

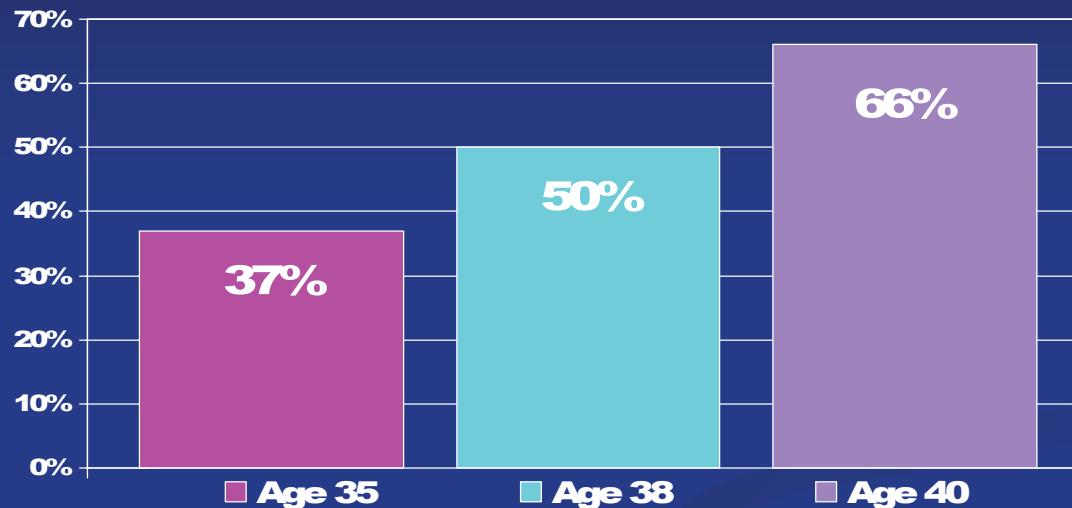
Center for Assisted Reproduction

NITTY GRITTY ON DIAGNOSIS AND
TREATMENT OF INFERTILITY

RINKU MEHTA, M.D.

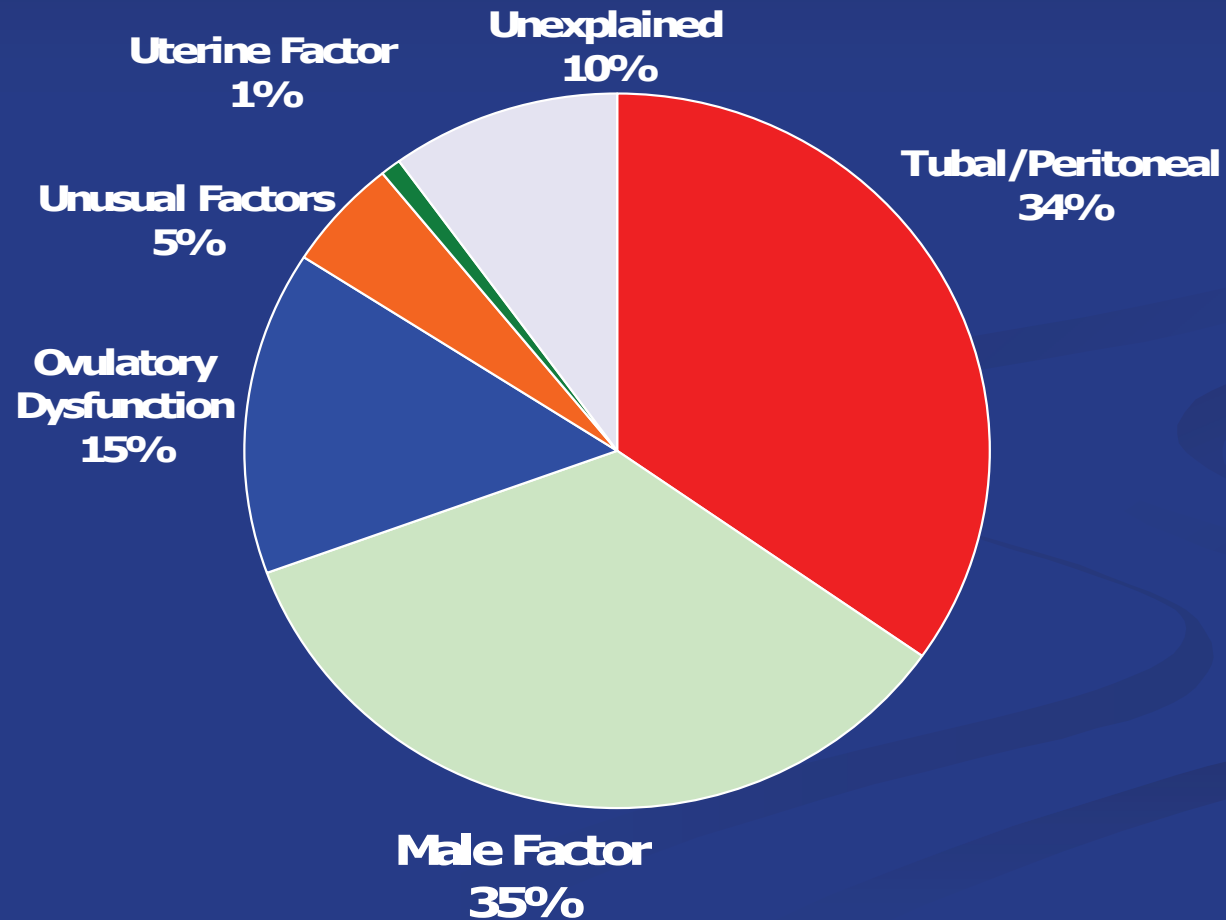
JANA DAVIS, P.A

2004 CDC stats



- 13% of reproductive-age women received infertility services
- 127,977 IVF cycles in 2004
- 49,458 IVF babies in 2004

Causes of Infertility



When should you seek evaluation?

- **Female Age < 35 - 1 Year Unprotected Intercourse**
- **Female Age \geq 35 - 6 Months Unprotected Intercourse**
- **Sooner if a problem is known:**
 - **No Ovulation**
 - **No Sperm or No partner**
 - **Blocked Tubes**
 - **History of Pelvic surgery**
- **Whenever Concerned**

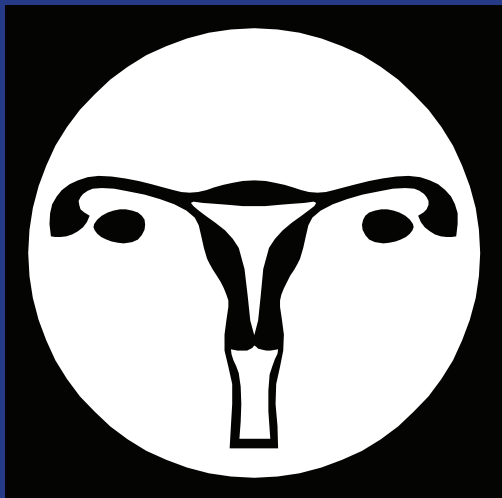
Initial Evaluation



- **Medical history**
- **Assessment of anatomy**
- **Assessment of ovarian function**
- **Assessment for male factor**

Assessment of anatomy

- **Ultrasound (uterus and ovaries)**
- **Saline Sonogram (SIS)**
- **Hysterosalpingogram (HSG)**
- **Laparoscopy (outpatient surgery)**
 - **Endometriosis**
 - **Tubal disease/scarring**
 - **Allows for simultaneous correction in some cases**



Assessment of ovarian reserve

Day 2 or 3

- Follicle Stimulating Hormone (FSH)
 - Estradiol
- Clomiphene Challenge Test
 - Day 3 FSH & Estradiol
 - Clomiphene 100 Mg Days 5 - 9
 - Day 10 FSH
 - Antral Follicle Count
 - New ORI test from Repromedix



How do you know you are ovulating?

- BBT chart
- Serum Progesterone measurement
- Ovulation predictor kit
- Regularity of menses and associated premenstrual symptoms

Assessing male factor: Semen Analysis

Normal Semen Parameters

- Volume: 1.5 - 5 ml
- Count: >20 million/ml
- Motility: >50%
 - 24-hour post prep >70%
- Morphology:
 - Strict (Kruger) >15%
 - WHO > 30%



Effect of age on fertility and miscarriage

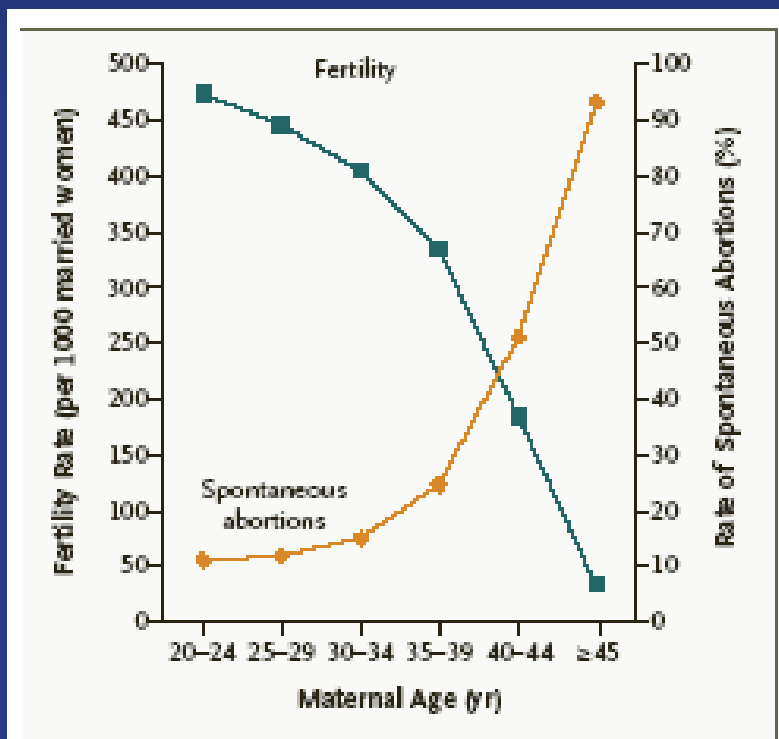


Figure. Fertility and Miscarriage Rates as a Function of Maternal Age.

Adapted from Menken et al.¹ and Anderson et al.²

Table. Risk of Down's Syndrome and Chromosomal Abnormalities at Live Birth, According to Maternal Age.*

Maternal Age at Delivery (yr)	Risk of Down's Syndrome	Risk of Any Chromosomal Abnormality
20	1/1667	1/526
25	1/1200	1/476
30	1/952	1/385
35	1/378	1/192
40	1/106	1/66
45	1/30	1/21

* Modified from Hook et al.³

NEJM, 351:1927-29, 2004

LIFESTYLE FACTORS THAT MAY IMPACT FERTILITY

- Weight
- Nutrition
- Tobacco
- Caffeine
- Alcohol
- Stress

STRATEGY IN TREATMENT OF INFERTILITY

- Evaluate all possible causes prior to embarking on aggressive therapy
- Consider low level (easy, inexpensive) therapy prior to complete evaluation if a cause is obvious
- Attempt direct correction of factors if possible
- Utilize empiric therapies / general fertility enhancing techniques (ART) if direct correction is not possible

Treatment Options

- **Ovulation Induction---**
Clomid, aromatase inhibitors or FSH
- **Superovulation**
- **Intrauterine insemination**
- **In-vitro fertilization (IVF)**
- **IVF with donor eggs**
- **Donor sperm**
- **Gestational carrier**
- **Surgery**

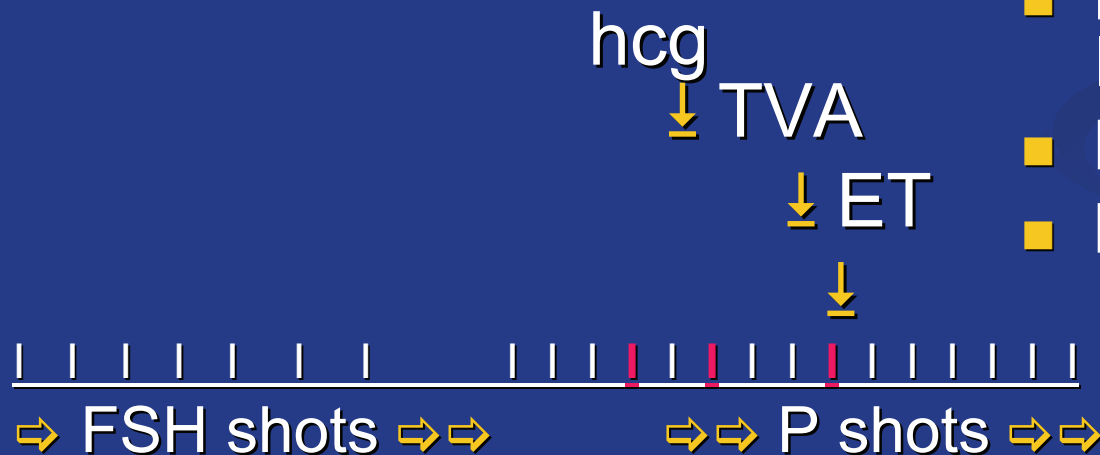


IN-VITRO FERTILIZATION

- Best used for tubal factors not amenable to direct correction, severe male factor and unexplained infertility
- Extended embryo culture (blastocyst transfer) useful in reducing risk of multiple gestation while maintaining acceptable pregnancy rates

In Vitro Fertilization Steps Retrieval-Transfer

- hCG
- Egg Retrieval
- Fertilization In Vitro/
ICSI
- Embryo Transfer
- Progesterone shots



EGG DONATION

- Indicated for women with premature ovarian failure, those who have severely diminished ovarian reserve or women who have failed multiple IVF cycles due to poor embryo quality
- Excellent pregnancy rates and low miscarriage rates
- Disadvantage: High cost, significant twin rate

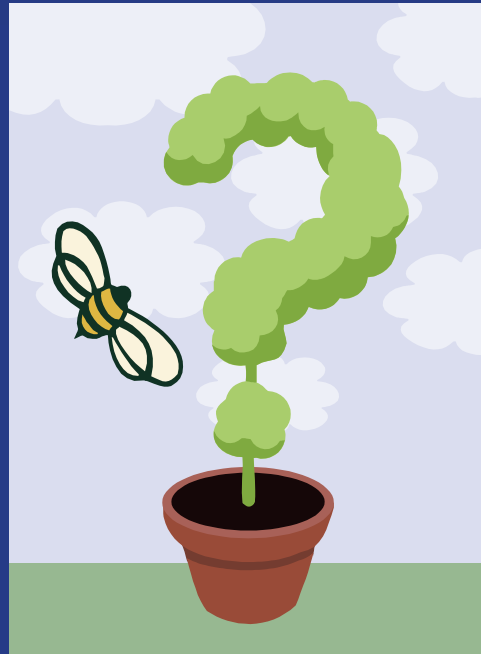
SUMMARY

- Infertility is a highly prevalent disorder
- Diagnostic evaluation most commonly can demonstrate a correctable cause
- ART therapies are available to treat infertility that is not amenable to direct treatments

When assisted reproduction is not an option?

- **No therapy**
- **Adoption**
- **Childfree living**
- **Counseling frequently recommended**

Q&A



Thank you !