

First draft for **Education course for nurses and embryologists**
Helsinki 9.-10.11.2017

Thursday 9.11. 12 - 17.00

12-12.30 Registration for all participants

TRACK for Nurses and Midwives

12.30 - 14.30 A. Physiology of spontaneous conception AND I. Early pregnancy

- 30 Oocyte maturation and gamete transport **Kirsi Kananen**
- 30 In vivo Fertilization and Implantation **Jarna Moilanen**
- 30 hCG production and pregnancy test **Antti Perheentupa**
- 30 ectopic pregnancies and recurrent early pregnancy loss **Jon Hausken**

14.30-15.00 Coffee Break

15.00 - 17.00 B. Epidemiology of Infertility and E. Clinical Fertility treatments

- 40 Causes of infertility and their prevalences **Jon Hausken**
- 30 Ovulation induction and IUI **Piia Poikkeus**
- 30 Surgical treatment **Päivi Härkki**
- 20 Epigenetics **Niina Kaminen-Ahola**

19.30 Dinner (suitable place near the venue and accommodation and price range)

Friday 10.11. 8.30 - 15.30

8.30 - 10.30 E. Clinical Fertility treatments continued

- 40 IVF and ICSI **Piia Poikkeus**
- 30 FET - monitoring and timing of natural and stimulated cycles **Jon Hausken**
- 30 Surgical retrieval of sperm **Antti Perheentupa**
- 20 Fertility preservation and non-routine methods (IVM, IMSI, etc.) **Marjut Ojala**

10.30 - 11.00 Coffee Break

11.00 - 13.00 H. Genetics

- 40 Genotype and phenotype - Chromosomal abnormalities **Peter Bredbacka**
- 40 Basic methods in genetics **Arne Sunde**
- 40 PGD, PGS **Christel Hyden-Granskog**

13.00 - 14.00 Lunch

14.00 - 15.30 Q. Research

- XX Literature research skills **Anne Egeberg**
- XX Basic principles of research **Anne Egeberg**
- XX Practices in research (ethical approval, informed consent etc.) **TBA**

TRACK FOR EMBRYOLOGISTS

12.30 - 14.30 1. Basic Concepts of cell biology and Genetics

- 60 The cell (cell cycle control, mitosis, meiosis, the reproductive cells) **Julius Hreinsson**
- 30 Cell-cell interaction receptors and signaling **Timo Tuuri/Sanna Vuoristo**
- 30 Basic Genetics of the Cell **Arne Sunde**

14.30-15.00 Coffee Break

15.00 - 17.00 1. Basic Concepts of cell biology and Genetics continued

- 60 Basic Genetics **Anna-Kaisa Anttonen**
- 30 Basic Gene Regulation **Timo Tuuri/Sanna Vuoristo**
- 30 Genetic analysis **Peter Bredbacka**

19.30 Dinner for all
suitable place near the venue and accommodation and price range

Friday 10.11. 8.30 - 15.30

8.30 - 10.30 E. Embryo Development and Early Pregnancy

- 45 Gamete interaction **Timo Tuuri/Sanna Vuoristo**
- 45 Embryo from the first cleavage to implantation **Sirpa Mäkinen**
- 30 Embryo evaluation and scoring **Christel Hyden-Granskog**

10.30 - 11.00 Coffee Break

11.00 - 12.30 E. Embryo Development and Early Pregnancy continued

- 60 Implantation and post-implantation Embryology **Timo Tuuri/Sanna Vuoristo**
- 30 IVF outcome and early pregnancy failures **Jon Hausken**

12.30 - 13.30 Lunch

13.30 - 15.30 Cryopreservation

- 60 Principles of freezing and thawing cells and embryos **Julius Hreinsson**
- 30 Sperm and oocyte freezing and thawing **Kirsi Kananen**
- 30 Testicular and ovarian freezing and thawing **Marjut Ojala**

A. Embryologit

1. Basic Concepts of cell biology and Genetics
4. Embryo development and early pregnancy
7. Cryopreservation

B. Hoitajat ja kättilöt

A. Physiology of spontaneous conception

- In vivo sperma and egg transport
- In vivo oocyte maturation
- In vivo Fertilization
- In vivo implantation

B. Epidemiology of infertility

- Causes
- Prevalence
- Definitions
- Epigenetics

E. Clinical fertility treatments

- E.1. Surgical
- E.2. Ovulation induction
- E.3. Intra-Uterine Insemination (IUI)
 - Controlled Ovarian Stimulation, Basic principles, Types of medication, Stimulation regimes, Insemination
- E.4. IVF/ICSI
 - Controlled Ovarian Stimulation, Basic principles, Types of medication, Stimulation regimes, OPU, ET, Pain relieve
- E.5. FET cycles
 - Monitoring and timing of FET-cycle, Natural and stimulated cycles
- E.6. Surgical treatments for sperm retrieval in the male patient
 - PESA (Percutaneous Epididymal Sperm Aspiratie)
 - MESA (Microsurgical Epididymal Sperm Aspiration)
 - TESE (Testicular Sperm Extraction)
- E.7. Third party reproduction
 - Oocyte, Sperm, Embryo donation, Surogacy – Gestational carrier
- E.8. Fertility preservation for medical reasons
- E.9. Non-routine methods
 - IVM, PGS, Assisted Hatching (AHA), IMSI, Trophectoderm Biopsy

H. Genetics

- H.1. Genotype and phenotype
- H.2. Chromosomal abnormalities: numerical, structural
- H.3. Genetic analysis of the intended parents
- H.4. Basic methods: Cytogenetics (karyotyping, FISH,..), Molecular genetics (PCR, ...)
- H.5. Pre-implantation Genetic Diagnostics (PGD)
- H.6. Epigenetics/imprinting

I. Early Pregnancy

- I.1. Human chorionic gonadotropin (HCG) production

- I.2. Pregnancy test
- I.3. Ultrasound scanning (sacs, heartbeat)
- I.4. Early pregnancy failures
 - Ectopic pregnancies
 - Recurrent early pregnancy loss

Q. Research

- Q.1. Literature research skills
- Q.2. Basic principles of quantitative and qualitative research
- Q.3. Informed consent and other procedures for protecting research
- Q.4. Collecting quantitative data