

New research gives fresh hope to couples with 'unexplained infertility'

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New research from Queen's University Belfast has uncovered the cause of infertility for 80 per cent of couples previously diagnosed with 'unexplained infertility'.

At present some 50,000 [couples](#) require [fertility treatment](#) across the UK each year, with the figure reaching one million worldwide. Up to one third of these couples are diagnosed with unexplained or idiopathic infertility. This means that, using current tests, neither partner has been diagnosed with any detectable problem.

Published in *Reproductive Biomedicine Online*, and carried out by Professor Sheena Lewis from the School of Medicine, Dentistry and Biomedical Sciences at Queen's, the new research reveals 80 per cent of couples with unexplained or idiopathic infertility in the large study of 239 couples have a detectable cause known as high sperm [DNA damage](#).

The new study is the first of its kind and will lead to better treatment for these couples, saving them time, money and heartache.

Explaining the research, Professor Lewis said: "The majority of couples experiencing problems with fertility are able to receive an explanation for their infertility. These causes range from low sperm count, poor sperm motility in the man to blocked [fallopian tubes](#) or [endometriosis](#) in the woman. Once the causes for infertility have been established the appropriate course of assisted conception treatment can be undertaken.

"For almost one third of couples, until now, there has been no obvious cause for infertility and these couples are given the diagnosis of 'unexplained fertility'. These couples often invest a lot of time and money in fertility treatments like [intrauterine insemination](#) (IUI) unlikely to be successful. In our study we have now had a breakthrough which explains the cause of infertility for many of those couples. Now that we have found the cause of infertility for these couples suitable treatments can be tailored for them which will direct them straight to the best treatment and increase their chances of having a baby."

The study also has a second major finding. It is the first study to show that the chances of having a baby after IVF is closely related to the amount of DNA damage a man has in each of his sperm. A little damage is normal (under 15 per cent per sperm), as is seen in the sperm of fertile men. But if the damage reaches clinically important levels (high sperm DNA damage more than 25 per cent per sperm) it will reduce the couples' chances of a family, even with some forms of fertility treatment. These findings are the latest in a series of studies performed by the internationally recognised male fertility research team based at Queen's Centre for Public Health involving over 500 couples.

The research was carried out using a unique test for male fertility called the SpermComet™. Professor Lewis said: "We at Queen's have developed the SpermComet™, which is a unique test for male infertility that measures damaged DNA in individual [sperm](#) – providing all couples with specific information about the causes and extent of their infertility. This test can predict the success of [infertility](#) treatments and fast-track couples to the treatment most likely to succeed, leading to reduced waiting times and improved chances of success.

"With one million couples worldwide requiring fertility treatment, these new research findings will give many fresh hope of having a family." Professor Lewis, in partnership with Queen's venture spinout arm,

QUBIS, has now set up a company called Lewis Fertility Testing Ltd which is already marketing the test. For more information visit www.lewisfertilitytesting.com

More information: The research is published in *Reproductive Biomedicine Online* and can be found at: www.sciencedirect.com/science/.../S1472648312005901

Provided by Queen's University Belfast

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