

Top 10 questions in fertility

Mr Rehan Salim MD MRCOG
Head of Reproductive Medicine
Consultant Gynaecologist & Subspecialist in
Reproductive Medicine
Imperial College NHS Trust

Learning objectives

- Patient preparation prior to specialist Fertility referral
- General fertility advice to patients - How to optimise your patients chances for successful conception
- Options for assisted Fertility
- Egg freezing - success rates and how and where to refer
- Understanding IVF pregnancy rates
- How to choose a clinic

Patient preparation

- General health measures for pregnancy
 - Stop smoking
 - Minimal alcohol
 - Minimal caffeine (<200mg/d)
 - Folic acid
 - Weight optimisation (BMI 20-30)
 - Rubella immunity
 - Exercise
 - Limit intense cardio to <3 times a week
 - Body fat >10%
 - Optimise medical conditions

Patient preparation

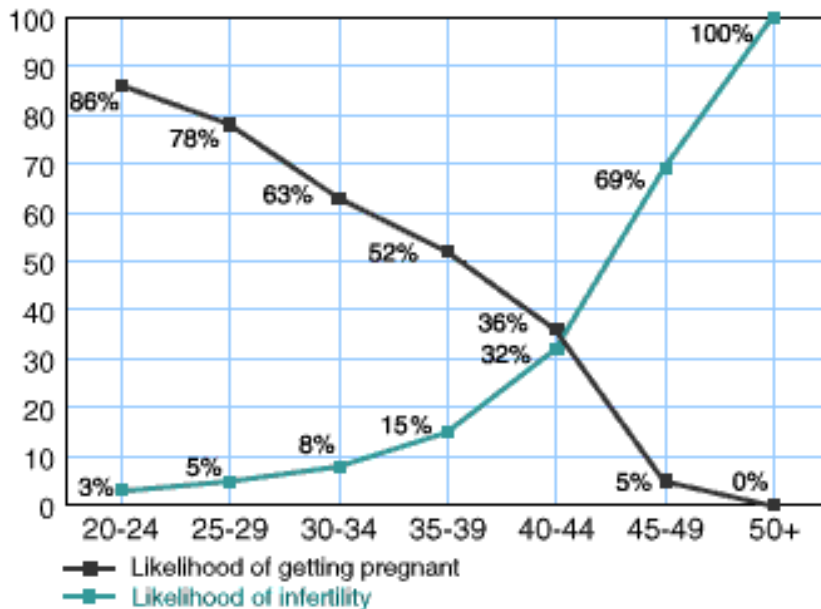
- General advice around sex
 - Do not time around ovulation
 - Sperm will survive 2-3 days
 - Semen contains more than sperm
 - Frequency of intercourse more important than timing
 - Aim for every 2-3 days from Day 7 of cycle in 28 day cycle

Patient preparation

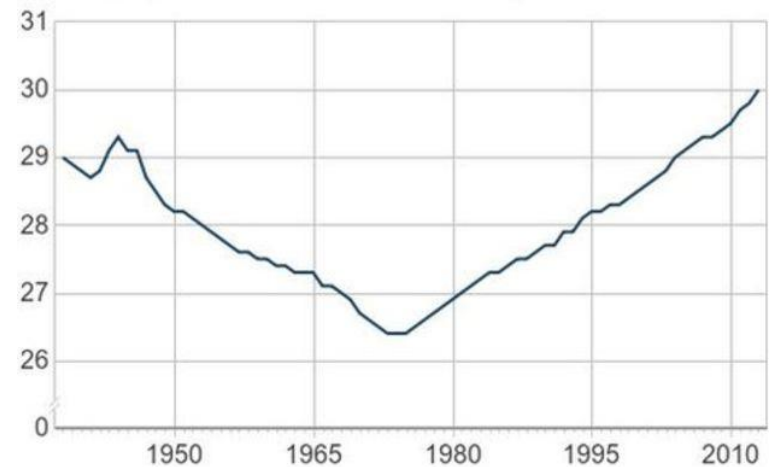
- Investigations in primary care:
 - FSH/LH/Estradiol Day 2-7
 - Pelvic ultrasound scan
 - Rubella immunity
 - Urine for Chlamydia PCR
 - Progesterone – not essential!
 - Semen analysis

Patient preparation

- Expectation management
 - At best conception rate is 15-20% per month
 - At best miscarriage rate is 15-20% per pregnancy



Average ages of women when they gave birth



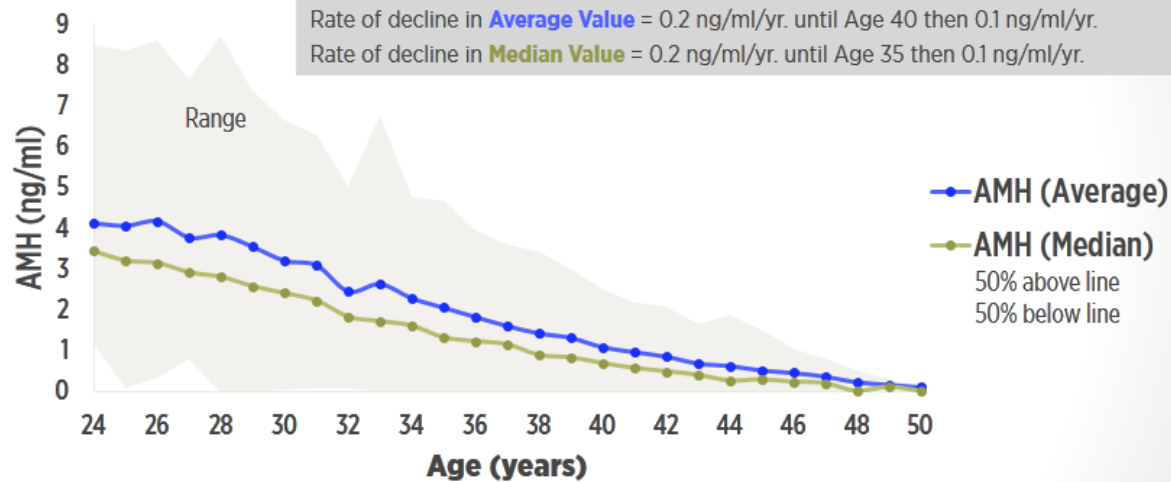
Source: ONS via BBC

Additional tests

- AMH

AMH Decreases with Age

17,120 Infertile women presenting to multiple infertility centers



AMH

- AMH decreases with age
- **Ovarian reserve decreases with age**
- AMH is best indicator of egg reserve
 - Not quantitative
 - Not qualitative
- Does not predict age of menopause
- Rate of decline is highly variable

Options for assisted fertility

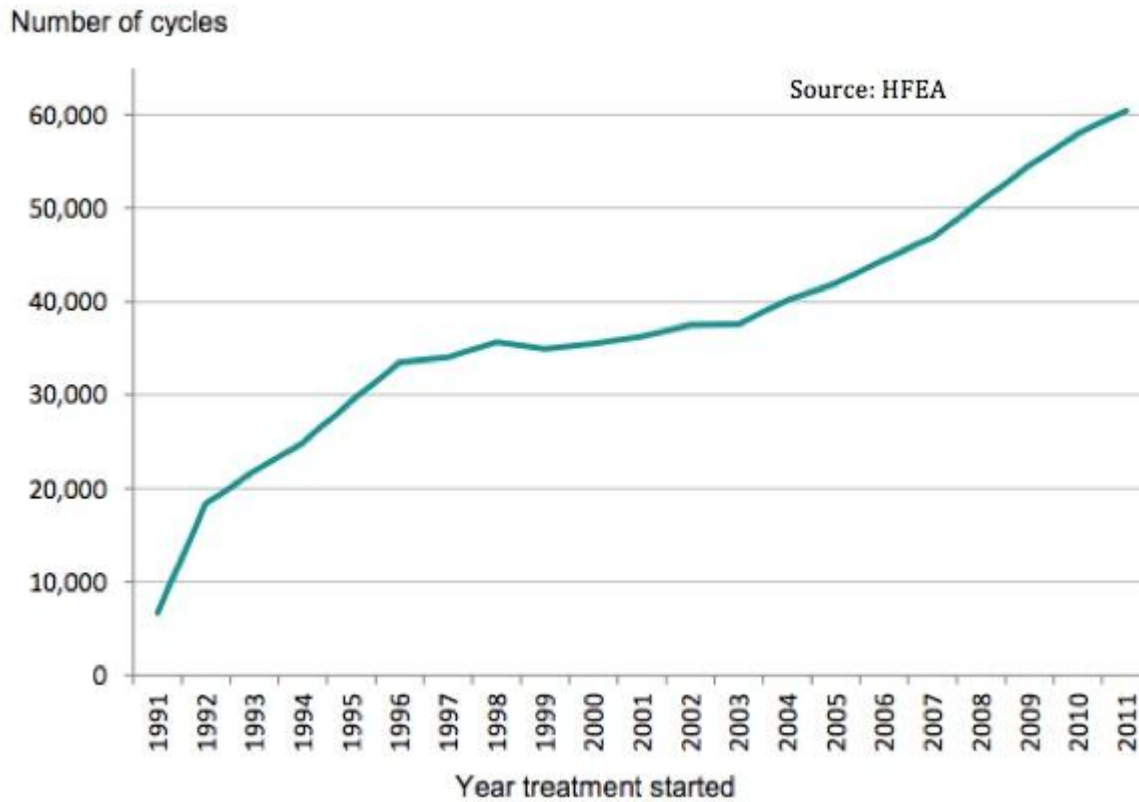
- Ovulation induction (Clomid or FSH)
 - Only for anovulatory infertility
 - BMI <35
 - NO OTHER INDICATION
 - Do not give without access to ultrasound monitoring
 - Consider starting Metformin (850mg BD)

Options for assisted fertility

- IUI
 - Current recommendations only for same sex couples or if vaginal intercourse not possible
 - No longer recommended for unexplained infertility or mild male factor
 - No better than regular unprotected intercourse

Options for assisted fertility

- IVF/ICSI



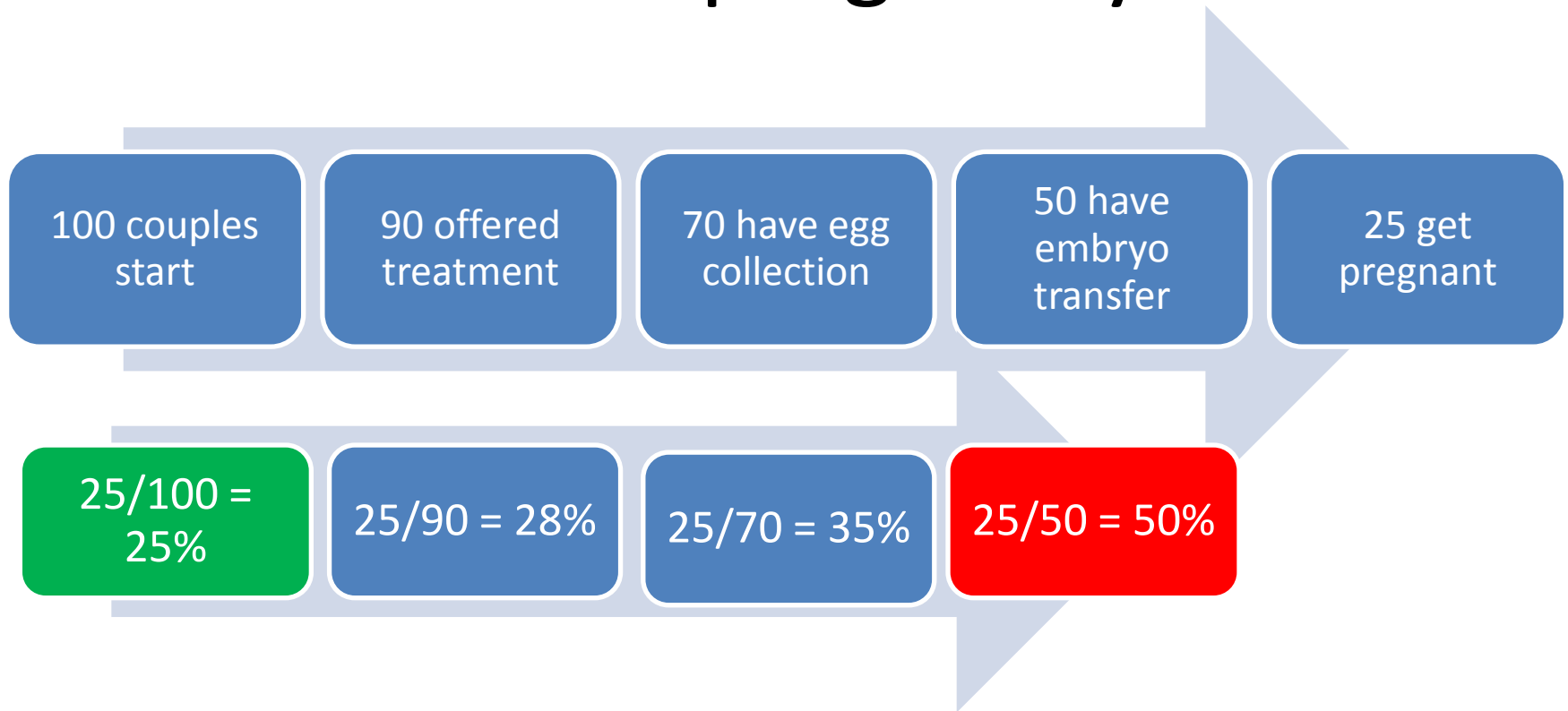
IVF

- Ovarian stimulation – approx 2 weeks
- Egg collection – conscious sedation
- Fertilisation of eggs
- Culture in laboratory
 - Aim to culture to Day 5
 - Single embryo transfer

IVF Additional techniques

- IMSI
 - Sperm selection under very high magnification
- pICSI
 - Select sperm with Hyaluron receptors
- Laser hatching
- Embryoglue
- Growth factors in culture media
- Embryoscope

Understand pregnancy rates



Egg freezing

- Shift from slow freezing to vitrification
 - Slow freezing survival rates <20%
 - Vitrification survival rates >85%
- Vitrification
 - Mostly for embryo
 - Increasingly for egg
 - Most egg freezing for donor oocytes

Egg freezing

- Vitriified oocytes (donor)
 - Pregnancy rates better than age matched infertile women
 - Possibly better rates because all frozen replacement cycles
 - No increase in pregnancy complications
 - No increase in abnormalities

Egg freezing

- When should eggs be frozen?
 - For a 90% chance of 1 child
 - IVF should start at 35
 - Natural conception should start at 32
 - For a 90% chance of a 3 child family
 - IVF should start at 28
 - Natural conception should start at 23

Egg freezing

- Why not just use donor eggs
 - 15-20% of women would rather remain childless than use donor eggs
 - Donor procurement
 - Ethics

Egg freezing

- ...but there have been very few births from social egg freezing
 - Insurance versus guarantee
 - A chance versus no chance

Egg freezing

- Workup
 - AMH
 - Ultrasound with antral follicle count
- IVF
 - Stimulate
 - Egg collect
 - Very low risk of OHSS

Egg freezing

- How many eggs
 - Estimate 6-8% pregnancy rate per egg frozen
 - 12 eggs?
 - More?
 - Multiple cycles?

Where to freeze

- Not for profit
- History of safe cryopreservation
- Charges for ongoing storage