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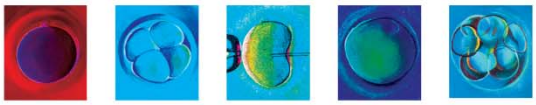

FERTILITY FACT SHEET

San Ramon / Orinda / San Jose

"But I want Twins" *...but what are the risks?*

A large proportion of patients (>40%) undergoing IVF wish for twins as the desired outcome for their pregnancy. There are, however, considerable risks to multiple pregnancies - even twin pregnancies - as a recent letter from one of our patients to her physician here at RSC illustrates:

"Sorry we did not respond to your staff's calls as to how the pregnancy was going, but the boys were born very early and we have had our hands full. I went into labor at 24 weeks and went into the hospital and was found to be 8 cm dilated. I had an emergency C-Section since one of the babies was breech. They weighed 700 and 660 grams. They had a lot of problems from the get go. Steven was with us for 1 week then passed away from multiple complications.

Fortunately, Dylan is finally doing well. He had a tough go of it with multiple surgeries for bowel problems and then a heart surgery as well. He is now growing in the intermediate nursery and we hope to take him home soon. The doctors feel he is doing well but cannot tell us for certain how his vision and development will be. Having spent much of the past 3 months in the hospital is experiencing a much different beginning to his life than I could have imagined.

I wanted to send you this note to pass along to patients for yours who think twins will be great (as we did). You recommended that we transfer only one embryo and, now, I understand why. Thanks to all the team at RSC for sticking with us for all the hard times and giving us encouragement. It has been a rough road but worth it. We'll see you back in a couple of years for a frozen embryo transfer but next time we will transfer only one embryo."

With its well know risks to mothers and infants, the decision between seeking a twin pregnancy versus avoiding one places patients at a difficult personal crossroads.
Why then do patients desire or risk multiple pregnancies so often and what important information/education can health care providers give that might help patients make better, well-informed decisions?

Emotional & Financial Considerations

Infertility often means months of disappointment during one of biology's most important endeavors. This is made more complicated by fluctuating hormones, doubts about self worth, and the often limited insight of family, friends, and society. In addition, few states in the United States have mandated coverage for IVF and most insurance companies do not cover IVF. Many patients, therefore, accept the risks of multiple pregnancy during IVF if they feel transferring additional embryos will help them get pregnant more quickly and "hedge the bet" against being unsuccessful even if, statistically, this is incorrect.

It has been shown that patients with IVF coverage transfer fewer embryos per cycle since their fear of being unsuccessful and having to pay for another cycle is lessened. Ironically, insurance companies pay more for the maternal neonatal intensive care and long-term care complications of affected infants from multiple pregnancies than they would pay for the costs of infertility therapy.

ATTAIN:

When insurance is not available, the **ATTAIN** program can minimize the psychological and economic pressures on patients. This helps patients accept the idea of decreasing the number of embryos for transfer. The patient understands that if the physicians are comfortable recommending elective single embryo transfer while sharing the financial risks that they must be comfortable that the success rates for delivery will remain high. Patients will transfer significantly fewer embryos if they participate in ethically rigorous refund programs or if they have insurance.

Obstetric and Neonatal Considerations

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

The major risks are preterm birth and its associated complications including cerebral palsy, immature pulmonary function, and ocular damage (blindness). Additionally, pregnancy induced hypertension, post partum hemorrhage, cesarean section, prolonged bed rest, and diabetes are more common in the mother. Infant complications can have life –long consequences and can be associated with congenital malformations, learning disabilities, and developmental delay. There are also significant social, financial, and emotional costs for families. *Many obstetricians will put women on bed rest 6 months into a twin pregnancy. Imagine yourself on bed rest for 2-3 months.*

Figure 1: *Infant Complications from Multiple Pregnancies*

	Singleton	Twin	Triplet
Avg. Month @ Birth	9 mo	8 mo	7 mo
% Very Premature (<7 mo)	1.70%	14%	41%
Avg. Birth Weight	7.4 lbs	5.2 lbs	3.8 lbs
% Severe Handicap	1.90%	3.40%	5.70%
% Infant Death	1.10%	6.60%	19%

Ethical Considerations

Patient autonomy is important in medicine. This is especially true regarding the final decision regarding number of embryos to transfer. However, fertility specialists are ethically bound to respect not only autonomy but also the ethical principle of beneficence – “doing good”. This is accomplished by limiting the risks to these children by avoiding multiple pregnancies.

The Society of Assisted Reproductive Technologies (SART) and the American Society for Reproductive Medicine (ASRM) have published recent guidelines for the number of embryos to transfer during an IVF cycle which the physicians at RSC do support and follow. These guidelines maintain the highest pregnancy rates while minimizing the risk of multiple gestations. During IVF treatments RSC physicians provide information and statistics about pregnancy rates and the risks of multiple pregnancies with the hope that the goal of having the safest pregnancy possible will prevail in patient decision making.

Statistics

In the 1980's and 1990's, IVF was far less successful than it is today, so it was routine for more than one or two embryos to be transferred with the hope of only one implanting. However, recent clinical and laboratory developments have resulted in considerable improvements in implantation and pregnancy rates. Implantation rates can be over 70% in selected groups of patients even using a *single* embryo for transfer (eSET). Some of the most recent medical literature, including data from RSC, shows that transferring only 2 embryos can yield a twin pregnancy rate of over 60% in certain groups (women under the age of 38 with good quality embryos and donor egg recipients). Twin gestation is now questioned by fertility experts as an acceptable medical goal. Despite these dramatic improvements, patients still feel the emotional and financial push 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.

We at RSC will try to give you appropriate medical guidance for how many embryos to transfer based on their quality and your particular diagnosis. Please try to consider the significant risks of a twin pregnancy. Our goal is to help you achieve the safest pregnancy one baby at a time.

Figure 2: SART/ASRM 2009 Blastocyst Stage Embryo Transfer Guidelines

Age	Favorable prognosis*	Less Favorable Prognosis
< 35	1	2
35-37	2	2
38-40	2	3
> 40	3	3
Egg Donor	1	2

**No history of failed IVF cycles, excess embryos to freeze*