Human oocyte cryopreservation: 5-year experience with a sodium-depleted slow freezing method

- Jeffrey Boldt
- Non Tidswel
- Amy Sayers
- Rami Kilani
- Donald Cline

- a Assisted Fertility Services, Community Health Network, Indianapolis, IN, USA
- b Department of Obstetrics and Gynecology, St Vincent Hospital, Indianapolis, IN, USA
- c Reproductive Endocrinology Associates, Indianapolis, IN, USA

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Abstract

A slow freezing/rapid thawing method for the cryopreservation of human oocytes has been employed using a sodium-depleted culture media. In 53 frozen egg-embryo transfer (FEET) cycles, a 60.4% survival rate post-thaw was obtained and a 62.0% fertilization rate following intracytoplasmic sperm injection. Overall pregnancy rates were 26.4% per thaw attempt, 30.4% per patient, and 32.6% per embryo transfer. Pregnancy rates using sodium-depleted phosphate-buffered saline (PBS) as the base medium were 20.0% per thaw, 21.7% per patient, and 26.3% per transfer. With sodium-depleted modified human tubal fluid (mHTF) as the base for the cryopreservation medium, rates were 32.1% per thaw attempt, 39.1% per patient, 37.5% per transfer. The overall implantation rates were 4.2% per thawed oocyte and 13.6% per embryo, (PBS: 3.0% per egg, 10.6% per embryo; mHTF:5.3% per oocyte; 15.9% per embryo). These data indicate that the use of a sodium-depleted media with slow freezing and rapid thawing can yield acceptable pregnancy rates after FEET.