

Life span of ovarian grafts longer than expected

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Transplanting previously frozen ovarian tissue back into female cancer survivors can lead to long-term hormonal function and preservation of fertility, according to a new study by Samuel Kim from the University of Kansas Medical Center in the US. His work, which shows that hormonal function was restored in five women 12-20 weeks after transplantation, and in one case lasted for more than seven years, appears online in the *Journal of Assisted Reproduction and Genetics*.

Many female [cancer patients](#) want to remain fertile, and choose to freeze some of their ovarian tissue prior to [cancer treatment](#). Following treatment, the frozen tissue is thawed and transplanted back into the survivor's body, in a different location - known as a 'heterotopic site'. However, the longevity of grafted ovarian tissue has been debated for many years, and it is still uncertain how long hormonal (endocrine) function of frozen-thawed ovarian tissue can be maintained.

Kim studied five [cancer survivors](#) who had undergone heterotopic ovarian transplantation between 2001-2011. Their frozen ovaries were rapidly thawed and transplanted into the abdominal region. Kim measured both the levels and function of the [reproductive hormones](#) in these women via monthly blood tests and ultrasounds after hormonal activity was confirmed. The women were monitored until cessation of hormonal function.

He found that hormonal function was restored in all five patients 12-20 weeks after transplantation. Long-term follow-up in four patients

showed that these women needed a second transplantation within two years of the first. Interestingly, restoration of ovarian function after the second transplantation was faster and lasted longer, between nine months and seven years.

The longest duration of hormonal function was seen in a 28-year-old women who underwent ovarian transplantation in 2003 and 2004 after radiotherapy for [cervical cancer](#). Even seven years after transplantation, the grafts were still producing hormones.

Kim concludes: "Re-establishment of long-term endocrine function after ovarian transplantation will benefit young cancer survivors with premature ovarian failure. To my knowledge, this is the longest duration of ovarian function reported in the literature after heterotopic transplantation of frozen-thawed human ovarian tissue."

More information: Kim SS (2012). Assessment of long term endocrine function after transplantation of frozen-thawed human ovarian tissue to the heterotropic site: 10 year longitudinal follow-up study.

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