

# “But I want twins”... *but what are the risks?*

A rather large proportion of patients undergoing IVF (>40%) wish for a multiple pregnancy, not just as an acceptable outcome, but as the desired outcome for their pregnancy. There are, however, considerable well known risks to multiple pregnancy - even twin pregnancy - as a recent letter from one of our patients to her physician here at Shady Grove Fertility illustrates:

*“Sorry we haven’t been in touch sooner, but the girls really threw us a curveball... The girls were born at just over 25 weeks, weighing in at 900 grams and at 860 grams. Being so premature, there have been a lot of challenges, and one unfortunately developed necrotizing enterocolitis at 32 weeks which required surgery back in May. The other had a “scare” but did not wind up being treated... They’re absolutely lovely and beautiful and really interacting, smiling and cooing, which is a delight after such a difficult journey these past months. They are moving up from the very lowest percentiles on the growth charts for weight and length. We’ve been through more than I can tell you... Having spent the lion’s share of the past 7 months daily in hospital and seeing such an awfully different beginning than I would have chosen for the girls (or us)... I believe it would be beneficial to educate those considering multiple transfers about the risks of preterm labor/premature birth/prematurity (using all of its names and encouraging research)... Thanks so much to all of you at Shady Grove Fertility for the help and dedication and please thank our donor for her amazing gift that allowed us to realize our dream.”*

With its well known risks to both mothers and infants, the decision between seeking a twin pregnancy vs. avoiding one can place, you, our patients, at a difficult crossroads.

Why, then, do patients desire or risk multiple pregnancy so often and what important information and education can we, as health care providers, give that might help you make well-informed decisions?

## **Emotional & Financial Considerations**

Infertility often means month by month of disappointment in one of biology’s most important endeavors. This is made more complicated by medications with fluctuating hormones, doubts about success, and the often limited insight of family, friends, and society. In addition, too few states in the United States mandate insurance coverage for IVF and few insurance companies or employers cover IVF, adding to real concerns about cost. Many patients, therefore, accept the risks of multiple pregnancy in IVF if they feel transferring additional embryos will help them get pregnant more quickly and “hedge the bet” against being unsuccessful, even when this “hedge” is statistically incorrect.

It has been clearly demonstrated that patients with IVF insurance coverage transfer fewer embryos per cycle since their fears of being unsuccessful and having to pay for another cycle are lessened. Ironically, insurance companies wind up paying more for the maternal, neonatal intensive, and long-term care complications of infants affected by multiple pregnancies complications than they would pay for the costs of infertility therapy that leads to fewer multiple pregnancies

in the first place.

In an environment of emotional and financially taxing infertility treatment cycles, it is hard for physicians to reasonably expect patients to carefully analyze detailed “risk/benefit ratios of maternal and fetal morbidity and mortality”. But we can be of help.

## Insurance and Shared Risk 100% Refund Program

When insurance is not available, many patients seek to join our Shared Risk 100% Refund Program. The guarantee of 100% refund if they do not have a baby helps minimize the psychological and economic pressures. Going into their treatments, patients are comforted knowing that their costs are capped, and ultimately, they will have a baby or have their payment fully refunded. Our Shared Risk Program includes up to 6 IVF cycles and all transfers, the cost for cryopreservation of embryos and their later transfers, and strongly supports the use of single embryo transfer (eSET). This helps patients decrease the number of embryos for transfer as they understand that if the physicians are comfortable recommending eSET while sharing the financial risks, that interests are aligned, the success rates for delivery remains high and complications remain low. As mentioned, patients have proven historically to transfer significantly fewer embryos if they have insurance coverage, but this is also true if they participate in the ethically rigorous guarantee programs.

## Obstetric and Neonatal Considerations

Pediatricians, neonatologists, and obstetricians are fully aware of the risks inherent in multiple pregnancy, but often patients are not. These risks are lower in twin pregnancies than triplets but are still very much present.

The major risks (Table 1) are preterm birth and its associated complications including increased risks to the infant from cerebral palsy, pulmonary and ocular damage (blindness), among others. In addition, pregnancy induced hypertension, post partum hemorrhage, cesarean section, prolonged bed rest and diabetes are more common in the mother. For the infant, the complications can have life-long consequences and be associated with retardation, congenital malformation, and learning and developmental disabilities. In addition, there are significant social, financial, and emotional costs for families. But how well is this information transmitted to patients? A past Oct 2009 The New York Times series, “21st Century Babies: The Gift of Life and Its Price, Grievous Choice on the Risky Path to Parenthood,” is still timely as is an Editorial blog, The Trouble with Twin Births (nytimes.com). We encourage their reading by all patients undertaking these fertility therapies. Some relevant quotes from the series are also included later in this publication.

	Singleton	Twin	Triplet
Avg. month at birth	9 mo	8 mo	7 mo
% Very premature (<7 months)	1.7%	14%	41%
Avg. birth weight	7.4 lbs	5.2 lbs	3.8 lbs
% Severe handicap	1.9%	3.4%	5.7%
% infant mortality	1.1%	6.6%	19%

Table 1: Infant Complications from Multiple Pregnancy

## Ethical Considerations

Patient autonomy is important in medicine, including in the decision regarding the number of embryos to transfer. While fertility specialists are ethically bound to respect autonomy, we are also bound by the bio-ethical principles of beneficence - “doing good” and non malfeasance - “do no harm”. This “doing good” and “do no harm” include the best interests not only of the patient but also the prospective children and are accomplished by limiting the risks to these children by avoiding multiple pregnancy.

Physicians at Shady Grove Fertility do not have an absolute cut-off of one versus two embryos for transfer, but patient autonomy has limits beyond this. This is well illustrated by the aberration involving the birth of the Suleman octuplets with 6 embryos transferred and 8 (including two which had split as identical twins) delivering – very prematurely! In most cases, of course, patient risk taking is far less extreme and patient autonomy can be part of the decision making.

Physicians can provide the information and statistics – and our important professional society (SART: Society of Assisted Reproductive Technology; ASRM: American Society of Reproductive Medicine) published Guidelines - about the risks of multiple pregnancy and the benefits of the alternative, like single embryo transfer (eSET), and hope that the goal of safety and reason prevail in patient decision making.

We at Shady Grove Fertility support and follow the latest professional SART/ASRM Guidelines for the number of embryos for transfer (Table 2) especially supported by our own high pregnancy success rates using either one’s own eggs or donor eggs with single embryo transfer (eSET) versus two blastocyst embryos (Table 3).

Age	Favorable Prognosis	Less Favorable Prognosis
<35	1	1
35-37	1	1
38-40	1	≤ 2
>40	1	≤ 3
Donor Oocyte	1	1

Table 2: SART/ASRM 2021 and Shady Grove Fertility Guidelines for # of Blastocyst Embryos for Transfer

## Statistics

During much of the 1990s, IVF was far less successful than it is today, so it was far more routine for more than one or two embryos to be transferred with the hope of one implanting. However, considerable clinical and laboratory developments have resulted in distinct improvements in implantation and pregnancy rates the last decades. Implantation rates can be upwards of 60% in selected groups of patients (such as those <35 years of age) even electing to use a single embryo for transfer (eSET). Some of the most recent medical literature, including data from Shady Grove Fertility, detail the transfer of even just two embryos can yield a twin pregnancy rate of 27%. Twin gestation is now appropriately questioned by fertility experts as to whether it is an acceptable medical goal or outcome. And yet, despite these dramatic improvements, fewer but some patients still feel the emotional and financial pressure to transfer more.

Fortunately, there is increasingly clear evidence that patients do respond to education about the risks and make more

conservative decisions about taking these risks.

Thus, given all of the factors discussed above, what have the physician’s at Shady Grove Fertility done to help patients make sound medical decisions, and what shall we continue to do?:

1. We will continue the dramatic technologic advances in our treatments and embryology laboratories that further increase the successful pregnancy rates in IVF from just a single embryo (eSET). In this way patients can avoid the dilemma of accepting risk in order to avoid an unsuccessful cycle.

2. We will continue to advocate to legislators and insurance companies and employers the benefits of reducing multiple pregnancies and provide insurance coverage for IVF.

And, if insurance is not available, we will continue to offer our ethically rigorous Shared Risk 100% Refund Guarantee option.

3. We will continue, through this article and others, to educate patients (including the important Oct 11-12, 2009 New York Times articles referenced earlier and we recommend your reading).

4. We will continue to educate our colleagues to the risks of multiple pregnancy and success of eSET. (Some of the medical literature in peer review journals published by Shady Grove Fertility is included as the first several References of this handout. (Reference #1 from the journal Fertility Sterility 92:1895-1906 was the largest published experience with eSET and IVF in the world.)

5. We shall continue to work through our national leadership position within the Society of Assisted Reproductive Technology (SART) to revise the Guidelines for the number of transferred embryos as part of the patient education process.

We realize that even patients who “want twins” are really only seeking to fulfill their dreams of having a healthy family. We are dedicated to helping you fulfill those dreams.

Through the efforts such as those above we can, as health care professionals at Shady Grove Fertility, strive to make the balance of patient autonomy versus limiting the risks of multiple pregnancy to mothers and children easier and more informed.

	IVF Using Own Eggs †		IVF Using Donor Eggs	
	1 Blast	2 Blasts	1 Blast	2 Blasts
# Transfers	5514	434	1488	104
% Pregnant	59%	63%	57%	51%
% Twins	1.1%*	27%	0.8%	28%
% Triples	0%	0.2%*	0.2%	0%*

Table 3: Success of blastocyst elective Single Embryo Transfer (eSET) vs 2 blastocyst transfers at Shady Grove Fertility, 2020-21

† <35 years old \*An embryo can split to be identical twins from 1 embryo transferred or triplets from 2 transferred

This may be illustrated in another patient letter recently received:

*“I just wanted to thank you again for encouraging my husband and me to transfer one embryo. After several unsuccessful cycles with my own eggs, we were convinced that transferring two embryos was the right thing to do. We didn’t really want to have twins, but we didn’t want to risk disappointment again... You took the time to explain what the statistics really meant and helped us to understand that transferring one embryo did not decrease our chances for success... I asked what advice you would give your daughter if she were in my position. Your response was, “I’d tell her to transfer one, but she wouldn’t listen and transfer two.” The honesty of your reply made it clear what the right decision was for us. We transferred one embryo that day, and as I write this letter, I can hear him giggling, while his daddy gives him a bath. I am so thankful we had one healthy baby... My sister-in-law had twins about two months ago. She had a very difficult pregnancy (contractions starting at 24 weeks, bed-rest after that). The babies were born 6 weeks early, and luckily only spent one week in the NICU. Since the twins have been home, their parents have had a rough time adjusting to caring for two premature babies... While I love my niece and nephew, I am grateful, everyday, that I had just one baby at a time. “*

## 21st Century Babies: The Gift of Life, and Its Price



by Stephanie Saul

*The New York Times*, October 2009

Below are a few selected quotes, although we recommend reading the articles in their entirety:

“This is our Hail Mary pass. We thought, let’s just do it. At the time, it was like, twins, they can be fun, but holy cow.”

“You can’t convince a couple that having twins is a bad thin,” said Dr. Maurizio Macaluso, who runs the C.D.C.’s women’s health and fertility branch. “That’s a major communication problem.”

“The hospitalization and doctor’s care for [mother and son] exceeded \$1 million. Most of that, about \$750,000 to \$800,000 was for [her son].”

“According to one federal study, about 30% of all twins end up in a neonatal ICU.”

“Exploration of the fertility industry reveals that the success comes with a price. While IVF creates thousands of new families a year, an increasing number of the newborns are twins, and they carry special risks often overlooked in the desire to produce babies.”

“Erin and Scott lost their twin daughter, conceived through IVF. Her surviving brother was born at just over 24 weeks, is doing well but needs therapy for lingering problems....He’s really a little miracle baby... despite initial heart and eye problems, he did not require surgery. ”

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