A Novel Solution for Freezing Small Numbers of Human Spermatozoa
The need for freezing small numbers of human spermatozoa

- Striving to conceive and bring a child into this world is probably one of the most fundamental aspirations people have.
- Couples with male factor infertility problems represent ~40% of the infertile population.
- Azoospermia (absence of spermatozoa in the ejaculate) and severe oligozoospermia (semen with a very low concentration of spermatozoa) account for 20% of all male factor cases.
The need for freezing small numbers of human spermatozoa (continued)

- With appropriate technology and procedures, sperm can be collected.
- The challenge is to **preserve these precious sperm cells while maintaining fertilization, implantation and take home baby rates.**
- Today no efficient method or technology for cryopreservation of small number of spermatozoa exists.
Sperm VD

- A novel solution of cryopreservation of very low numbers of spermatozoa aims to maximize fertility perseveration for males.
Background

- Male fertility problems often arise due to one of the following reasons:
  - Poor sperm motility
  - Low sperm count
  - Sperm structure problems

These can all reduce chances to conceive.

- **ICSI** – Intracytoplasmic Sperm Injection is the acceptable procedure to achieve embryo in cases of male infertility.

- **TESE** (Testicular Sperm Extraction) is the acceptable procedure for sperm retrieval.
Background

- Cryopreservation of sperm cells is mandatory in cases of azoospermia/severe oligozoospermia.
- The routine methods for sperm freezing are not suitable for freezing small numbers of spermatozoa.
- Most of the sperm cells will not be found after thawing in cases of rare spermatozoa.
Background

- An optimal device for freezing small numbers of spermatozoa will avoid unnecessary TESE procedures.
- An optimal device for freezing small numbers of spermatozoa will give a good chance for males with severe oligozoospermia to preserve their fertility potential.
Currently proposed methods for sperm cryopreservation:

- Cryovials
- Straws
- Cryotops
- Cryolocks
- Cryoloops
- Tips
Competition

In conclusion:

Today no efficient method and/or technology for cryopreservation of small number of spermatozoa exists.
Sperm VD – Advantages

- Optimal recovery of cells.
- No loss of cells after thawing.
- Motility and viability of the thawed cell is unaffected.
- Optimal cryopreservation after TESE procedure will avoid unnecessary surgical sperm recovery.
- Males with severe oligozoopermia will be able to preserve their fertility potential.
- Ease of use for the IVF laboratory staff.
Target Markets

The two major target markets are:

- **Azoospermic patients who have undergone a TESE/micro-TESE procedure which yielded a small number of spermatozoa.** These can now be split between several SpermVD devices, allowing thawing of the necessary amount for each OPU, thus maximizing fertility preservation.
  - The potential market for azoospermic patients who require TESE is 84,000* SpermVD units a year.

- **Severe oligozoospermia/Virtual azoospermia patients** - In conjunction with the extended search technique, the SpermVD allows creation of a backup in case fresh spermatozoa will not be found in the ejaculate on OPU day.
  - The potential market for this opportunity is approximately 28,000* units a year.

* As fertility treatments become more accessible worldwide, these numbers are expected to grow.
THANK YOU!