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Helping people become parents\*

# Reproductive Options and Fertility Preservation for Transgender Men and Women



# Continuing Medical Education Disclosures

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- Current Position: Medical Director & Director of Third Party Reproduction Program at IVF New England
- Disclosures: Principal Investigator in 2 recent multi-center clinical trials:
  - ILLUMINA: RGH-001 STAR Trial
  - FERRING: MEGASET-HR Protocol 000205
- Content of presentation contains no use of unlabeled and/or investigational uses of products.

# Learning objectives

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- Be able to counsel transgender patients regarding their options for having genetically-related children using ART
- Appreciate the importance of counseling transgender patients regarding fertility preservation prior to transition

# Sources of children in U.S. being raised by transgender parents

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1. Conceived in heterosexual relationships, followed by separation/divorce after parent “comes out” as transgender
2. Conceived with donor sperm insemination
  - Known sperm donors
  - Anonymous sperm donation
3. Conceived via collaborative co-parenting arrangements between friends
4. Adoption
5. Traditional surrogacy
6. Assisted reproductive technology (ART)

# Family Building Options for Transgender People

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- Adoption
- Donor gametes
  - Donor sperm
  - Donor eggs
- Gamete preservation prior to transition
  - Option for those who would like to have genetic offspring
- Assisted Reproductive Technologies used

# Family Building Options for Transgender People

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- IVF process
- Donor sperm: directed/known vs. compensated
- Donor eggs: directed/known vs. compensated
- Surrogacy: traditional vs. gestational
  
- Financial Considerations
- Legal Considerations
  
- Family Building Options for MTF
- Family Building Options for FTM

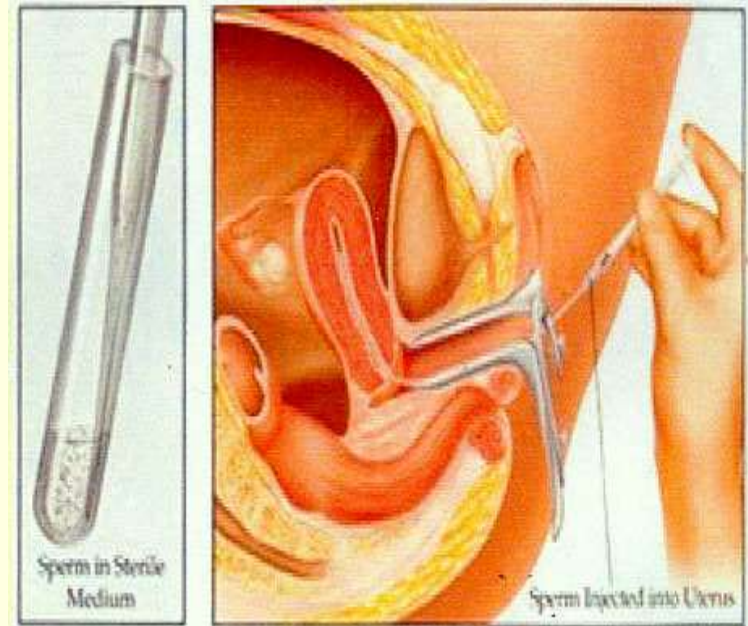
# Assisted Reproductive Technologies

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- Alternative Insemination of Sperm
- Donor sperm: directed/known vs. compensated donor
- *In Vitro* Fertilization (IVF)
- Donor eggs: directed/known vs. compensated donor
- Surrogacy: traditional vs. gestational

# Alternative Insemination

- Sperm placed into reproductive tract through means other than sexual intercourse
  - **Step 1:**  
**Monitor ovulatory cycles**  
Insemination generally performed 24-48 hours after luteinizing hormone (LH) surge is detected
  - **Step 2: Insemination**
    - Intracervical
    - Intrauterine
    - Intravaginal (home insemination)





# Alternative Insemination

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- Sperm from intended parent (eg. MTF)
- Donor sperm
  - Directed/known sperm donor
  - Compensated sperm donor (commercial sperm bank)

# FDA Requirements for Sperm Donation

- **Sperm regulated as “human cells, tissues, or cellular or tissue-based products” (HCT/Ps) by the FDA**
  - American Association of Tissue Banks
  - Sperm banks may also have their own regulations
  
- **Anonymous donor regulations**
  - Sperm donor must be tested for infections (HIV, HTLV, HBV, HCV, CMV, Chlamydia, gonorrhea)
  - Sperm collected from donor is frozen and quarantined @ sperm bank
  - After 6 months, sperm donor must be retested for evidence of infection before quarantined sperm may be released for use
  
- **Directed/Known donor regulations**
  - Even when known, FDA regulations apply if a sperm bank is used for collection, or if insemination is performed by medical practitioner

# IVF Overview

- Assisted reproductive technology (ART) that involves handling of both eggs and sperm in laboratory
- IVF is common procedure
  - 2015: 213,004 ART procedures reported in U.S.
    - Resulting in 67,818 babies (Source: 2015 SART Data)

## Multiple steps involved

Controlled Ovarian Stimulation

Egg collection

Insemination and fertilization

Embryo transfer



# Reciprocal IVF

- IVF using eggs of 1 partner and womb of the other
- Helps both partners feel equal biologic tie to the child
- Either medically necessary or elective
- Growing in popularity among couples
- Cost can be a factor



# IVF using Donor Eggs and Gestational Surrogate

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- Sperm from MTF is used to inseminate eggs provided by an egg donor
- Resultant embryo(s) transferred to a gestational surrogate to carry the pregnancy



# Egg Donors

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- Healthy women, ideally between age 21-30 years
- Two types of egg donors
  - Known
    - sisters, other family members, close friends
  - Compensated
    - recruited and matched through Egg Donor Agency
    - Frozen eggs from Donor Egg Bank

# Egg Donor Screening

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## ■ Detailed Questionnaire

- personal information, medical history, family history, etc.

## ■ Psychological Screening

- written test and interview by psychologist/social worker

## ■ Medical Screening

- general health, basic genetic screening (e.g. Cystic Fibrosis)

## ■ Infectious Disease Screening

- HIV, Hepatitis B & C, syphilis, gonorrhoea, chlamydia

# Surrogacy

- **Traditional Surrogacy**
  - Surrogate is inseminated with sperm from MTF
  
- **Gestational Surrogate**
  - Embryo created from sperm of MTF and egg from intended mother or egg donor, transferred into uterus of surrogate
  
- **Legal Implications**





# Gestational Surrogate

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- Must have had at least one successful live birth of her own
- Known Surrogate – relative or close friend
- Paid Surrogate - recruited and matched through surrogacy agency
- Legal contract needed



# Screening of Gestational Surrogates

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- **Detailed Questionnaire**
  - Personal information, medical and obstetrical history, etc.
  
- **Psychological Screening**
  - Written psychological test and interview by psychologist/social worker
  
- **Psychosocial Evaluation**
  - Joint counseling session with intended parents
  
- **Medical Screening**
  - General health and fitness for pregnancy
  
- **Infectious Disease Screening**
  - HIV, Hepatitis B&C, CMV, Herpes, Syphilis, Gonorrhea, Chlamydia

# Legal Considerations

## ■ Donors: Sperm, Egg and Embryo

- Known donor may seek visitation/involvement
- Laws/clinic policies vary re: disclosing who provided genetic material
- Laws/policies differ re: owner of donated material (one or both partners)

## ■ Prenatal and Perinatal Care

- Laws vary re: whether nonpregnant partner can participate in prenatal visits and birth
- Living wills are needed to determine fate of embryo if pregnant partner becomes incapacitated

## ■ Surrogacy

- Banned in several states
- Courts may rule in favor of surrogate if she wants to keep baby

## ■ Second-Parent Adoptions and Birth Certificate

- State laws vary re: who can adopt and names on birth certificate
- Affects custody, hospital visitation, travel, taxes....

# Family Building Options for MTF

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1. Have children prior to transition, if already partnered and ready to have children
2. Sperm banking prior to transition, if not partnered, or not ready to have children

# Family Building Options for MTF

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1. Have children prior to transition, if already partnered and ready to have children
  - If partnered with a cis-gender woman: option to have children the "traditional" way prior to transition
  - If partnered with a cis-gender man: need IVF, with an egg donor to provide eggs & a gestational surrogate to carry the pregnancy

# Family Building Options for MTF

## 2. Sperm banking prior to transition, if not partnered, or not ready to have children yet

- needs to be done prior to initiation of hormonal therapy
- commercial sperm bank
- need to bank multiple specimens

### After transition, options for use of banked sperm depends on the individual's partnership situation.

- If partnered with a cis-gender woman: use banked sperm to inseminate female partner (“alternative insemination”)
- If partnered with a cis-gender man: need to do IVF, with an egg donor to provide eggs & a gestational surrogate to carry the pregnancy

# Family Building Options for FTM

- Option #1: Have children prior to transition, if already partnered and ready to have children.
  - If partnered with a cis-gender man, option to have children the "traditional" way prior to transition
  - If partnered with a cis-gender woman, option to do IVF with donor sperm and have female partner carry pregnancy ("reciprocal IVF")
- If having children prior to transition is not an option, then there are the options to bank embryos or eggs prior to transition

# Family Building Options for FTM

- Option #2: Embryo banking prior to transition, if already partnered but not ready to have children
  - ideally, this should be done prior to initiation of hormonal therapy
  - if partnered with a cis-gender man, bank embryos created with IVF, then later use a gestational surrogate to carry the pregnancy
  - if partnered with a cis-gender woman, bank embryos created with IVF using donor sperm, then later have female partner (or a gestational surrogate) carry pregnancy



# Family Building Options for FTM

- Option #3: Egg banking prior to transition, if not partnered, or not ready to have children yet
  - Ideally, this should be done prior to initiation of hormonal therapy
  - bank eggs
  - how these banked eggs are used later will depend on the individual's subsequent partnership status:
    - If partnered with a cis-gender man, do IVF with male partner's sperm, & use a gestational surrogate to carry the pregnancy
    - If partnered with a cis-gender woman, do IVF with donor sperm, & have female partner (or a gestational surrogate) carry pregnancy.

# Case Report #1

C. F. (22) & E. H. (21)

April 2012

- E. H. is FTM
- E. H. provided his eggs
- C. F. is cis-gender woman
- IVF cycle (11/12)
  - SET into C. F. – not pregnant
- FET cycle (1/13)
  - SET into C. F. – pregnancy resulted in live birth - healthy baby girl (10/13)
- IVF cycle (6/16)
  - SET into C.F. – pregnancy resulted in live birth – healthy baby girl (4/17)
  - 4 vitrified/cryopreserved blastocysts available

# Case Report #2

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B. L. (23)

January 2013

- B. L. is FTM
- Had not started transition
- Requested cryopreservation of his eggs for fertility preservation prior to transitioning
- Treatment in 5/12
  - 24 eggs retrieved
  - 16 mature oocytes vitrified/cryopreserved

# Case Report #3

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A. C. (24)

February 2013

- A. C. is FTM, engaged to marry cis-gender woman
- Had been on testosterone tx since April 2010
- Stopped testosterone in June 2013
- Began menstruating again in August 2013
- First treatment (11/13)
  - 14 eggs retrieved
  - 12 mature oocytes vitrified/cryopreserved
- Second treatment (1/14)
  - 23 eggs retrieved
  - 17 mature oocytes vitrified/cryopreserved

# Case Report #4

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B. H. (34) & J. H. (26)

August 2013

- B. H. is MTF, married to cis-gender woman, JH
- Had been on hormone therapy since 2006
- Discontinued hormone therapy in 2011
- Sperm production returned but at very low levels
- B.H. provided her sperm for IVF procedure
- J.H. went through regular IVF treatment (10/13)
  - 29 eggs retrieved, 25 mature, 23 fertilized
  - SET resulted in pregnancy, live birth, female infant on 7/28/2014
    - 14 blastocysts vitrified/cryopreserved

# Case Report #5

R.B. (36)

November 2015

- R.B. is FTM, married to cis-gender woman
- Had been on testosterone therapy since November 2011
- Discontinued testosterone therapy in October 2014
- Underwent 6 cycles of IUI with donor sperm (5/15 – 10/15)
- Did IVF cycle in December 2015
  - 7 eggs retrieved, 6 mature, 6 fertilized
  - SET resulted in successful live birth of healthy male infant (8/28/16)
    - 4 blastocysts vitrified/cryopreserved

# SUMMARY

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- Options are available for transgender people who desire genetic offspring
- Most options require assisted reproductive technologies involving insemination, ovarian stimulation for IVF, donor gametes and/or gestational surrogacy

# QUESTIONS ???

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