

Fertilitetsklinikken Regionshospitalet Skive.

Organisation, produktion og resultater 2019



Formål

Formålet med denne rapport er, at give borgere, relevante myndigheder, instanser og kolleger et indblik i den fertilitetsfremmende virksomhed samt redegøre for organisation, produktion og resultater for Fertilitetsklinikken, Regionshospitalet Skive.

Mission

At dække det offentlige hospitalsvæsens behov for infertilitetsudredning og behandling i Region Midtjylland i samarbejde med de øvrige fertilitetsklinikker i regionen. At tilbyde behandling til patienter fra de øvrige regioner i Danmark. At have forskningsaktivitet indenfor området infertilitet, med henblik på udvikling og forbedring af nuværende behandlinger og implementering af nye behandlingsmetoder.

Personale

Fertilitetsklinikkens daglige ledelse består af en lægelig klinikchef og en afd.bioanalytiker. Det øvrige personale består af læger, sygeplejersker, bioanalytikere, lægesekretærer, rengøringsassistent samt servicemedarbejdere.

Normering 2017

Stilling	Professor	Læger	Sygeplejersker	Bioanalytikere	Lægesekretærer
Ansatte	1	3	7	7	4

Uddannelse og undervisning

Overlæge Birgit Alsbjerg er ansat som klinisk lektor ved Aarhus Universitet, og har desuden ekspertuddannelse indenfor fertilitet og er i gang med at lave Ph.d. Afdelingen har 2 Ph.d. studerende og flere tilknyttede samt medicinstuderende. Herudover medvirker klinikken ved uddannelsen af yngre læger samt lægestuderende, sygeplejerskestuderende, bioanalytikerstuderende og jordemoderstuderende.

Aktivitetsliste

- △ Udredning af infertilitet
- △ Insemination med anvendelse af mandens sæd (IUI-H)
- △ Insemination med anvendelse af donorsæd (IUI-D)
- △ In Vitro fertilisering (IVF)
- △ IVF med mikroinsemination (ICSI)
- △ Diagnostisk biopsi af testikler
- △ △ Operativ udhentning af sædceller (PESA/TESA) kombineret med ICSI
- △ Behandling med oplægning af nedfrosne/optøede befrugtede æg (FER)
- △ Assisted hatching (AHA)
- △ Ægdonation
- △ Sæddeponering
- △ Vævsdeponering (testisvæv)
- △ Akupunkturbehandling ved ægudhentning
- △ Akupunkturbehandling ved ægtilbagelægning
- △ Vægtsamtaler og instruktion til væggtab
- △ Rygestop instruktion

Produktion gennem de sidste 5 år

Årstal	2015	2016	2017	2018	2019
Henvisninger	689	673	697	684	733
Konsultationer	10684	11820	10722	9556	9272
Ægudtagning	591	690	666	638	563
Ægoplægning	433	380	336	263	292
PESA/TESA	46	61	83	79	68
HSU	124	119	93	107	138
Graviditetsskanning	810	905	725	663	680
Frysebehandling (FER)	271	345	536	550	571
FER med oplægning	249	328	523	542	558
IUI-H	148	132	102	104	127
IUI-D	75	86	77	50	52
Ægdonation	17	24	28	27	18

Resultater 2019

	Antal ægudtagninger OPU/Tø	Antal Ægoplægninger ET	Antal Gravide (positiv hCG)	% gravide pr. Ægoplægning	Antal ongoing gravide	% ongoing gravide pr.ET
IVF	314	140	80	57,1	63	45,0
ICSI	248	154	92	59,7	73	47,4
FRYS	571	558	308	55,2	212	38,0
ÆGDONATION (Recipient behandlinger)	55	53	26	49,1	22	41,5

	Antal Inseminationer IUI	Antal Positive hCG	% positiv hCG pr. IUI	Antal on-Going gravide	Ongoing gravid Pr.IUI (%)
IUI-H	127	21	16,5	15	11,8
IUI-D	52	11	21,2	10	19,2

Forventet antal børn efter behandling i 2019

	Singleton	Flerfold	Antal forventet fødte børn
IUI	21	4	29
IVF/ICSI	129	5	139
FRYS	199	13	225
ÆGDONATION	21	0	21
TOTAL	370	22	414

Præsentation af afdelingens vigtigste forskningsaktivitet.

I 2019

Præsentation af afdelingens vigtigste forskningsaktivitet.

Året har været præget af stor aktivitet og stort fokus på forskningen.

Der er i alt publiceret 38 peer-reviewed artikler fra klinikken. Det svarer til 15% af det samlede an-

tal publikationer på hele HE-Midt. Det er vi stolte af!

Klinikken har været involveret i mange projekter, de fleste forsker-initierede, men også projekter initieret af industrien. Vi har fået tilknyttet flere yngre forskere, der er godt i gang med forskellige opgaver og forsknings projekter.

Der er mange projekter i gang og alle gør en kæmpestor indsats og bidrager til deres gennemførelse.

Der har været stor deltagelse fra forskellige faggrupper i faglige kongresser såvel nationalt som internationalt. Ligeledes har afdelingen selv været vært for internationale faglige møder.

Igangværende forskningsprojekter

Forsker-initierede projekter: Forsker-initierede projekter

- A double-blind, placebo-controlled multicenter trial on the effect of clindamycin and probiotic on the reproductive outcomes of IVF patients with abnormal vaginal microbiota.
Haahr T, supervised by Humaidan P.
 - A multicentre randomized trial of a " Freeze all and transfer later" versus conventional "Fresh embryo transfer" strategy for assisted reproductive technology (ART) in women with a regular cycle.
Pinborg A, Humaidan P.
 - Substitueret fryseprotokol med GnRH-agonist, der er kontrolleret, randomiseret multicenter-studie med flere danske klinikker involveret.
Alsbjerg B.
- Daytime profile salivary proesterone during the mid-luteal phase of IVF and FET cycles.

Alsbjerg B

- Testosterone TRANSdermal gel for poor ovarian responders trial.
Polyzos N, Humaidan P.
- The exogenous progesterone free luteal phase after GnRHa trigger – a randomized controlled pilot study in high-responder IVF patients.
Humaidan P.
- The exogenous progesterone free luteal phase after GnRHa trigger – a randomized controlled pilot study in normo-responder IVF patients.
Humaidan P.
- The microbiome of infertile couples and its effect on the reproductive outcomes – a prospective cohort study.
Haahr T, supervised by Humaidan P.
-
- Optimizing serum progesterone level during luteal phase in hormonal replacement therapy frozen embryo transfer (HRF-FET) cycle.
Alsbjerg B.

DNA damage and subfertility in males – impact on ART outcome and non-pharmacological interventions to improve fertility and health.

De enkelte projekter er yderligere beskrevet på Fertilitetsklinikkens hjemmeside

- Medicinalindustri-initierede projekter: A phase IV, single-blinded, prospective, randomized, controlled, multicenter, study to compare clinical outcomes of GERI + timelapse system with conventional embryo culture and assesment system.
Povlsen BB.
- Implant 2 – et fase 3 dobbeltblinded, rando-miseret, placebo-kontrolleret studie med det formål at undersøge sikkerhede effekten af en enkelt dosis oralt nolasiban til forbedring af graviditetsfrekvensen i IVF /ICSI med oplægning på dag 3 eller 5.
Humaidan P, Elbaek H

Videnskabelige og populærvideenskabelige publikationer offentliggjorte i 2019 (ialt 38 lig 15% af samtlige publikationer på HE Midt)

- 1) Agarwal, A.; **Esteves, S.C.; Humaidan, P.**; Roque, M. Title Male infertility and assisted reproductive technology Source Panminerva Med., 2019, 61, 2, 101-103, Italy Folders 2019
- 2) **Alsbjerg, B.; Haahr, T.; Elbaek, H.O.; Laursen ,R.; Povlsen, B.B.; Humaidan, P.** Title Dual stimulation using corifollitropin alfa in 54 Bologna criteria poor ovarian responders - a case series Source Reprod. Biomed.Online, 2019, 38, 5, 677-682, Reproductive Healthcare Ltd. Published by Elsevier Ltd. All rights reserved, Netherlands Folders 2019
- 3) Andersen, S.T.; Pors, S.E.; Poulsen, L.C.; Colmorn, L.B.; Macklon, K.T.; Ernst,E.; **Humaidan, P.**; Andersen, C.Y.; Kristensen, S.G.Title Ovarian stimulation and assisted reproductive technology outcomes in women transplanted with cryopreserved ovarian tissue: a systematic review Source Fertil.Steril., 2019, 112, 5, 908-921, American Society for Reproductive Medicine. Published by Elsevier Inc, United States Folders 2019
- 4) Benmachiche, A.; Benbouhedja, S.; Zoghmar, A.; **Humaidan, P.** Title Low LH Level on the Day of GnRH Agonist Trigger Is Associated With Reduced Ongoing Pregnancy and Live Birth Rates and Increased Early Miscarriage Rates Following IVF/ICSI Treatment and Fresh Embryo Transfer Source Front.Endocrinol.(Lausanne), 2019, 10, 639, Benmachiche, Benbouhedja, Zoghmar and Humaidan, Switzerland Folders 2019
- 5) Bosch, E.; Bulletti, C.; Copperman, A.B.; Fanchin, R.; Yarali, H.; Petta, C.A.; **Polyzos, N.P.**; Shapiro, D.; Ubaldi, F.M.; Garcia Velasco, J.A.; Longobardi, S.; D'Hooghe, T.; **Humaidan, P.**; Delphi TTP Consensus Group Title How time to healthy singleton delivery could affect decision-making during infertility treatment: a Delphi consensus Source Reprod.Biomed.Online, 2019, 38, 1, 118-130, The Authors. Published by Elsevier Ltd., Netherlands Folders 2019
- 6) Coetzee, K.; Ozgur, K.; Bulut, H.; Berkkanoglu, M.; **Humaidan, P.** Title Large-for-gestational age is male-gender dependent in artificial frozen embryo transfers cycles: a cohort study of 1295 singleton live births Source Reprod.Biomed.Online, 2019, [Epub ahead of print], Reproductive Healthcare Ltd. Published by Elsevier Ltd. All rights reserved, Netherlands Folders 2019
- 7) Delaroche, L.; Oger, P.; Genauzeau, E.; Meicler,P.; Lamazou,F.; Dupont,C.; **Humaidan, P.**Title Reprotoxicity tests performed by manufacturers of IVF disposable devices lack transparency and sensitivity Source Human Reproduction, 2019, 34, 94-94Folders 2019
- 8) Dosouto,C.; Calaf,J.; Polo,A.; **Haahr,T.; Humaidan,P.**Title Growth Hormone and Reproduction: Lessons Learned From Animal Models and Clinical Trials Source Front. Endocrinol. (Lausanne), 2019, 10, 404, Switzerland Folders 2019

9) Dosouto,C.; **Haahr,T.**; **Humaidan,P.** Title Advances in ovulation trigger strategies Source Panminerva Med., 2019, 61, 1, 42-51, Italy Folders 2019

10) **Esteves,S.C.**; Agarwal,A.; Roque,M.; **Humaidan,P.** Title Hot topics in male infertility: an afterword Source Panminerva Med., 2019, 61, 2, 196-199, Italy Folders 2019

11) **Esteves,S.C.**; Alviggi,C.; **Humaidan,P.**; Fischer,R.; Andersen,C.Y.; Conforti,A.; Buhler,K.; Sunkara,S.K.; Polyzos,N.P.; Galliano,D.; Grynberg,M.; Yarali,H.; Ozbek,I.Y.; Roque,M.; Vuong,L.N.; Banker,M.; Rienzi,L.; Vaiarelli,A.; Cimadomo,D.; Ubaldi,F.M. Title The POSEIDON Criteria and Its Measure of Success Through the Eyes of Clinicians and Embryologists Source Front. Endocrinol. (Lausanne), 2019, 10, 814, Esteves, Alviggi, Humaidan, Fischer, Andersen, Conforti, Buhler, Sunkara, Polyzos, Galliano, Grynberg, Yarali, Ozbek, Roque, Vuong, Banker, Rienzi, Vaiarelli, Cimadomo and Ubaldi, Switzerland Folders 2019

12) **Esteves,S.C.**; Carvalho,J.F.; Martinhago,C.D.; Melo,A.A.; Bento,F.C.; **Humaidan,P.**; Alviggi,C.; POSEIDON (Patient-Oriented Strategies Encompassing Individualized Oocyte Number) Group Title Estimation of age-dependent decrease in blastocyst euploidy by next generation sequencing: development of a novel prediction model Source Panminerva Med., 2019, 61, 1, 3-10, Italy Folders 2019

13) **Esteves,S.C.**; **Humaidan,P.**; Roque,M.; Agarwal,A. Title Female infertility and assisted reproductive technology Source Panminerva Med., 2019, 61, 1, 1-2, Italy Folders 2019

14) **Esteves,S.C.**; Roque,M.; Sunkara,S.K.; Conforti,A.; Ubaldi,F.M.; **Humaidan,P.**; Alviggi,C. Title Oocyte quantity, as well as oocyte quality, plays a significant role for the cumulative live birth rate of a POSEIDON criteria patient Source Hum. Reprod., 2019, 34, 12, 2555-2557, England Folders 2019

15) Friis Wang,N.; Skouby,S.O.; **Humaidan,P.**; Andersen,C.Y. Title Response to ovulation trigger is correlated to late follicular phase progesterone levels: A hypothesis explaining reduced reproductive outcomes caused by increased late follicular progesterone rise Source Hum. Reprod., 2019, 34, 5, 942-948, . Published by Oxford University Press on behalf of the European Society of Human Reproduction and Embryology, England Folders 2019

16) Grode,L.; Moller Jensen,T.; Parkner,T.; Agerholm, I.E.; **Humaidan, P.**; Hammer Bech,B.; Ramlau-Hansen,C. Title Diagnostic Accuracy of a Point-of-Care Test for Celiac Disease Antibody Screening among Infertile Patients Source Inflamm. Intest Dis., 2019, 4, 3, 123-130, Switzerland Folders 2019

17) **Haahr,T.**; Dosouto,C.; Alviggi,C.; Esteves,S.C.; **Humaidan,P.** Title Management Strategies for POSEIDON Groups 3 and 4 Source Front. Endocrinol. (Lausanne), 2019, 10, 614, Haahr, Dosouto, Alviggi, Esteves and Humaidan, Switzerland Folders

18) **Haahr,T.; Humaidan,P.; Elbaek,H.O.; Alsbjerg,B.; Laursen,R.J.;** Rygaard,K.; Johannesen,T.B.; Andersen,P.S.; Ng,K.L.; Jensen,J.S. Title Vaginal Microbiota and In Vitro Fertilization Outcomes: Development of a Simple Diagnostic Tool to Predict Patients at Risk of a Poor Reproductive Outcome Source *J.Infect.Dis.*, 2019, 219, 11, 1809-1817, . Published by Oxford University Press for the Infectious Diseases Society of America, United States Folders

19) **Haahr,T.; Humaidan,P.;** Jensen,J.S. Title Non-transparent and insufficient descriptions of non-validated microbiome methods and related reproductive outcome results should be interpreted with caution Source *Hum.Reprod.*, 2019, 34, 10, 2083-2084, England Folders

20) **Haahr,T.;** Jensen,J.S.; **Humaidan,P.** Title Vaginal microbiota and IVF outcomes: poor diagnosis results in flawed conclusions Source *Reprod.Biomed.Online*, 2019, 39, 1, 178, Netherlands Folders 2019

21) **Haahr,T.;** Zacho,J.; Brauner,M.; **Shathmigha,K.;** Skov Jensen,J.; **Humaidan,P.** Title Reproductive outcome of patients undergoing in vitro fertilisation treatment and diagnosed with bacterial vaginosis or abnormal vaginal microbiota: a systematic PRISMA review and meta-analysis Source *BJOG*, 2019, 126, 2, 200-207, Royal College of Obstetricians and Gynaecologists, England Folders 2019

22) **Humaidan,P.;** **Esteves,S.C.;** Roque,M.; Agarwal,A. Title Hot topics in female infertility: an afterword Source *Panminerva Med.*, 2019, 61, 1, 97-99, Italy Folders 2019

23) **Humaidan,P.;** **Haahr,T.** Title Bureaucratic overheating is a parasite hampering modern clinical research - a viewpoint from the 'belly of the beast' Source *Reprod.Biomed.Online*, 2019, 38, 4, 487-489, Reproductive Healthcare Ltd. Published by Elsevier Ltd. All rights reserved, Netherlands Folders 2019

24) **Humaidan,P.;** La Marca,A.; Alviggi,C.; **Esteves,S.C.;** **Haahr,T.** Title Future Perspectives of POSEIDON Stratification for Clinical Practice and Research Source *Front.Endocrinol.(Lausanne)*, 2019, 10, 439, Switzerland Folders 2019

25) Karlsen,K.; Mogensen,O.; **Humaidan,P.;** Kesmodel,U.S.; Ravn,P. Title Uterine fibroids increase time to pregnancy: a cohort study Source *Eur.J.Contracept.Reprod.Health Care*, 2019, [Epub ahead of print], 1-6, England Folders 2019

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26) **Ketheeswaran, S; Alsbjerg; B; Christensen, P; Gravholt,C.H; Humaidan,P;** Title 45,X/46,XY Mosaicism and Normozoospermia in a Patient with Male Phenotype Source *Case Rep.Med.*, 2019, 2019, 2529080, United States Folders 2019 HEMidRef ID7813:12:4009PubMedView in PubMed Related References More by Author Ketheeswaran,S.Haahr,T.Povlsen,B.Laursen,R.Alsbjerg,B.Elbaek,H.Esteves,S.C.Humaidan,P.Remove from My List View Journal Article Reference 27 of 38

- 27) **Ketheeswaran,S.; Haahr,T.; Povlsen,B.; Laursen,R.; Alsbjerg,B.; Elbaek,H.; Esteves,S.C.; Humaidan,P.** Title Protein supplementation intake for bodybuilding and resistance training may impact sperm quality of subfertile men undergoing fertility treatment: a pilot study Source *Asian J.Androl.*, 2019, 21, 2, 208-211, China Folders 2019
- 28) Kristensen,S.G.; **Humaidan,P.**; Coetzee,K. Title Mitochondria and reproduction: possibilities for testing and treatment Source *Panminerva Med.*, 2019, 61, 1, 82-96, Italy Folders
- 29) **Laursen,R.J.; Elbaek,H.O.; Povlsen,B.B.; Lykkegaard,J.**; Jensen,K.B.S.; **Esteves,S.C.; Humaidan,P.** Title Hormonal stimulation of spermatogenesis: a new way to treat the infertile male with non-obstructive azoospermia? Source *Int.Urol.Nephrol.*, 2019, 51, 3, 453-456, Netherlands Folders
- 30) Li,Y.; Li,X.; Yang,X.; Cai,S.; Lu,G.; Lin,G.; **Humaidan,P.**; Gong,F .Title Cumulative Live Birth Rates in Low Prognosis Patients According to the POSEIDON Criteria: An Analysis of 26,697 Cycles of in vitro Fertilization/Intracytoplasmic Sperm Injection Source *Front.Endocrinol.(Lausanne)*, 2019, 10, 642, Li, Li, Yang, Cai, Lu, Lin, Humaidan and Gong, Switzerland Folders
- 31) Najdecki,R.; Chouliara,F.; Timotheou,E.; Tatsi,P.; Chartomatsidou,T.; Asouhidou,E.; Pakaki,F.; Bouchlariotou,S.; **Humaidan,P.**; Papanikolaou,E. Title Single follicular degarelix, a new long acting GnRH-antagonist for LH surge suppression during ovarian stimulation in oocyte donors. A randomised controlled trial Source *Human Reproduction*, 2019, 34, 104-104 Folders
- 32) Olesen,M.S.; Hauge,B.; Ohrt,L.; Olesen,T.N.; Roskaer,J.; Baek,V.; **Elbaek,H.O.**; Nohr,B.; Nyegaard,M.; Overgaard,M.T.; **Humaidan,P.**; Forman,A.; Agerholm,I. Title Therapeutic endometrial scratching and implantation after in vitro fertilization: a multicenter randomized controlled trial Source *Fertil.Steril.*, 2019, 112, 6, 1015-1021, The Authors. Published by Elsevier Inc, United States Folders 2019
- 33) Ozgur,K.; Bulut,H.; Berkkanoglu,M.; **Humaidan,P.**; Coetzee,K. Title Increased body mass index associated with increased preterm delivery in frozen embryo transfers Source *J.Obstet. Gynaecol.*, 2019, 39, 3, 377-383, England Folders 2019
- 34) Polat,M.; Bozdogan,G.; Ozbek,I.Yarali; Mumusoglu,S.; **Humaidan,P.**; Yarali,H. Title The combination of daily vaginal progesterone administration and intramuscular progesterone every-third day secures ongoing pregnancy rates in artificial frozen-embryo transfer cycles Source *Human Reproduction*, 2019, 34, 406-406 Folders 2019
- 35) Roque,M.; **Haahr,T.**; Geber,S.; **Esteves,S.C.; Humaidan,P.** Title Fresh versus elective frozen embryo transfer in IVF/ICSI cycles: a systematic review and meta-analysis of reproductive outcomes Source *Hum.Reprod.Update*, 2019, 25, 1, 2-14, England Folders 2019

36) Roque,M.; Nuto Nobrega,B.; Valle,M.; Sampaio,M.; Geber,S.; **Haahr,T.;**
Humaidan,P.; **Esteves,S.C.** Title Freeze-all strategy in IVF/ICSI cycles: an update
on clinical utility Source Panminerva Med., 2019, 61, 1, 52-57, Italy Folders 2019

37) Stormlund,S.; Sopa,N.; Zedeler,A.; Bogstad,J.; Praetorius,L.; Nielsen,H.S.;
Kitlinski,M.L.; Skouby,S.O.; Mikkelsen,A.L.; **Polyzos,N.P.;** Bergh,C.; **Humaidan,P.;**
Andersen,A.Nyboe; Lossl,K.; Pinborg,A. Title Freeze-all versus fresh embryo transfer
in ART: A multicentre randomised controlled trial in normo-ovulatory
womenSourceHuman Reproduction, 2019, 34, 31-31Folders 2019

38) **Thomsen,L.;** Kesmodel,U.S.; **Humaidan,P.** Title Luteal serum progesterone
levels cannot be predicted in IVF patients - A prospective study of 432 IVF/ICSI cycles
Source Human Reproduction, 2019, 34, 75-76Folders 2019