

Improve Sperm Selection

Last Updated Friday, 15 July 2005

Device to improve sperm selection?

This article last published / updated 1/5/2005

A story in New Scientist Magazine stated a machine being developed at the University of Newcastle in New South Wales is intended to be able to select sperm with less DNA damage.

The premise is that sperm with normal maturation and therefore less DNA damage is negatively charged. The "sperm sorter" consists of two chambers separated by a filter. After the sperm is injected into the first chamber a voltage is applied across the filter to move sperm to the second chamber.

In one test of the machine, using semen from medical students, 20 percent of sperm made it into the second chamber. This "select sperm" had only half as much DNA damage as the sperm in the first chamber.

Without having actually seen the data, I am very suspicious about this. My big concern is how they were determining whether sperm had DNA damage. Recently there has been a lot of interest in sperm DNA damage testing. The most popular of these tests, the Sperm Chromatin Structure Analysis (SCSA) initially had some very encouraging studies suggesting that it could identify men less able to produce a pregnancy.

However, at the fall 2004 meeting of the American Society for Reproductive Medicine (ASRM), there were three studies from three separate groups which failed to find any benefit to the test.

It leaves considerable question as to whether identification of sperm with more or less DNA damage makes any difference. Some will argue that it is only logical that choosing sperm with less DNA damage would work better. This is not necessarily so. Cells such as eggs contain mechanisms to repair DNA damage. Maybe the differences we find are clinically unimportant.

If anyone has a complete copy of the New Scientist article, please email me.