. Silverberg took from this woman, nine became fertilized—meaning the sperm and egg each formed a nucleus. Of those nine, only five became embryos, where the nuclei merged into one and the cells began dividing.

A syringe containing the five embryos is attached to a small catheter that Dr. Silverberg places carefully into the uterus. In 11 days, his patient will find out that her New Zealand socks did bring her good luck. Her pregnancy test is positive.

EACH YEAR, DR. SILVERBERG AND HIS TWO partners host a reunion of in vitro patients, where families gather to celebrate technological miracles. The party could not be mistaken for any other gathering: The courtyard of St. David’s Hospital is filled with twin and triplet strollers.

Clockwise from left: A technician holds a catheter that contains embryos, which in a few moments will be inserted into a patient’s uterus. On an ultrasound screen, a couple sees their twins’ heartbeats for the first time. Dr. Silverberg pulls a new patient’s file

Throughout the event, couples run up to Dr. Silverberg to show off the fruits of his labor. “I told Ryan all morning that he was going to meet his maker,” says Monica Chestnutt, as Dr. Silverberg tickles the bare feet of her 6-month-old. Another couple eagerly present their 10-month-old daughter, nicknamed “Popsicle” since she came from a frozen embryo.

“I look around and I think I have a charmed life to have even a small part of this,” Dr. Silverberg says as he surveys a group of jubilant parents and squirming babies posing for a photo. “We’re not heart surgeons. We don’t save lives. But what we do is pretty special. Look at all of them, with those big smiles on their faces.”

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