

# Sperm quality and conception



## Question: What measurements should be made on sperm and how should they be used to guide assisted conception treatment?

To answer this question the BFS Policy and Practice committee reviewed all the studies that have investigated tests on sperm and how they related to the outcome of assisted conception treatment.

Scientists can examine sperm in a number of ways, but normally this involves observing sperm using a microscope, in a technique called semen analysis.

However, more molecular based tests have been developed and are being evaluated for their effectiveness.

In summary, the British Fertility Society concluded that:

- Not all studies have generated accurate data or adequately accounted for the age and biology of the women attempting to achieve pregnancy. This makes interpretation difficult;
- There is considerable evidence to suggest that natural conception is likely if semen parameters are above WHO thresholds (sperm concentration >15 million sperm per ml, >32% with forward motility and >4% with normal size and shape (morphology));
- In IUI pregnancy is unlikely if <5 million motile sperm are inseminated;
- The assessment of sperm morphology is very difficult and doctors and patients

should focus on the presence or absence of specific defects rather than a percent of normal sperm;

- The quality of sperm needed for Donor Insemination is difficult to define and cannot be extrapolated from other studies (e.g. those considering semen quality during IUI);
- There is no evidence to suggest ICSI is the best treatment when sperm morphology is low but other semen parameters are normal;
- There is no agreed criteria for semen quality required for selecting patients for IVF or ICSI (i.e. clinics should have their own criteria based on their experience);
- The use of Hyaluronic Acid selection methods for ICSI may be helpful, but are no better than semen analysis in deciding if ICSI is needed;
- Testing for sperm antibodies has no additional value and should not be done;
- There is evidence for a relationship between sperm DNA damage and semen parameters and/or the outcome of assisted conception. However reports conflict and depend largely on the laboratory test utilised. Results are unlikely to alter patient management.

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