

## **miscarriage explained**

### **Melinda's story**

*We started trying to have kids when I was 33. After I went off the pill my cycle was very irregular, with six or seven weeks between periods. When we weren't pregnant after about six months, I consulted a fertility specialist, who immediately put me on Clomid. I felt as if suddenly the process was being dictated by a fertility specialist – it was like: "Try this, then move up to the next level; try that, then move up to the next level." I was on a conveyor belt going towards a goal I didn't want. It was his process, not something that was right for me. I had a sense that I shouldn't go down this path with nothing in my history to indicate that it was really warranted.*

*I hated Clomid, and had terrible side-effects, so went off it after a few months. We got pregnant right after.*

*I miscarried at seven or eight weeks. The miscarriage itself was physically painful, and I didn't know when it was appropriate to go to the hospital. I'll never forget pulling out all my pregnancy books to try to figure out how much bleeding meant I should go to the hospital, and whether or not I would need a D&C. I felt really alone. It was a very private thing, and I didn't want to share it, but I didn't want to be alone, either.*

*The hospital doctor was great. She told me, "You have no idea how many women have miscarriages – it's really, really, common." That made me feel much better. There was still that "Oh God, what's wrong with me? It's all my fault!" voice in my head, but I did feel better.*

*I found the loss extremely tough. I thought either you could have babies or you couldn't, and panicked that the miscarriage meant that I couldn't. I was surprised by how traumatic the experience was, and had no idea where to turn to for support.*

*After the miscarriage my cycle went back to how it was before – it was very irregular and I couldn't seem to get pregnant.*

*I confided in a good friend who told me about an MD who was achieving great success augmenting traditional Western medical care with natural therapies. Because that doctor is so in demand, I had to wait four months to get in to see her. But she was wonderful! She explained everything, gave me specific notes and a diagram of my ovulatory cycle, wrote down the vitamins I should be taking and why. She was amazing. I had a regular cycle in a month, and was pregnant in two.*

*After that there was no trouble at all; Sam was born happy and healthy. Afterwards I was back to my irregular cycle, but the same doctor had me regular again in no time, and I got pregnant shortly thereafter. I have just had my second son after an easy pregnancy.*

*I think there's way too much silence around the whole issue of miscarriage, which is a shame because so many people go through it. You don't realize how common it is – even among your own friends – because it's this unspeakable subject. It's like silent torture.*

*So when it happened to me, I thought I must have done something wrong. I couldn't understand why this had happened, and was desperate to find a reason, even if it was my fault.*

*Learning more about miscarriage made all the difference. When I found out how common it really is I felt this liberation. And when I realized that having a miscarriage meant my body could do the hard part, and that my chances of success the next time were really high, I felt this huge sense of relief, as if I could suddenly breathe again.*

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As Melinda discovered, the anxiety of miscarriage can be greatly reduced when fear and mystery are replaced by fact and clarity. This chapter is written with that goal in mind.

We've all heard the alarming news that miscarriage is more common than we thought, and that it is on the rise – it's even said that “most women can expect to have a miscarriage.” Many of us have begun to pay more attention to reports and articles about miscarriage, hoping they might contain useful information or practical advice. Unfortunately, the more closely we look at the subject of miscarriage, the more confusing it can appear – each report seems to come up with different results, and each article seems to come to a different conclusion. Instead of painting a clearer picture of miscarriage, these conflicting viewpoints can make miscarriage seem even more mysterious and incomprehensible – it can be difficult to know what to believe. Worst of all, there is little or no information on what we can do to improve our odds of a healthy pregnancy.

Concerned women have some key questions about miscarriage that they want answered:

- What are the facts about miscarriage, and why does it happen?
- How common is it really, and is it on the rise?
- Is it true that “most women can expect to miscarry at least once”?
- Why do doctors seem reluctant to investigate miscarriage?
- Can I predict my own chance of miscarriage?
- And most importantly: Is there anything I can I do to avoid it?

The first four of these questions will be answered in this chapter, while the last two will be the focus of subsequent chapters.

### **Conception and early pregnancy**

Before analyzing miscarriage, it is worth reviewing the reproductive process. A summary can be broken down into five steps:

**Step 1: Fertilization.** An ovary releases an egg into the fallopian tube, where it fuses with a sperm at conception. Unlike other cells, which all have 23 *paired* chromosomes (46 total), sperm cells have only 23 *unpaired* chromosomes. Egg cells have 46 chromosomes which separate into two sets of 23 unpaired chromosomes when a sperm enters the egg. One set pairs with the sperm's chromosomes, while the other is ejected. Only when egg and sperm correctly fuse do they create a full complement of 23 paired chromosomes. The chromosomes in this first cell are the blueprint for every other cell in the human body – 10 trillion of them by adulthood.

**Step 2: Replication.** Cell division begins about a day after fertilization, copying the 23 chromosome pairs formed at conception. The cell replicates its genetic material and then divides down the middle – making two identical cells where there was once only one. These two cells then replicate their genetic material, and divide again, making four cells from two. Those four cells then become eight, which become 16, and so on. The fertilized egg continues to travel down the fallopian tube toward the womb, even as it replicates its genetic material and divides.

**Step 3: Implantation.** About 7-10 days after fertilization the fertilized egg (called a “blastocyst” of about 128-256 cells) burrows into the lining of the womb. The placenta – at this stage a network of blood vessels – develops between it and the wall of the womb, supplying blood, oxygen and nutrients from the mother to the developing baby (now called an “embryo”) via the umbilical cord.

**Step 4: Growth.** The embryo begins a phase of rapid growth and change. The cells begin to differentiate: first they form three distinct layers; later they will become every different structure and organ in the body. This explosive growth and development requires an ever-increasing supply of nourishment from the mother's body. By 8

weeks after conception (10 weeks' gestation) the baby is referred to as a "fetus."

**Step 5: Birth.** About 38 weeks after fertilization (40 weeks after the last menstrual period) the baby is ready to be born. The average baby will weigh 7½ pounds (3.4 kg) and be 20 inches (50 cms) long.

### **Why miscarriage happens**

Generally, a pregnancy that combines a healthy embryo (steps 1-3, above) with a nourishing environment (steps 3 and 4, above) will progress to full term (birth). However, if there is a significant problem with either the embryo or the nourishment it receives in the womb, then the pregnancy is typically lost. If this loss occurs before 20 weeks gestation it is called a miscarriage; after that time it is termed a stillbirth.

Though the name "miscarriage" implies that a woman carried her pregnancy improperly (i.e. she mis-carried it), this is not at all the case. Miscarriage is caused by a variety of factors that interfere with one of the first four steps listed above. These factors – and what can be done to test for, treat, and counteract them – will be explained in detail.

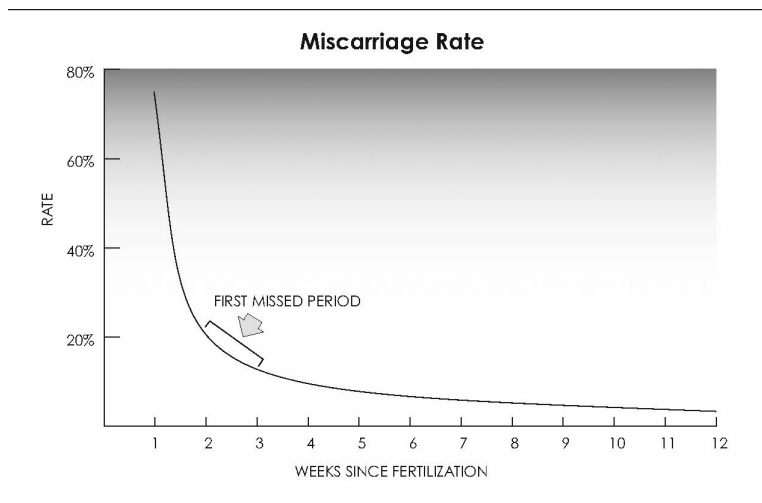
### **The chance of having a miscarriage**

Because miscarriage tends to be a highly personal and private experience, solid data on miscarriage can be difficult to get. Even worse, it can be hard to rely upon, as each study seems to present different numbers. This is not as confusing – or alarming – as it appears. The simple reason that miscarriage rates are difficult to compare from one report to the next is that the chance of miscarriage decreases dramatically during the first few days and weeks after fertilization. As illustrated on the chart below, miscarriage rates can vary widely if studies are looking at even slightly different timeframes.

As shown on the chart, the chance of a fertilized egg miscarrying at some point is about 75% – most fertilized eggs never even implant. However, once the egg *has* successfully implanted (still several days

before the first period is due), the chance that it will miscarry before full term drops to about 30%.

Less than a week later – around the time the first period is due – the chance of miscarriage has dropped again. Pregnancies detected either by a missed period or a pregnancy test (whether at home or in a doctor’s office) are called “confirmed pregnancies,” and most experts agree that nearly 20% of these pregnancies end in miscarriage.



Illustrating the difficulties that can arise when comparing results of various studies, let us briefly consider a Danish study of more than a million pregnancies, which found only a 13.5% miscarriage rate. How could such a large study indicate a result so much lower than the 20% the experts believe? Probably because the Danish study was based on hospital data and women generally only require hospital attention if the pregnancy has progressed beyond the first few weeks. Women who miscarried in the first few days after their period was due may have called or consulted their doctors, but are unlikely to have checked into the hospital for treatment. These miscarriages – which are the most common – would therefore have gone unreported. Thus, while initially these two pieces of data seem to contradict each other, it is more likely that they are just looking at slightly different points on the curve shown in the chart above.

### **Consecutive miscarriages**

For anyone who has experienced a miscarriage, the thought of having another is naturally a cause of great concern. Luckily, one miscarriage does not mean you are likely to have another.