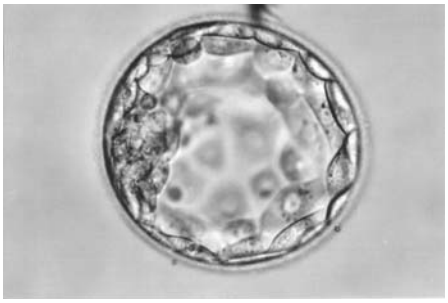
BLASTOCYST (DAY 5) CULTURE

Culture media are now available that are specifically designed to support the growth of the embryo from Day 3 to Day 5-7 of culture. From Day 3 to Day 5, the embryo undergoes profound changes while it transforms from a totipotent cleavage stage embryo into the more differentiated blastocyst.

Human embryo on Day 3 of culture

(Cleavage stage embryo)



Human embryo on Day 5 of culture

(Blastocyst)

The culture of blastocysts was introduced to reduce the high numbers of high order (triplets or more) multiple pregnancies, which have been an unfortunate result of IVF treatment. Traditional embryo culture methods had necessitated the transfer of more than two embryos to the uterus in order to obtain higher pregnancy rates. Growing the embryos to a more advanced stage (blastocyst), allows for better selection of the embryos that are able, in culture, to grow to blastocyst and more likely to implant.
So – by culturing the embryos for longer, allows us to gather more information on each individual embryo – and thereby allows us to better select the embryos (for transfer to you) that are more likely to result in a successful pregnancy.

There is however a significant attrition rate from day 3 (when the embryos are usually between 6 and 8 cells) until day 5 (when the embryo often reaches a blastocyst stage of approximately 250 cells) In order to consider culturing the embryos to day 5 - we require that we have at least 4 - 5 or more good quality embryos. It is important to remember that most of the embryos that do not do well in extended culture (i.e. do not develop in to good quality blastocysts) would not have given us a baby. HOWEVER - there is always a chance that some embryos might have survived in the perfect environment of a uterus rather than our laboratory. In other words we may lose some embryos during extended culture - that may have given us a baby if they had been transferred to the uterus earlier.

As a rule - we at VFC will always consider culturing the embryos to day 5 - unless we think it is in your best interests to do the transfer on day 3.

In summary – some of the reasons to consider culturing the embryos to day 5 (blastocyst stage) rather than doing a day 3 transfer would be:

1. There are many (more than 5) good quality embryos on day 3, and because they all look of similar quality we are unable to accurately select the best one or two for transfer.
2. There are sufficient embryos (5 or more) on day 3, and we are committed to transferring one embryo only. This may be part of our commitment to keep the risk of multiple pregnancies low, but may also be because there exists in the intended mother a definite contra indication to having a multiple pregnancy. An example of this would be in a woman who has previously had a premature birth.

This is a complicated subject and will always be discussed with you - the parents. We will give you ample time to consider the pros and cons of transferring your embryo(s) on day 3 or day 5.

Surplus embryos of good quality will (with your consent) always be frozen for future use.