

# INTRACYTOPLASMIC SPERM INJECTION: STATE OF THE ART

October 2013  
Olive Fertility Centre

## INTRACYTOPLASMIC SPERM INJECTION (ICSI)



# INDICATIONS FOR ICSI

- Epididymal or testicular sperm
- Total motile count < 1 million
- <4% morphology
- Unexplained infertility > 3 years
- No, poor or polyspermic fertilization with standard insemination
- Anti-sperm antibodies
- Previously frozen eggs
- Possible: advanced female age; endometriosis; HIV discordance

# RISKS OF ICSI

- damage to egg
- sex chromosome aneuploidy if male factor (0.6% vs 0.2%)
- imprinting disorders (0.8% vs 0.1%)
- congenital malformations?

# OUTCOMES AFTER ICSI

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human  
reproduction

ORIGINAL ARTICLE Reproductive epidemiology

## Neonatal outcome and congenital malformations in children born after ICSI with testicular or epididymal sperm: a controlled national cohort study

J. Fedder<sup>1,2\*</sup>, A. Loft<sup>3</sup>, E.T. Parner<sup>4</sup>, S. Rasmussen<sup>5</sup>, and A. Pinborg<sup>3</sup>

Laboratory of Reproductive Biology, Scientific Unit, Hvidovre Hospital, Hvidovre, Denmark; <sup>2</sup>Fertility Clinic, Odense University Hospital, 500, Boulevard 29, Odense C DK-5000, Denmark; <sup>3</sup>Fertility Clinic, The Juliane Marie Centre, Copenhagen University Hospital Rigshospitalet, Copenhagen, Denmark; <sup>4</sup>Department of Public Health, Section for Biostatistics, University of Aarhus, Aarhus, Denmark; <sup>5</sup>National Board of Health, Health Statistics, Copenhagen, Denmark

\*Correspondence address. E-mail: fedder@cochec.dk

# EMBRYO DEVELOPMENT



Oocyte



Zygote



4 cell



8 cell



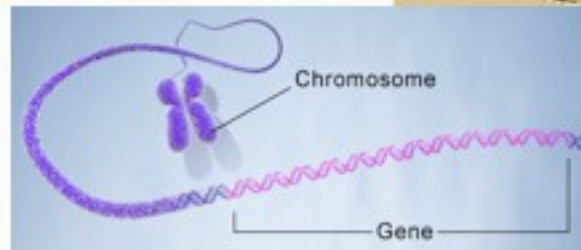
Morula



Blastocyst

# CHROMOSOMAL AND GENE LEVEL SCREENING

- Preimplantation genetic diagnosis: gene level disorders (e.g. Huntington's Disease)
- Preimplantation genetic screening: chromosomal aneuploidy (e.g. Down Syndrome)



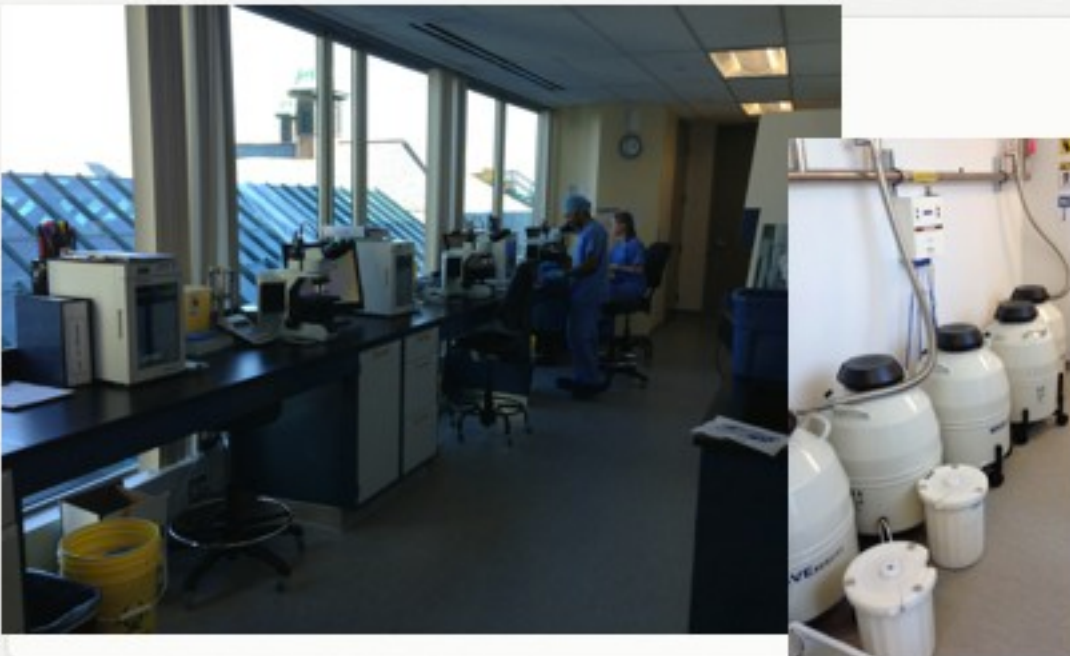
# IVF-ICSI LABORATORY



# EMBRYOLOGY LAB



# ANDROLOGY LAB



# CANADIAN IVF EXPERIENCE

- 20,000 IVF cycles started on 17,000 women annually
- 32% healthy live birth
- 20% multiples (0.4% high order multiples)

# CANADIAN EXPERIENCE

