



Univerza v Mariboru

Medicinska fakulteta

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Ženska in moška neplodnost
Course title:	Female and male infertility

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Biomedicinska tehnologija	-	2	3 ali 4
Biomedical Technology	-	2	3rd or 4th

Vrsta predmeta / Course type

izbirni

Univerzitetna koda predmeta / University course code:

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Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
15	20	10			105	5

Nosilec predmeta / Lecturer:

Prof. dr. Veljko Vlasisavljevič

Jeziki /

Predavanja / Lectures:

Slovenski / Slovene

Languages:

Vaje / Tutorial:

Slovenski / Slovene

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Prerequisites:

Kandidat mora doseči 300ECTS na predhodnem študiju.

Graduate degree 300 ECTS.

Vsebina:

Content (Syllabus outline):

Definicija neplodnosti, oogeneza, fiziologija, preiskave, diagnostika in terapija ženske reproduktivne funkcije, ovulatorne disfunkcije, tubarne nepravilnosti, endometrioze, cervikalni faktorji, indukcije ovulacije, inseminacije, tehnik OBMP.

Definition of infertility, oogenesis, physiology, examination, diagnostics and therapy of women's reproductive function, ovulatory disorders, tubal disorders, endometriosis, cervical factors, ovulation induction, insemination, MAR techniques.

Moška neplodnost, spermatogeneza, fiziologija, preiskave, diagnostika in terapija moške reproduktivne funkcije.

Male infertility, spermatogenesis, physiology, investigation, diagnosis and therapy of male reproductive function.

Endokrinologija, farmakologija in terapija, ki vpliva na fiziološko funkcijo mod, fiziologija spočetja in ocena funkcije semenčic, imunologija in reproduktivna genetika, poznavanje kliničnega učinka hormonov, mikroskopska patologija povezana z moškim genitalnim sistemom, klinična kompetenca v obravnavi težav s plodnostjo in erektilno disfunkcijo.

Endocrine physiology, pharmacology and therapy that regulate testicular function, the physiology of conception and assesment of sperm function, imunology and genetics related to reproduction, a knowledge of clinical pharmacology of hormones, microscopic pathology related to male genital system, clinical competence in management of fertility problems and erectile dysfunction.

Sposobnost opraviti in interpretirati rezultate analize semenskega izliva. Usposabljanje v laboratoriju ter posameznikova osebna vključitev v proces opravljanja analiz semenskega izliva in ostalih preiskav, ki so povezane s funkcijo semenčic. Biopsija mod.

Ability to perform and interpret semen analysis. Laboratory training with personal involvement in carrying out semen analyses and other tests in relation to sperm function.

Indikacije in metode asistiran reprodukcije.

Indication and methods of assisted reproduction. Oncofertility.



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Ohranjanje plodnosti pri onkoloških pacientih.

Temeljni literatura in viri / Readings:

- Adam H. Balen (Editor): Infertility in practice. Informa Healthcare, 2nd ed., Taylor and Francis, 2009
- David K. Gardner, A. Weissman, CM Howels, Z. Shoham (Editors) Textbook of Assisted Reproductive Techniques: Laboratory and Clinical Perspectives, Informa Healthcare UK Ltd, 2012
- Review articles from scientific journals
- Gab Kovacs (editor). The subfertility handbook, Cambridge University Press, 2nd ed., 2011
- Paul Serhal and Caroline Overton (Editors): Good clinical practice in assisted reproduction, Cambridge University Press, 2004
- Bruce Alberts, Alexander Johnson, Peter Walter Julian Lewis (Editors). Molecular biology of the cell, 2008

Cilji in kompetence:

Pridobitev splošnih kompetenc

Študent mora biti sposoben razumeti in interpretirati: metode določitve hormonov za oceno endokrinoloških sistemov, interpretirati radiografske tehnike uporabljene v diagnostičnih postopkih (HSG, CT, OBMP, itd.), primerno uporabiti in interpretirati genetske analize, kariotipizacijo. Pridobiti sposobnost in znanje uporabe ultrazvoka v reproduktivni medicini.

Študent mora razumeti in biti sposoben diskutirati o nastanku ejakulata kot tudi o preiskavah semen. Vzroki azoospermije, oligozoospermije. Pomen in omejitve biopsije testisov in endokrinološke preiskave, kot so FSH v plazmi, kriobiologija semen, 'in vitro' in laboratorijski testi funkcije semenčic. Fiziologija in patofiziologija spolne funkcije.

Pridobitev specifičnih kompetenc

Znanje o oploditvi z biomedicinsko pomočjo, vključno s stimulacijo jajčnikov, obravnavo sindroma hiperstimulacije jajčnikov, PCOS, redukcije zarodkov.

Študent mora biti sposoben primerne obravnave in zdravljenja neplodnega moškega.

Znanje in kompetence glede endoskopske kirurgije v povezavi z diagnostiko in zdravljenjem ženske neplodnosti in kirurške pridobitve semenčic.

Objectives and competences:

Development of general competences

The fellow should be competent to understand and interpret: endocrinological measurement of hormonal substances for evaluation of endocrine systems, to interpret radiographic techniques used in diagnostic procedure, (HSG, CT, MAR etc), appropriately utilize and interpret chromosomal studies and karyotyping.

Develop ultrasound skills used in reproductive medicine.

The student should understand and be able to discuss the formation of ejaculate as well as examination of the seminal fluid. The causes of azoospermia and oligozoospermia, the value and limitation of testicular biopsy and endocrine assessment such as plasma FSH, cryobiology of semen, in vitro and laboratory tests of sperm function. The physiology and pathophysiology of sexual function.

Development of specific competences

Expertise in medically assisted reproduction, including ovarian stimulation, management of ovarian hyperstimulation syndrome, PCOS, embryo reduction.

Fellow should be able to make appropriate investigation and treatment of infertile man.

Knowledge and competence in evaluation of endoscopic surgery related to the diagnosis and treatment of female infertility and surgical sperm retrieval.

Predvideni študijski rezultati:

Znanje in razumevanje:

Poglobljeno znanje epidemiologije, vzrokov, preiskav ter obravnave ženske in moške neplodnosti.

Intended learning outcomes:

Knowledge and understanding:

Comprehensive knowledge of epidemiology, causes, investigations and management of female and male infertility.

Metode poučevanja in učenja:

- Predavanja
- Seminarji pod nadzorom in s sodelovanjem z mentorji
- Praktično delo

Learning and teaching methods:

- Lectures
- Seminars under mentors supervision and collaboration
- Practical work



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Načini ocenjevanja:

Delež (v %) /
Weight (in %)

Assessment:

Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Type (examination, oral, coursework, project):
- Naloge 30% - Ustno izpraševanje 70%	30% 70%	- Coursework 30% - Oral examination 70%

Reference nosilca / Lecturer's references:

Predavateljeve klinične izkušnje in reference od leta 1983 pokrivajo neplodnost, asistiranje reproduktivne metode in raziskovalno delo. Njegova bibliografija obsega več kot 484 člankov v strokovnih revijah in monografijah.

Lecturer's clinical practice and references focuses from 1983 on infertility, assisted reproductive technology and research. His bibliography comprises over 484 articles in professional journals and books).

VLAISAVLJEVIĆ, Veljko, KOVAČIČ, Borut, RELJIČ, Milan, GAVRIČ-LOVREC, Vida, ČIŽEK-SAJKO, Mojca. Is there any benefit from the culture of a single oocyte to a blastocyst-stage embryo in unstimulated cycles?. *Hum. reprod. (Oxf.)*, 2001, vol. 16, no. 11, str. 2379-2383. [COBISS.SI-ID [995135](#)]

VLAISAVLJEVIĆ, Veljko, KOVAČIČ, Borut, RELJIČ, Milan, GAVRIČ-LOVREC, Vida. Three protocols for monitoring follicle development in 587 unstimulated cycles of in vitro fertilization and intracytoplasmic sperm injection : a comparison. *Journal of reproductive medicine*, Oct. 2001, vol. 46, no. 10, str. 892-898. [COBISS.SI-ID [805951](#)]

VLAISAVLJEVIĆ, Veljko, RELJIČ, Milan, GAVRIČ-LOVREC, Vida, KOVAČIČ, Borut. Subendometrial contractility is not predictive for in vitro fertilization (IVF) outcome. *Ultrasound obstetr. gynecol.*, 2001, letn. 17, št. 3, str. 239-244. [COBISS.SI-ID [713535](#)]

VLAISAVLJEVIĆ, Veljko, KOVAČIČ, Borut, GAVRIČ-LOVREC, Vida, RELJIČ, Milan. Simplification of the clinical phase of IVF and ICSI treatment in programmed cycles. *Int. j. gynaecol. obstet.*. [Print ed.], 2000, letn. 69, št. 2, str. 135-142. [COBISS.SI-ID [687679](#)]

VLAISAVLJEVIĆ, Veljko, HOJNIK, Nina, KOVAČIČ, Borut, RELJIČ, Milan, GAVRIČ-LOVREC, Vida, KOVAČ, Vilma, MLAKAR, Lea. Implementation of blastocyst transfer in the routine clinical practice of assisted reproductive techniques. Analysis of 6000 consecutive cycles = Vključitev prenosa blastociste v rutinsko klinično delo pri oploditvah z biomedicinsko pomočjo - analiza 6000 zaporednih ciklov. *Zdrav Vestn (Tisk. izd.)*. [Tiskana izd.], maj 2011, letn. 80, supl. 1, str. I-20-I-27. http://szd.si/user_files/vsebina/Zdravniski_Vestnik/2011/suplement/I20-27.pdf. [COBISS.SI-ID [3926335](#)]

VLAISAVLJEVIĆ, Veljko, KRIŽANČIĆ BOMBEEK, Lidija, KOKALJ-VOKAČ, Nadja, KOVAČIČ, Borut, ČIŽEK-SAJKO, Mojca. How safe is germinal vesicle stage oocyte rescue? Aneuploidy analysis of in vitro matured oocytes. *Eur J Obstet Gynecol Reprod Biol.* [Print ed.], 2007, vol. 134, no. 2, str. 213-219. [COBISS.SI-ID [2739263](#)]

VLAISAVLJEVIĆ, Veljko, RELJIČ, Milan, GAVRIČ-LOVREC, Vida, KOVAČIČ, Borut. Comparable effectiveness using flexible single-dose GnRH antagonist (cetrorelix) and single-dose long GnRH agonist (goserelin) protocol for IVF cycles - a prospective, randomized study. *Reprod. biomed. online (Online)*, 2003, vol. 7, no. 3, str. 301-308. [COBISS.SI-ID [1332543](#)]