

EAA Andrology Training Centre
Centre Report

2024



Andrology Clinic
Tartu University Hospital
Estonia

CENTRE REPORT

History of Centre

Formation of the Andrology Centre in Estonia: chronological footsteps.

1993 – Initiation of andrological service at the Tartu University Hospital (TUH) by Dr. Margus Punab; first Estonian outpatient clinic for infertile men at the Women's Clinic;

1995 – First specialized semen laboratory established by the United Laboratories of TUH;

1996 – Andrological outpatient clinic joined the central outpatient clinic of the TUH in the vicinity of the semen laboratory;

1997 – The Centre was involved in first international collaboration projects with Nordic colleagues;

2005 – Establishment of an independent Andrology Centre at the TUH.

Andrological activities, previously scattered between different clinics (private and state-owned) are now centralized into one center;

2007 – Andrology Centre's first accreditation by European Andrology Academy;

2022 – Andrology Center renamed to Andrology Clinic.

Andrology is a recognized medical sub-specialty in Estonia since 1992, and Andrology Clinic currently serves as a clinical basis for most of the clinical and research activities of the 5-year andrology residency program at the Tartu University, in collaboration with other departments of University Hospital and other hospitals.

Areas of clinical attention of Estonian Andrology Clinic include:

- a) infertility diagnosis and treatment, including genetic diagnosis and counseling;
- b) diagnosis and treatment of sexual dysfunctions;
- c) diagnosis and treatment of male reproductive endocrine disorders;
- d) diagnosis and treatment of male accessory gland infections;
- e) diagnosis and treatment of other uro-andrological disorders.

Main research focuses on genetic factors behind male infertility, chronic inflammatory diseases of the male urogenital tract, male ageing, population studies on male reproductive and general health.

First and previous Director of Andrology Clinic during 2005-2021 was Margus Punab, MD, PhD, Prof., andrologist-urologist, certified clinical andrologist by the EAA, EAA academician.

Organization of Centre

Andrology Clinic of Tartu University Hospital consists of units in Tartu, Tallinn and the branch offices in Pärnu and Narva. Our units work as referral centres for the whole Estonia. The Clinic provides diagnosis and treatment for a full range of andrological diseases, with the exception of surgical treatment covered by departments of urology in larger Estonian hospitals.

Present staff members:

Kristjan Pomm, MD – Head of the Clinic, andrologist-urologist, certified clinical andrologist by the EAA in 2020

Margus Punab, MD, PhD – andrologist-urologist, senior consultant, certified clinical andrologist by the EAA in 2004, EAA academician, Professor of Andrology, Institute of Clinical Medicine, University of Tartu

Olev Poolamets, MD – andrologist-urologist, senior consultant, affiliated member of the EAA

Stanislav Tjagur, MD, PhD – andrologist-urologist, certified clinical andrologist by the EAA in 2022, head of the Narva branch office

Sven Tennisberg, MD – andrologist-urologist, head of the Tartu branch office, affiliated member of the EAA

Paul Korrovits, MD, PhD – andrologist-urologist, certified clinical andrologist by the EAA in 2018, head of the Pärnu branch office

Silver-Peeter Siiak, MD – andrologist-urologist, affiliated member of the EAA

Vladimir Vihljajev, MD – gynecologist-andrologist

Kristel Ehala-Aleksejev, MD, PhD – specialist of internal medicine, nutritionist

In addition, the clinic employs three laboratory technicians, seven nurses, two physiotherapists and eight secretaries.

Educational activities

Andrology Clinic has a number of educational activities, both at pre- and postgraduate level and directed toward different professional target groups. These activities include:

- Andrology Clinic serves as a clinical basis of the 5-year postgraduate andrology residency program of the Tartu University in collaboration with other departments of University Hospital and other hospitals. Residential program in Andrology (as a subspecialty of urology) is based on EAA recommendations for andrology training. Current program of training consists of the following parts:
 1. Urology 10 months
 2. Pediatric urology 1 month
 3. Oncology 1 month
 4. Gynecology 5 months
 5. Laboratory medicine 2 months
 6. Endocrinology 1 month
 7. Radiology 1 month
 8. Genetics 1 month
 9. Andrology 33 months
- residential training of urologists and dermatovenerologists – 1 month training program in andrology
- optional andrology course (20 h) for medical students of the Tartu University (annual)
- optional uro-andrology course (20 h) for medical students of the Tartu University (annual)

- andrology lecture (3 h) in male reproductive health and infertility for residents of obstetrics and gynecology (annual)
- andrology lecture (3 h) in male reproductive health and diagnosis and treatment of other uro-andrological disorders for residents of surgery (annual)
- supervision of PhD students and post docs
- lectures in seminars, conferences, workshops organized by other medical or educational organizations
- research seminar for clinical and non-clinical staff – at least twice per year

Andrology-related meetings, workshops and courses organized within the last 5 years (since 2017)

1. Co-organizing of Annual Conference of the Estonian Union Against Sexually Transmitted Infections – June 2018, 2019, 2020, 2021, 2022;
2. Co-organizing of the Estonian Infertility and Embryology Society seminar “Sperm test interpretation”, 2022;
The faculty included Lars Björndahl, Ralf Henkel, Kristjan Pomm
3. 1st EAA School in Genetics of Male Infertility, 11-13 September 2019, Tartu, Estonia.
The new EAA School was organized by Maris Laan (Institute of Biomedicine and Translational Medicine, University of Tartu) and Margus Punab (Director of the EAA-accredited Andrology Centre, Tartu University Hospital). The course reviewed basic concepts of medical genetics, provided the state-of-the-art overview of currently applied genetic tools in the andrology clinic and introduced the recent advances in androgenetics. There were also practical seminars on basic medical genetics terminology, human genetic databases (‘hands-on’ computer class) and their utility in clinical practice, and discussions on relevant clinical cases. The faculty included Csilla Krausz, Frank Tüttelmann, Joris Veltman, Pille Hallast, Maris Laan, Margus Punab and Lili Milani;
4. In addition, our clinicians give lectures on andrology, reproductive medicine, sexology, etc. at postgraduate courses organized by other departments or institutions (urology, gynecology, internal medicine, etc.).

Research activities

Major areas of research:

1. Male infertility and its risk factors
2. Genetic aspects of male infertility
3. Cryptorchidism
4. Hypogonadism
5. Prostate diseases
6. Genital tract inflammations and infections, leukocytospermia, oxidative stress

Scientific grants

Major international scientific grants

1. Competence Centre on Reproductive Medicine and Biology. European Regional Development Fund - 01.09.2009 to 31.08.2015
2. Development of novel non-invasive biomarkers for fertility and healthy pregnancy. European Regional Development Fund - 01.09.2012-31.08.2015
3. European Commission (EU 5th framework) – Envir.Reprod.Health (QLK4-CT-1999- 01422) 2002-2004
4. European Commission (EU 5. framework) – European Male Aging Study (QLRT2001-00258) 2001-2009

Major local scientific grants

5. Estonian Research Council Personal research funding: Team grant (PRG); PRG1021 "Mono- and digenic causes of male infertility in the exome sequencing era: novel genes, digenic inheritance, pleiotropic effects and clinical implications" (1.01.2021–31.12.2025); Principal Investigator: Maris Laan; University of Tartu, Faculty of Medicine, Institute of Biomedicine and Translational Medicine
6. Causes of male factor infertility with special emphasis on the male accessory gland infection - PUT181 - Estonian Research Council – 1.01.2013-31.01.2016
7. Determinants on men's health: psychosocial factors in men with prostate diseases – influence on the help-seeking behavior and utilization of screening methods – ETF7979 - 01.01.09 - 31.12.12
8. Oxidative stress, prostatitis and male infertility - ETF8022 - 01.01.09 - 31.12.12

Clinical activities

Clinical activities of the Estonian Andrology Clinic include the following areas: Andrology and sexology; Urology; Endocrinology and Reproductive Genetics. Main emphasis of the clinical activities focuses on infertility diagnosis and treatment, however, other andrological problems (sexual and erectile dysfunction, male hormonal disorders including different types of hypogonadism, MAGI), urological diseases (prostate diseases, male urinary problems), pelvic pain syndrome, endocrinological diseases (incl. metabolic syndrome and obesity), sexually transmitted infections testing and treatment are also addressed at the Andrology Clinic.

The Clinic has a well-established semen laboratory, which is performing semen analyses according to the WHO guidelines, and also flow-cytometric urine tests. Ultrasound investigations of male genital tract (testicles, prostate and seminal vesicles, penis Doppler ultrasonography) are performed on the daily basis at the Andrology Clinic.

The Clinic has a very close co-operation with all Estonian IVF-clinics and we refer patients to the IVF-clinics for sperm cryopreservation or/and IVF/IUI, if necessary. There is also very close co-operation with urology departments and testicular sperm extraction (TESE) procedures are performed by urologists in other clinics. Genetic testing like karyotype, Y-chromosome microdeletions, CFTR gene mutations are performed in close co-operation with Genetics and Personal Medicine Clinic of Tartu University Hospital. Y chromosome microdeletion screening deletions are performed according to EAA recommendations. Laboratory has participated in the external EAA/EMQN quality control program. Our clinical work is publicly funded by the Estonian Health Insurance Fund.

Name and address of Centre

Andrology Clinic
 Tartu University Hospital
 L. Puusepa 1 a
 50406 Tartu
 Estonia

Type of Centre

University
 University Hospital
 Private Centre

Other (please
 specify)

1. Director

Kristjan Pomm, MD

Academician Regular Member EAA Certified Clin. Andrologist

2a. Clinical responsible

Kristjan Pomm, MD

Academician Regular Member EAA Certified Clin. Andrologist

2b. Clinical responsible

Margus Punab, MD, PhD

Academician Regular Member EAA Certified Clin. Andrologist

2c. Clinical responsible

Olev Poolamets, MD

Academician Regular Member EAA Certified Clin. Andrologist

3. Present Staff (*Senior Scientists*)

1) Name Margus Punab
Degree PhD, professor
Speciality Andrology

Academician Regular Member EAA Certified Clin. Andrologist

2) Name Stanislav Tjagur
Degree PhD
Speciality Andrology

Academician Regular Member EAA Certified Clin. Andrologist

Insert any additional staff below (if required)

MD/Biologists/Chemists

1) Name Paul Korrovits
 Degree MD, PhD
 Speciality Andrology
 Full time/part time Full time

Academician Regular Member EAA Certified Clin. Andrologist

2) Name Sven Tennisberg
 Degree MD
 Speciality Andrology
 Full time/part time Full time

Academician Regular Member EAA Certified Clin. Andrologist

3) Name Silver Peeter Siiak
 Degree MD
 Speciality Andrology
 Full time/part time Full time

Academician Regular Member EAA Certified Clin. Andrologist

4) Name Vladimir Vihljajev
 Degree MD
 Speciality Gynecology-andrology
 Full time/part time Full time

Academician Regular Member EAA Certified Clin. Andrologist

5) Name Kristel Ehala-Aleksejev
 Degree MD, PhD
 Speciality General health, nutrition
 Full time/part time Part time

Academician Regular Member EAA Certified Clin. Andrologist

5) Name Eeva-Liisa Sibul
 Degree MSc
 Speciality Physiotherapy
 Full time/part time Part time

Academician Regular Member EAA Certified Clin. Andrologist

5) Name Kati Juurik
 Degree MSc
 Speciality Physiotherapy
 Full time/part time Part time

Academician Regular Member EAA Certified Clin. Andrologist

Insert any additional staff below (if required)

Nurses

- 1) Name Anneli Remmelgas
- 2) Name Triina Karlson
- 3) Name Christine Kraas
- 4) Name Mati Kuusemäe
- 5) Name Virgo Adusoo
- 6) Name Olga Raudik
- 7) Name Anastassia Šelehhova

Laboratory Technicians

- 1) Name Kadri Poolak
- 2) Name Ahti Udam
- 3) Name Elisabeth Ilves

Administrative Personnel

- 1) Name Kristiina Noortoots
- 2) Name Mailis Sütt
- 3) Name Aive Hopfeldt
- 4) Name Kristel Pius
- 5) Name Lysbeth Boza
- 6) Name Piia Paju
- 7) Name Kätlin Rand
- 8) Name Juta Mouni-Voropanova

4. Clinical Activity

A. Outpatients: Consultations per year in the last 3 years

	2020	2021	2022
New patients	7749	5449	5336
Follow-up patients	8475	9826	9653

The statistical summary is based on medical bills and accurately represents the number of men who visited the men's clinic. Individuals who had not consulted at a men's clinic in the previous five years, but may have visited earlier for other reasons, were considered primary patients. Additionally, the count of both primary and repeat patients includes those who were seen by a doctor or, for instance, only by a nurse. For example, nurses with appropriate training can independently assess whether further examinations and medical consultations are necessary, such as when monitoring PSA levels.

It is pertinent to note that in 2020, a collaborative project between the Andrology Clinic and the Estonian Health Insurance Fund conducted preventive health examinations, including tests for testosterone, PSA, and general health parameters, on over 3,000 men. These examinations were followed by at least one feedback consultation with a nurse or doctor from the andrology clinic."

Clinical activities of the Estonian Andrology Clinic include the following areas: Andrology and sexology; Urology; Endocrinology and Reproductive Genetics. All andrological problems (infertility, sexual and erectile dysfunction, male hormonal disorders including different types of hypogonadism), MAGI (including prostatitis), urological diseases (prostate diseases, male urinary problems), pelvic pain syndrome, endocrinological diseases (incl. metabolic syndrome and obesity), sexually transmitted infections testing and treatment are addressed at the Andrology Clinic.

This all explains the wide target group and large number of patients.

	Type of patients in the last years (%)	2020	2021	2022
1	Infertility	8%	8%	8%
2	Erectile dysfunction	13%	13%	14%
3	Hypogonadotropic hypogonadism	0,2%	0,1%	0,1%
4	Klinefelter	0,1%	0,2%	0,1%
5	Gynaecomastia	0,3%	0,3%	0,3%
6	Varicocele	1%	1%	1%
7	Cryptorchidism	0,2%	0,3%	0,2%
8	Male sex accessory gland infections	26%	25%	25%
9	Testicular tumours	0,1%	0,1%	0,1%
10	Disorders of gender identity	0,02%	0,02%	0,02%
	Other	52%	51%	52%
11	Sexually transmitted infections	4%	4%	4%
12	Balanopostitis and phimosis	12%	12%	13%
13	Prostate cancer	1%	1%	1%
14	Hypogonadism	5%	6%	5%
15	Benign prostatic hyperplasia	26%	26%	26%
16	LUTS	5%	5%	6%
17	Obesity, hyperlipidemia, diabetes	9%	6%	6%
18	Premature ejaculation	3%	3%	3%
19	Other sexual dysfunction	7%	6%	7%
20	Pelvic pain syndrome	4%	4%	4%
21	Other urethritis	4%	4%	4%
22	Other	22%	22%	21%

B. Ultrasound (testis, penile, prostate) *

	2020	2021	2022
Total	9710	10951	10907

* performed at the Andrology Clinic

C. Andrological surgery procedures

	2020	2021	2022
Testicular biopsies	-	-	-
Varicocele ligation	-	-	-
Prostate biopsies	-	-	-
BPH	-	-	-
Prostate cancer	-	-	-
Vasectomy	-	-	-
Vaso-vasostomy	-	-	-
Other	-	-	-

5. A. Andrology laboratory activity

	2020	2021	2022
Semen analyses	5610	6713	6244
Sperm antibodies	2816	3919	3645
Seminal markers (IL-6)	4403	4427	4196

5. B. Andrology laboratory activity

Sperm banking donors Yes No Sperm banking cancer patients Yes No

<i>If yes:</i>			
	2020	2021	2022
Number of samples			

5. C. Histopathological evaluation of biopsies Yes No 5. D. Reproductive Hormones Assays Yes No

	2020	2021	2022
	Number of samples		
FSH	3871	5204	4641
LH	6702	8007	7293
Testosterone	10841	8958	8116
SHBG	10831	8953	8109
Prolactin	371	385	350

5. E. Y chromosome microdeletions according to EAA/EMQN guidelines Yes No *If yes* number of tests in the past years _____

	2020	2021	2022
	Number of samples		
Y chromosome microdeletions	65	89	94

Participation to the EAA quality control scheme? Yes No *If no*, specify if available in another lab of the same hospital Yes No

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Blood karyotyping Yes No

If no, specify if available in another lab of the same hospital Yes No

	2020	2021	2022
	Number of samples		
Blood karyotyping	72	104	109

Other genetic tests (please specify)

	2020	2021	2022
	Number of samples		
CFTR gene p.F508del, 394delTT, IVS8 5T/7T/9T mutations panel (CBAVD)	7	10	12
CFTR gene mutations (NGS)	2	2	1
FSHB c.-211G>T gene	66	100	100
STS, KAL (Xp22.3) FISH			1
Hereditary tumors gene panel (113 genes, NGS)			33
Testicular dysgenesis gene panel (6700 genes, NGS)			23

During last years our genetic laboratory participated in EMQN European Molecular Quality Network QC scheme. AZF deletion analysis included. This year the external QC is ordered from Instand.

6. Collaborations with other Clinical Units of the University/Hospital

IVF Unit

 Yes No

If yes please specify: Children, Endocrinology, IVF, Urology, Genetics, Pathology

 Urology Clinic Yes No

 Endocrine Clinic Yes No

 Genetics Lab/Unit Yes No

 Pediatric Unit Yes No

 Central Hospital Laboratory Yes No

 Private Centres Yes No

If yes please specify: clinical and scientific cooperation.

7. Clinical teaching activity

Duration of training (years):

	Number
A: Trainees in the last five years	4
B: Trainees who passed EAA-ESAU\exam for Clinical Andrologist in the last 5 yrs	3
C: Trainees working in the centre preparing to pass the EAA-ESAU examination	1
D: PhD Students	0+(5)
E: Medical Students	0
F: Other students (MSc)	0

8. Formal Andrology teaching program

 Yes No

If yes: specify duration (years/months):

 Years

 Months

	Hours of formal teaching per year	Professional training (weeks/months)
Medical Students	20+20 hours (optional)	
PhD Students		
Post Graduate students		
Trainees, andrology	Not specified	Full time
Other degrees (please specify): residential training of urologists and dermatovenerologists – 1 month of training in andrology		

9. Research Activity (maximum 1 page)

Main areas of research and related papers:

Male reproductive function and its risk factors

Causes of male infertility: a 9-year prospective monocentre study on 1737 patients with reduced total sperm counts.

Punab M, Poolamets O, Paju P, Vihljajev V, Pomm K, Ladva R, Korrovits P, Laan M. *Human reproduction*. 2017 Jan;32(1),18-31.

The European Academy of Andrology (EAA) ultrasound study on healthy, fertile men: An overview on male genital tract ultrasound reference ranges.

Lotti F, Frizza F, Balercia G, Barbonetti A, Behre HM, Calogero AE, Cremers JF, Francavilla F, Isidori AM, Kliesch S, La Vignera S, Lenzi A, Marcou M, Pilatz A, Poolamets O, Punab M, Godoy MFP, Quintian C, Rajmil O, Salvio G, Shaeer O, Weidner W, Maseroli E, Cipriani S, Baldi E, Degl'Innocenti S, Danza G, Caldini AL, Terreni A, Boni L, Krausz C, Maggi M. *Andrology*. 2022 Oct;10 Suppl 2(Suppl 2):118-132.

The European Academy of Andrology (EAA) ultrasound study on healthy, fertile men: Prostate-vesicular transrectal ultrasound reference ranges and associations with clinical, seminal and biochemical characteristics.

Lotti F, Frizza F, Balercia G, Barbonetti A, Behre HM, Calogero AE, Cremers JF, Francavilla F, Isidori AM, Kliesch S, La Vignera S, Lenzi A, Marcou M, Pilatz A, Poolamets O, Punab M, Godoy MFP, Quintian C, Rajmil O, Salvio G, Shaeer O, Weidner W, Maseroli E, Cipriani S, Baldi E, Degl'Innocenti S, Danza G, Caldini AL, Terreni A, Boni L, Krausz C, Maggi M. *Andrology*. 2022 Sep;10(6):1150-1171.

Prevalence of congenital cryptorchidism in Estonia.

Kübarsepp V, Varik K, Varendi H, Antson A, Veinla M, Nellis G, Merila M, Salundi U, Astover V, Punab M. *Andrology*. 2022 Feb;10(2):303-309.

Genetic aspects of male infertility

Microdeletions and microduplications linked to severe congenital disorders in infertile men. Kikas T, Punab AM, Kasak L, Poolamets O, Vihljajev V, Pomm K, Reiman M, Tjagur S, Korrovits P, Punab M, Laan M. *Sci Rep*. 2023 Jan 11;13(1):574.

Diverse monogenic subforms of human spermatogenic failure.

Nagirnaja L, Lopes AM, Charng WL, Miller B, Stakaitis R, Golubickaite I, Stendahl A, Luan T, Friedrich C, Mahyari E, Fadial E, Kasak L, Vigh-Conrad K, Oud MS, Xavier MJ, Cheers SR, James ER, Guo J, Jenkins TG, Riera-Escamilla A, Barros A, Carvalho F, Fernandes S, Gonçalves J, Gurnett CA, Jørgensen N, Jezek D, Jungheim ES, Kliesch S, McLachlan RI, Omurtag KR, Pilatz A, Sandlow JI, Smith J, Eisenberg ML, Hotaling JM, Jarvi KA, Punab M, Rajpert-De Meyts E, Carrell DT, Krausz C, Laan M, O'Bryan MK, Schlegel PN, Tüttelmann F, Veltman JA, Almstrup K, Aston KI, Conrad DF. *Nat Commun*. 2022 Dec 26;13(1):7953.

Translational aspects of novel findings in genetics of male infertility-status quo 2021.

Laan M, Kasak L, Punab M. *Br Med Bull*. 2021 Dec 16;140(1):5-22.

A common 1.6 mb Y-chromosomal inversion predisposes to subsequent deletions and severe spermatogenic failure in humans.

Hallast P, Kibena L, Punab M, Arciero E, Rootsi S, Grigorova M, Flores R, Jobling MA, Poolamets O, Pomm K, Korrovits P, Rull K, Xue Y, Tyler-Smith C, Laan M. *Elife*. 2021 Mar 30;10:e65420.

NR5A1 c.991-1G > C splice-site variant causes familial 46,XY partial gonadal dysgenesis with incomplete penetrance.

Laan M, Kasak L, Timinskas K, Grigorova M, Venclovas Č, Renaux A, Lenaerts T, Punab M. *Clin Endocrinol (Oxf)*. 2021 Apr;94(4):656-666.

Male hypogonadism

Does testosterone influence the association between sleep and frailty in men: results from the European Male Aging Study.

Sharma SD, Cook MJ, Antonio L, Gielen E, Bartfai G, Casanueva FF, Huhtaniemi IT, Maggi M, Punab M, Rastrelli G, Slowikowska-Hilczer J, Tournoy J, Vanderschueren D, Wu FC, O'Neill TW. *BMC Geriatr*. 2023 Dec 6;23(1):813.

Association of age, hormonal, and lifestyle factors with the Leydig cell biomarker INSL3 in aging men from the European Male Aging Study cohort.

Anand-Ivell R, Heng K, Severn K, Antonio L, Bartfai G, Casanueva FF, Huhtaniemi IT, Giwercman A, Maggi M, O'Neill TW, Punab M, Rastrelli G, Slowikowska-Hilczer J, Tournoy J, Vanderschueren D, Wu FCW, Ivell R. *Andrology*. 2022 Oct;10(7):1328-1338.

Prostate diseases and male urogenital tract infections/inflammations.

Mycoplasma genitalium Provokes Seminal Inflammation among Infertile Males.

Tjagur S, Mändar R, Poolamets O, Pomm K, Punab M. *Int J Mol Sci*. 2021 Dec 15;22(24):13467.

Profile of sexually transmitted infections causing urethritis and a related inflammatory reaction in urine among heterosexual males: A flow-cytometry study.

Tjagur S, Mändar R, Punab M. *PLoS One*. 2020 Dec 2;15(12):e0242227.

Dramatically deteriorated quality of life in men with prostatitis-like symptoms.

Mändar R, Korrovits P, Rahu K, Rahu M, Sibul EL, Mehik A, Punab M. *Andrology*. 2020 Jan;8(1):101-109.

Erectile dysfunction.

Erectile dysfunction predicts mortality in middle-aged and older men independent of their sex steroid status.

Antonio L, Wu FCW, Moors H, Matheï C, Huhtaniemi IT, Rastrelli G, Dejaeger M, O'Neill TW, Pye SR, Forti G, Maggi M, Casanueva FF, Slowikowska-Hilczer J, Punab M, Tournoy J, Vanderschueren D; EMAS Study Group. *Age Ageing*. 2022 Apr 1;51(4)

Self-Reported Shorter Than Desired Ejaculation Latency and Related Distress-Prevalence and Clinical Correlates: Results from the European Male Ageing Study.

Corona G, Rastrelli G, Bartfai G, Casanueva FF, Giwercman A, Antonio L, Slowikowska J, Tournoy J, Punab M, Huhtaniemi IT, Vanderschueren D, O'Neill TW, Wu FCW, Maggi M. *J Sex Med*. 2021 May;18(5):908-919.

10. Research Funding

Mono- and digenic causes of male infertility in the exome sequencing era: novel genes, digenic inheritance, pleiotropic effects and clinical implications.

01.01.2021–31.12.2025

Funding: 1 054 250 EUR

Principal investigator: Maris Laan

Number: PRG1021

Funder: Estonian Research Council

ORGANIZATION CHARTS

Organization charts legend: Department / Unit Structure

Andrology Clinic Tartu University Hospital Estonia
Head of the clinic Kristjan Pomm, MD
Staff Prof. Margus Punab, MD, PhD Olev Poolamets, MD Paul Korrovits, MD, PhD Stanislav Tjagur, MD, PhD Sven Tennisberg, MD Silver Peeter Siiak, MD Vladimir Vihljajev, MD Kristel Ehala-Aleksejev, MD, PhD Eeva-Liisa Sibul, Msci, physiotherapist Kati Juurik, Msci, physiotherapist Anneli Remmelgas, nurse Triina Karlson, nurse Christine Kraas, nurse Mati Kuusemäe, nurse Virgo Adusoo, nurse Olga Raudik, nurse Anastassia Šelehhova, nurse Kadri Poolak, Senior Laboratory Specialist Ahti Udam, Laboratory Specialist Elisabeth Ilves, Laboratory Specialist Kristiina Noortoots, assistant Mailis Sütt, secretary Aive Hopfeldt, secretary Kristel Pius, secretary Lysbeth Boza, secretary Piia Paju, secretary Kätlin Rand, secretary
Clinical Services Outpatient Clinics for male infertility diagnosis and treatment, other andrological problems (sexual and erectile dysfunction, male hormonal disorders including different types of hypogonadism, MAGI), urological diseases (prostate diseases, male urinary problems), pelvic pain syndrome, endocrinological diseases (incl. metabolic syndrome and obesity), sexually transmitted infections testing and treatment.
Andrology Laboratory Laboratory is performing semen analyses according to the WHO guidelines and also flow-cytometric urine tests.
Contribution to EAA training program Androgenetics Diagnosis of infertility Counseling of infertile couple Ultrasound of the male genital tract MAGI

CENTRE PHOTOS



FULL LIST OF PUBLICATIONS (with IF) of staff members from the last 5 years

1. Nagirnaja L, Lopes AM, Charng WL, Miller B, Stakaitis R, Golubickaite I, Stendahl A, Luan T, Friedrich C, Mahyari E, Fadiel E, Kasak L, Vigh-Conrad K, Oud MS, Xavier MJ, Cheers SR, James ER, Guo J, Jenkins TG, Riera-Escamilla A, Barros A, Carvalho F, Fernandes S, Gonçalves J, Gurnett CA, Jørgensen N, Jezek D, Jungheim ES, Kliesch S, McLachlan RI, Omurtag KR, Pilatz A, Sandlow JJ, Smith J, Eisenberg ML, Hotaling JM, Jarvi KA, Punab M, Rajpert-De Meyts E, Carrell DT, Krausz C, Laan M, O'Bryan MK, Schlegel PN, Tüttelmann F, Veltman JA, Almstrup K, Aston KI, Conrad DF. Diverse monogenic subforms of human spermatogenic failure. *Nat Commun.* 2022 Dec 26;13(1):7953. doi: 10.1038/s41467-022-35661-z. PMID: 36572685; PMCID: PMC9792524.
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