

HUMAN FERTILISATION AND EMBRYOLOGY ACT 2008

EXPLANATORY NOTES

COMMENTARY ON SECTIONS

Part 1: Amendments of Human Fertilisation and Embryology Act 1990

Section 3: Prohibitions in connection with embryos

28. **Section 3** amends section 3 of the 1990 Act, which covers prohibitions connected with embryos. Section 3(2) prohibits the placing in any woman of any embryo other than a permitted embryo or any gametes other than permitted eggs or permitted sperm.
29. A permitted embryo is defined as an embryo which has been formed by the fertilisation of a permitted egg by a permitted sperm, whose nuclear or mitochondrial DNA has not been altered and which has not had cells added (except by division of the embryo's own cells). Permitted eggs are defined as eggs produced by or extracted from the ovaries of a woman and permitted sperm as sperm produced by or extracted from the testes of a man. These eggs and sperm must also not have been subject to any alterations to their nuclear or mitochondrial DNA. This section ensures embryos created by artificial gametes or genetically modified gametes could not be placed in a woman. Similarly, genetically modified embryos or embryos created by cloning cannot be placed in a woman. This prevents reproductive cloning and supersedes the Human Reproductive Cloning Act 2001.
30. A regulation-making power has been provided under new section 3ZA(5) of the 1990 Act to allow the meaning of permitted eggs and permitted embryos to be extended to include eggs or embryos that have been treated in such a way as specified in regulations to prevent the transmission of serious mitochondrial disease¹. In the future, it may be possible to create embryos using an affected woman's egg, her partner's sperm and healthy donated mitochondria. This regulation-making power will enable such embryos and eggs to be implanted in a woman if the technology became available and was proven safe. Further provision regarding mitochondrial donation is made in section 26, which inserts new section 35A into the 1990 Act.

¹ Mitochondria are found outside the nucleus of the cell and contain a small amount of DNA. They are involved in energy production and are present in most cells in the body. If a woman's egg is fertilised by sperm the mitochondria from her egg will become the mitochondria for every cell of the embryo formed. Therefore, if a woman has a genetic medical condition associated with her mitochondria, these will be inherited via her eggs.