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Foreword

ONCE UPON A TIME, egg donation, sperm donation, and surrogacy were the stuff of science fiction. It was something that might happen in the far-off future when medical technology and societal mores evolved in ways that turned *The Handmaid's Tale* from novel to necessity. Fortunately, that dystopian world has not come to pass. Medical obstacles have been removed one by one, and today anyone who wants to be a parent can become one. Regardless of your sex, whether you are partnered or single, gay or straight, sexually active or asexual, becoming a parent is achievable.

Reproductive science has given us the ability to retrieve sperm and eggs, and to assess, fertilize, and successfully transfer an embryo. Surrogacy has changed the landscape of options for parents to be and has helped tens of thousands of people become parents. Assisted reproduction has changed the way we build our families, and as medical technology evolves, the odds of success will continue to improve.

That said, there are no guarantees, and there are many twists and turns on this path to parenthood. There are important questions you should ponder early on, and of course there are financial and legal considerations. But for those people who could not otherwise conceive, carry, or give birth to a child, the chance itself is incredible.

Before you embark on this journey, should you decide that it is the right path for you, it is imperative that you familiarize

yourself with all aspects of the process—from the types of doctors you'll be working with and the options you have to the challenges you'll face and the laws that might affect you and the family you are committing to building. To this end, Dr. Kim Bergman has written this book.

Kim is an expert on the historically groundbreaking topic of parenting by choice, especially within the LGBTQ and infertile communities. She knows the medical science, she understands the complexity of the laws, and her wise counsel helps people handle the unique situations that assisted reproduction presents. She is an acknowledged leader in the field, regularly writing, researching, teaching, and speaking about ethical family building in the United States and abroad.

I can't think of anyone better qualified than Kim to write this book, and I am delighted that she has done so. The information is accurate, sorely needed, and highly useful to anyone and everyone interested in building a family through assisted reproduction. Kim's unwavering commitment to helping people navigate what can be an uncertain and stressful process shines through in these pages. And her open and honest approach to the topic is just what the doctor ordered.

Mark Leondires, MD

Reproductive Medicine Associates of Connecticut
Incoming Chair, LGBTQ Special Interest Group, ASRM
Founder, Gay Parents To Be

Introduction

IF YOU PICKED up this book, chances are good that you are thinking about building a family. You've been dreaming about your baby, first smiles and first steps, family vacations and holidays spent together. Like any dream, you might need some help to fulfill it. Thanks to advancements in medical technology, assisted reproductive technologies (ART) can help make your dream a reality. In these pages, I will walk you through the essential aspects of assisted reproduction, review your options, and offer you guidance on what can seem like a daunting, complicated, and mysterious process. In addition to legal and financial considerations, there are psychological issues that must be handled with care. But while the journey is complex, with thoughtful planning, it is entirely doable.

In the chapters that follow I'll outline the essential pieces of the puzzle you'll need to assemble to build a family through assisted reproduction. I'll discuss not only the people you will need by your side to help you create a baby but also the professionals who will help you navigate the process. We'll cover the basic science of sperm, eggs, embryos, conception, pregnancy, and birth. I'll discuss how donors and surrogates are screened, and how to choose one, and share stories of people I have helped through the process. I hope to show you that it is not only possible but also highly probable that you can become a parent through assisted reproduction if it's the path you choose.

Despite the growth of fertility resources, surrogacy and egg donor agencies, and a steadily increasing level of media attention on alternative families, assisted reproduction remains mysterious to most people. I travel the world talking about this issue and I'm asked the same basic questions over and over:

- Where do we start?
- How do we find reputable experts to help us?
- What are the legal issues we might be faced with?
- How do we put the biological pieces together?
- How do we tell our story to family, friends, and our child?

This book is designed to answer these and other commonly asked questions. However, my primary goal is not just to provide the nuts and bolts of assisted reproduction but also to share the human element of the process. Throughout the book I include real stories about people becoming parents, including those moments when things have gone well, times when they haven't, and some of the poignant moments that people have experienced during the process. I hope to bring the scientific, medical, and legal information to life, helping you to be educated and encouraged while keeping your expectations realistic.

This book will provide an introduction—a primer on assisted reproduction. It's a foundation on which you can build through additional books and resources that I've included at the end of the book. I'll cite some research where I think it can put your mind at ease and give you some ideas for further reading, but this book is by no means a comprehensive review. I leave that to my academic colleagues. Instead, I have drawn on my years of experience helping build families.

I have been helping people become parents my entire career as a psychologist. For over twenty years, I have specialized in the areas of parenting by choice and assisted reproduction at Growing Generations, an agency dedicated to making assisted reproduction easier, safer, and more gratifying for everyone involved. I have worked with all types of families: gay and lesbian couples, heterosexual couples dealing with medical conditions, infertility, and/or an inability to carry a child to term, single people who want to have a child, and even HIV-positive individuals.

I have written this book to help anyone who is contemplating having a baby with the help of others. It's also for family members, friends, employers, neighbors, and anyone else who knows someone who is either contemplating or building a family through third-party assisted reproduction. In particular, grandparents, aunts, and uncles will find this book useful as it both explains the basic process and helps one talk about it with other people.

Society has made great strides in overcoming bigotry, especially recently, but confusion and ignorance still breed hatred. The vast majority of the world's population is confused by or ignorant about alternative methods of procreation. This can lead to misunderstanding and judgment, which can affect how policies and legislation dealing with assisted reproduction are created. Creating families through ART is beautiful and healthy. It is about love, collaboration, and a desire to raise a child.

I love being a mom. It's the one thing that I always knew I wanted. I was one of those little girls who played with baby dolls, naming them and planning their futures, and even their children's futures. When I met and fell in love with my wife, Natalie, my wish to be a mother didn't go away, even though I knew there was never going to be a man in the picture. I always

knew that I would be able to fulfill my dream of becoming a mommy. Thanks to a sperm donor, my wish came true.

When my daughters, Abby and Jenna, were born, it was rare for lesbians to have a baby. My kids are, essentially, the first generation of children born to LGBTQ parents. Natalie and I were in the vanguard. We learned a lot along the way. As a licensed psychologist, I realized what an advantage I had because I understood the importance of open, honest communication, support, trust, and flexibility, and it is this understanding that I bring to my work and that I offer to you in these pages.

Are You Ready?

If you've been thinking about becoming a parent, reading this book could flip a switch that pushes you forward toward your goal. I'll warn you now: once that switch is flipped, there's no going back. When Natalie and I had our first conversation about possibly starting the process of donor insemination and becoming parents, the switch flipped and we were in. Period. End of discussion. From that moment on, nothing was going to stop us.

When our first insemination attempt didn't take, we tried again. And when that didn't work, we tried again. And then we switched donors, thinking maybe different sperm would help. And when that didn't work, we tried again. And again. And then we switched donors again. We kept at it until finally, at last, I got pregnant with Abby. But never did we doubt that I would get pregnant and that we would be parents. We had decided that no matter what, we were going to be parents.

I see this same "flipping of the switch" all the time. A person or a couple will come to me for an initial consultation and

say, “We’re just looking into this, we’re not ready right now, but maybe in a year or two we will be. At the moment, we’re just gathering information.” Then I’ll get a call a week later because the switch flipped and all systems are go. The urgency kicks in full force, as something that previously felt unattainable now feels within reach. The possibility of parenthood becomes a reality.

You Can Build a Family, No Matter What

There is nothing more rewarding than building a family, and these days almost anyone can do so. The barriers that existed as few as ten or twenty years ago no longer stand in your way. If you are truly committed and you are willing to be patient, your wish can come true.

I must warn you, however, that having a baby through assisted reproduction is a marathon, not a sprint. You’ve got twenty-six miles to run, and no two miles are the same. And the marathon starts long before you start the race. You’ve got a whole lot of planning, training, and commitment ahead of time. You have to keep your eyes on the finish line even when things are really tough. Some miles are easy, others are excruciating, some are euphoric, and some are boring. That’s exactly how having a baby through assisted reproduction feels. You plan, you put the pieces together, and you learn all you can about the process. There is a lot of waiting, anticipating, excitement, and sometimes disappointment. It proceeds in fits and starts, and sometimes you wonder if you’ll ever see the finish line. But then, when you finally get there, it’s the greatest thing ever. So, if you think you might be ready to take the first step, read on.

Note:

Assisted reproductive technology (ART) is by definition assisted. That means other people are involved in the process of conceiving a child. Before delving into the particulars of the medical options and procedures, and the various pieces you will need to put in place, it's important to determine if building a family this way is the right path for you.

Different readers of this book will be in very different places emotionally and psychologically. If you've tried to conceive a child naturally and haven't had success, it's likely you're feeling some grief about that fact. For you, exploring assisted reproduction may feel as if you've failed at something everyone else can do without much trouble. You may feel as if something is deeply and inherently wrong with you, and now you must take this unusual path to become a parent. When you understand that to realize your dream of parenthood you might have to give something up—one or even both of your genetic contributions, and/or the ability to carry and give birth to your baby—the emotional and psychological impact is undeniable. Why me? You might ask. While I can't answer that question, I can tell you that your feelings are totally valid. And after twenty years of experience helping prospective parents through third-party assisted reproduction, I know that if you truly want to become a parent and you choose assisted reproduction, you will eventually come to embrace it.

There are many, many people who have a child in a nontraditional way, but if you think there is something wrong with or shameful about having a child through assisted reproduction, then you shouldn't do it. A shred of doubt or uneasiness can grow. You are using exceptional means to bring a life into the world, and you need to be completely sure where you stand. Otherwise your choices can affect your ability to parent, your

relationship with your child, and your relationship with your partner if you have one. If you feel embarrassed, or if you have moral or ethical concerns, then it is important to sort those out before you begin. Sometimes just a few conversations with a mental health professional can really help. Often, just talking through all of your feelings, understanding where they come from and having the opportunity to express and process your grief, can help you work through your feelings and then make a powerful choice. If after all of these conversations and research you are still uncomfortable with enlisting the help of others to have your family, you should choose a different option. There are many children in the world in need of loving parents, and fostering and adoption are wonderful ways to build a family.

Getting Started

MARCY AND ERIC had been trying to have a baby for several years with no luck. They'd been to many specialists and they'd tried everything their doctor suggested, without success. When their doctor finally suggested they explore surrogacy, rather than feeling excitement, they felt sad, ashamed, and hopeless. It was another six months before they called me and asked to talk about surrogacy. I met with them on and off for another six months while we explored their feelings of sadness and loss. Marcy especially needed to dig deep to uncover how she was feeling and to grapple with her excitement about being a mom in the context of what she would have to give up to get there. They eventually decided to proceed, and their surrogate, Annie, got pregnant on the first try. The pregnancy and delivery went smoothly, and Annie delivered a healthy baby girl. Still, every step of their process was fraught with sadness, loss, and regret. Until their baby was in their arms. From that moment on, they focused completely on the joy of raising their daughter. In an instant, the sorrow of their past was a distant memory.

Like Marcy and Eric, you may have some big emotional hurdles to overcome before you begin the process.¹ But with

the support of professionals, family, and friends, and by staying focused on the outcome—your future family—you will get there.

Sometimes couples embrace the idea of getting help from the start, once they realize it is the only viable option, and even enjoy the process. For others, picking up this book is exciting and joyful, because you are setting a plan in motion to realize your dream of becoming a parent. Regardless of where you are emotionally, there is no shame about needing assistance, no sense of failing at something, but rather a sense of hope and possibility.

Being aware of where you're at emotionally, spiritually, and financially is an important first step in the process, and I encourage you to take a moment to check in with yourself and your partner if you have one. This is one of the most important decisions one can make, and the more facts you have about the process, and the more in tune you are with how you feel about your options, the easier it will be to make the decision that's right for you and your family.

The (Potential) Puzzle Pieces

There are four key players in your assisted reproduction journey:

- A medical specialist, your reproductive endocrinologist
- A reproductive attorney
- A mental health professional specializing in fertility and ART
- A fertility insurance expert

While some hopeful parents choose to go it alone, or go it partially alone (enlisting the help of a few but not all of these people), I would advise against that. For a life decision as major

as this one, you'll want all the support you can get. And it's very likely that at some point you will need—yes, need—these experts to guide you through the legal, medical, and psychological aspects of third-party assisted reproduction. With that strongly worded advice out there, let's dive into how these four professionals can help you on your journey.

A Medical Specialist

Assisted reproduction can help you conceive a baby using your own sperm, eggs, and womb, with the fertilization process managed and guided by a reproductive endocrinologist, a highly specialized medical doctor. Reproductive endocrinologists are trained and certified as an obstetrician/gynecologist (OB/GYN) and then as a specialist in reproductive endocrinology, which is the science of reproduction. These are the doctors that help people get pregnant.

Fact: The American Society for Reproductive Medicine (ASRM) is a hub for reproductive endocrinologists and all other professionals in the field of ART and is a great resource for hopeful parents. An especially helpful tool is their collection of statistics online about how likely each reproductive endocrinologist is to help their patient get pregnant.

Reproductive endocrinologists are highly trained medical professionals. That said, just like any doctor, they have different personalities, different bedside manners, and different ways of working with patients. It's imperative that you find one you're comfortable with because this is a very intimate and emotional

process. To this end, most are willing to have an initial consultation to go over their protocols, to talk about their statistics, and to discuss their overall approach. Before you commit to working with a specific doctor, it is wise to take advantage of this. If you can talk to a few former patients as well, even better.

When you visit a reproductive endocrinologist, you should expect a head-to-toe analysis of you and your partner. One important element of this will be blood work with the intended mother to look at hormone levels and similar issues that may be preventing pregnancy, and sperm analysis with the intended father to check for problems there. Often, after this assessment, the doctor will offer advice about timing sexual intercourse to maximize the potential for pregnancy and may suggest lifestyle changes to increase the odds of pregnancy, such as eating better, reducing stress, etc. If the intended mother's lab work indicates a need, she may be put on some type of fertility drug.

Often, this is enough to help a couple to get pregnant. When it's not, the likely next steps are insemination or IVF, or in vitro fertilization. With insemination, the doctor puts the intended father's sperm into the intended mother via catheter, in the ideal spot at the ideal time, to see if nature will take it from there. With IVF, eggs are removed from the intended mother, fertilized in a lab using the intended father's sperm, and nurtured to the embryo stage. Then the embryo is transferred back into the intended mother. I will discuss these processes in detail a bit later.

A reproductive endocrinologist can help you figure out why you can't get pregnant and what to do about it. Most of the time, some combination of timing, lifestyle, fertility drugs, insemination, and IVF results in pregnancy. If these options fail repeatedly, the doctor may suggest third-party assisted reproduction, which involves contributions from one or more third parties,

like a sperm donor, an egg donor, or a gestational surrogate. The more people involved in your process of conceiving, carrying, and having your baby, the more complicated that process becomes. This is when other pieces—a lawyer, a mental health professional, insurance, financing, sperm donor, egg donor, and/or a surrogate—are essential to complete the puzzle. In these cases, you need to enlist the services of a lawyer and a psychologist, or an assisted reproduction agency, which will provide you with the legal, psychological, and medical expertise you need.

A Reproductive Attorney

If you need an egg donor or a surrogate, you need the services of a lawyer who specializes in reproductive law.

With egg donors and surrogates, there are specialized, incredibly detailed contracts. These contracts are designed to cover every aspect and potential aspect of the process, and to protect your rights as the intended parent. You need a good lawyer to make sure the contracts are meticulous and handled correctly. And that attorney needs to be a highly trained and experienced expert—so kindly decline your tax attorney uncle’s offers to save you money and do the legal work for you for free.

If you’re using a surrogate, your lawyer will help you make sure your surrogate lives in a surrogacy-friendly state—a state where surrogacy is legal and your rights as an intended parent are protected by statutes and case law. There are states where surrogacy is not legalized and your rights are not protected, and the consequences of attempting surrogacy in one of those states can be dire. This issue is discussed more fully later in the book, but it’s worth mentioning here, too.

Your lawyer will also help you do whatever is necessary to establish your parental rights. If you’re a same-sex couple, for

instance, you may need to jump through a few extra hoops to make sure that both of you are the legal parents of your child. (This can be true even in some surrogacy-friendly states.) And, once again, different states have different laws and requirements, so you need a specialist lawyer to guide you and make sure that everything is planned ahead of time and done by the book.

Do not skimp on this part of the process. You will not be able to navigate this nuanced legal process on your own, and failing to get everything done correctly right from the start can be disastrous. I've listed useful information about lawyers who do this work in the Resources section.

A Mental Health Professional

Having the support of a mental health professional specializing in fertility and ART to help you through the process is not just a luxury; it is essential. As I mentioned earlier, you may be grieving the loss of the picture you had in your mind of how your family would come to be. A qualified mental health professional can help you work through your feelings and make the best choice for moving forward. He or she can help you navigate the unique relationship and feelings that may come up throughout the process of assisted reproduction, especially when third parties are involved.

Should you use a surrogate, your relationship with her will be unlike any you have ever had—it will involve a very strange intimacy with someone who may start out as a total stranger, or may be someone you already have a very different kind of relationship with. A psychologist will help you know what to anticipate as the relationship unfolds. A mental health professional will also screen all the parties involved to ensure transparency and lay the groundwork so that the process is set up for

success. He or she will help educate all parties and set realistic expectations.

An agency that specializes in assisted reproduction will provide you with this service, but if you think you might go about it on your own, be sure to seek a qualified, experienced mental health provider. The ASRM can help you find an expert in this field.

A Fertility Insurance Expert

Assisted reproduction requires many types of insurance as you move through the process. If you're using your own sperm, eggs, and womb, your insurance may or may not help you get pregnant. If you're serious about beginning the process, one of the first phone calls you make should be to your insurance company to find out exactly what your coverage is. Some insurance companies will cover only part of your fertility treatments. Once you get pregnant, your insurance should cover you because it's your own pregnancy, but it's good to find out ahead of time just what your insurance covers.

If you need a third-party participant, especially if you need a surrogate, insurance gets considerably more complicated and expensive. First and foremost, you need specialized insurance that covers a surrogate pregnancy, or, at the very least, you need to make sure your surrogate has insurance that covers a surrogate pregnancy. Sometimes it will, but usually not. You also need special insurance that covers both the egg donor and the surrogate in the event of medical complications they might experience as they are going through the process. There are insurance agencies that specialize in this type of work, and I have listed them in the Resources section. Insurance costs can vary greatly. For example, cycle insurance, which covers egg donors and surrogates, is just

a few hundred dollars, while pregnancy care insurance can range from \$15,000 (if you are able to use the surrogate's own insurance, as you will pay her premium, deductible, and copays) to \$30,000 if you need to buy the specialized surrogacy insurance.

Fact: Make sure your cycle and prenatal care insurance is in place *before* your surrogate becomes pregnant, as pregnancy is considered a preexisting condition, and the pregnancy and delivery can be very expensive without insurance.

Financing

Assisted reproduction, with or without third-party involvement, is very expensive. If you're working with a reproductive endocrinologist and attempting IVF, you can expect to spend upwards of \$15,000 to \$20,000 per cycle. If you need an egg donor as part of that process, the cost rises by around \$50,000. If you need a surrogate, you're looking at another \$120,000. Looking at the most expensive option—assisted reproduction with an egg donor and surrogate—it's likely that your total bill could be between \$150,000 and \$250,000 for one child. And most of that is out of pocket.

One of the variables that accounts for the range in cost is how many pregnancy attempts you need. Each additional embryo transfers costs around \$20,000—for the medical bill, medication, and surrogate's travel to the clinic. When using an embryo created with an egg donor (so they have been tested and are healthy), surrogates are pregnant on the first try about 70 percent of the time, with the other 30 percent needing one or two more tries. Ninety-nine percent of surrogates will be

pregnant within three tries. So most of the time intended parents will not have to pay for more than one embryo transfer. Still, the process is very expensive.

This should not be surprising when you think about everyone involved in the process. First, you've got a group of highly specialized professionals, and they get paid accordingly. Then you have people who contribute the biological requirements, and they too must be compensated. All the pieces of the puzzle come with a cost, and those costs are significant. It's also important to weigh the emotional cost of spending so much money on something that is not a sure thing. Is it worth going into debt to attempt to have a baby this way with no guarantee? Luckily, some surrogacy agencies are now offering guaranteed programs—there is no avoiding that you'll spend a lot of money, but they will stick with you until you have a baby. Still, the stress and pressure of the expense is worth exploring before you begin.

There are a few companies that will help you with the expenses by financing parts of the process, and there are also organizations that provide grants and scholarships. Lastly, almost every professional I know working in this field does at least a small amount of pro bono or sliding scale work, so you can always inquire about that. There are some options to help you manage the financial costs, but there is no denying that they are significant.

Assisted Reproduction Agencies

As you've no doubt come to realize, there are a lot of moving parts in building a family with assistance. At times, it can feel like you're herding kittens. It takes a lot of time and effort to

line everything up properly and manage the process. If you enjoy herding kittens (and some people do), you can find the necessary professionals and manage the process yourself. Just make sure that you cover all the aspects I've discussed.

If the thought of herding kittens gives you hives, you can hire an agency to manage the process for you. Agency fees are typically between \$20,000 and \$40,000 (and they are included in the total cost that I mentioned above). That may seem expensive, but with an agency by your side, you have someone who's been through the process many times, who works with a knowledgeable and experienced group of professionals that provides thorough screenings for egg donors and surrogates before recommending them, and that knows how to handle whatever problems may arise. Wherever you are in your process, a good agency is always willing to have an initial conversation about what you need, what they provide, and what it will cost. And this initial conversation should be free. At the very least, this conversation can help educate you about the process.

Hiring an assisted reproduction agency is similar to hiring a contractor to build a house. When you decide to build a new home, you may want to work with an expert who can help you hire the best subcontractors and who knows the potential pitfalls you might face and how to best overcome them. Think about all the things involved: the architect, the cement company, the builder, the plumber, the electrician, the roofer, and the painter, plus all the permits and inspections required—not to mention all the snags you might encounter along the way. All of these things go into building a house. The only difference is who organizes and supervises the work. Just as you're not likely to know or understand all of the legal and logistical nuances in building a house, you are not likely, without assistance, to know

or understand the legal and logistical nuances of third-party assisted reproduction. In addition, working with an agency will provide you with a type of advocate—someone you can turn to who will not only help you with the logistics and details that this process will entail but will also provide support, confidence, and a safety net as you go through the journey.

Now that we've laid the foundation, we can move on to the science of making a baby through assisted reproduction—the biological piece of the puzzle you need to create your future family. So here comes the good stuff.

Sperm

IN THE NEXT few chapters, I'll be doing a little refresher on your middle school sex education. (Who's in for a reprise of *The Miracle of Life?* Anyone?) We'll be going through the basics of male and female anatomy of the reproductive tracts, as well as introducing some of the key scientific terms used by assisted reproduction professionals. You may think you remember all this going in, but many (maybe even most) of my clients are missing some big facts in this area. Understanding what success looks like, and the myriad ways we can get there, is so important. So let's make sure we're all on the same page from the get-go.

The Basic Science of Sperm

Generally speaking, to make a baby we need three things—a male gamete (sperm), a female gamete (egg), and a uterus (womb) for the baby to grow in. In this chapter, I will primarily discuss the male gamete: sperm. I'll focus on eggs and the womb in chapters three and four.

First a bit of reproductive background: When a sperm and egg come together, the sperm penetrates the outer layer of the egg, fertilizing it. The fertilized egg is called a zygote

until it begins to divide. After cell division begins, we call it an embryo. Within a few days of fertilization, the embryo implants in the womb, from which it draws nourishment. In the ninth week, give or take a few days, when the embryo has developed to a certain point, we refer to it as a fetus. As the fetus grows it looks more and more like a baby, both inside and out, until eventually, somewhere around the nine month mark, a baby is born.

So sperm are important if you want to have a baby. Without sperm, an egg cannot be fertilized and a baby cannot be born.

Fact: Although women stop releasing eggs after menopause, men can produce and release sperm from puberty to death. This means that men have a much longer period of fertility than women do.

The process of generating and delivering sperm is relatively straightforward. Essentially, when puberty kicks in, a man's testicles (also known as testes) start producing sperm. At the same time, a pair of nearby glands—the seminal vesicle and the prostate—creates milky secretions that nurture and promote survival of the sperm. The combination of sperm and milky fluid that men ejaculate during orgasm (and slightly before and after orgasm) is known as semen. Typically, when men ejaculate, they release anywhere from 100 million to 200 million sperm.

Sperm are the smallest cells in the human body, approximately 1/100,000th of an inch in diameter. When viewed under a microscope, sperm look like tiny tadpoles, with a rounded head, a small midsection, and a long tail. The rounded head contains the man's genetic contribution to a future child (the man's chromosomes). The midsection holds fuel for the

tail. The tail propels the cell through both the male and female reproductive tracts, helped along by muscle contractions within those regions. The head of the sperm is tipped by a thin layer of enzymes that break down the outer wall of a woman's egg, thereby allowing the sperm to penetrate and deliver its genetic payload. This layer of enzymes is called the acrosome.

When a baby is conceived through heterosexual intercourse, the man inserts his penis into a woman's vagina until he ejaculates. At that point, the man's sperm are still several inches away from the woman's egg. This is where the tail gets really busy, pushing the sperm upward in the woman from her cervix to her fallopian tubes. It's a long journey, and typically only a few hundred sperm ever get anywhere near the woman's egg.

If and when a sperm does reach the egg, the acrosome releases the enzymes that break the egg's shell, and the head of the sperm enters, leaving its midsection and tail behind. (The egg is only interested in the genetic portion of the sperm.) Once the sperm is in, the egg automatically creates an impermeable outer shield that repels all other sperm. And now we have a zygote—a fertilized egg that might, if we are lucky, grow into an embryo, and then a fetus, and then a baby.

Sperm and Potential Problems

There are all sorts of things that can go wrong with the spermatozoic portion of the baby-making process. First, there might be a problem with the sperm itself. Second, there might not be a man to provide the needed sperm. Third, once in a great while, often inexplicably, a man's perfectly healthy sperm and a woman's perfectly healthy egg just aren't compatible. So, no matter how hard they try, they just can't seem to make a baby.

The first of these issues, male infertility, arises for any number of reasons. Blockage of sperm ducts (usually the result of an STD or a vasectomy) is a relatively common cause. Another common cause is a varicocele, a collection of dilated veins near the testes that increases the region's temperature, thereby hindering the production of healthy sperm. (To produce healthy sperm, the temperature in the scrotum must be lower than the rest of the body.) Certain drugs and chemicals in the environment can also inhibit the production of healthy sperm, as can hormonal issues. And some men, for a variety of reasons, produce antibodies that destroy or incapacitate their sperm. There's a lot that can go wrong.

When couples are trying to conceive without success, the easiest variable to test is sperm. Standard sperm analyses, measuring sperm count, motility, and morphology (form and structure), have been around for many decades. Early on, sperm were analyzed under a microscope. Nowadays, the analysis is computer assisted and more accurate. Obvious problems like lack of sperm, poor swimmers, and deformed sperm are easily detected, but other issues are much harder to spot.

Some of these issues can be corrected via surgery or medications, while others cannot. But even the ones that can't be fixed with surgery or medication can usually be worked around. For instance, poor swimmers can be dealt with through in vitro fertilization (IVF), where an egg and a semen sample are placed in contact in a petri dish. So instead of the man's microscopically tiny and swim-challenged spermatozoa having to travel several inches inside a woman's reproductive tract to find the egg, they're placed at the vestibule, meaning all they must do is knock on the door and wriggle inside. And if that doesn't work, a single sperm can be captured and injected directly into an egg through a process known as intracytoplasmic sperm injection

(ICSI). IVF and ICSI also work well when low sperm count or sperm antibodies cause male infertility, as long as the morphology results are normal.

Even the blockage of sperm ducts can be overcome with testicular sperm extraction (TESE) or testicular sperm aspiration (TESA). Both processes are simple, safe, economical, and relatively painless. With TESE and TESA, sperm is pulled directly from the testes or a sperm duct using a very thin needle. Then, using the extracted sperm, an egg can be fertilized via IVF or ICSI.

Amazingly, even HIV-positive men can generate usable sperm, made safe through a “sperm washing” process. Since HIV pathogens live outside the sperm, not within it, a sperm sample can be chemically washed, removing the HIV pathogens. Once cleaned, the sperm can be used to fertilize an egg via IVF or ICSI, with virtually no risk of HIV to the woman who is going to carry the baby. Quite frankly, this process is amazing, and the pioneering work that I have had the honor to be a part of in this regard is, without doubt, one of the things I am most proud of.

One of my clients, Mark, created embryos with the help of an egg donor and was getting ready to transfer them into his surrogate. The week before the transfer, Mark tested HIV positive. He called me, devastated, thinking that he could never become a father. He didn't know that some forward-thinking doctors had developed a method that makes it safe for HIV-positive men to have their own genetic children. In fact, heterosexual couples had been safely using this procedure for a couple of years. It made total sense to use the sperm washing method with HIV-positive gay men, too. Mark couldn't use the embryos he'd created before his HIV positive diagnosis, but with sperm washing he was able to create new embryos using his own

sperm. Mark's baby girl was born two years after he found out he was HIV positive. His HIV status delayed the process, to ensure everything was completely safe for the surrogate and the baby, but he was still able to have his own genetic child.

Not all women are comfortable helping an HIV-positive man become a father, even when they understand and agree that the process is safe for them and the baby. And that's okay. There are plenty of women willing to do it. At Growing Generations, we've helped bring over one hundred babies into the world using sperm from dads who happen to be HIV positive.

Sperm Donation

Unfortunately, even though there are some amazing techniques available, sometimes a particular man's sperm just doesn't get the job done. Or, as mentioned above, there is not a man to provide the needed sperm. In these situations, sperm donation is a viable and available option.

Sperm can be donated directly—from a known donor to a known recipient—or through a sperm bank—where the donor is anonymous. Intended mothers are inseminated with donated sperm and fertilization can take place. The procedure usually happens in the doctor's office. Essentially, the reproductive endocrinologist injects the donated sperm into the woman's reproductive tract using a catheter, and then nature takes its course. In more complicated situations, eggs can be removed from the intended mother or an egg donor, fertilized via IVF or ICSI, and then transferred into the intended mother or a surrogate.

A Bit of History

The basic donor insemination process has been around for quite a while. In fact, the first reported instance of sperm donation and assisted insemination occurred in 1884 when Professor William Pancoast of Philadelphia's Jefferson Medical College inseminated the wife of a sterile merchant using sperm from one of his students. Unfortunately, this procedure was done in front of Dr. Pancoast's class without the woman's or even her husband's knowledge and consent.

It seems that Dr. Pancoast had been treating the couple for infertility for several months, eventually concluding that the issue was low sperm count in the husband. So he invited the wife in for yet another examination, chloroformed her, and had his class vote on which student was best-looking. That student then provided Dr. Pancoast a sperm sample, and nine months later the woman gave birth to a healthy baby boy. The incident was not reported publicly until 1909, twenty-five years after the fact, when the handsome student, now a doctor in his own right, published a confessional letter in a well-known medical journal.²

Super creepy, right? And not how we do things today.

As the 1900s progressed, doctors began to perform private donor inseminations relatively regularly. But they kept the practice quiet. Typically, they kept no records of these procedures so that donors (usually the doctors themselves, or members of their staff) could not be sued for child support. By the 1950s

the situation had changed significantly. Doctors were performing the procedure openly, typically using frozen sperm samples, and the process was written about in numerous medical journals. Today, sperm donation is common.

Most sperm donors are college students. In fact, sperm banks are often located on or very near college campuses. For instance, there are sperm banks in Westwood (UCLA), Berkeley (UC Berkeley), Palo Alto (Stanford), and Cambridge (Harvard and MIT). Sometimes a sperm bank will have collection facilities at multiple universities. Usually they recruit with advertisements in campus publications such as, “Sperm donors needed to help infertile couples have babies. Compensated for your time.”

Typically, sperm donors are not thinking at all about being parents. They just want to make a few quick bucks (anywhere from a few hundred to a few thousand dollars for a series of donations, depending on how many donations are made). Sure, there might be a little bit of altruism in some cases, but usually a sperm donor is just a young man looking for a bit of easy money, no strings attached. By donating to a sperm bank or doctor’s office, the donor legally gives up any rights or responsibilities to any future offspring conceived using his sperm. If a donor makes a direct deposit (not through a bank or doctor’s office) such as with a known donor, no such legal protections exist and the parents need to consult a reproductive attorney to have a contract with the donor stipulating his rights, responsibilities, and roles—or lack thereof.

The process of donating sperm is straightforward. The donor goes into a room with a sterile collection cup. Usually

the sperm bank has placed porn in the room, either magazines or a laptop with videos. Then the donor does his thing, seals the collection cup, and turns it over to a staff member. It's all very sexy and glamorous.

If a donor doesn't want to handle things manually, some facilities have a machine called a sperm extractor. Sperm extractors are, well, hilarious. Basically, they're machines that give sperm donors (or whoever else is interested) an electronic hand job—with adjustable height, temperature, and pull frequency to make the experience more enjoyable. There is even a small video screen to help users get in the mood.

The Screening Process

Initial screening for sperm donors is pretty straightforward. The sperm bank first collects basic information about the man, like his height, weight, and level of education. Then the donor fills out a brief questionnaire asking about his personal and family history, including whether there is a history of cancer, depression, bipolar disorder, or other conditions among family members. Then there is a blood test to check for HIV, STDs, and other obvious medical issues. The sperm is also analyzed for sperm count, motility, and morphology.

In addition to sperm and blood testing, some sperm banks do psychological testing, such as a basic personality test. Sometimes they even obtain verified SAT scores, as intelligence is important to many people in the market for sperm. A reputable and well-established sperm bank will go beyond the basic screening and carry out these additional tests. The purpose of all this testing is twofold: to ensure the sperm is as healthy as possible from a medical standpoint so it is most likely to lead to

a healthy baby, and to provide as much information about the donor to the intended parents as possible so they can make an informed choice.

Choosing a sperm donor is a very personal process. For some couples, matching the characteristics of the parent whose genetics are not in the mix is the most important thing. For others, avoiding certain characteristics takes precedence. Hair and eye color, height, ethnicity, education, hobbies, interests, and character traits are all factors to be considered.

Parents can pick up the sperm from the bank and literally drive it over to the fertility doctor (it comes frozen in a tiny vial in a large nitrogen tank that keeps it cold), or it can be shipped directly to the doctor's office. Some daring parents have done home inseminations, but this is definitely not something you should do if you don't have the medical expertise. Once the sperm is at the doctor's office, the doctor will thaw it out and inject the sperm via catheter into the mom's reproductive tract around the time that she is ovulating. With unprotected intercourse each cycle has a 25 percent chance of resulting in pregnancy when everything is working perfectly, so it's normal for insemination to take a few months to be successful. If it doesn't work the first time, you can try again the next month. There are pretty sophisticated ovulation tests, and many doctors will also use an ultrasound to check the timing. If you've tried insemination for months and it hasn't resulted in a pregnancy, your doctor might recommend adding fertility drugs to increase egg development and release. If that doesn't work, the doctor will likely recommend IVF or ICSI, which are discussed in detail in the next chapters. Sperm is prepared differently before it is frozen for insemination versus IVE, so you'll want to make sure you purchase the right formula. Your doctor and sperm bank will help with this.

Fact: Urban legend has it that male sperm swim faster, but female sperm are sturdier. So the timing of insemination can impact the sex of the baby. Inseminating right before ovulation is rumored to be more likely to result in a male baby, as the fastest swimmers will arrive first and fertilize the egg. For a girl, inseminating two or three days before ovulation may mean the sturdier female swimmers are still around when the egg is finally released. That said, nature often has other plans. And this is just legend, after all.

If you're using donated sperm, one important choice you must make is whether to use a known sperm donor (usually a friend or relative of the nonbiological parent) or an anonymous donor (usually found through a sperm bank). Both options have pros and cons.

One clear advantage with a known sperm donor is that you and your child will never have to wonder about their genetics. When your child asks, "Why do I have red hair?" you can point to your redheaded sperm donor friend and say, "You got that from him." Conversely, if you use an anonymous donor, and your child asks what their sperm donor was like and if they look like him, or if they have similar interests and personalities, you won't be able to answer in much detail.

A clear advantage of using an anonymous donor through a sperm bank is that you will not have the complication of someone you know wanting a role in your child's life that wasn't what you intended.

However, it's also important that you consider how your future child will feel about having access or not having access to

their genetic contributors. While love makes a family, genetic links cannot be ignored. Some people now feel that using anonymous donors is unfair to the child, as they will not know half of their genetic makeup. Because of this, some professionals and agencies are moving more and more toward recommending open identity donors.

Whatever you decide, you need to thoroughly consider both options because you're going to have to explain the whole process to your child and possibly to a lot of other people—family members, friends, and even nosy neighbors who can't seem to stop themselves from asking well-intentioned but intrusive questions. So, when deciding between a known versus anonymous donor, consider the following:

- How am I going to manage other people's curiosity?
- What answers would I prefer to give?
- How do I want my child to see things as he or she grows up?
- Is it important to me that my child knows his or her donor?
- Will it be important to my child to know their donor? And is it fair for me to make that decision on their behalf?
- How will I feel if I can't provide my child with information about his or her donor?
- What will I do if my child wants to meet their donor?
- Do I have a man in my life who would be a good donor and who has the same expectations about the process as I do?

- What if my known donor wants more involvement than I want him to have? How will I navigate that?

If you use a known donor, such as a friend, sibling, or cousin, and he stays in your life, he may struggle with the idea that he is only a biological contributor and not the father. In fact, it's a rare individual who can be a known donor and not feel, at least a little bit, like a parent. And if the donor occasionally oversteps your healthy boundaries by inserting himself as a parent, it can be confusing to your child.

Regardless of whether your donor is known or anonymous, rest assured that you and your partner are the parents. Even if your sperm donor is a friend who remains in your child's life, you can reinforce that you are the parents. When explaining this to your child, you can say something like, "We wanted you very much, but we needed a part from a man that we didn't have to make that happen. Joe, who is a very good friend of ours and wanted to help us, gave us some of his sperm. And now we have you." You just need to make it crystal clear to your child, right from the start, that your donor is a donor and not a parent. He didn't give you his sperm because he wanted to become a parent; he did it so you could have a baby that you really, really wanted. Of course, if you did decide at the beginning that Joe will be a co-parent, then that's the truth that you relay to your child.

If you're truthful and clear from the start, your child will not be confused. And you will instill a sense of confidence and security in your child as you affirm your family. It is imperative to have clear conversations with all parties to set up expectations in advance. To this end, a mental health professional can be very helpful. If you are using a known donor, you will also need the help of a reproductive attorney, as you'll need a contract that will spell out everyone's expectations very clearly.

Sometimes people don't want to share the fact that they've used a donor. If you simply keep quiet, your family, friends, and pesky neighbors may assume you got pregnant the old-fashioned way. And your child will assume that too unless he or she is told the truth. However, I always vote for telling the truth, at least with your child. Research regarding sperm donation and disclosure to your child informs us that openness and honesty result in the best outcomes for kids. Uniformly telling the truth produces the healthiest kids. Even in situations where you can pass, it is my strong professional belief that it's better to go with the truth. And the sooner you start telling the truth, the better off you and your child will be.³

If you're a male couple, your sperm-related issues are primarily focused on which partner should provide the sperm. After all, only one man can be the biological contributor to one egg. Similarly, if you are a female couple, you'll be deciding which of you will be inseminated. Admittedly, technology is changing rapidly, and at some point gene splicing may progress to the point where DNA from two men could be combined and used to fertilize one egg, or DNA from two women could be spliced and then fertilized by one sperm. But for now this is not an option.

Sometimes the choice of whose sperm to use is an easy one—one of you may really want to use yours and the other doesn't care. Or maybe there is a family history of health issues, addiction, or mental illness on one side so you use the other. It is also possible to take sperm samples from both partners, mixing the semen together so you and your partner each have an equal chance of being the biological father. However, doctors typically don't like this approach and I don't recommend it either, as it's a bit more complicated medically, ethically, and legally.

In cases where both of you want to be a biological father, you can “take turns.” Essentially, when you get a batch of eggs from

your donor (usually around ten or twenty are harvested), you can fertilize half of the eggs with one partner's sperm and half of the eggs with the other partner's. Then you take a fertilized egg from one of you and put it in the surrogate, freezing the rest of the embryos for later use. After you have your first child, you can have another, this time using an embryo from the other father. Or, if you want twins (much more on twins later), you can use one embryo from each of you, transferring them at the same time. If one takes but the other doesn't, you can go back a few years later and use an embryo from the other dad.

In cases where there will be two moms who both want to be genetic parents the idea is the same, although the logistics are different. You can use the donated sperm to inseminate one of you first, and then for a second child you can inseminate the other.

Whether you are a two-dad family using only one of your sperm, a two-mom family taking turns, or a family using a sperm donor, only one parent will be genetically linked to the child. It is really important that you sort through any feelings you may have about being a nonbiologically related parent before your baby is born. A mental health professional can be very helpful here, but the most important thing is that both parents are on the same page and acknowledge that they will both be full and equal parents regardless of biology.

Allen and Isaac, a legally married gay couple who'd been together for about ten years, both wanted to have a biological connection to their kids. When I explained that they could each fertilize half the eggs, and they could have a baby with their own genetics, they were thrilled. But they kept referring to the babies they were planning as "his baby" and "my baby." It was obvious they were struggling to believe that with any children they had they would be equal parents, regardless of genetics.

Eventually, Allen and Isaac decided to try for twins using one embryo fertilized by each father. However, one of the embryos didn't implant, so they only had one baby—from an egg fertilized by Allen. As soon as that beautiful baby girl was born, they started talking about having “Isaac's baby” next. They continued to struggle to believe that they were equal parents—not just to the baby they had, but to any they had in the future. They went on to have a son, and after he was born we had many conversations about their family of four and how much they both loved and felt connected to both children. Allen and Isaac eventually came to realize that their connection to their children went beyond biology.

No matter your situation, it's important that you understand and truly believe that you are both 100 percent the parent. When you are unified in this way, you send a message to the universe and the universe responds in kind. When people have questions, you can make it clear that you are both the parent, and that's how people will see it. If you want to then answer the question about who the biological contributor is, you can do so—but you don't have to. That is a very personal choice. Biology is not the determining factor in parenthood. It's love that makes a family, not genetics. So no matter where the sperm comes from—the dad, an anonymous sperm donor, or a friend—the parents are the parents.