IVF Choices: A Patient’s Perspective

Craig Reisser

Families Through Surrogacy
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This is My Family Through Surrogacy
This is Where My Family Got Started - ORM

• Nearly 30 years building families – patients from 40 countries – team of +125

• In the top 5 US clinics for the number of surrogacy and surrogacy + donor egg IVF cycles

• State-of-the-art “clean-room” embryo laboratory designed by engineers who designed the fabrication plants at Intel in Oregon

• Consistently high live birth rates – top 1-3% of all US clinics in every reported category

• In-house egg donor program

• Specialist in surrogacy IVF

• In-house genetics team and laboratory
What Type of Surrogacy Patient Are You?

1. Surrogate + Own Egg
2. Surrogate + Donor Egg + 1 Sperm Provider
3. Surrogate + Donor Egg + 2 Sperm Providers
US IVF Clinics Report Their Results

- Two public sources for data on US IVF clinics – same dataset but presented slightly differently
- Some sites available to help users make some indicative comparisons
- All US clinics required to report to the CDC – only SART members (ca. 95% of US clinics) report to SART
- A ca. 1½ - 2 year lag on data to allow reporting of live birth rates
- SART database allows users to filter (to see for example surrogacy only and donor egg + surrogacy cycles; cycles with genetic screening)

- **Live Birth Rate per Transfer** and **Number of Embryos per Transfer**
Experience with the Procedure You Need Matters

- +450 US clinics - 93% do donor egg IVF and 87% do surrogacy IVF
- However not every clinic is as experienced

<table>
<thead>
<tr>
<th>Cycle Type (Recipient + Egg Origin)</th>
<th>Transfers</th>
<th>Share</th>
<th>Top 5 Clinics (1%)</th>
<th>Top 10 Clinics (2%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total IVF</td>
<td>138,000</td>
<td>100.0%</td>
<td>14%</td>
<td>21%</td>
</tr>
<tr>
<td>Patient + Patient Egg</td>
<td>118,000</td>
<td>85.5%</td>
<td>14%</td>
<td>22%</td>
</tr>
<tr>
<td>Patient + Donor Egg</td>
<td>16,000</td>
<td>11.5%</td>
<td>16%</td>
<td>23%</td>
</tr>
<tr>
<td>Surrogate + Patient Egg</td>
<td>2,000</td>
<td>1.5%</td>
<td>20%</td>
<td>32%</td>
</tr>
<tr>
<td>Surrogate + Donor Egg</td>
<td>2,000</td>
<td>1.5%</td>
<td>25%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Based on 2014 CDC and SART reported data.

- Surrogacy IVF
- Donor Egg IVF
- International patients
- Embryo biopsy
- PGS / PGD; genetics
Success in IVF is a Cumulative Process and a Team Effort

- Optimising Egg Quality and Number
- Embryology Laboratory
- Selecting Normal Embryos
- Optimising the Transfer and Pregnancy

Average IVF Results in a 25 year Old Woman

- 26 Follicles Produce 25 Eggs
- 20 Mature Eggs
- 15 Fertilized Eggs = “Embryos”
- 11 Embryos Growing on Day 3
- 8 Top Quality Blastocysts (day 5 Embryos)
- 5 Chromosomally Normal Blastocysts
+50% Implantation Rate
IVF Procedure Choices – Learn the Lingo Know the Pros and Cons of Your Various Options

Pre-Transfer

Fertilisation

Eggs: Fresh or Frozen
Sperm: Fresh or Frozen
ICSI or not

Screening, Testing, Selection

Genetic screening / testing
Gender selection

Transfer

Fresh or Frozen Embryo

Impact on success rates
Impact on journey / logistics

Single or Dual Embryo

Impact on success rates
Twin risks
Risks Associated with Twins

Surrogate

• Increased need for bedrest
• Increased need for cesarean section
• Pregnancy complications
  – Preeclampsia (toxemia)
  – Gestational diabetes

Intended Parents

• Preterm delivery
• Newborn insurance cover
• Increased costs
  – Surrogate compensation
  – Medical

Matching with a surrogate that will carry twins may take longer

Increased financial risk – pregnancy, delivery and newborn medical costs
Genetics: Carrier Screening, PGS, PGD, CCS, NGS...it Was all Greek to Me

Pre-Embryo Creation

Genetic History Evaluation

Assessment of the genetic family history for each provider of each egg and sperm to identify any areas that merit particular attention

Recessive Carrier Gene Screening

Screening for recessive genetic disease genes that could result in an unhealthy baby if both egg and sperm providers are carriers

Post-Embryo Creation

Pre-implantation Genetic Screening (PGS)

Testing embryos to determine normality - the correct number of chromosomes to develop into a healthy pregnancy and baby

Pre-implantation Genetic Diagnosis (PGD)

Testing embryos to determine whether a patient-specific genetic disorder is present
Recessive Carrier Screening

- **Carriers** of a genetic disorder have one gene copy that is not working correctly - as the other copy is working fine carriers are usually healthy and have no signs of the disorder.

- If each provider of sperm and egg for the creation of an embryo are carriers of mutations in the same gene, they will have a 25% chance to have a baby with that disorder - this is called *recessive* inheritance.

- Being a carrier is common - about 30% of Intended Parents / Donors who undergo screening are a carrier of one or more disorders, even when there are no genetic conditions in their family history.

- Recessive Carrier Screening involves a simple saliva or blood sample.

- Allows Intended Parents to choose an alternative Donor before getting started if there is an increased risk.
Latest PGS Technology: Comprehensive Chromosome Screening (CCS) with Next Generation Sequencing (NGS)...

- Removal of 5-10 trophectoderm cells from 5 to 6 day old embryos (blastocyst)
- Next Generation Sequencing - attachment of 500,000 genetic probes to the amplified DNA of the biopsied cells
- Detects embryos with abnormal number of chromosomes
  - Most would block embryo’s development into fetus
  - Will identify embryos that can lead to abnormal fetus (e.g. Down Syndrome)
- Embryos generally frozen after testing for later transfer – in some cases CCS testing can be performed on embryos for a fresh transfer
## Chromosomally Normal Embryo Rate and Impact of CCS

<table>
<thead>
<tr>
<th></th>
<th>Egg Donor</th>
<th>&lt;35</th>
<th>35-37</th>
<th>38-40</th>
<th>41-42</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Normal Embryo Rate</strong>*</td>
<td>61%</td>
<td>51%</td>
<td>43%</td>
<td>30%</td>
<td>18%</td>
</tr>
<tr>
<td><strong>National Ave Success Rate</strong>**</td>
<td>40%</td>
<td>45%</td>
<td>40%</td>
<td>35%</td>
<td>30%</td>
</tr>
<tr>
<td><strong>ORM CCS-tested Success Rates</strong></td>
<td>75%</td>
<td>64%</td>
<td>73%</td>
<td>68%</td>
<td>63%</td>
</tr>
</tbody>
</table>

* Combined data from Reprogenetics and Genesis Genetics up to March 2016 – 33,236 embryos tested

** 2015 data as reported on the CDC website
Final Words of Advice

1. Take the time to get to know your options
2. Ask lots of questions
3. Focus on achieving success the first time
4. Select a team that you trust
5. Enjoy the journey!
DONOR EGG AND SURROGACY IN THE USA

Craig Reisser, who had the idea of an egg donor and a surrogate when starting his family, helps explain some fundamentals about egg donation and surrogacy in the USA.

DONOR EGG IVF CHOOSING FOR SUCCESS

Expert advice for intended parents on what to consider when choosing the right IVF program and embryo for success and a healthy baby on their first journey with donor egg IVF.

DONOR EGG: WHAT ARE MY OPTIONS?

Craig Reisser, a parent via egg donation and surrogacy, shares some expert advice for intended parents trying to make sense of all the donor egg options available to them.

SURROGACY: WHERE IN THE WORLD?

Craig Reisser, a parent via egg donation and surrogacy, shares some expert advice for intended parents looking for answers about where they can build their families through international surrogacy.
Thank You