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In the news

SPERM IN A DISH

Functional sperm has been grown for the first time in the laboratory. Reporting in *Nature*, researchers from Yokohama City University, Japan, cultured testicular tissue fragments from newborn transgenic mice. By modifying the culture conditions, they identified the 'magic formula' that allowed the testes to produce mature sperm and that maintained spermatogenesis for more than 2 months. Moreover, the sperm was functional and could be used to produce fertile offspring.

Previous attempts to grow sperm *in vitro* had been unsuccessful, giving rise to incomplete spermatogenesis or non-functional sperm. Now, the researchers hope that they will be able to use the technique to study spermatogenesis in detail. Takehiko Ogawa, senior author in the paper, believes that this may help "to treat patients suffering from male infertility due to defective or insufficient sperm production." (*theguardian.co.uk*, 23 Mar 2011.)

Importantly, testicular tissue fragments that had been frozen for 4–25 days could be cultured in this way and still produced viable sperm. So, testicular tissue from patients with cancer undergoing chemotherapy or radiotherapy could potentially be frozen before treatment and cultured later to produce sperm for *in vitro* fertilization. This may be particularly important for prepubescent boys with cancer, who have not yet produced mature sperm.

Martin Dym, a cell biologist from Georgetown University, USA, hopes that the study "will stimulate many others, including [him], to start working on humans." (*ScienceNOW*, 23 Mar 2011.) However, as commented on by Allan Pacey, senior lecturer in andrology at the University of Sheffield, UK, it will be "important to make sure that any sperm produced are safe and give rise to healthy offspring when used, and that they in turn have healthy offspring." (*bbc.co.uk*, 24 Mar 2011.)

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