

British (Oxford) IVM Update

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IVM in the UK

- All IVF units and treatments need a license from the Human Fertilisation and Embryology Authority (HFEA)
- Oxford applied for UK's first IVM treatment license in 2006
 - Clinician: my 2 year Fellowship at McGill
 - Embryologist: visits to McGill and Karolinska, Sweden
- Had to submit IVM safety data and show protocols and training
- Got license in February 2007, first patient treated same week

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First UK birth from lab-grown egg

A mother has given birth to twins using a revolutionary new fertility treatment for the first time in the UK.



The fertility technique, called in vitro maturation (IVM), could be a good alternative to conventional IVF for some high-risk women, say experts.

The twins - a boy and a girl - were born one minute apart

Under the process, women do not first need to take potentially risky fertility drugs as they do with IVF.

The technique is also cheaper and faster - but its success rate is lower and it is not available on the NHS.

Doing well

The twins were delivered a minute apart on Thursday 18 October.

The boy was born first, weighing 6lb 11oz, while his sister weighed 5lb 14oz. Both were said to be doing well.

Their names have not been released by their parents, who wish to protect their privacy.

Under IVM, the mother gave birth to the twins using her own eggs matured in a laboratory

VIDEO AND AUDIO NEWS
How the revolutionary treatment works
WATCH

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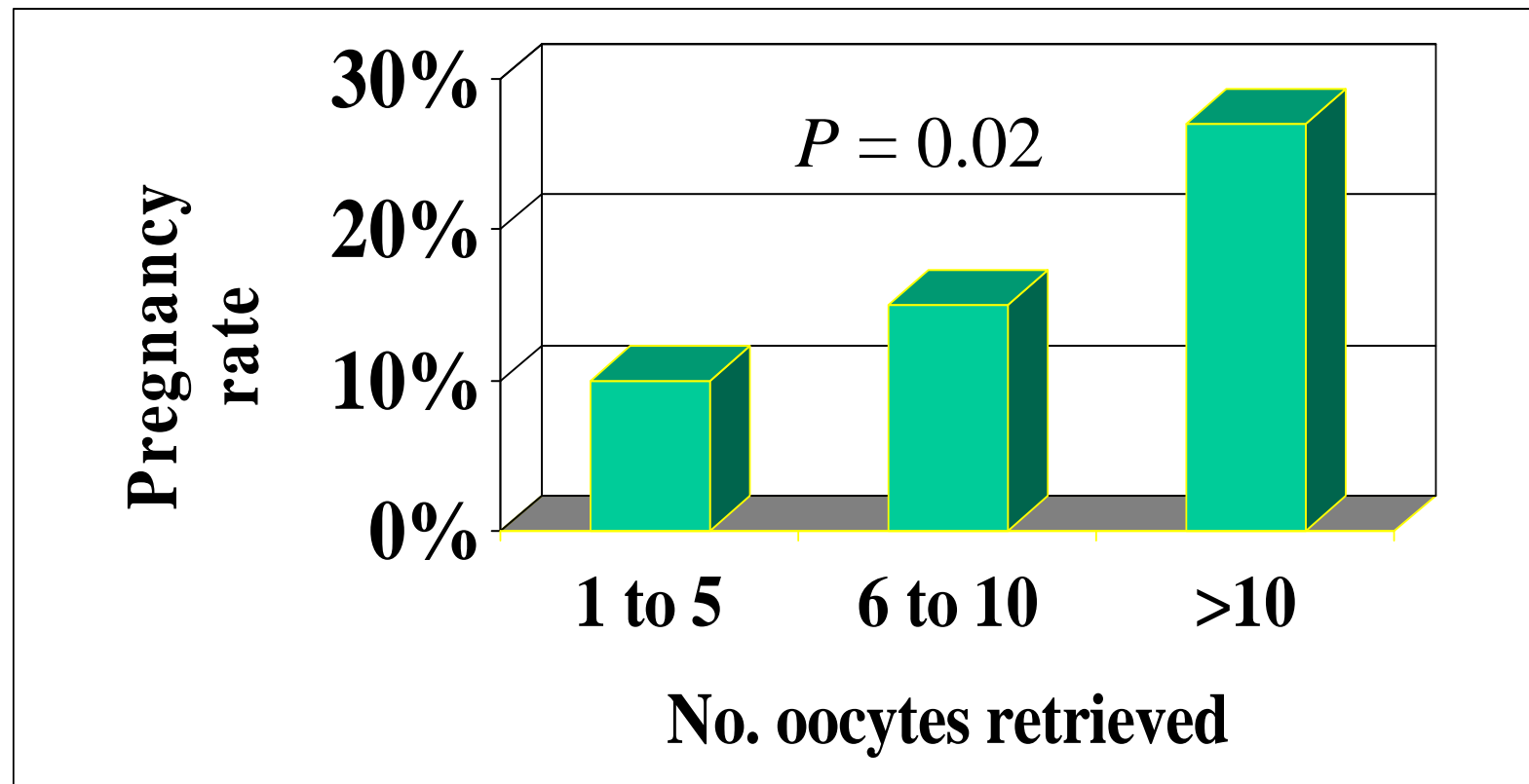
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Indications and Protocols in Oxford

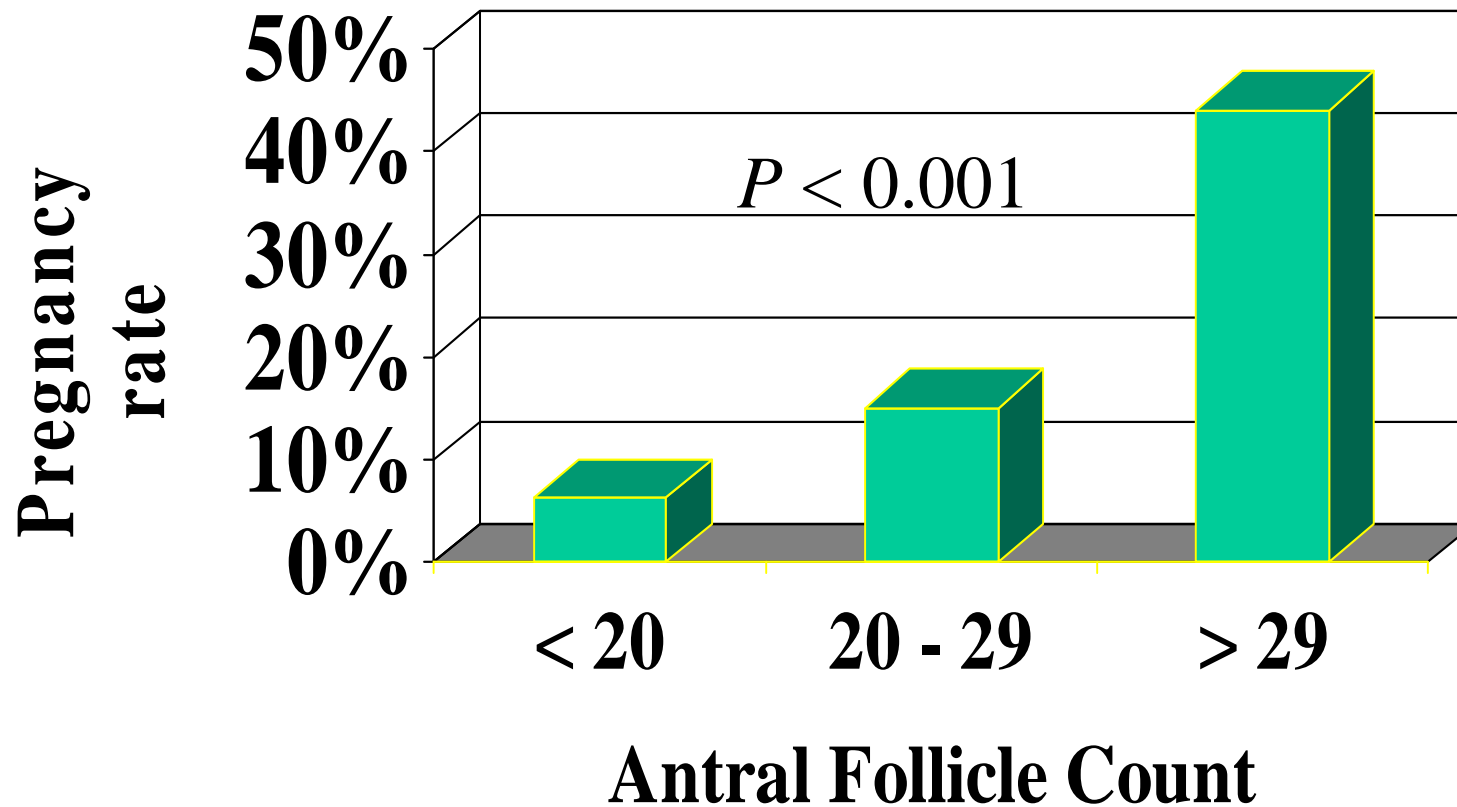
- Based on my experience and the literature, therefore, very McGill based ('Chian-Tan Protocol')

IVM Clinical Pregnancy rate and number of immature oocytes collected



(Tan, Child, Gulekli; Obs & Gyn 2001)

IVM Clinical Pregnancy Rate and Baseline Antral Follicle Count (n=96)



(Tan, Child, Gulekli; Obs and Gyn 2001)

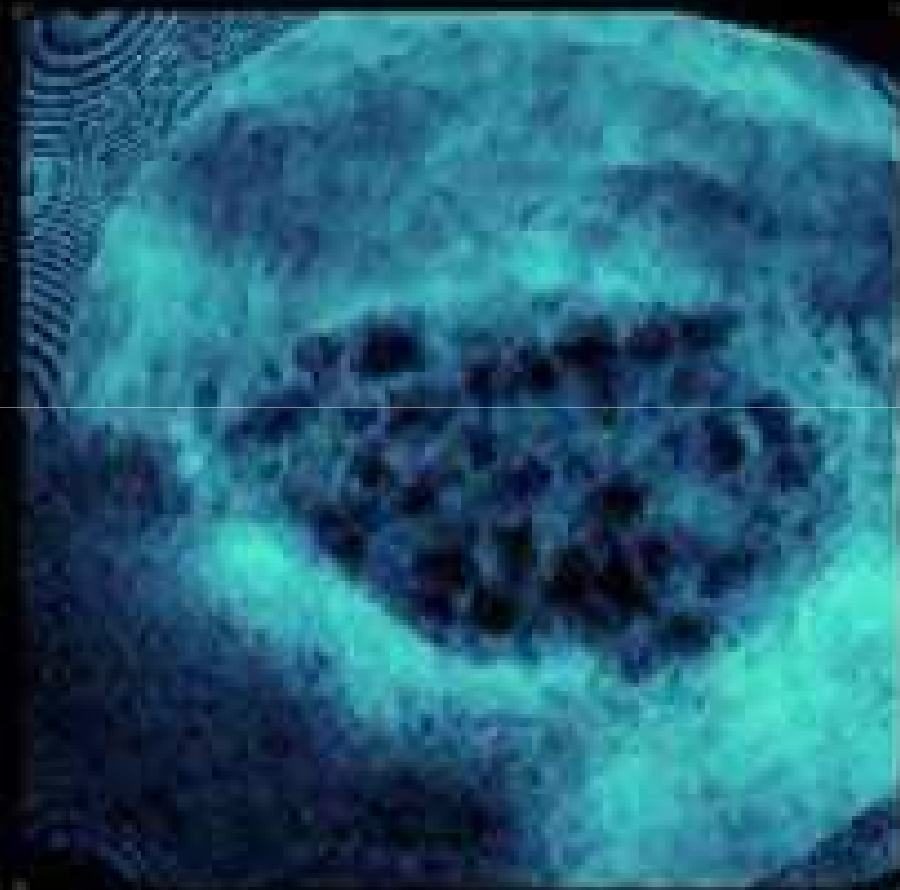


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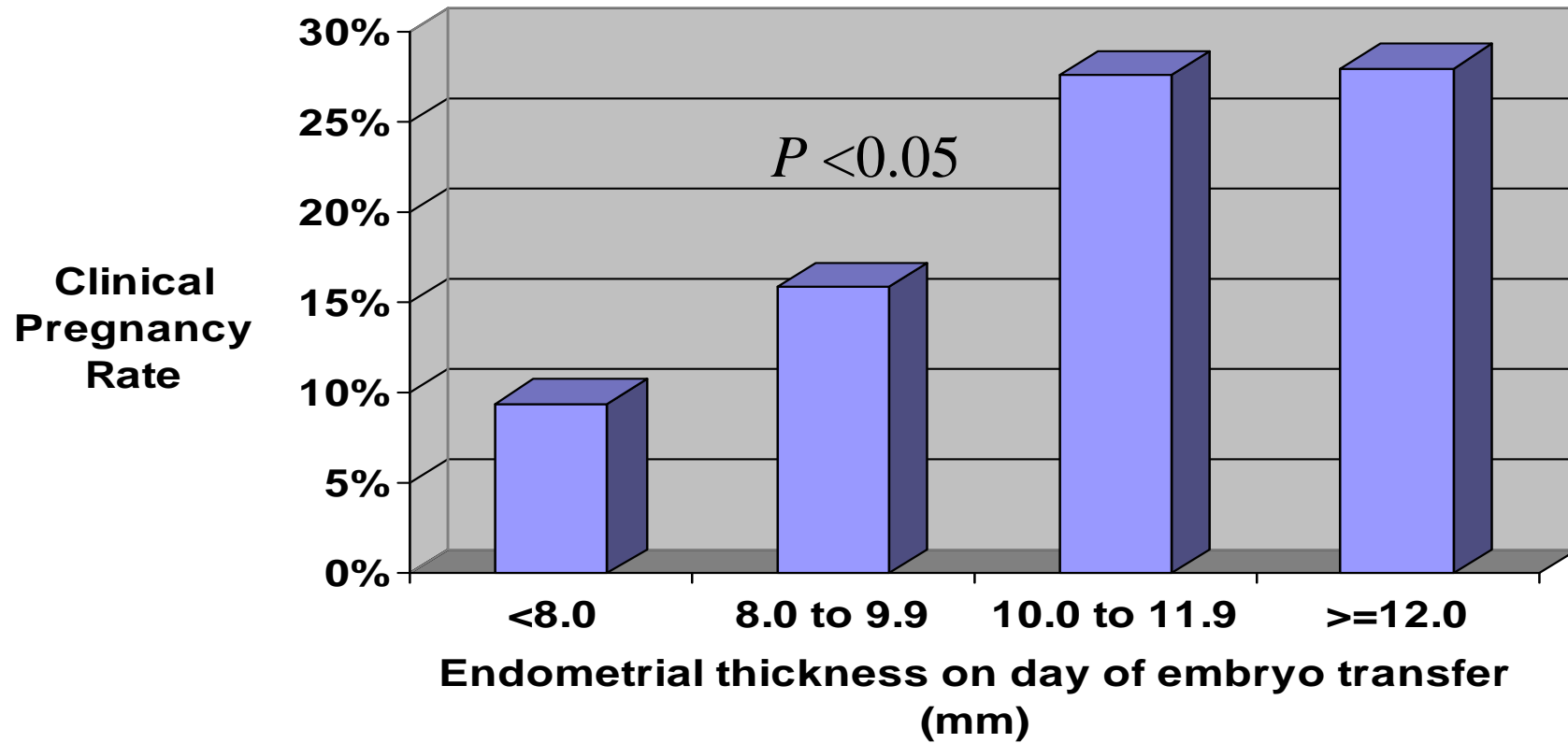
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Normal vs PCO vs PCOS (n=177)

	Normal	PCO	PCOS
N cycles	56	53	68
Immature Eggs	5.1	10.0	11.3
Mature Eggs	4.0	7.6	8.7
Embryos	2.7	5.5	6.3
Live birth (%)	2.0	17.3	14.9

(Child et al. F+S 2001)

Endometrial Thickness (n=155)



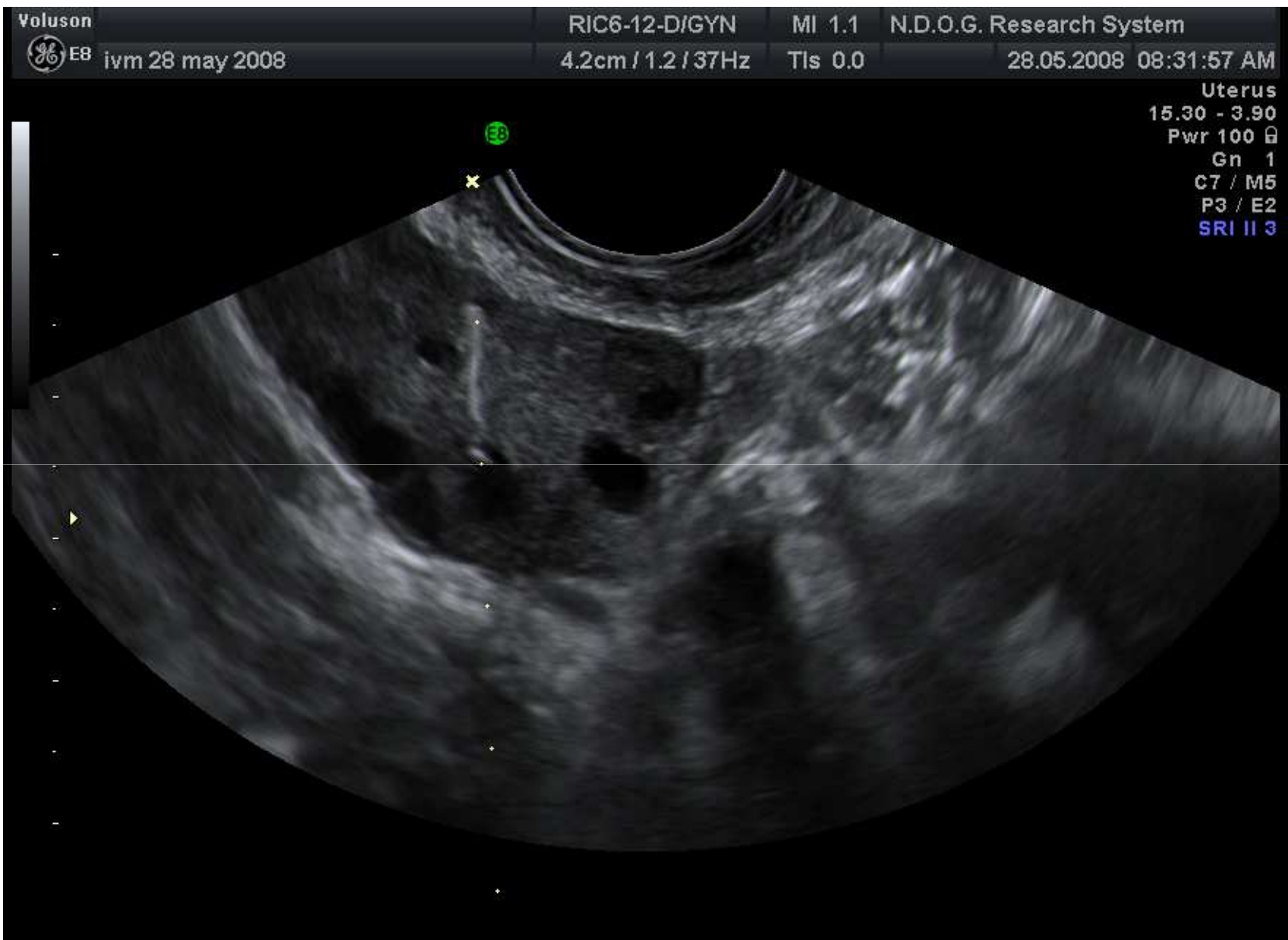
(Child et al. F+S 2003)

IVM in Oxford

- Indications in Oxford
 - Female age <38 years
 - Antral follicle count >20
 - Anovulatory PCOS
 - Ovulatory PCO
 - Accessible ovaries

IVM protocol in Oxford

- Unstimulated
- Baseline scan day 2-6 (AFC and confirm no cysts)
- No serum monitoring
- Sometimes 2nd scan to ensure no large follicle
- hCG 10 000iu 35 hours before pick-up (Chian 1999)
- Collections Monday to Wednesday
- Day of collection
 - PCOS: Day 8-14 after provera withdrawal bleed
 - Ovulatory PCO: Aim for no follicles >14mm diameter at collection



IVM protocol in Oxford

- Paracervical local anaesthetic + IV propofol sedation
- Single channel 17G needle
(Cook K-OSN-1735-A-60)
- Semen sample same day
- SAGE IVM media (Cooper Surgical)
- ICSI
- Aim for day 3 transfer
- Legal maximum of 2 embryos transferred in UK
- Oestradiol valerate 6mg from collection, progesterone pessaries 400mg from the next day

Oxford IVM Results: All ages

	All ages	
N	63	
Age	33 (24-39)	
GV oocytes	16 (3-50)	
MII oocytes	9 (3-41)	
2PN	6 (1-22)	
PR/collection	32%	
Implantation rate	13%	
CPR (+FH)	22%	

Oxford IVM Results

	All ages	<36 years
N	63	42
Age	33 (24-39)	32 (24-35)
GV oocytes	16 (3-50)	15 (3-40)
MII oocytes	9 (3-41)	9 (3-29)
2PN	6 (1-22)	6 (1-20)
PR/collection	32%	45%
Implantation rate	13%	23%
CPR (+FH)	22%	31%

Oxford IVM Results

- 3% oocytes mature at Day 0
- 71% maturation rate by 48 hours
- Multiple pregnancy rate 14% (all twins)
- 78 embryos frozen in 23 cycles (median 4 (1-9)).

IVM versus IVF for women <36 years? www.hfea.gov.uk

	Oxford IVM	Oxford IVF
CPR per cycle	31%	44%

IVM versus IVF for women <36 years? www.hfea.gov.uk

	Oxford IVM	IVF National 2007	Oxford IVF
CPR per cycle	31%	35%	44%

Summary

- Simple IVM regime, no ovarian stimulation or blood tests
- One, sometimes 2 scans
- PCO <36 years of age 31% CPR with maximum of 2 embryos transferred
- Success rate similar to National average for IVF
- Safe alternative to stimulated IVF

