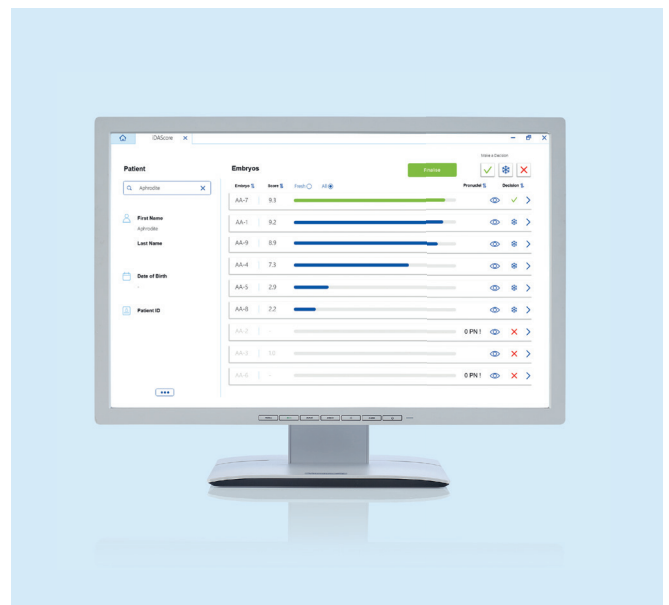


iDAScore

New update

AI-based scoring system – Embryo Evaluation for Days 2, 3, and blastocyst stage. Empower your decisions.



Artificial intelligence in the treatment of infertility

The advent of time-lapse technology in IVF has provided a platform that supports improved embryo culture and evaluation, as well as increasing knowledge about embryo development. Advances in artificial intelligence (AI) methods for image analysis allow us to take embryo evaluation to the next level.

Improved evaluation

Traditional embryo evaluation methods are prone to subjectivity and external factors. Experience level, time constraints and lab staffing may all affect evaluation of embryos. It has been shown that an embryologist may score the same blastocyst

differently on separate occasions^{1,2}. iDAScore® objectively “compares” a given embryo with other embryos that have similar development patterns, and generates a score correlating with the likelihood of implantation.

AI scoring is not affected by



Workload



Fatigue



Emotions



Illness



Human error



Experience level

Fully automated analysis

iDAScore is an AI-based scoring system that provides fully automated analysis of time-lapse sequences. Now you can get an objective ranking based on the likelihood of achieving a fetal heartbeat on days 2, 3 or blastocyst stage of each of a patient's embryos at once – with just a touch of a button.



Time-lapse sequences are generated by EmbryoScope+ family of instruments



The iDAScore algorithm generates a score correlating with the likelihood of implantation



The embryologist may further inspect the embryos to make the final decision

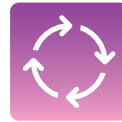
Improving the evaluation process

iDAScore provides a reliable ranking of all embryos, allowing you to use your time more efficiently in hands-on procedures.



Consistent

Consistent approach to embryo evaluation. Day to day differences in staffing, or introduction of new embryologists will not affect the way embryos are scored.



Fully automated

Analyses time-lapse sequences continuously, without the need for manual processing of data or videos.



Objective

Objectively analyses the full embryo development sequence, without inherent human bias.



Reliable

Provides a reliable ranking of a patient's cohort of embryos.



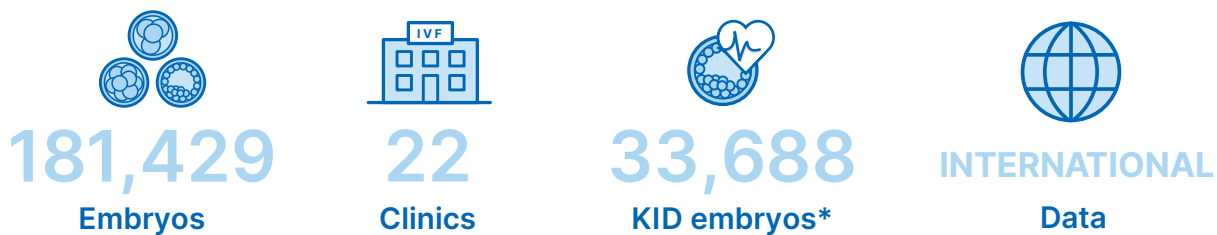
57% more data on embryos

iDAScore has been further trained on data from an additional 65,000 embryo time-lapse sequences. iDAScore now includes embryo ranking on day 2 and day 3 in addition to blastocyst evaluation.

Building on the power of AI

The iDAScore algorithm was developed by our own AI team and trained on full time-lapse sequences of now more than 180,000 time-lapse sequences of embryos with known clinical fate.

Training



Diverse data to minimise bias

Data diversity and size can reduce bias in AI-based embryo selection by providing the model with a more representative sample of the population it will be used on. Diversity in the dataset means that the model is exposed to a wide variety of input patterns, which allows it to learn from a broad range of examples such as patient profile and clinical protocols. This can help to prevent the model from becoming overly specialised to

a specific subset of the population, which can lead to bias.

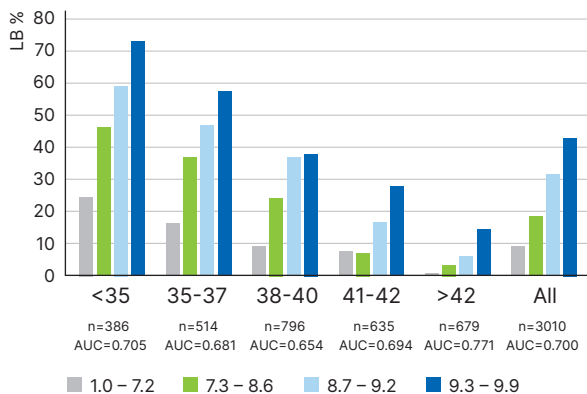
The iDAScore input is comprised of a wide variety of data that have been collected across three continents. The data represents a wide variety of patient profile and clinical practices including oocyte origin, IVF and ICSI, clinical protocols, and patients' age. It includes data from both fresh and frozen embryos with known outcome.

Performance of iDAScore

iDAScore has been validated to correlate with clinical outcomes including implantation and live birth.

Live birth rate increases by iDAScore group in all age groups³

Live Birth stratified by age of 3010 Single Vitrified Blastocyst transfers

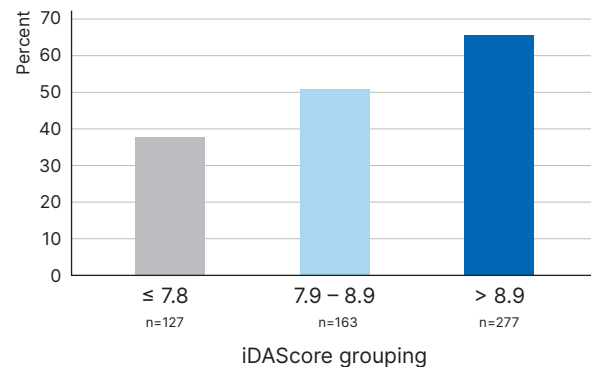


OR Live Birth 1.811 95% C.I. 1.666-1.976 p<0.05.
 Multivariate adjusted OR 1.535 95%CI 1.358-1.736, p<0.05. P<0.05 for all age groups. OR = 1,811 (1.666-1.976).
 aOR = 1.535 (1.358-1.736). n = # transfers in each age group.

Odds Ratio (OR), adjusted odds ratio (aOR).

The higher the iDAScore the higher the likelihood of implantation⁴

Implantation rate



OR Oocyte donor 1.61 1.19-2.19 p<0.001
 OR autologous 1.52 1.22-1.90 p<0.001

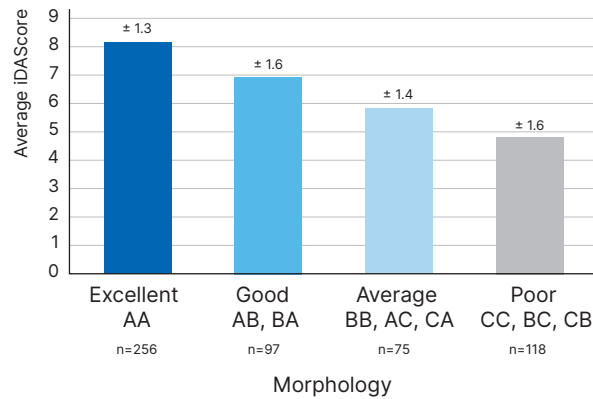
Our findings confirm that embryo evaluation can be performed automatically allowing embryologists to utilise their time more efficiently in other tasks of the IVF process that are more complex and require high precision and attention.

Explainability AI

Rather than assigning weight to any individual event, all development events are taken into consideration in the context of the entire development sequence. Although iDAScore does not specifically use any particular parameters to generate a score, it correlates well with known features of embryo development linked to viability.

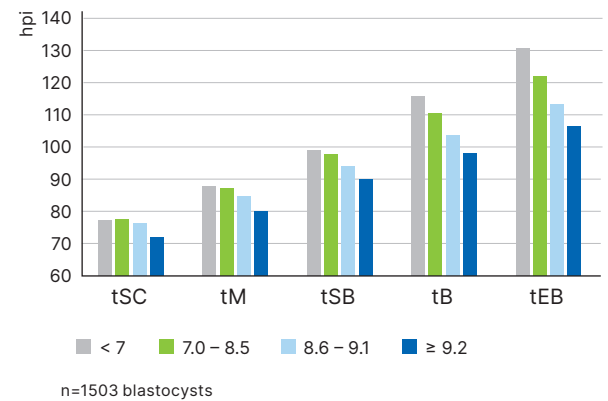
iDAScore correlation with embryologist' gradings⁵

Association between iDAScore v1.0, senior embryologists' grading



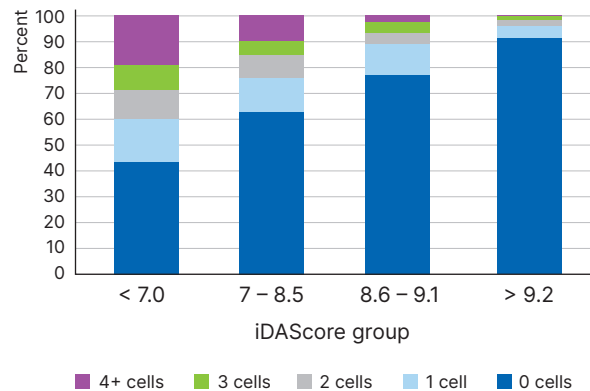
iDAScore is related to pace of development⁶

iDAScore group and development pace



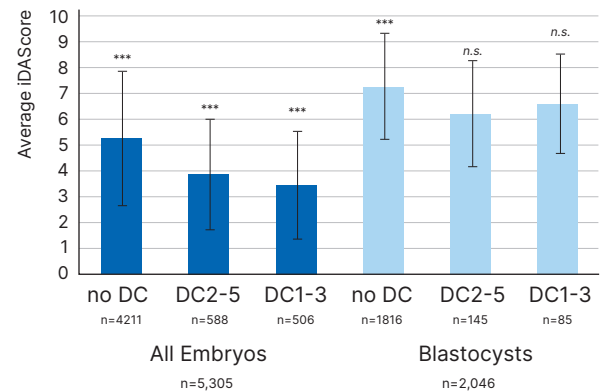
Blastocysts with higher iDAScore have fewer cell exclusions⁷

Percentage blastocysts with cells excluded before compaction



n=1503 blastocysts analysed
p<0.0001 for each morphokinetic interval

iDAScore related to direct cleavages⁷



“iDAScore does not require any manual, user-dependent annotations, enabling objective assessment of embryos that are cultured to the blastocyst stage. Therefore, iDAScore is an optimal method for scoring embryos and prioritising blastocysts for transfer without compromising live birth and neonatal outcomes.”³

“Our findings confirm that embryo evaluation can be performed automatically allowing embryologists to utilise their time more efficiently in other tasks of the IVF process that are more complex and require high precision and attention.”⁴

Optimisation of workflows

The software is intuitive and simple to use, and images and videos don't need to be converted manually.

Access from your EmbryoViewer workstation

iDAScore is an optional module which can be accessed from an updated interface on the EmbryoViewer workstation. Full documentation of incubator running conditions are automatically stored with the patient data and can be observed.

EmbryoViewer facilitates better opportunities for communication, consultation and education.

Scores for the entire cohort

A score (from 1 to 9.9) is automatically generated for each embryo in any individual patient's cohort. iDAScore works for embryos starting from time of culture until blastocyst stage. A higher score indicates a greater chance of achieving a fetal heartbeat. Low priority embryos, including those with abnormal PN status, are automatically identified.

The improved iDAScore scoring for high scores allows better separation of high and low scores.



Column with scores for each embryo

Decision buttons

Click the eye to see the last image taken

Click the arrow to play the entire video, or to make comments

Non-2PN highlighted with warning

Ideal for prioritisation for further evaluation in your clinical practice.

A complete solution with the world's leading time-lapse systems

Vitrolife has everything your clinic needs to maximise time-lapse culture and evaluation. Whether you want to implement and enjoy the benefits of an integrated time-lapse system for 8, 15 or 24 patients or complement your current set-up with more time-lapse incubation capacity.



EmbryoScope 8

Clinics that require a lower capacity or wish to complement their current set-up with more capacity.



EmbryoScope+

Clinics that wish to provide time-lapse as a standard of care to more patients.



EmbryoScope Flex

Clinics that wish to utilise time-lapse in mild stimulation cycles and for low responder patients.

Let iDAScore work for your clinic



Instruments



Server



EmbryoViewer workstation



Take advantage of iDAScore in your clinic

iDAScore is exclusively available with Vitrolife EmbryoScope+ family instruments. To add this option, please contact your Vitrolife representative.

Orders & customer support

Contact your local sales representative for prices and availability.
You can also contact us by email and phone:

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Japan & Pacific: info@vitrolife.co.jp

Global tech support

support.embryoscope@vitrolife.com
+45 7023 0500 (24-hour hotline outside US)
888-879-9092 (US support)

iDAScore is suitable for use with all EmbryoScope+ family of instruments.
iDAScore evaluates embryos on day 2, 3 and blastocyst stage.
iDAScore is not FDA 510(k) cleared and is not available for sale in the United States of America.
EmbryoScope 8 is not FDA 510(k) cleared and is not available for sale in the United States of America.
EmbryoScope Flex is not FDA 510(k) cleared and is not available for sale in the United States of America.



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REFERENCES **1.** Bormann et al. (2020), Fertil Steril 113(4): 781-787.e1. **2.** Storr et al. (2017), Hum Reprod 32(2): 307-314. **3.** Ueno et al. (2022), JARG (39) 2089-2099. **4.** Bori et al. (2022), Human Reproduction 37(Suppl.1). **5.** Casciani et al. (2022), Human Reproduction 37(Suppl. 1). **6.** Ezoe et al. (2022), Reprod Biomed Online 45(6):1124-1132. **7.** Berntsen et al. (2022), PLoS ONE 17(2): e0262661.

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