

EAA Andrology Training Centre

Barcelona
Centre Report

2018



CENTRE REPORT

Full name and address of the Centre

Andrology Department

Fundació Puigvert

Cartagena 340

08025- Barcelona- Spain

Tel + 34 93 416 9700

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E-mail: secrecomun@fundacio-puigvert.es

History of Centre

History of Centre

The Puigvert Foundation (Barcelona) is a landmark centre for urology, nephrology and andrology in Spain.

The centre has its origins in the department of urology located in one of the wings of Sant Pau Hospital. The Foundation was constituted in 1961. Construction of a new building began in 1963, becoming fully functional in 1966. The most recent building was opened in 2012.

In 1970 the centre became independent of the hospital administration, receiving patients from the National Health Service in addition to private patients. Three main departments were created: urology, nephrology and andrology.

At present, the department of andrology is staffed by urologists, endocrinologists, gynecologists and psychologists, and provides multidisciplinary care to patients suffering from reproductive and sexual disorders.

The International Committee of Andrology (CIDA) was set up soon afterwards by Dr A. Puigvert (Barcelona) and Dr E. Mancini (Buenos Aires, Argentina). The CIDA became the current International Society of Andrology (ISA) in 1985.

In 1970, the American Society of Andrology (ASA) was formed and joined the CIDA in the same year. The Puigvert Foundation was instrumental in creating the Spanish Association of Andrology (ASESA) and, in 1980, Dr. Pomerol-Serra, the director of the andrology department, was elected its first president.

Dr. Eduard Ruiz-Castañé has been the director of the centre since 2004.

The International Journal of Andrology (IJA) began publication in 1978, becoming the official journal of the European Academy of Andrology (EAA) in 1992. The American Society of Andrology (ASA) launched the Journal of Andrology (JA) in 1980 and, in 2013, these two journals merged into Andrology, which is published by Wiley. The funding of the IJA was initially provided by the Puigvert Foundation, which in 1989 passed on this responsibility to Prof. R Eliasson, who in turn donated it to the EAA.

The department of andrology has participated in multicentre trials under the auspices of the WHO and has played a prominent role in research in related areas. Research at present is focused on infertility, genetic abnormalities, diagnosis and treatment for sexual and erectile dysfunctions and sexually transmitted infections.

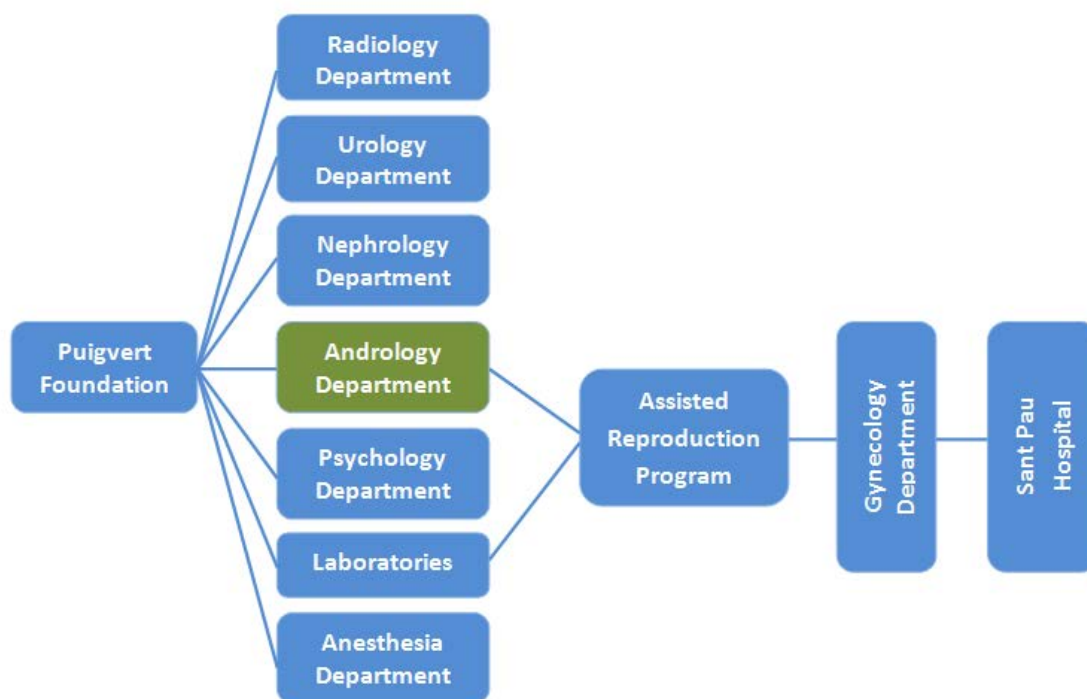
The centre has provided postgraduate training since July 1967, the year in which it was incorporated into the School of Medicine of the Autonomous University of Barcelona (UAB). Since the department of andrology was set up, a variety of training programs have been available to postgraduate MDs and PhDs. The courses last between 3 and 36 months.

The Puigvert Foundation was officially recognized as a Clinical and Training Centre of Andrology by the European Academy of Andrology in 1998.

In 2014, Barcelona played host to the European Congress of Andrology. The local organizing Committee of this congress was presided over by Dr O Rajmil.

The department is a referral hospital which serves a catchment area for a population of approximately 7.5 million in Catalonia.

Organization of Centre



Educational activities

Medical Students

Lectures are given by staff members who form part of the “Teaching Unit of the Campus of Sant Pau Hospital”, School of Medicine of the Autonomous University of Barcelona (UAB).

Postgraduate activities

1. Training Programs for residents from urology and endocrinology.
2. Training Programs for embryologists and specialists in clinical biochemistry.
3. Short courses focused on specific topics.

Training programs in Clinical Andrology: former and current students

List of students who completed the **three year** MD training program

- 1986- Ferran García. Barcelona. Spain
- 1987 -Enrique Fabian. Portoalegre. Brasil
- 1988 - Anna Puigvert-Martinez Barcelona
- 1989- Joaquim Sarquella Geli. Girona. Spain*
- 1990- Xavier Ruiz Romero. Barcelona. Spain
- 1991 - Anna Segura Paños. Alicante. Spain
- 1992 - Héctor Narvaez. Colombia
- 1995 -Fernando Ferreira. Brasil
- 1996 - Carlos H. Ferreira. Brasil
- 1997- Álvaro Vives. Barcelona. Spain
- 1997- Natalia Ribé. Barcelona. Spain
- 1998- Susana Egozcue. Barcelona. Spain
- 1999- Oscar Briceño. Caracas. Venezuela
- 2000- Erwin Amaya . Colombia
- 2002- Rossana Rodriguez. Palma de Mallorca. Spain
- 2004 - José Antonio Arrus Soldi. Lima. Perú

A two year training program of **Fellows** is currently available in conformity with the latest EAA recommendations of the EAA/ESAU curriculum.

List of students who have already completed or are about to complete the **two year** MD training program

- 2004. César Rojas. Bogotá. Colombia *
 - 2005. Marlín Fernández-Camilo. Santo Domingo
 - 2005. Alejandro Carvajal-Obando. Cali. Colombia*
 - 2006. Josvany Sánchez-Curbelo. Barcelona. Spain
-

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- 2006. Mirna Echeverría México DF. México*
 - 2008. Humberto Suárez Regardiz..Valencia. Venezuela*
 - 2008. Andrés Vazquez. Buenos Aires. Argentina
 - 2009. Ma. Fernanda Peraza-Godoy. Spain *
 - 2009. Cristian Palma. Santiago de Chile
 - 2010. Gerardo Ortiz. Monterrey.Mexico *
 - 2011. Saulo Camarena. Guadalajara. Mexico*
 - 2012. Marco Cosentino. Padova. Italia
 - 2015. Daniel Moreno. Spain *
 - 2015. José- Ignacio Vinay. Santiago. Chile
 - 2017. Juan- Fernando Villegas-Osorio. Sevilla. Spain
 - 2017. Carles Gasanz. Barcelona. Spain

* Passed the European Academy examination

Master Program of Clinical Andrology

In 2012, a Master Program was launched jointly with the Autonomous University of Barcelona (UAB). The program is in line with the curriculum of the EAA/ESAU designed for Clinical Andrology training. It is based on 70 ETC credits (1 credit = 25 hours including theory and practice). Thirty students have completed the program to date. The program was validated by the Educational sub-committee (EDUCOM) and the Executive committee of the EAA in 2014 and allows the candidates to take the examination for the EAA.

Courses: 2015-2017

Year 2015

- 10 April. Andrological Surgery for Urologists.
- 17 April. Update on sexually transmitted infections.
- 20 May. Lecture on erectile dysfunction (ED) in the 21st century: Why do we to talk about this pathology?
- 17-18 September. Master class in Andrological Surgery.
- 6 November. Lecture on premature ejaculation and its impact on female sexual dysfunction.
- 12-13. November. Master class in Andrological Surgery.

Year 2016

- 14-15 April. Master class in Andrological Surgery.
- 9-12 May. Symposium on Genitourinary Reconstruction.
- 18 October. “Know-How” in La Peyronie disease. Course on collagenase with “Clostridium histolyticum “
- 21-22 July. International Penile Prosthesis and Sphincter Implant Workshop. Middle East and North Africa
- 6-7 October. Master class in Andrological Surgery
- 24 -25. October. Russian-Spanish Andrological Summit
- 9-11 November. Sixteenth Andrology Course (triennial)

Year 2017

- 14 February. “Know-How” in La Peyronie disease. Course on collagenase clostridium histolyticum administration in La Peyronie disease
- 16-17 March. Master Class in Andrological Surgery.
- 6-7 April. International Penile Prosthesis and Sphincter Implant workshop. Middle East and North Africa.
- 9 June. Sixth Update on Sexual Transmitted infections
- 5-6 October. Master class in Andrological Surgery.
- 26 October. Andrological complications of prostate cancer. Innovation in Medical Training.
- 16 November. Sexuality and Diabetes: Information update for patients.

Research activities

In 2007, the Fundació Puigvert funded a study on Genetic risk factors involved in cryptorchidism.

Publications related to this project:

Nuti F, Marinari E, Erdei E, El-Hamshari M, Echavarria MG, Ars E, Balercia G, Merksz M, Giachini

C, Shaeer KZ, Forti G, Ruiz Castañé E, Krausz C. (2008). The leucine-rich repeat-containing G. protein-coupled receptor 8 gene T222P mutation does not cause cryptorchidism. J. Clin. Endocrinol Metab. 93(3):1072-6.

Aston KI, Krausz C, Laface I, Ruiz Castañé E, Carrell DT. (2010). Evaluation of 172 candidate polymorphisms for association with oligozoospermia or azoospermia in a large cohort of men of European descent. Hum Reprod. 25(6):1383-97.

Ars E, Lo Giacco D, Bassas L, Nuti F, Rajmil O, Ruíz P, Garat JM, Ruiz Castañé E, Krausz C. (2011). Further insights into the role of T222P variant of RXFP2 in non-syndromic

cryptorchidism in two Mediterranean populations. *Int J Androl* 34(4):333-8

Lo Giacco D, Ars E, Bassas L, Jorge Galan J, Rajmil O, Ruíz P, Caffaratti J, Guarducci E, Ruiz-Castañé E, Krausz C. (2011). ESR1 promoter polymorphism is not associated with non-syndromic cryptorchidism. *Fertil Steril*. 95(1):369-71.

In 2008 four triennial projects funded by the Spanish Ministry of Health (FIS of Instituto de Salud Carlos III) were granted to the Andro-genetic group of the Fundacio Puigvert. Amount: 94.380,00 €. FIS project 2008 (2008- 2011): Gene dosage of the AZFc region of the Y chromosome; clinical consequences and mRNA profiling. Amount of the grant: 40.200,00 €

Related publications

Chianese C, Lo Giacco D, Tüttelmann F, Ferlin A, Ntostis P, Vinci S, Balercia G, Ars E, Ruiz-Castañé E, Giglio S, Forti G, Kliesch S, Krausz C. Y-chromosome microdeletions are not associated with SHOX haploinsufficiency. *Hum Reprod*. 2013, 28(11):3155-60.

Lo Giacco D, Chianese C, Sánchez-Curbelo J, Bassas L, Ruiz P, Rajmil O, Sarquella J, Vives A, Ruiz-Castañé E, Oliva R, Ars E, Krausz C. Clinical relevance of Y-linked CNV screening in male infertility: new insights based on the 8-year experience of a diagnostic genetic laboratory. *Eur J Hum Genet*. 2014; 22(6):754-61.

2) FIS project 2011 (2011-2014):

X-linked Chromosome Copy Number Variations and spermatogenesis candidate genes in male infertility. Amount of the grant 78.000 €

Publications related to this project

Krausz C, Giachini C, Lo Giacco D, Daguin F, Chianese C, Ars E, Ruiz Castañé E, Forti G, Rossi E. High resolution X chromosome-specific array-CGH detects new CNVs in infertile males. *PLoS One*. 2012;7(10): e44887.

Lo Giacco D, Chianese C, Ars E, Ruiz Castañé E, Forti G, Krausz C. Recurrent X chromosome-linked deletions: discovery of new genetic factors in male infertility. *J Med Genet*. 2014 ;51(5):340-4.

Chianese C, Gunning AC, Giachini C, Daguin F, Balercia G, Ars E, Lo Giacco D, Ruiz Castañé E, Forti G, Krausz C. X chromosome-linked CNVs in male infertility: discovery of overall duplication load and recurrent, patient-specific gains with potential clinical relevance. *PLoS One*. 2014;9(6): e97746.

3) FIS project 2014 (2015-2018):

Genetic and genomic study of specific subtypes of secretory azoospermia: new tools for diagnostic/prognostic. Amount of the grant: 86.500,00 €.

4) FIS project 2017 FIS/FEDER-PI17/01822:

Genetic and genomic study in infertile patients and patients with testicular germ cell tumors: development of new tools for an early diagnosis. Amount of the grant: 104.000 €.

Merck Salud (2017-2020):

Evaluation of the effect of cytostatic therapy on the genome and epigenome of the male gamete. Clinical study that began in 2015 with oncologic patients. Amount of the grant: 30.000 €.

Related publication

Kumar K, Lewis S, Vinci S, Riera-Escamilla A, Fino MG, Tamburrino L, Muratori M, Larsen P, Krausz C. Evaluation of sperm DNA quality in men presenting with testicular cancer and lymphoma using alkaline and neutral Comet assays. *Andrology*. 2018 Jan; 6(1):230-235.

Side projects

Monomorphic teratozoospermia

Publication: Chianese C, Fino MG, Riera Escamilla A, López Rodrigo O, Vinci S, Guarducci E, Daguin F, Muratori M, Tamburrino L, Lo Giacco D, Ars E, Bassas L, Costa M, Pisatauro V, Noci I, Coccia E, Provenzano A, Ruiz-Castañé E, Giglio S, Piomboni P, Krausz C Comprehensive investigation in patients affected by sperm macrocephaly and globozoospermia. *Andrology*. 2015 Mar;3(2):203-12.

Reviews

Krausz C, Escamilla AR, Chianese C. Genetics of male infertility: from research to clinic. *Reproduction*. 2015 Nov; 150 (5): R159-74.

Krausz C, Riera-Escamilla A. Genetics of male infertility. *Nat Rev Urol*. 2018 Apr 5. doi: 10.1038/s41585-018-0003-3. [Epub ahead of print] Review. PubMed PMID: 29622783.

Krausz C, Cioppi F, Riera-Escamilla A. Testing for genetic contributions to infertility: potential clinical impact. *Expert Rev Mol Diagn*. 2018 Mar 22:1-16.

Grants in collaboration with the Institute of biomedical Investigation, Bellvitge Hospital (IDIBELL).

Analysis of gene expression profile of male infertility due to severe defects during meiosis.

Financing Entity: Instituto de Salud Carlos III. Project number: FIS-FEDER PI05/0759

Amount of the grant: 89.110 €. Period: 2006-2008 P.I.: S. Larriba. Investigators from Fundación Puigvert: L Bassas, A Mata

Regulation of RNA expression in the severe meiotic defects: analysis of the DNA methylation and the expression profile of testicular miRNA. Financing Entity: Instituto de Salud Carlos III

Project number: PI 09/01727. Amount: 69.575 €. Period: 2010-2012. P.I.: S Larriba S

Assessment of the sperm transcriptome as a fertility biomarker and its potential use in the treatment of male infertility. Financing Entity: FIS/FEDER, Instituto de Salud Carlos III. Project number: PI 12/00361. Amount of the grant: 50.215 €. Period: 2013-2015. PI: Larriba S. Investigators from Fundación Puigvert: L Bassas, A Mata

Genomic and functional analysis of human hereditary infertility. Financing Entity: CSI. Project number: 114U14. Amount of the grant: 29.000 €. Period: 2015. P.I.: A Martín Pendás. (Centro de Investigación del Cáncer). 01/01/2015. Investigators from Fundació Puigvert: L Bassas

Identification of new diagnostic and prognostic factors of Genitourinary pathologies based on microRNAs from seminal plasma. Financing Entity: FIS/FEDER, Instituto de Salud Carlos III. Project number: PI 15/00153. Amount of the grant: 98.615 €. Period: 2016-2018. P.I.: Larriba S. Investigators from Fundación Puigvert: L Bassas, A Mata

Exosomal miRNA in semen as biomarkers of the origin of azoospermia and the presence of mature sperm in testicular tissue. Financing Entity: FIPSE. Project number: 3178-17. Amount of the grant: 30.000 €. Period: 2018. P.I.: S Larriba. Investigators from Fundación Puigvert: L Bassas, O López

Related publications

Martínez J, Bonache S, Carvajal A, Bassas L, Larriba S. Mutations of SYCP3 are rare in infertile Spanish men with meiotic arrest. *Fertil Steril*. 2007 Oct;88(4):988-9. PubMed PMID: 17434513.

Bonache S, Martínez J, Fernández M, Bassas L, Larriba S. Single nucleotide polymorphisms in succinate dehydrogenase subunits and citrate synthase genes: association results for impaired spermatogenesis. *Int J Androl*. 2007 Jun;30(3):144-52. PubMed PMID: 17298551.

Terribas E, Bonache S, García-Arévalo M, Sánchez J, Franco E, Bassas L, Larriba S. Changes in the expression profile of the meiosis-involved mismatch repair genes in impaired human spermatogenesis. *J Androl*. 2010 Jul-Aug;31(4):346-57. doi: 10.2164/jandrol.109.008805. Epub 2010 Jan 14. PubMed. PMID: 20075417.

Heyn H, Ferreira HJ, Bassas L, Bonache S, Sayols S, Sandoval J, Esteller M, Larriba S. Epigenetic disruption of the PIWI pathway in human spermatogenic disorders. *PLoS One*. 2012;7(10):e47892. doi: 10.1371/journal.pone.0047892. Epub 2012 Oct 24. PubMed PMID: 23112866.

Bonache S, Mata A, Ramos MD, Bassas L, Larriba S. Sperm gene expression profile is related to pregnancy rate after insemination and is predictive of low fecundity in normozoospermic men.

Hum Reprod. 2012 Jun;27(6):1556-67. PubMed PMID: 22447625.

Bonache S, Algaba F, Franco E, Bassas L, Larriba S. Altered gene expression signature of early stages of the germ line supports the pre-meiotic origin of human spermatogenic failure. *Andrology*. 2014 Jul;2(4):596-606. PubMed PMID: 24803180.

Muñoz X, Navarro M, Mata A, Bassas L, Larriba S. Association of PIWIL4 genetic variants with germ cell maturation arrest in infertile Spanish men. *Asian J Androl*. 2014 Nov-Dec;16(6):931-3. PubMed. PMID: 24969058.

Urduñigo RG, Bayón GF, Dmitrijeva M, Toraño EG, Bravo C, Fraga MF, Bassas L, Larriba S, Fernández AF. Aberrant DNA methylation patterns of spermatozoa in men with unexplained infertility. *Hum Reprod*. 2015 May;30(5):1014-28. PubMed PMID: 25753583.

Muñoz X, Mata A, Bassas L, Larriba S. Altered miRNA Signature of Developing Germ-cells in Infertile Patients Relates to the Severity of Spermatogenic Failure and Persists in Spermatozoa. *Sci Rep*. 2015. PubMed PMID: 26648257.

Barceló M, Mata A, Bassas L, Larriba S. Exosomal microRNAs in seminal plasma are markers of the origin of azoospermia and can predict the presence of sperm in testicular tissue. *Hum Reprod*. 2018. Jun 1;33(6):1087-1098. PubMed PMID: 29635626

INTERNATIONAL PATENT

Sara Larriba Bartolomé; Lluís Bassas Arnau. 11382187.0-2402. In vitro method for predicting fecundity of semen España. 06/06/2011. IDIBELL/Fundación Puigvert

OTHER COLLABORATIONS AND PUBLICATIONS

Ramón y Cajal T, Polo A, Martínez O, Giménez C, Arjona C, Lloret G, Bassas L, Viscasillas P, Calaf J. Preimplantation genetic diagnosis for inherited breast cancer: first clinical application and live birth in Spain. *Fam Cancer*. 2012 Jun;11(2):175-9. PubMed PMID: 22179695.

Martorell MR, Martínez-Pasarell O, Lopez O, Polo A, Sandalinas M, Garcia-Guixé E, Bassas L. Chromosome 16 abnormalities in embryos and in sperm from a male with a fragile site at 16q22.1. *Cytogenet Genome Res*. 2014; 142(2):134-9. PubMed PMID: 24434955.

Rosen RC, Wu F, Behre HM, Porst H, Meuleman EJH, Maggi M, Romero-Otero J, Martinez-Salamanca JI, Jones TH, Debruyne FMJ, Kurth KH, Hackett GI, Quinton R, Stroberg P, Reisman Y, Pescatori ES, Morales A, Bassas L, Cruz N, Cunningham GR, Wheaton OA; RHYME Investigators. Quality of Life and Sexual Function Benefits of Long-Term Testosterone Treatment: Longitudinal Results From the Registry of Hypogonadism in Men (RHYME). *J Sex Med*. 2017 Sep;14(9):1104-1115. PubMed PMID: 28781213.

Clinical activities

Main areas of clinical activities

1. Infertility
2. Hypogonadism including sequelae of cancer treatment.
3. Erectile dysfunction (medical treatment and surgery).
4. Fertility gamete preservation: male and female.
5. TESE/TESA/PESE: sperm retrieval (NOA/OA).
6. Assisted reproduction: IUI; IVF; ICSI including use of donor spermatozoa/oocytes
7. Female sexual dysfunction including partners of males consulting for sexual dysfunction

Name and address of Centre

Andrology Department Puigvert Foundation.

Cartagena 340

08025 Barcelona, Spain

Site Visit

Certification, 2018

Type of Centre: University ☐

University Hospital X

Hospital ☐

Private Centre x

Present staff

1. Director

Name Eduard Ruiz Castañé. MD. Urologist.

Academician x Affiliated Member ☐ Clinical Andrologist x

2. Clinical Head

Name Osvaldo Rajmil MD PhD. Endocrinologist. Academician x
Clinical Andrologist x

3. Name Lluís Bassas. MD PhD. Endocrinologist Academician x Affiliated
Member ☐ Clinical Andrologist x

4. Name Joaquim Sarquella. MD. Clinical Andrologist Certified by the EAA
.Academician x. Clinical Andrologist x

5. Name Alvaro Vives. MD. Clinical Andrologist Specialist in Sexually Transmitted
Infections. Academician ☐ Clinical Andrologist

6. Name Josvany René Sánchez-Curbelo . MD. Endocrinologist. MSc in Andrology.
Autonomous University of Barcelona. Academician ☐ Affiliated Member x
Clinical Andrologist

7. Name Mónica Gonzalez. MD. Gynecologist. MSc Sexual Therapy.

Junior Scientists:

- . Ma Fernanda Peraza Godoy. MD. MSc in Clinical Sexology. Urologist. Clinical
Andrology. Certified by the EAA. MSc in Andrology by the Autonomous
University of Barcelona. Academician ☐ Affiliated Member x
Clinical Andrologist x
- . Daniel Moreno Mendoza. MD. Urologist. Clinical Andrology Certified by the EAA.
MSc in Andrology by the Autonomous University of Barcelona. Academician ☐
Affiliated Member x

Scientific Advisor

Csilla Krauz MD PhD. Andrologist, Endocrinologist. EAA Academician.

Florence University

Nurses

1) Name Victoria Paredes

Full time ☒ Part time ☐ If yes, n. of hours 7

Director of semen and Embriology laboratory : Lluís Bassas, M.D., Ph.D

Physicians:

1) Name Anna Mata, MD. Semen and Embryology Lab

2) Name Aurora Garcia, MD PhD. Semen and Embryology Lab

MD/Biologists

1) Name Olga López. Biologist. PhD. Semen and Embryology Lab Full time ☒

2) Name Olga Martínez- Pasarell. Biologist. PhD. Semen and Embryology Lab. Full time ☒ Part time ☐

Laboratory Technicians

1) Name Rosalia Gustà Clavell . Full time ☒

Pathology Section

Director: Ferran Algaba, M.D., Ph.D. Assoc Prof of Pathology

Physicians: Yolanda Arce, M.D.

Molecular Biology Lab

1) Name Elisabet Ars Criach. Chemist. PhD. Full time

2) Name Antoni Riera Escamilla: Biologist MSc PhD. Full time

3) Ruiz Del Prado, Patricia. Nurse

Psychology Department.

Director: Núria Camps, Clinical Psychologist. Psychotherapist.

Name Francesc J. Maestre, Clinical Psychologist.

Name Montserrat Martínez, Clinical Psychologist, PhD.

Name Anna Mir, Psychologist. Clinical Psychologist

Director (if more Institutions in the Centre)

Calaf, J. MD. Ph D. Full Professor of Gynecology. Director of the Gynecology Department. Sant Pau Hospital. Infertility Unit

Andrology Fellows

Carlos Gasanz MD. Urologist

Juan Fernando Villegas MD. Urologist. MsC in Andrology by the Autonomous University of Barcelona.

Administrative Personnel

- 1) Name...Dolors Guart..... Part time x
- 2) Name Jemima Matabacas..... Part time x
- 3) Name Begoña Toribio.....Part time x
- 4) Name Nuria Viñolas.....Part time x
- 5) Name Seila Ballerini..... Part time x

For each category please specify changes (increased or decreased number) from
 EAA site visit: Physicians: unchanged ☐ increased x decreased ☐
 Nurses : unchanged x . Laboratory Technicians: unchanged x Overall
 Comment: the staff meets the requirements for Centre activities yes

4. Clinical Activity*A. Activity per year in the last 3 years*

Department of Andrology: Frequency of Outpatients and Hospitalization			
Year	2015	2016	2017
Outpatient clinic number	9856	9201	9187
New patients	3235	3255	3232
Patient follow-up	6211	5946	5955
Hospitalization admissions	275	292	280
Nocturnal penile studies (Rigiscan®)	171	193	197

Activity of the Andrology Gabinet (Diagnosis and therapy)			
Year	2015	2016	2017
Testicular Ultrasound (US)	143	95	139
Visual Sexual Stimulation and penile rigidity evaluation	7	0	0
Diagnostic applications of vasoactive drugs penile	833	708	885
Pharmaco- Cavernometry	0	1	1
Self injection training	261	296	320
Vacuum device, diagnosis test	216	179	146
Cryotherapy for HPV	410	453	437
Female sexual therapy techniques	249	208	272

Type of outpatients consultation			
Year	2015	2016	2017
Male Infertility	625	579	597
Erectile dysfunction	1440	1300	1483
Hypogonadism	40	70	56
Female sexual dysfunction	185	203	220
Klinefelter	6	3	21
Varicocele	70	68	97
Cryptorchidism	0	0	1
Sexually transmitted infections	919	867	787
Testicular tumours-orchiectomy.	51	62	76
Disorders of gender identity	0	0	0

Surgical activity

All the staff is involved in this activity and is under the supervision of Dr. Sarquella. He is also in charge of training microsurgery. Surgical teaching programs are also provided with the participation of the members of the department.

Andrological Surgical procedures			
Year	2015	2016	2017
Vasectomy	465	414	383
Testicular biopsy	60	70	56
Circumcision	48	44	47
Varicocele excision	48	40	53
Vaso Vasostomy	14	23	10
Penile prosthesis implant	65	48	57
Corporoplasty	20	21	19
Corporoplasty plus patch	7	6	9
Other ambulatory interventions	79	90	57
Total	806	756	691

5. Hormone Laboratory Activity

Hormone determinations			
Year	2015	2016	2017
FSH	497	464	710
LH	931	897	1045
Testosterone	1729	1579	1715
Prolactin	487	455	470
17 β estradiol	331	299	354
Total	3975	3694	4294

Sperm Laboratory Activity			
	2015	2016	2017
Semen analyses	2599	2464	2335
Sperm Antibodies (semen)	499	405	361
Sperm Antibodies (serum)	27	25	12
Seminal markers (biochemistry)	100	93	37
Membrane integrity (HOS)	498	491	379
Sperm capacitation test	890	798	867
Cryosurvival tests	227	287	236

B. Sperm banking donors yes ☒ not ☐

	2015	2016	2017
No. of samples frozen	201	216	238

Sperm banking cancer patients yes ☒

Frozen semen samples for oncologic patients			
	2015	2016	2017
No. of samples frozen	142	143	176

C. Histopathological evaluation of biopsies yes ☒ not ☐

D. Reproductive hormone assays yes ☒

E. Genetic testing

Y chromosome microdeletions according to EAA/EMQN guidelines yes ☒

Blood karyotyping yes x

	2015	2016	2017
Karyotypes	142	112	164
Sperm Aneuploidy (FISH)	35	40	27
Mutation study of CFTR gene	14	23	13
Y chromosome microdeletions	103	107	94

5. Collaboration with other Clinical Units of the University/Hospital

IVF Unit yes x

Gynecology Department, Sant Pau Hospital.

Gynecology Staff of the Centre:

Prof. Joaquim Calaf, M.D., Ph.D. Head of the Gynecological and Obstetric Department of Sant Pau Hospital, Chair of the Joint Reproduction Program

Ramon Bordas M.D., Ph.D.

Pere Pares M.D. Ph.D.

Anna Polo M.D. Ph.D.

Susanna Peon M.D.

Maria J. Saiz, M.D.

Infertility Work up: The Department of Gynecology of Sant Pau Hospital and the Andrology Department, in collaboration with the Semen and Embryology Lab (SEL), work together in human reproduction. This collaboration established a standardized pattern for attending couples consulting for sterility or sub-fertility.

Assisted reproductive techniques (ARTs) are applied conveniently as a treatment for infertility. Decisions of ART are taken jointly. A specific surgical area close to the SEL, is designed for oocyte retrieval and embryo transfer with a post anesthetic recovery zone for patients after ARTs is provided.

Type of treatment (cycles)	2015	2016	2017
Husband intrauterine Insemination	457	448	457
Donor Insemination (cervical)	44	86	273
Donor Insemination (intrauterine)	118	99	87
IVF/ICSI-ET	616	500	571
Embryo cryo- transfers	164	183	212
Preimplantation Genetic Diagnosis (cycles started)	37	40	42

Other collaborations

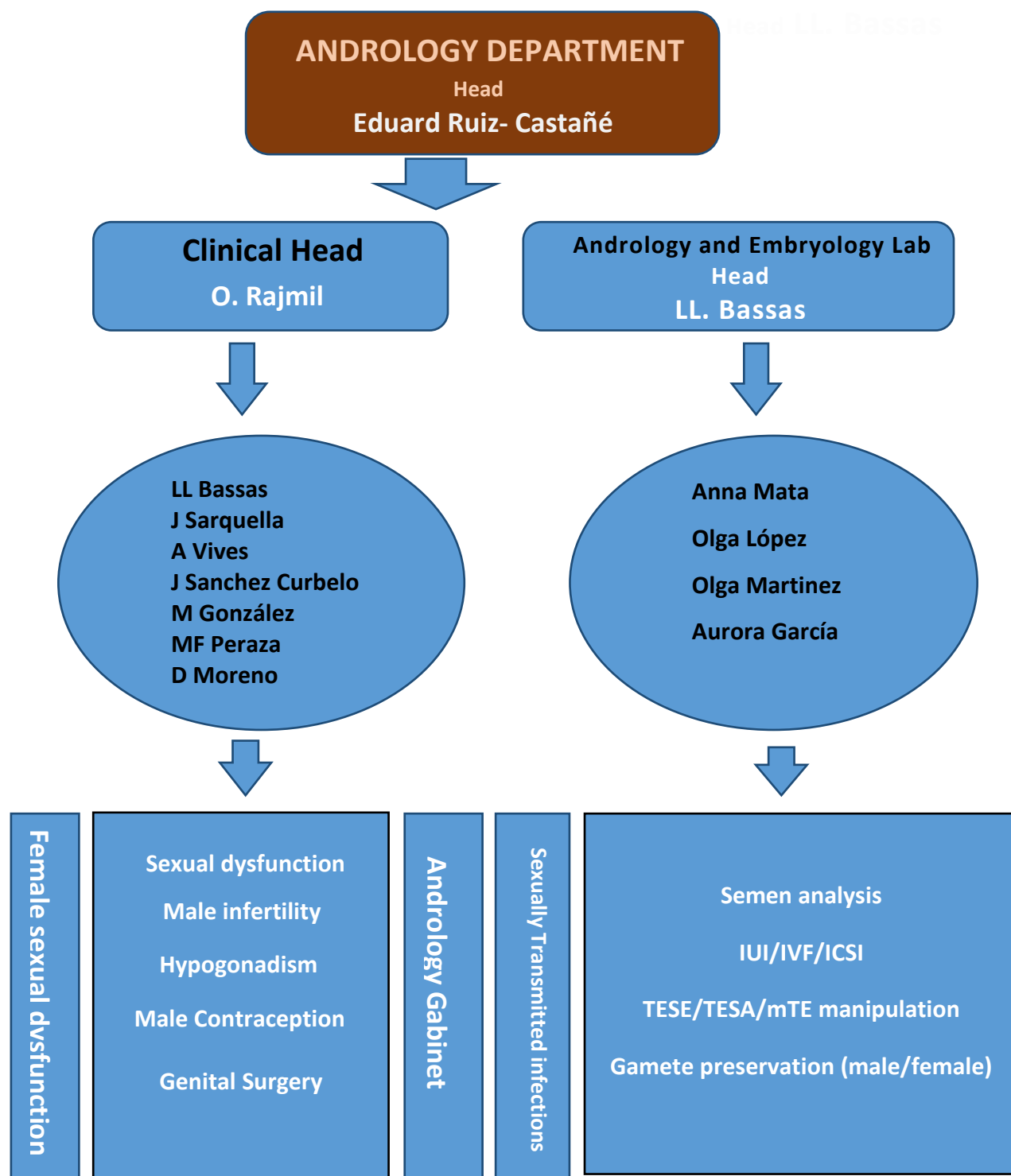
Urology Clinic yes ; Endocrine Clinic yes; Genetics Lab/Unit yes
 Pediatric Unit yes; Central Hospital Laboratory yes; Private Centres yes

6. Clinical Teaching Activity: Duration of training (years): Two

	Number
a.Trainees in the last five years	6
b.Trainees who passed the EAA\examination for Clinical Andrologist in the last 5 years	5
c.Trainees working in the centre preparing to pass the EAA examination	2
d. Ph.D. Students	2
e.Medical Students	5

ORGANIZATION CHART

Department Structure



CENTRE PHOTO



STAFF OF THE ANDROLOGY DEPARTMENT





STAFF LAB OF SEMEN ANALYSIS AND EMBRIOLOGY



MEMBERS OF THE MOLECULAR- GENETIC LAB

**SCIENTIFIC
ADVISOR**



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

Chianese C, Lo Giacco D, Tüttelmann F, Ferlin A, Ntostis P, Vinci S, Balercia G, Ars E, Ruiz-Castañé E, Giglio S, Forti G, Kliesch S, Krausz C. Y-chromosome microdeletions are not associated with SHOX haploinsufficiency. *Hum Reprod.* 2013 Nov;28(11):3155-60

Muñoz X, Navarro M, Mata A, Bassas L, Larriba S. Association of PIWIL4 genetic variants with germ cell maturation arrest in infertile Spanish men. *Asian J Androl.* 2014 Nov-Dec;16(6):931-3.

Krausz C, Chianese C, Lo Giacco D, Tüttelmann F, Ferlin A, Ntostis P, Vinci S, Balercia G, Ars E, Ruiz-Castañé E, Giglio S, Kliesch S, Forti G Reply: Y-chromosome microdeletions are not associated with SHOX haploinsufficiency. *Hum Reprod.* 2014 May;29(5):1114-5. doi: 10.1093/humrep/deu037. Epub 2014 Mar 14.

Lains-Mota R, Alpoim F, Rodrigues T, Rolim N, Simões H, Covita A, Nogueira R, Monteiro H, Sarquella J. The management of bilateral cryptorchidism in the adult man: report of two cases. *Arch Esp Urol.* 2014 Nov;67(9):792-7. English, Spanish

Bonache S, Algaba F, Franco E, Bassas L, Larriba S. Altered gene expression signature of early stages of the germ line supports the pre-meiotic origin of human spermatogenic failure. *Andrology.* 2014 Jul;2(4):596-606.

Martorell MR, Martínez-Pasarell O, Lopez O, Polo A, Sandalinas M, Garcia-Guixé E, Bassas L. Chromosome 16 abnormalities in embryos and in sperm from a male with a fragile site at 16q22.1. **Martorell MR, Martínez-Pasarell O, Lopez O, Polo A, Sandalinas M, Garcia-Guixé E, Bassas L.** *Cytogenet Genome Res.* 2014;142(2):134-9.

Chianese, C, Fino, Mg, Riera, A, López, O., Vinci, S., Guarducci, E., Daguin, F., Muratori, M., Tamburrino, L., Lo Giacco, D, Ars, E, Bassas, Ll, Costa, M., Pisatauro, V., Noci, I., Coccia, E., Provenzano, A., Ruiz Castañé, E., Giglio, S., Piomboni, P., Krausz, C. “Comprehensive investigation in patients affected by sperm macrocephaly and globozoospermia”. *Andrology* 2015, 3(2): 203-212.
IF 2,515

Marti-Pastor M, García de Olalla P, Barberá MJ., Manzardo, C., Ocaña I., Knobel, H, Gurgui M., Humet, V, Vall M., Ribera E., Villar J, Martin G., Sambeat, MA, Marco A., Vives, A., Alsina M, Miró JM., Cayla, JA. “Epidemiology of infections by HIV, syphilis. gonorrhea and lymphogranuloma

venereum in Barcelona city: a population-based incidence study". BMC PUBLIC HEALTH" 2015, 15(1): 1015 - IF 2,209

Urduingio, RG., Bayon, GF., Dmitrijeva, M., Toraño, EG., Bravo, C., Fraga, MF., Bassas, LI., Larriba, S., Fernandez, AF. "Aberrant DNA methylation patterns of spermatozoa in men with unexplained Infertility". HUM. REPROD. 2015, 30(5): 1014-1028. IF 4,621

Krausz C, Escamilla, AR., Chianese C. "Genetics of male infertility: from research to clinic". Reproduction 2015, 150(5): R159-R174. IF 3,184

Cosentino, M., Sarquella, J., Ruiz Castañé, E. "Priapism secondary to tamsulosin: a case report". Rev. Int. Androl. 2015, 13(1): 37-39. IF 0,238

Muñoz X, Mata A, Bassas L, Larriba S. Altered miRNA Signature of Developing Germ-cells in Infertile Patients Relates to the Severity of Spermatogenic Failure and Persists in Spermatozoa Sci Rep. 2015; 5: 17991. IF 5,228

Daina G., Ramos L., Obradors A, Rius M., del Rey J., Martinez-Pasarell O., Pujol A., Benet J., Navarro Ferrete J., Double-factor preimplantation genetic diagnosis: Monogenic and cytogenetic diagnoses analyzing a single blastomere (2015) Prenatal Diag,35 (13), 1301-1307, IF:3.0430

Gimenez C, Sarasa J, Arjona C, Vilamajo E, Martinez-Pasarell O, Wheeler K, Valls G., Garcia-Guixe E, Wells D, Karyomapping allows preimplantation genetic diagnosis of a de-novo deletion undetectable using conventional PGD technology (2015) Reprod Biomed Online, 31 (6), 770-775, IF:2.7960

Ramos L., Daina G., Del Rey J., Ribas-Maynou J., Fernandez-Encinas A., Martinez-Passarell O, Boada M., Benet J, Navarro J, Comprehensive preimplantation genetic screening and sperm deoxyribonucleic acid fragmentation from three males carrying balanced chromosome rearrangements (2015) Fertil Steril, 104 (3), 681-687.e2, IF:4.4260

Cosentino M, Kanashiro A, Vives A, Sanchez, J., Peraza, MF, Moreno, D., Perona, J., De Marco, V., Ruiz Castañé, E, Sarquella, J. "Surgical treatment of Peyronie's disease with small intestinal submucosa graft patch". Int. J. Impot. Res. 2016, 28(3): 106-109. IF 1,293

Vives A. Vázquez A, Rajmil, O, Cosentino, M. “Urethral condylomas in men: experience in 123 patients without previous treatment”. *Int. J. Std. & Aids* 2016, 27(1): 39-43. IF 1,350

Vinay J., Sarquella, J., Sánchez, J., Algaba, F., Gallegos, I., Ruiz Castañé, E., Palma, C. “Acumulación de adipocitos en el cuerpo cavernoso: primera evidencia clínica e implicaciones fisiopatológicas en la disfunción eréctil”. *Actas Urol. Esp.* 2017, 41(2): 97-102. IF 1,181

Romero-Otero, J., Rojas, C., García Alonso, F., García Gómez, B., Sarquella J., Medina, J., Ruiz Castañé, E, Rodríguez- Antolin, A. “Comparasion of the patient and partner satisfaction with 700cx and Titan penile prostheses”. *Asian J. Androl.* 2017, 19(3): 321-325. IF 2,996

Rosen RC, Wu F, Behre HM., Porst H., MeulemanEJH, Maggi M., Romero-Otero, J., Martínez Salamanca, J, Jones, Th., Debruyne, FmJ., Kurth, Kh., Hackett, Gi., Quinton, R., Stroberg, P., Reisman, I., Pescatori, Es., Morales, A., Bassas LI, Cruz, N., Cunningham, Gr. Wh. “Quality of life and sexual function benefits of long-term testosterone treatment: longitudinal results from the registry of hypogonadism in men (Rhyme). *J. Sex. Med* 2017, 14(9): 1104-1115. IF 2,978

Vinay J, Moreno D, Vives A, Osvaldo Rajmil O, Ruiz-Castane E, Sanchez-Curbelo J. Electrohydraulic low-intensity shock wave therapy for pde5i-refractory erectile dysfunction: a prospective, randomized, placebo-controlled study. *J of Urol.* Vol. 197, No. 4S, Suppl, 16, 2017

Ruiz-Olvera S.F., Rajmil O., Sánchez-Curbelo J. R., Vinay J., Rodriguez-Espinosa J., Ruiz-Castañé E Association of serum testosterone levels and testicular volume in adult patients.. (2017) *Andrologia* <https://doi.org/10.1111/and.12933>. IF: 1,458

García-Cruz E., Monguet JM., Marrre D, González M., Peraza MF, Sánchez C, Susi C, Trejo A, Alcaraz A A Multidisciplinary Approach to Sexual Behavior Profiles: The SEX360 P., Model.. (2017) *Sexuality & Culture* 21(4): 941-52.

Espinós JJ, Polo A, Sanchez Henández J, Bordas JR, Parés P, Martínez-Passarell O, Calaf J. Weight decrease improves live birth rates in obese women undergoing IVF:A pilot study. (2017) *Reprod Biomed Online* 35 4 417-424 IF: 3,249

Vinay J, Sarquella J, Sanchez J., Algaba F, Gallegos I., Ruiz-Castane E., Palma C, Adipocyte accumulation in corpus cavernosum: First clinical evidence and pathophysiological implications in erectile dysfunction (2017). *Actas Urol Esp*, 41(2), 97-102, IF:1.1810