Time-Lapse Culture System

What is time-lapse culture system?

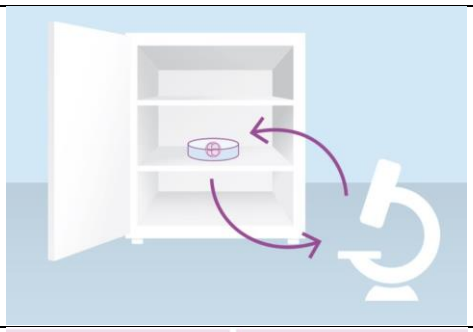
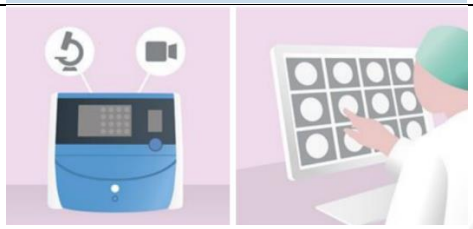
A time-lapse culture system combines an incubator, high-resolution camera and computer software. It provides a stable environment for embryos to grow whilst continuously acquiring images of the developing embryo.

Advantages of time-lapse culture system

The main benefit of a time-lapse system is the ability to monitor the embryos without removing them from the incubator, hence reducing disturbance to culture. With time-lapse, the embryos remain protected throughout the entire culture duration. Important factors that contribute to embryo growth such as temperature, gas, concentration and pH are kept stable throughout.

Secondly, time-lapse imaging is used to aid in embryo selection. Images of the embryos are taken at every 10-minute intervals. When these images are put together, they capture important events of the embryos' development which can be reviewed by our embryologists at any time. As a result, the embryo with the highest implantation potential may be identified and selected for transfer.

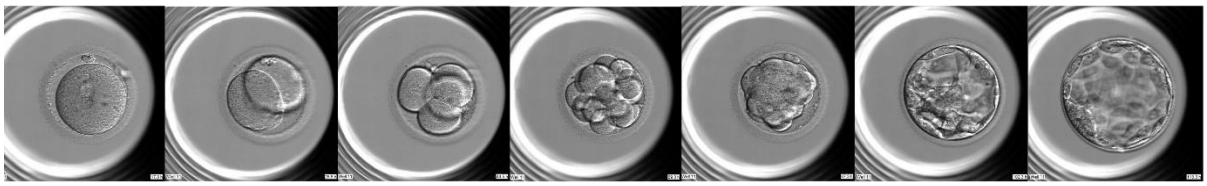
Time-lapse culture compared to routine culture

	<u>The Conventional Way</u> The embryologist removes the embryos from the incubator to perform assessments, about 3 to 5 time-points over the entire course of the culture. Conventional 'snap-shot' evaluations miss critical embryo developmental patterns.
	<u>The New Way</u> The embryologist is able to monitor your embryos using an advanced software throughout the full course of their development without removing them from the safe environment of the incubator.

The use of time-lapse has been shown to improve pregnancy and live birth rates, as well as reduce early pregnancy loss [1][2].

Who will see the recordings of my embryos?

The video recording of the embryos will only be seen by authorized staff at Alpha IVF Centre. The couple may also request for a copy of the time-lapse video after completion of culture.



References

1. Pribenszky, C., Nilselid, A.-M., & Montag, M. (2017). Time-lapse culture with morphokinetic embryo selection improves pregnancy and live birth chances and reduces early pregnancy loss: a meta-analysis. Reproductive Biomedicine Online 35 (2017) 511–520.

2. Sciorio, R., Thong, J. K., & Pickering, S. J. (2018). Comparison of the development of human embryos cultured in either an EmbryoScope or benchtop incubator. J Assist Reprod Genet (2018) 35:515–522.