

Ana Cobo Ph.D.

Biosketch

Dr. Ana Cobo graduated from the University del Valle in Colombia in 1988. She obtained her Master degree of Biological Sciences in Reproduction Biology at the University of Chile in 1994. She moved to Spain in 1995, when she joined the Instituto Valenciano de Infertilidad (IVI) and obtained a Master's degree in Human Reproduction at the University of Valencia, Spain, in 1998. She completed her doctorate in 2008 when she received her PhD. degree from the University of Valencia.

Dr. Cobo has worked as an embryologist for more than 20 years and became interested in oocytes cryopreservation in the early 1990s, while completing her Master's degree and doctoral thesis works on this subject. She is currently a senior embryologist at the IVI in Valencia, where she is the Director of the Cryobiology Unit in the IVF lab. Her work in the clinical application of oocyte vitrification has made a great contribution in assisted reproduction, since she was a pioneer in the large-scale application of the technique demonstrating the efficiency of egg-banking. Her work has also been very useful for both clinicians and patients interested in preserving fertility. Her publications provide the largest studies assessing the scope of oocyte vitrification as a tool for the preservation of fertility and for ovum donation, focusing on the number of vitrified oocytes required to get a baby.

As a researcher has published over 56 articles, 59 book chapters and over 102 communications and posters to International congresses, mostly on cryopreservation in IV, besides as co-editor in 4 book published . She has been invited to speak national and International. She also is member of several organizations as ASRM, European Society of Human Reproduction and Embryology (ESHRE), Sociedad Española de Fertilidad (SEF).

She has also participated as researcher in investigation projects as a lead researcher (PROFIT MITYC 2005 IMPIVA I+D 2006, CDTI 2005-2007, IMPIVA 2007, IMPIVA 2008). Her teaching activities are focus on directing the continuous training program in the vitrification of oocytes and embryos at the IVI learning center. She is a professor in the postgraduate master course in Biotechnology of Human Reproduction at the IVI University Institute since 1997 ascribed to the University of Valencia.

## Education and Training

B S	University del Valle (1998) Colombia
Master degree	University of Chile (1994) Chile
Master Human Reproduction	University of Valencia (1998) Spain
PH. D (Biology)	University of Valencia (2008) Spain
Fellowship	IVI Valencia (1995- 1997) Spain

## Honors and Recognition

CRIO MERCK SERONO-ASEBIR 2015 AWARD

ASRM 2017 Star Award

El análisis morfocinético de los blastocistos desvitrificados define nuevos marcadores de éxito reproductivo/ Morphokinetic analysis of vitrified blastocysts defines new markers of reproductive success.

## Publications

1. Romany L, Garrido N, **Cobo A**, Aparicio-Ruiz B, Serra V, Meseguer M. Obstetric and perinatal outcome of babies born from sperm selected by MACS from a randomized controlled trial. *J Assist Reprod Genet*, 34:201-07, 2017.
2. Rienzi L, **Cobo A**, Ubaldi FM. Chapter 10 Human Oocyte Vitrification. *Methods Mol Biol*, 1568:131-39, 2017.
3. Insua MF, **Cobo AC**, Larreategui Z, Ferrando M, Serra V, Meseguer M. Obstetric and perinatal outcomes of pregnancies conceived with embryos cultured in a time-lapse monitoring system. *Fertil Steril*, 108:498-504, 2017.
4. Coello A, Meseguer M, Galan A, Alegre L, Remohi J, **Cobo A**. Analysis of the morphological dynamics of blastocysts after vitrification/warming: defining new predictive variables of implantation. *Fertil Steril*, 108:659-66 e4, 2017.
5. **Cobo A**, Coello A, Remohi J, Serrano J, de Los Santos JM, Meseguer M. Effect of oocyte vitrification on embryo quality: time-lapse analysis and morphokinetic evaluation. *Fertil Steril*, 108:491-97 e3, 2017.
6. Swain JE, Carrell D, **Cobo A**, Meseguer M, Rubio C, Smith GD. Optimizing the culture environment and embryo manipulation to help maintain embryo developmental potential. *Fertil Steril*, 105:571-87, 2016.
7. Nohales-Corcoles M, Sevillano-Almerich G, Di Emidio G, Tatone C, **Cobo AC**, Dumollard R, De Los Santos Molina MJ. Impact of vitrification on the mitochondrial activity and redox homeostasis of human oocyte. *Hum Reprod*, 31:1850-8, 2016.
8. Coello A, Campos P, Remohi J, Meseguer M, **Cobo A**. A combination of hydroxypropyl cellulose and trehalose as supplementation for vitrification of human oocytes: a retrospective cohort study. *J Assist Reprod Genet*, 33:413-21, 2016.
9. **Cobo A**, Garcia-Velasco JA, Coello A, Domingo J, Pellicer A, Remohi J. Oocyte vitrification as an efficient option for elective fertility preservation. *Fertil Steril*, 105:755-64 e8, 2016.
10. **Cobo A**, Garcia-Velasco JA. Why all women should freeze their eggs. *Curr Opin Obstet Gynecol*, 28:206-10, 2016.
11. Stoop D, Silber S, **Cobo A**. Fertility preservation for age-related fertility decline - authors' reply. *Lancet*, 385:507-8, 2015.
12. **Cobo A**, Garrido N, Pellicer A, Remohi J. Six years' experience in ovum donation using vitrified oocytes: report of cumulative outcomes, impact of storage time, and development of a predictive model for oocyte survival rate. *Fertil Steril*, 104:1426-34 e1-8, 2015.
13. Stoop D, **Cobo A**, Silber S. Fertility preservation for age-related fertility decline. *Lancet*, 384:1311-9, 2014.
14. Rodrigo L, Mateu E, Mercader A, **Cobo AC**, Peinado V, Milan M, Al-Asmar N, Campos-Galindo I, Garcia-Herrero S, Mir P, Simon C, Rubio C. New tools for embryo selection: comprehensive chromosome screening by array comparative genomic hybridization. *Biomed Res Int*, 2014:517125, 2014.
15. Martinez M, Rabadan S, Domingo J, **Cobo A**, Pellicer A, Garcia-Velasco JA. Obstetric outcome after oocyte vitrification and warming for fertility preservation in women with cancer. *Reprod Biomed Online*, 29:722-8, 2014.
16. Herrero L, Pareja S, Aragonés M, **Cobo A**, Bronet F, Garcia-Velasco JA. Oocyte versus embryo vitrification for delayed embryo transfer: an observational study. *Reprod Biomed Online*, 29:567-72, 2014.
17. **Cobo A**, Serra V, Garrido N, Olmo I, Pellicer A, Remohi J. Obstetric and perinatal outcome of babies born from vitrified oocytes. *Fertil Steril*, 102:1006-15 e4, 2014.

18. Garcia-Velasco JA, Domingo J, **Cobo A**, Martinez M, Carmona L, Pellicer A. Five years' experience using oocyte vitrification to preserve fertility for medical and nonmedical indications. *Fertil Steril*, 99:1994-9, 2013.
19. Gaikwad S, Garrido N, **Cobo A**, Pellicer A, Remohi J. Bed rest after embryo transfer negatively affects in vitro fertilization: a randomized controlled clinical trial. *Fertil Steril*, 100:729-35, 2013.
20. Dominguez F, Castello D, Remohi J, Simon C, **Cobo A**. Effect of vitrification on human oocytes: a metabolic profiling study. *Fertil Steril*, 99:565-72, 2013.
21. **Cobo A**, Garcia-Velasco JA, Domingo J, Remohi J, Pellicer A. Is vitrification of oocytes useful for fertility preservation for age-related fertility decline and in cancer patients? *Fertil Steril*, 99:1485-95, 2013.
22. **Cobo A**, Castello D, Vallejo B, Albert C, de los Santos JM, Remohi J. Outcome of cryotransfer of embryos developed from vitrified oocytes: double vitrification has no impact on delivery rates. *Fertil Steril*, 99:1623-30, 2013.
23. Valbuena D, Poo ME, Aguilar-Gallardo C, Martinez S, **Cobo AC**, Pellicer A, Simon C. Comparison of Cryotip vs. Cryotop for mouse and human blastomere vitrification. *Fertil Steril*, 97:209-17, 2012.
24. Rienzi L, **Cobo A**, Paffoni A, Scarduelli C, Capalbo A, Vajta G, Remohi J, Ragni G, Ubaldi FM. Consistent and predictable delivery rates after oocyte vitrification: an observational longitudinal cohort multicentric study. *Hum Reprod*, 27:1606-12, 2012.
25. **Cobo A**, Garrido N, Crespo J, Jose R, Pellicer A. Accumulation of oocytes: a new strategy for managing low-responder patients. *Reprod Biomed Online*, 24:424-32, 2012.
26. **Cobo A**, de los Santos MJ, Castello D, Gamiz P, Campos P, Remohi J. Outcomes of vitrified early cleavage-stage and blastocyst-stage embryos in a cryopreservation program: evaluation of 3,150 warming cycles. *Fertil Steril*, 98:1138-46 e1, 2012.
27. **Cobo A**, Bellver J, de los Santos MJ, Remohi J. Viral screening of spent culture media and liquid nitrogen samples of oocytes and embryos from hepatitis B, hepatitis C, and human immunodeficiency virus chronically infected women undergoing in vitro fertilization cycles. *Fertil Steril*, 97:74-8, 2012.
28. **Cobo A**. Oocyte vitrification: a watershed in ART. *Fertil Steril*, 98:600-1, 2012.
29. Bianchi V BV, **Cobo A**, Ebner T, Edgar D, Greuner M, Leibo S, Mortimer D, Nagy ZP, Parmegiani L, Roy T, Street K, Thornhill A, Van Landuyt L, Vanderzwalmen P, VerMilyea MT, Wood M. The Alpha consensus meeting on cryopreservation key performance indicators and benchmarks: proceedings of an expert meeting. *Reprod Biomed Online*, 25:146-67, 2012.
30. Martinez-Burgos M, Herrero L, Megias D, Salvanes R, Montoya MC, **Cobo AC**, Garcia-Velasco JA. Vitrification versus slow freezing of oocytes: effects on morphologic appearance, meiotic spindle configuration, and DNA damage. *Fertil Steril*, 95:374-7, 2011.
31. Herrero L, Pareja S, Losada C, **Cobo AC**, Pellicer A, Garcia-Velasco JA. Avoiding the use of human chorionic gonadotropin combined with oocyte vitrification and GnRH agonist triggering versus coasting: a new strategy to avoid ovarian hyperstimulation syndrome. *Fertil Steril*, 95:1137-40, 2011.
32. **Cobo A**, Remohi J, Chang CC, Nagy ZP. Oocyte cryopreservation for donor egg banking. *Reprod Biomed Online*, 23:341-6, 2011.
33. **Cobo A**, Diaz C. Clinical application of oocyte vitrification: a systematic review and meta-analysis of randomized controlled trials. *Fertil Steril*, 96:277-85, 2011.
34. Vajta G, Rienzi L, **Cobo A**, Yovich J. Embryo culture: can we perform better than nature? *Reprod Biomed Online*, 20:453-69, 2010.
35. Sanchez-Serrano M, Crespo J, Mirabet V, **Cobo AC**, Escriba MJ, Simon C, Pellicer A. Twins born after transplantation of ovarian cortical tissue and oocyte vitrification. *Fertil Steril*, 93:268 e11-3, 2010.
36. Milan M, **Cobo AC**, Rodrigo L, Mateu E, Mercader A, Buendia P, Peinado V, Delgado A, Mir P, Simon C, Remohi J, Pellicer A, Rubio C. Redefining advanced maternal age as an indication for preimplantation genetic screening. *Reprod Biomed Online*, 21:649-57, 2010.
37. **Cobo A**, Romero JL, Perez S, de los Santos MJ, Meseguer M, Remohi J. Storage of human oocytes in the vapor phase of nitrogen. *Fertil Steril*, 94:1903-7, 2010.
38. **Cobo A**, Meseguer M, Remohi J, Pellicer A. Use of cryo-banked oocytes in an ovum donation programme: a prospective, randomized, controlled, clinical trial. *Hum Reprod*, 25:2239-46, 2010.

39. Vajta G, Nagy ZP, **Cobo A**, Conceicao J, Yovich J. Vitrification in assisted reproduction: myths, mistakes, disbeliefs and confusion. *Reprod Biomed Online*, 19 Suppl 3:1-7, 2009.
40. Domingo J, Ayllon Y, Domingo S, **Cobo A**, Crespo J, Pellicer A. New approaches to female fertility preservation. *Clin Transl Oncol*, 11:154-9, 2009.
41. **Cobo A**, Vajta G, Remohi J. Vitrification of human mature oocytes in clinical practice. *Reprod Biomed Online*, 19 Suppl 4:4385, 2009.
42. **Cobo A**, Perez S, De los Santos MJ, Zulategui J, Domingo J, Remohi J. Effect of different cryopreservation protocols on the metaphase II spindle in human oocytes. *Reprod Biomed Online*, 17:350-9, 2008.
43. **Cobo A**, Kuwayama M, Perez S, Ruiz A, Pellicer A, Remohi J. Comparison of concomitant outcome achieved with fresh and cryopreserved donor oocytes vitrified by the Cryotop method. *Fertil Steril*, 89:1657-64, 2008.
44. **Cobo A**, Domingo J, Perez S, Crespo J, Remohi J, Pellicer A. Vitrification: an effective new approach to oocyte banking and preserving fertility in cancer patients. *Clin Transl Oncol*, 10:268-73, 2008.
45. **Cobo A**, Bellver J, Domingo J, Perez S, Crespo J, Pellicer A, Remohi J. New options in assisted reproduction technology: the Cryotop method of oocyte vitrification. *Reprod Biomed Online*, 17:68-72, 2008.
46. **Cobo A**, Bosch E, Alvarez C, de los Santos MJ, Pellicer A, Remohi J. Effect of a sharp serum oestradiol fall before HCG administration during ovarian stimulation in donors. *Reprod Biomed Online*, 15:169-74, 2007.
47. Requena A, Neuspiller F, **Cobo AC**, Aragonés M, Garcia-Velasco JA, Remohi J, Simon C, Pellicer A. Endocrinological and ultrasonographic variations after immature oocyte retrieval in a natural cycle. *Hum Reprod*, 16:1833-7, 2001.
48. **Cobo A**, Rubio C, Gerli S, Ruiz A, Pellicer A, Remohi J. Use of fluorescence in situ hybridization to assess the chromosomal status of embryos obtained from cryopreserved oocytes. *Fertil Steril*, 75:354-60, 2001.
49. Requena A, Neuspiller F, **Cobo AC**, Aragonés M, Remohi J, Simon C, Pellicer A. The potential use of maturation in vitro of human oocytes in low responder patients. *J Assist Reprod Genet*, 17:239-44, 2000.
50. **Cobo AC**, Requena A, Neuspiller F, Aragonés M, Mercader A, Navarro J, Simon C, Remohi J, Pellicer A. Maturation in vitro of human oocytes from unstimulated cycles: selection of the optimal day for ovum retrieval based on follicular size. *Hum Reprod*, 14:1864-8, 1999.
51. Smith R, Walker L, **Cobo AC**, Vantman D. [Contribution of chromosomal abnormalities to in vitro fertilization failures]. *Rev Med Chil*, 126:511-9, 1998.