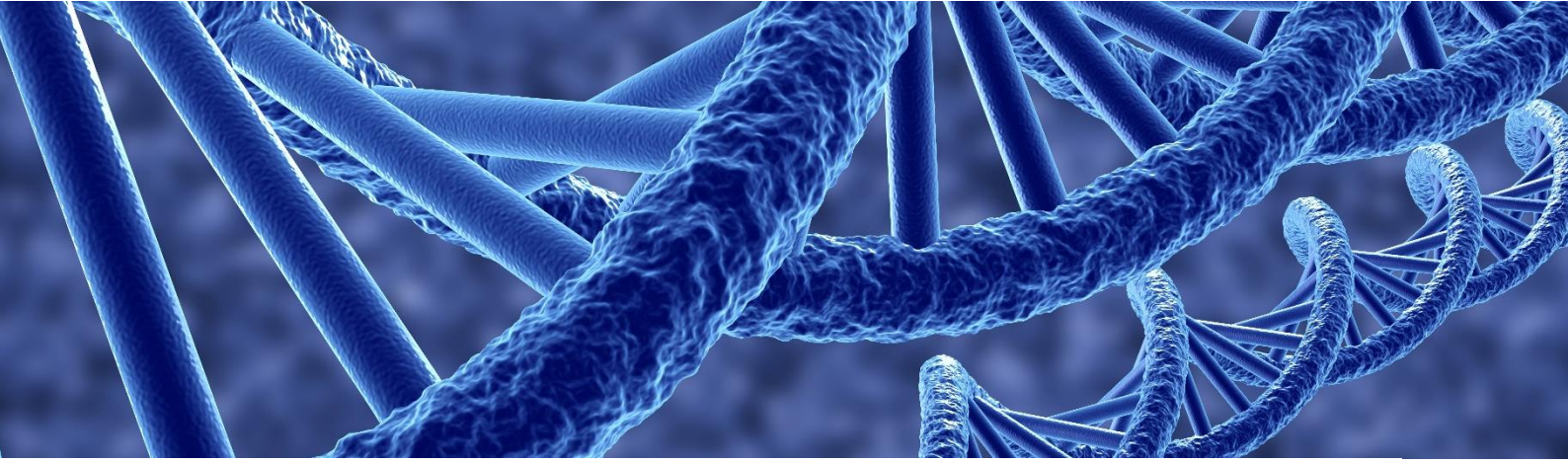


Department of Growth and Reproduction
Rigshospitalet
University of Copenhagen
Denmark

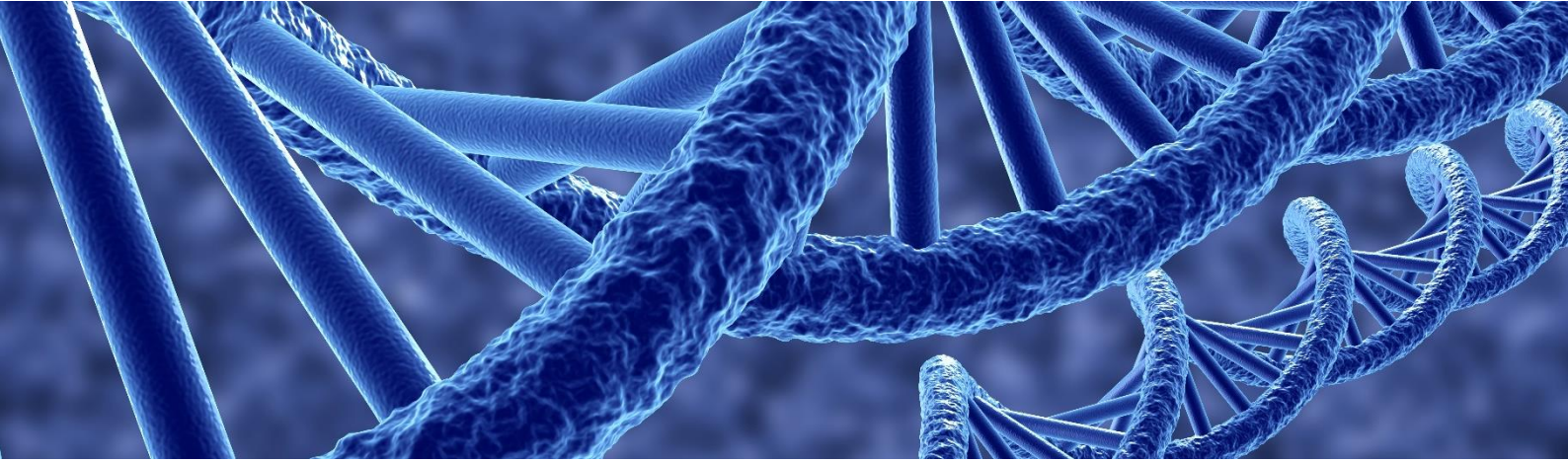
Appointed Global Excellence Centre in 2010, re-appointed in 2015. Tertiary referral centre in paediatric endocrinology, EAA certified Andrology Training centre. The department (www.reproduction.dk) hosts the international research centre EDMaRC (www.edmarc.net) and the secretariat of the National Center of Endocrine Disruptors (www.cehos.dk). Ongoing collaborative studies with Pharma; Novo Nordisk (GH in short SGA children), Ferring (free DNA in infertile men), Diurnal (Chronocort in CAH)

- 1 coordinating clinical professor, head of department (Juul)
- 1 clinical professor (Main)
- 2 adjunct professors (Toppari, Skakkebæk)
- 3 research team leaders (Jørgensen, Andersson, Rajpert-DeMeyts)
- 1 part-time professor (Kold Jensen)
- 4 senior researchers (Almstrup, Jørgensen, Frederiksen, Blomberg Jensen (currently Harvard))
- 18 junior researchers/PhD students

Altogether the group is based on a multidisciplinary team including a total of 100 employees (doctors, nurses, molecular biologists, chemists, public health scientists, secretaries, technicians epidemiologists).
The department includes a large outpatient clinic (11000 annual visits), hormone lab, LC-MS/MS lab, semen lab, histology lab, molecular biology lab (including cell lab).

Clinical/Laboratory skills (patient management)

- Male infertility work up
- Paediatric endocrinology expertise; growth and pubertal (ovarian/testicular) disorders
- Assessment of body composition (2 DXA scanners Lunar Prodigy)
- Automated boneage readings (BoneXpert); OPI project with Visiana and PC-PAL



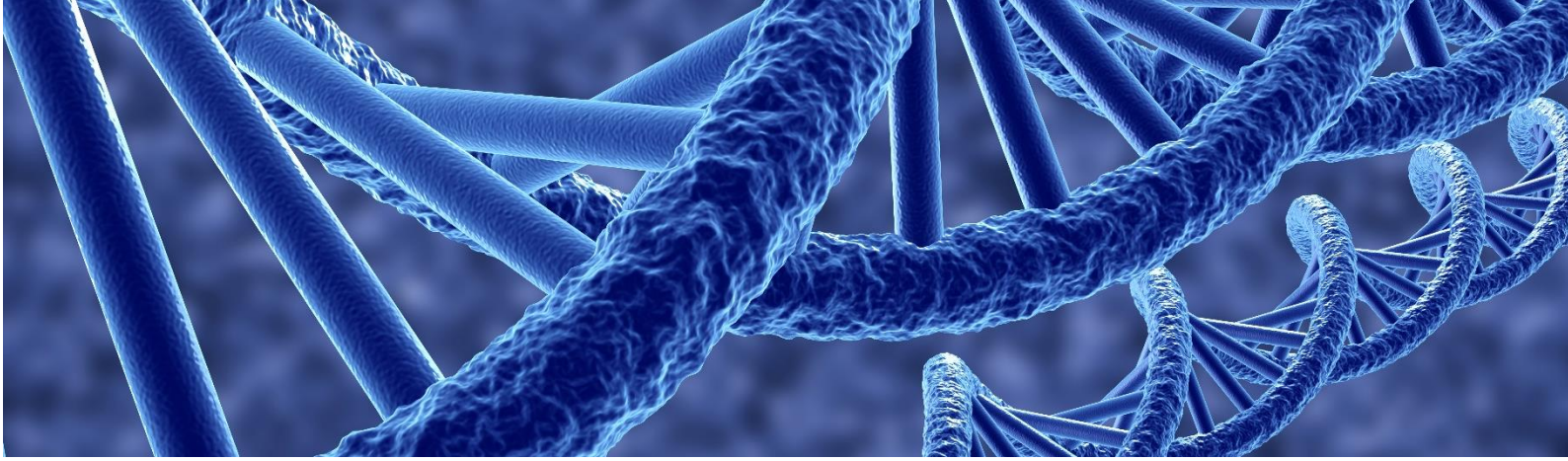
- Gynecological endocrinology; reproductive hormone assessment (ultrasensitive FSH/LH, estradiol, testosterone, IGF-I, IGFBP-3, SHBG, AMH, inhibin B) and androgen metabolites by LC-MS/MS (Adion, DHEAS, Testo, 17OHP, corticosterone metabolites) in DANAK accredited lab)
- Andrological examination (incl. scrotal ultrasound) and management (incl. infertility and hypogonadism)
- Histological expertise in testicular histology, infertility and DSD gonads (DANAK accredited)
- Semen cryopreservation, authorized semen bank
- WHO semen analysis (5-6000 analyses per year), automated assays including acrosome reaction
- Y chromosome microdeletions

Clinical Research

- Genetic polymorphisms, puberty timing and testicular function
- Stress, other lifestyle factors and testicular function
- Surveillance of semen quality in Denmark (1996-present)
- Activation of hypothalamo-pituitary.-gonadal axis in minipuberty
- Ano-Genital Distance as a postnatal readout of fetal androgen action (formation of the new international AGD consortium under EDMaRC)
- Endocrine disrupting chemicals (phthalates, phenols, parabens, UV filters) by LC-MS/MS, puberty timing and testicular function
- Male subfertility, testosterone deficiency and long term morbidity
- Disorders of Sex Development; diagnostic and management and therapeutic aspects (incl. RCTs)
- Treatment of transgender adolescents.
- Sex chromosome disorders; Klinefelter and Turner syndrome, clinical aspects
- Testicular cancer, Leydig cell function and long-term follow up
- Hypogonadotropic hypogonadism (incl. Kallman syndrome); genetic and therapeutic aspects

Basic research methodologies and projects

- Regulation of meiotic entry in fetal gonads
- Ex-vivo hanging drop model of fetal gonadal tissues, and adult testicular biopsies



- Standard molecular biology techniques, qPCR, Western blotting, etc.
- DNA sequencing (Illumina MiSeq machine), RNA seq.
- Fetal gonads from controls and patients with sex chromosome disorders (45X, 47,XXY, 45X/46XY)
- Isolation of testicular cells by laser capture microdissection
- Microscopy including slide scanner, immunohistochemistry, in situ hybridization
- Epigenetic modifications, puberty timing and testicular function (DNA methylation, microRNA)