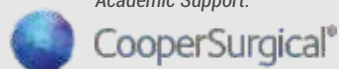




Academic Support:



BECOME A CERTIFIED EMBRYOLOGIST

9th IFS Embryology Certification and Embryology Preparatory Course for ESHRE Exams



BLOCK YOUR DATES

**31 OCT. 2021 & 7, 14, 21,
28, NOV. 2021
(EVERY SUNDAY)
3:00PM - 7:30PM**

President
Dr. Sudha Prasad

Course Chairperson
Dr. Kuldeep Jain

Secretary General
Dr. Neena Malhotra

Course Director
Dr. Jayant Mehta
Dr. Arne Sunde

Scientific Programme

**REGISTRATION
FEE**

**DELEGATE: ₹ 6000
OVERSEAS
DELEGATE \$100**

**15 CANDIDATE
GOT
CERTIFICATION
FROM ESHRE
LAST YEAR**

for more info visit:
www.indianfertilitysociety.org

Sunday, 31st October 2021, (DAY 1)

| TIME (IST) | TOPIC | SPEAKERS |
|-------------|---|--|
| 14:45-15:00 | Welcome and Ganesh Vandanam | <i>Dr Maansi Jain</i> |
| 15:00-15:15 | Introduction to the Course | <i>Dr Arne Sunde, Dr Kuldeep Jain, Dr Jayant Mehta</i> |
| 15:15-15:45 | Pre-assessment Exam | <i>Dr Arne Sunde, Dr Kuldeep Jain, Dr Jayant Mehta</i> |
| 15:45-16:30 | 1. Basic Cell Biology 1.1 The cell Internal organisation Cell cycle control, checkpoints Mitosis and meiosis Reproductive cells: spermatozoa and oocytes 1.2 Cell-cell interaction Membrane receptors: function, type, regulation Signalling Junctions | <i>Dr Malathy Darmalingam</i> |
| 16:30-17:45 | 1. Basic Cell Biology 1.3 Basic genetics of the cell DNA chromatin and chromosomes Concept of a gene Mutations Epigenetics 1.4 Basic gene regulation Translation Transcription Expression Imprinting 2. Genetics 2.1 Basic genetics principles Genotype and phenotype Basic Mendelian inheritance patterns Monogenic diseases Mutations, copy number variation (CNV), de novo mutations Chromosomal abnormalities: numerical, structural Interpretation of an inheritance / family tree / pedigree | <i>Dr Rajvi Mehta</i> |
| 17:45-18:30 | 2. Genetics 2.2 Genetic analysis and diagnosis How and why is it performed Diagnostic methods: cytogenetics (e.g. karyotyping, FISH), molecular genetics (e.g. PCR, array CGH, NGS) | <i>Dr Sailaja Gada</i> |
| 18:30 | Q&A | <i>Dr Malathy Darmalingam, Dr Rajvi Mehta, Dr Saileja Gada</i> |

Sunday, 7th November 2021, (DAY 2)

| TIME (IST) | TOPIC | SPEAKERS |
|-------------|--|--|
| 15:00-15:45 | 3. Developmental Biology 3.1 Embryonic stem cells Origins, definitions, characteristics 3.2 The fetal ovary Factors regulating development Primordial germ cells Cell migration Time scale (days / week) 3.3 The fetal testis Factors regulating development Primordial germ cells Cell migration Time scale (days / week) | Dr Pankaj Talwar |
| 15:45-16:30 | 3. Developmental Biology 3.4 Gamete interaction – until 1st cleavage Fertilisation Acrosome reaction Sperm- oocyte signaling Sperm decondensation Oocyte activation Meiosis II, pronuclei and spindle formation 3.5 Embryo development - from first cleavage to implantation Metabolism, cell positions, embryonic axis Kinetics, timing, regulation Apoptosis | Dr Gaurav Majumdar |
| 16:30-17:45 | 3. Developmental Biology 3.6 Implantation Hatching, adhesion, invasion, endometrium 3.7 Post-implantation embryology Gastrulation Organogenesis Sex differentiation 3.8 Early pregnancy HCG production, biochemical and ongoing pregnancy Implantation, ultrasound (sacs, heartbeat) Extra uterine pregnancies Spontaneous abortions Embryo factors vs. uterine factors in implantation/implantation failure | Dr Shweta Mittal |
| 17:45-18:45 | 4. Female Reproduction 4.1 Anatomy and function of the female reproductive system Role of accessory systems Function of the organs 4.2 Oogenesis Regulating factors Hypothalamus, pituitary, gonad axis Endocrine regulation Theca & granulosa cells Maturation biochemistry and metabolism of the oocyte Oocyte morphology/structure Function of each structure | Dr Surveen Ghumman |
| 18:45-19:15 | Q& A | Dr Pankaj Talwar, Dr Gaurav Majumdar, Dr Shweta Mittal & Dr Surveen Ghumman |

| Sunday, 14 th November 2021, (DAY 3) | | |
|---|---|---|
| TIME (IST) | TOPIC | SPEAKERS |
| 15:00-15:45 | 4. Female Reproduction 4.3 The oocyte: markers of competence Nuclear maturity Cytoplasm Polar bodies Zona pellucida Cumulus cells | <i>Dr Keshav Malhotra</i> |
| 15:45-16:30 | 4. Female Reproduction 4.4 Clinical workout Evaluation of (in)fertility: aetiology, medical/physical aspects, genetic diagnosis, hormonal evaluation, treatment options, etc. Definitions, primary infertility, secondary infertility Serological screening for patients and/or donors Effects of treatment Oocyte donation | <i>Dr Sudha Prasad</i> |
| 16:30-17:15 | 4. Female Reproduction 4.5 Ovarian hyperstimulation Basic principles Types of medication Stimulation regimes (types, rationales) Complications of treatment | <i>Dr K D Nayar</i> |
| 17:15-18:15 | 5. Male Reproduction 5.1 Anatomy and function of the male reproductive system Role of accessory systems Function of the organs 5.2 Spermatogenesis Regulating factors Hypothalamus, pituitary, gonad axis Endocrine regulation Leydig & Sertoli cells Differentiation and maturation Biochemistry and metabolism of the sperm cell Sperm morphology/structure Function of each structure 5.3 Diagnosis of male infertility Semen analysis (functional analysis, microscopic analysis) WHO & ESHRE guidelines CASA systems | <i>Dr Natarajan Pandian</i> |
| 18:15-19:00 | 5. Male Reproduction 5.4 Clinical workout Evaluation of (in)fertility: aetiology, medical aspects, genetic diagnosis, hormonal evaluation, physical aspects, treatment options, etc. Definitions, primary/secondary infertility Serological screening for patients and/or donors Sperm donation | <i>Dr Kuldeep Jain</i> |
| 19:00-19:15 | Q&A | <i>Dr Keshav Malhotra, Dr Sudha Prasad, Dr Kuldeep Jain, Dr K D Nayar, Dr Natarajan Pandian</i> |

| Sunday, 21 st November 2021, (DAY 4) | | |
|---|--|----------------------------------|
| TIME (IST) | TOPIC | SPEAKERS |
| 15:00-15:45 | 6. ART Laboratory Procedures 6.1 Strategies for choosing fertilization procedures IUI, IVF or ICSI, criteria IVM PESA, TESA, TESE Donor sperm in relation to serological tests (different handling and storage) 6.2 The sperm sample: preparation methods Gradient centrifugation, swim-up, swim-out, etc Advanced diagnostic tests (evaluation of DNA damage, chromatin condensation, etc) When to use what, why, differences 6.3 ART techniques Practicalities for IUI, IVF and ICSI (timing, preparation procedures, materials, etc) Pick-up, oocyte handling IVF insemination Denudation prior to ICSI ICSI procedure | Dr Ved Prakash |
| 15:45-16:30 | 6. ART Laboratory Procedures 6.4 Embryo scoring, Day 1 - 6 PN scoring Morphology criteria Kinetics, genetics, physiology (e.g. amino acids, oxygen metabolism) Time-lapse Destination of embryos: selection criteria for transfer, cryopreservation, biopsy, etc 6.5 Embryo transfer Identity check Selection and criteria for number of embryos to be transferred Catheter loading and transfer procedure Assisted hatching: pros-cons, evidence 6.6 PGT Timing of biopsy Tubing techniques Zona opening (pros and cons) Different biopsy types, number of cells to evaluate Techniques used for evaluation of the cells biopsied Results and recommendations upon transferring embryos after PGT | Dr Ethiraj Balaji Prasath |
| 16:30-17:15 | 7. Cryopreservation 7.1 Principles of cryopreservation Basic cryobiology Cryoprotectants, additives Slow freezing Vitrification Advantages/disadvantages with different methods Fertility preservation in oncology cases 7.2 Cryopreservation of sperm Theory and practice 7.3 Cryopreservation of oocytes Theory and practice 7.4 Cryopreservation of embryos Theory and practice | Dr. Steven Flemming |

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| 17.15-18.15 | 7. Cryopreservation 7.5 Cryopreservation of ovarian tissue Theory and practice 7.6 Cryopreservation of testicular tissue Theory and practice 7.7 Equipment Machines Straws/ampoules Contamination risk from storage medium Minimal safety requirements Security 7.8 The cryopreservation-thawed/warmed embryo treatment cycle Monitoring and timing of the thawing/warming cycle Controlled and natural cycles | Dr David Morroll |
| 18.15-19.15 | 6. ART Laboratory Procedures 6.7 Culture conditions Media Type of culture systems Requirements for consumables Physiochemical parameters (temperature, pH, osmolality) Stage specific requirements 6.8 Non-routine methods: Examples of non-routine methods, e.g. in vitro maturation, polar body evaluation, assisted hatching, etc | Dr Ethiraj Balaji Prasath |
| 19:15-19:45 | Q&A | Dr Ved Prakash, Dr Ethiraj Balaji Prasath, Dr David Morroll & Dr Steven Flemming |

Sunday, 28th November 2021, (DAY 5)

| TIME (IST) | TOPIC | SPEAKERS |
|-------------|---|--|
| 15:00-16:00 | 8. Laboratory and Quality Management 8.1 Patient data Identity check Confidentiality Keeping records Safety, storage of data Single European Code 8.2 Type and treatment choices Surgical Hormone stimulation Insemination IVF / ICSI Use of fresh or frozen gametes Gamete and embryo donation 8.3 Treatment outcome The health of the children, Risk factors Maternal factors, Paternal factors, Multiple pregnancies Chromosomal factors, Malformations, Imprinting 8.4 Quality assurance Identification procedures Laboratory and clinical KPIs Standard operating procedures Traceability of samples/material Validation procedures, Risk analysis, Logbooks Introducing new methods 8.5 Equipment and facilities Calibrations Validation, monitoring, logbooks, maintenance and control Microscopes Principles of optical system, calibrations, maintenance and control Technical requirements in a ART lab facility 8.6 Statistical analysis Sample size evaluation, Study design Statistical variance, Interpretation of results | Dr Arne Sunde |
| 16:00-17:00 | 8. Laboratory and Quality Management 8.7 Legislation ESHRE guidelines Ethical considerations Code of practice European rules and regulations related to ART practice EU Tissue and Cells Directives (EUTCDs) 8.8 Reducing risks/ dealing adverse events/ troubleshooting Contaminated samples Processing and storage of contaminated samples with contagious agents Personal protective equipment (PPE) Hygiene and disinfectants used at ART lab Protective measures (alarm, sensors, etc) Actions upon injury Risk of mix-up of gametes, loss or damage during handling Transfer of wrong embryos Breakdown of equipment, back-up strategies | Dr Jayant Mehta |
| 17:00-18:00 | Exam | |
| 18:00-18:30 | Candidate Feedback and closing remark | Dr Arne Sunde, Dr Kuldeep Jain, Dr Jayant Mehta |

HIGHLIGHT'S

1. Renowned International & National Faculty.
2. Opportunity to appear in Mock Exam similar to ESHRE exams.
3. IFS course attendance certificate to all who appear in exams.
4. IFS Embryology Certification to all who clear the exam.
5. Will be highly beneficial in preparation of ESHRE Certification.
6. Last date of submission is **25th October 2021**

ELIGIBILITY

1. MBBS / Post Graduate or MSc/PhD in life Sciences.
2. Experience of three years working an IVF Laboratory is must for certification (people with have less experience can also attend the course)

For further information contact:

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