

iDAScore

Science publications and selected abstracts



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Science publications and selected abstracts

Publications



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Publications

Development of iDAScore

Development and validation of deep learning based embryo selection across multiple days of transfer

Jacob Theilgaard Lassen, Mikkel Fly Kragh, Jens Rimestad, Martin Nygård Johansen, Jørgen Berntsen.

Summary: This publication details the development, training and performance of iDAScore® update (version 2) including cleavage stage transfers.

Sci. Rep. 2023; 13, 4235. <https://www.nature.com/articles/s41598-023-31136-3>

Robust and generalizable embryo selection based on artificial intelligence and time-lapse image sequences

Jørgen Berntsen, Jens Rimestad, Jacob Theilgaard Lassen, Dang Tran, Mikkel Fly Kragh.

Summary: Details the development, training and validation of iDAScore (version 1).

PLoS One. 2022; 17(2): e0262661. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8809568/>

Validation studies

Predictive Ability of an Objective and Time-Saving Blastocyst Scoring Model on Live Birth

Bing-Xin Ma, Feng Zhou, Guang-Nian Zhao, ORCID, Lei Jin and Bo Huang.

Summary: A retrospective analysis of 6291 single vitrified-thawed blastocysts were retrospectively analyzed using iDAScore v.1.0. results showed that clinical pregnancy, miscarriage, and live birth significantly correlated with iDAScore ($p < 0.001$). Uni- and multivariable logistic regressions showed that iDAScore was significantly positively correlated with live birth rate ($p < 0.05$).

Biomedicines 2025, 13(7), 1734; <https://doi.org/10.3390/biomedicines13071734>

External validation of a fully automated evaluation tool: a retrospective analysis of 68,471 scored embryos

Lorena Bori, Marco Toschi, Rebeca Esteve, Arantza Delgado, Antonio Pellicer, Marcos Meseguer.

Summary: A total of 6,434 patients undergoing 7,352 IVF treatments contributed 70,456 embryos. Embryos were evaluated by conventional morphology and retrospectively scored using a fully automated deep learning-based algorithm across conventional IVF, oocyte donation, and preimplantation genetic testing for aneuploidy (PGT-A) cycles.

Conclusions: A fully automated embryo scoring system effectively ranked embryos based on their potential for implantation and live birth. The performance of the conventional methodology was comparable to that of the artificial intelligence-based technology; however, better clinical outcomes were observed when the highest-scoring embryo in the cohort was transferred.

Fert. Steril. 2024 Articles in Press October 14, 2024 [https://www.fertstert.org/article/S0015-0282\(24\)02300-8/abstract](https://www.fertstert.org/article/S0015-0282(24)02300-8/abstract)

Deep learning versus manual morphology-based embryo selection in IVF: a randomized, double-blind noninferiority trial

Peter J. Illingworth, Christos Venetis, David K. Gardner, Scott M. Nelson, Jørgen Berntsen, Mark G. Larman, Franca Agresta, Saran Ahitan, Aisling Ahlström, Fleur Cattrall, Simon Cooke, Kristy Demmers, Anette Gabrielsen, Johnny Hindkjær, Rebecca L. Kelley, Charlotte Knight, Lisa Lee, Robert Lahoud, Manveen Mangat, Hannah Park, Anthony Price, Geoffrey Trew, Bettina Troest, Anna Vincent, Susanne Wennerström, Lyndsey Zujovic and Thorir Hardarson.

Summary: RCT comparing iDAScore version 1 and a modified Gardner grading of blastocysts in the EmbryoViewer. No significant differences were demonstrated, however iDAScore was 10X faster.

Nature Medicine 2024 volume 30, pages 3114–3120. <https://www.nature.com/articles/s41591-024-03166-5>

Improved pregnancy prediction performance in an updated deep-learning embryo selection model: a retrospective independent validation study

Satoshi Ueno Ph.D., Jørgen Berntsen M.Sc., Tadashi Okimura B.Sc., Keiichi Kato M.D. Ph.D.

Summary: Validation and comparison of performance of iDAScore (version 1 and 2) and Gardner grading. iDAScore (version 2) demonstrates better performance and a linear correlation with clinical outcomes.

Reprod. Biomed Online 2024 Volume 48, Issue 1103308
[https://www.rbmojournal.com/article/S1472-6483\(23\)00408-X/fulltext](https://www.rbmojournal.com/article/S1472-6483(23)00408-X/fulltext)

External validation of a model for prioritizing day-3 embryos for transfer based upon deep learning and time-lapse imaging

J Zhu, L Wu, J Liu, Y Liang, J Zou, X Hao.

Summary: Validation of iDAScore (version 2) for FHB in Day 3 transfers. iDAScore significantly correlated with FHB and within morphological classes, iDAScore could further refine viability ranking within morphology classes.

Reprod. Biomed. Online 2023; 47 (3) (not open access). [https://www.rbmojournal.com/article/S1472-6483\(23\)00339-5/fulltext](https://www.rbmojournal.com/article/S1472-6483(23)00339-5/fulltext)

Interest of iDAScore (intelligent Data Analysis Score) for embryo selection in routine IVF laboratory practice: Results of a preliminary study (Article in French)

S Sarandi, Y Boumerdassi, L O'Neill, V Puy, C Sifer.

Summary: iDAScore (version 1) is concordant with embryologist hierarchical grading and correlates with clinical outcome. iDAScore provides a reliable hierarchical ranking of embryos automatically.

Gynecol Obstet Fertil Senol. 2023 Jul-Aug;51(7-8):372-377.
<https://www.sciencedirect.com/science/article/abs/pii/S2468718923001289?via%3Dihub>

Correlation between an annotation-free embryo scoring system based on deep learning and live birth/neonatal outcomes after single vitrified-warmed blastocyst transfer: a single-centre, large-cohort retrospective study

Satoshi Ueno, Jørgen Berntsen, Motoki Ito, Tadashi Okimura, Keiichi Kato.

Summary: Study looking at age stratified iDAScore groupings and clinical and neonatal outcomes. Validation study of iDAScore (version 1). Includes CPR, LB rate

J Assist Reprod Genet. 2022; 39(9): 2089-2099. <https://link.springer.com/article/10.1007/s10815-022-02562-5>

Pregnancy prediction performance of an annotation-free embryo scoring system on the basis of deep learning after single vitrified-warmed blastocyst transfer: a single-center large cohort retrospective study

Satoshi Ueno, Ph.D. Jørgen Berntsen, M.Sc. Motoki Ito, M.Sc. Tadashi Okimura, B.Sc. Akiko Yabuuchi, Ph.D. Keiichi Kato, M.D., Ph.D.

Summary: Validation of iDAScore (version 1) for prediction of Fetal Heart Beat. iDAScore performed as good as or better than traditional morphology grading but did not require annotations.

Fert. Ster. 2021; 116(4) P1172-1180. [https://www.fertstert.org/article/S0015-0282\(21\)00495-7/fulltext](https://www.fertstert.org/article/S0015-0282(21)00495-7/fulltext)

iDAScore and Chromosomal constitution

Associations between the artificial intelligence scoring system and live birth outcomes in preimplantation genetic testing for aneuploidy cycles

Chun-I Lee, Chun-Chia Huang, Tsung-Hsien Lee, Hsiu-Hui Chen, En-Hui Cheng, Pin-Yao Lin, Tzu-Ning Yu, Chung-I Chen, Chien-Hong Chen & Maw-Sheng Lee.

Summary: iDAScore (version 1) groupings correlated significantly with clinical outcome of Euploid and Mosaic transferred embryos, the lowest scores having a significantly lower LB rate. KIDScore and iDAScore had better performance than morphology. Additional parameters strengthened performance of LB prediction for iDAScore.

Reprod. Biol. Endocrinol. 2024. Volume 22, article number 12. <https://link.springer.com/article/10.1186/s12958-024-01185-y>

Enhancing clinical utility: deep learning-based embryo scoring model for non-invasive aneuploidy prediction

Bing-Xin Ma, Guang-Nian Zhao, Zhi-Fei Yi, Yong-Le Yang, Lei Jin & Bo Huang.

Summary: Significant differences were observed in iDAScore among blastocysts with different ploidy. Additionally, multivariate logistic regression analysis showed that higher scores were significantly correlated with euploidy ($p < 0.001$). The Area Under the Curve (AUC) of iDAScore alone for predicting euploidy embryo is 0.612, but rose to 0.688 by adding clinical and embryonic characteristics.

Reprod Biol Endocrinol 22, 58 2024. <https://doi.org/10.1186/s12958-024-01230-w>

Associations between the artificial intelligence scoring system and live birth outcomes in preimplantation genetic testing for aneuploidy cycles PGT-A Cycles

Chun-I Lee, Chun-Chia Huang, Tsung-Hsien Lee, Hsiu-Hui Chen, En-Hui Cheng, Pin-Yao Lin, Tzu-Ning Yu, Chung-I Chen, Chien-Hong Chen and Maw-Sheng Lee.

Summary: iDAScore is significantly associated with LB probabilities following PGT-A. Therefore, this annotation-free AI system constitutes a potential decision-support tool for deselecting unfavorable embryos in euploid.

Reprod. Biol. Endocrinol. 2024 22:12. <https://doi.org/10.1186/s12958-024-01185-y>

Towards Automation in IVF: Pre-Clinical Validation of a Deep Learning-Based Embryo Grading System during PGT-A Cycles

Danilo Cimadomo, Viviana Chiappetta, Federica Innocenti, Gaia Saturno, Marilena Taggi, Anabella Marconetto, Valentina Casciani, Laura Albricci, Roberta Maggiulli, Giovanni Cotichio, Aisling Ahlström, Jørgen Berntsen, Mark Larman, Andrea Borini, Alberto Vaiarelli, Filippo Maria Ubaldi, Laura Rienzi.

Summary: iDAScore version 1 correlated significantly with day of full blastocyst formation, and morphology by Gardner grading as well as their internal clinical grading system. iDAScore also correlated with chromosomal status with an AUC 0.60, as well as live birth of euploid transfers (AUC 0.66). In mixed cohorts, a euploid embryo was ranked as the top score in 63% of cases versus 47% for embryologist top choice.

J Clin Med. 2023 Mar; 12(5) p. 1806. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10002983/>

Does embryo categorization by existing artificial intelligence, morphokinetic or morphological embryo selection models correlate with blastocyst euploidy rates?

Kato K, Ueno S, Berntsen J, Kragh MF, Okimura T, Kuroda T.

Summary: Study showing correlation between KIDScore, iDAScore and euploidy rates. All methods showed significant correlation with euploidy rates.

Reprod. Biomed. Online 2023 Feb;46(2) p274-281. [https://www.rbmojournal.com/article/S1472-6483\(22\)00702-7/fulltext](https://www.rbmojournal.com/article/S1472-6483(22)00702-7/fulltext)

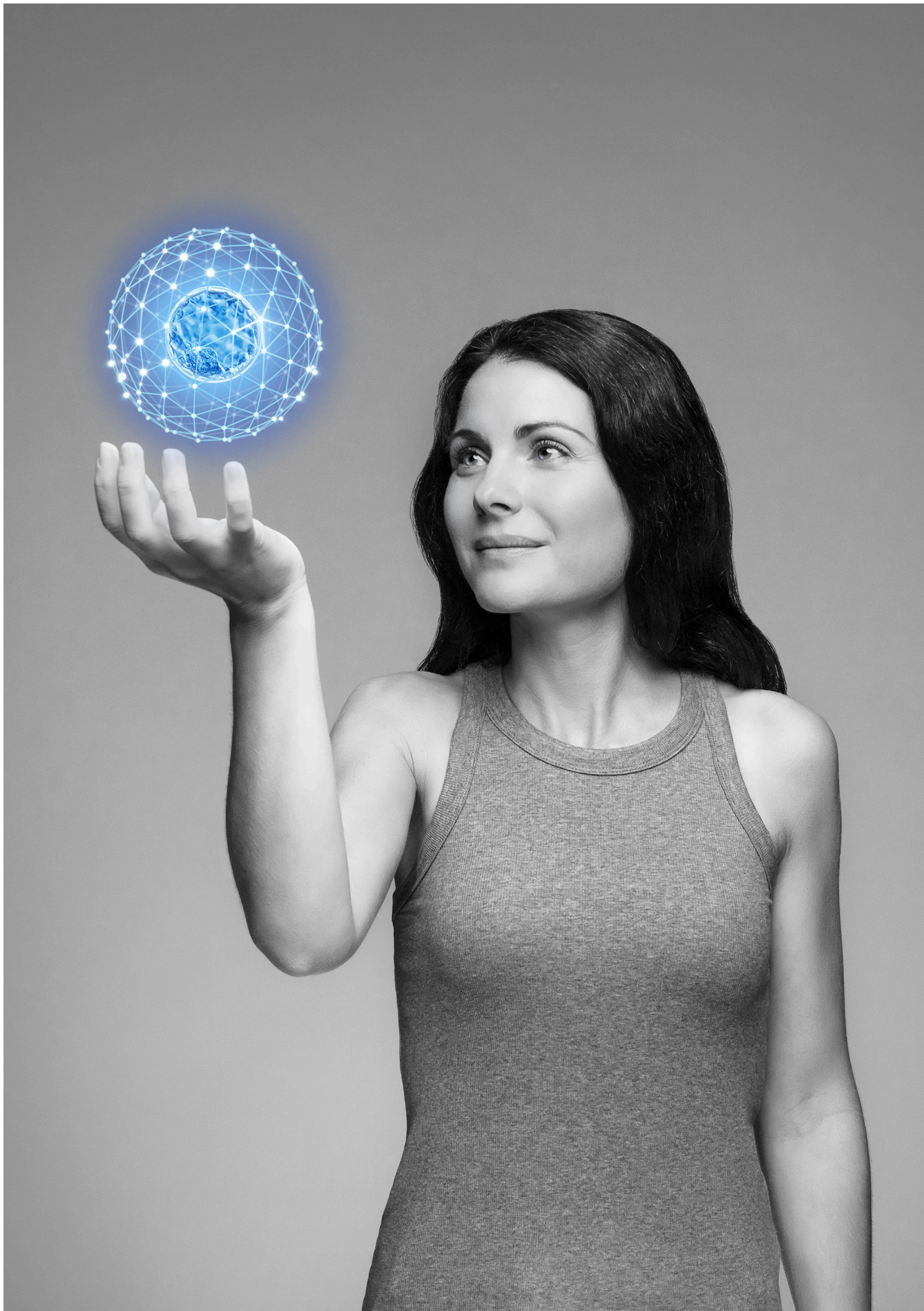
iDAScore explainability

Association between a deep learning-based scoring system with morphokinetics and morphological alterations in human embryos

K Ezoe, K Shimazaki, T MikiTsubasa, T Yuko, T Ayumi Amagai.

Summary: iDAScore correlates with routinely used embryo evaluation methods including cell fragmentation, pace of development, morphology.

Reprod. Biomed. Online 2022 45(6) p1124–1132 Published online: August 12, 2022.
[https://www.rbmojournal.com/article/S1472-6483\(22\)00635-6/fulltext](https://www.rbmojournal.com/article/S1472-6483(22)00635-6/fulltext) (not open access)



Validation studies

Prospective multicentric evaluation of the performance of a time-lapse deep learning-based algorithm on day 3 for predicting blastulation and extended embryo culture success

Bouielh et al. 2025 Hum. Reprod. 40 suppl. 1 i242

Summary: Multicenter prospective cohort study of iDAScore v2.0 at day 3 perform to predict blastulation at the embryo and cohort level as compared to KIDScore or conventional morphology Day 3 iDAScore v2.0 is significantly associated with blastulation rate per embryo and cohort, and can be used to optimize embryo culture strategy. Study showed chances of achieving a usable blastocysts based on number of D3 embryos with iDAScore equal or higher than 3.9.

<https://doi.org/10.1093/humrep/deaf097.406>

Artificial Intelligence predicts conversion to utilisable blastocysts, from cleavage or morula and early blastocyst stages

Gallagher et al. 2025 Hum. Reprod. 40 suppl. 1 i312

Summary: Prospective study including 2393 embryos from 336 patients undergoing fresh IVF. Continuous scores from iDAScore 2.0 were recorded Study question: and day 5 (D5) embryos? A significant positive association was demonstrated between D3 Continuous iDAScores and D3 and D5 Morphology ($p < 0.001$). The AUC for D3 Continuous iDAScore was 0.8583 for D3 Morphology and 0.7770 for D5 Morphology, suggesting that D3 Continuous iDAScores are a strong predictor of D3 and D5 morphology outcomes. The odds of blastocyst formation increased 2.03 fold for each one-unit increase in Day 3 IDA score.

<https://doi.org/10.1093/humrep/deaf097.539>

Is the intelligent Data Analysis Score (iDAScore) a reliable tool to predict pregnancy? Our center's experience

K Cabrilo. et al. 2024 Hum. Reprod. Volume 39, Issue Supplement

Summary: Retrospective study of 206 single vitrified blastocyst cycles. iDAScore v.1 was grouped into 2 score groups. Pregnancy, Clinical pregnancy and miscarriage rates were analyzed. Summary finding was that there is a significant increase in positive pregnancy test and clinical pregnancy rates as iDAScore increases. The miscarriage rate is lower with increased iDAScore.

https://academic.oup.com/humrep/article/39/Supplement_1/deae108.610/7703710

Pregnancy predictability of two deep-learning ai models in time lapse based on fresh set

Garicia et al. 2024 Fert.Steril. Volume 122, Issue 4, Supplement e146 October

Summary: Retrospective evaluation of iDAScore v.1 and V2. of 814 fresh SET cycles, from 758 patients, during 2020-2023 in a private hospital setting. Blastocyst selection for transfer was based on morphological grading and morphokinetic annotations (KID-Score, Gardner criteria) by experienced embryologists. Both version of iDAScore (Vitrolife) for each selected embryo was recorded retrospectively for not to influence the decision-making. Comparing both versions: the AUC for predicting implantation/pregnancies was 0.652 [0.645-0.679] for iDA-1 and 0.678 [0.659-0.685] for iDA-2, establishing the best cut-off for implantation above 8.8 for iDA-1 and 6.4 for iDA-2. Impact Statement: We determined after the performances (AUC) to predict implantation are similar in both models with slightly higher sensitivity for iDA-2 Scores >6.4.

[https://www.fertstert.org/article/S0015-0282\(24\)01148-8/fulltext](https://www.fertstert.org/article/S0015-0282(24)01148-8/fulltext)

Comparative analysis of iDAScore and KIDScore in predicting live birth following single frozen day 5 blastocyst transfer

Chan et al. 2024 Hum. Reprod. 39.Supplement_1 (2024): deae108-528.

Summary: Retrospective study included 779 patients with single frozen blastocyst transfer. 621 patients transferred euploid blastocysts, 48 transferred mosaic blastocysts, and 110 transferred non-PGT-A tested blastocysts. The study compared KIDScore and iDAScore for Live Birth prediction. KIDScore had a non-significantly higher AUC than iDAScore (v1) with the advantage of being fully automated. Of note in this study was that most of the embryos were PGT tested and represented highest quality blastocysts.

https://academic.oup.com/humrep/article/39/Supplement_1/deae108.528/7703920

Use of Artificial Intelligence for predicting live birth in vitrified blastocyst cycles

Coello et al. 2024 Fert. Steril. Volume 122, Issue 4, Supplement e130

Summary: 3915 vitrified-warmed blastocysts transferred from 2016 to 2021. No PGT-A cycles were included. The correlations between iDAScore, morphological parameters and LBR were analyzed using logistic regression analysis. iDAScore correlated with live birth rate better than the morphological variables showing it is a useful and automated tool at predicting live birth in vitrified blastocyst cycles.

[https://www.fertstert.org/article/S0015-0282\(24\)01451-1/fulltext](https://www.fertstert.org/article/S0015-0282(24)01451-1/fulltext)

Performance of iDAScore prediction models on clinical, obstetric and neonatal outcomes of single vitrified-thawed blastocyst transfer

Huang et al. 2023 Hum. Reprod., Volume 38, Issue Supplement_1 i99.

Summary: Independent external validation of iDAScore (version 1) for pregnancy rate, miscarriage rate and neonatal outcome in blastocyst transfers.

https://academic.oup.com/humrep/article/38/Supplement_1/dead093.194/7202560

Evaluation of an updated artificial intelligence embryo viability model on implantation and miscarriage

Gabrielsen et al. 2023 Hum. Reprod., Volume 38, Issue Supplement_1, i246.

Summary: Validation and comparison of iDAScore (version 1 and version 2). Predictive performance of version 2 is better than version 1 for prediction of implantation and miscarriage but did not reach statistical significance.

https://academic.oup.com/humrep/article/38/Supplement_1/dead093.486/7203375

Evolution of artificial intelligence-based embryo selection models: a massive external validation on 70,456 embryos

Rodriguez et al. 2023 Hum. Reprod., Volume 38, Issue Supplement_1.

Summary: Validation and comparison of KIDScore D5, iDAScore (version 1) and iDAScore (version 2). iDAScore version 2 has the best performance in autologous cycles.

<https://doi.org/10.1093/humrep/dead093.558>

External validation of a model for prioritizing day3 embryos for transfer based on deep learning and time-lapse images

J.Zhu et al. 2023 Hum. Reprod., Volume 38, Issue Supplement_1 i241.

Summary: Validation of iDAScore (version 2) for classifying likelihood of fetal heart beat of fresh day 3 transferred embryos. iDAScore performed better than standard morphology.

https://academic.oup.com/humrep/article/38/Supplement_1/dead093.475/7202818

An artificial intelligence method based on time-lapse images and deep learning may predict if a day 2/3 embryo will form a utilizable blastocyst

Ahlstrom et al. 2023 Hum. Reprod., Volume 38, Supplement_1 i252.

Summary: iDAScore (version 2) predicts utilizable blastocyst formation from time-lapse images of early embryo development on day 2 and day 3. Specific score thresholds can be established to ensure high specificity on day 2 (89%) and on day 3 (88%) of prediction of utilizable blastocyst.

https://academic.oup.com/humrep/article/38/Supplement_1/dead093.498/7203470

Ensuring no clinical risk: a cohort analysis on the agreement between the embryo selected by the embryologist and the embryo selected by artificial intelligence

Bori et al. 2023 Hum. Reprod., Volume 38, Issue Supplement_1.

Summary: Safety validation study to determine if iDAScore (version 2) ranking is reliable and concordant with embryologists. When the top score matched, the pregnancy rate was significantly higher. This match occurred 63.5% of the time.

<https://doi.org/10.1093/humrep/dead093.559>

Embryo assessment at the click of a button is now possible: evaluation of a deep-learning algorithm integrated directly with the time-lapse platform

Bori et al. 2022 Hum. Repr., Volume 37, Supplement_1 i289.

Summary: Validation of iDAScore (version 1). Blastocyst grading according to iDAScore is directly associated with conventional morphology and implantation potential, at least in treatments without preimplantation genetic testing for aneuploidy (PGT-A).

https://academic.oup.com/humrep/article/37/Supplement_1/deac107.201/6620012

Shorter duration of compaction during human in-vitro preimplantation embryo development is associated with a higher clinical pregnancy rate

Wouters et al. 2022 Hum. Reprod., Volume 37, Issue Supplement_1.

Summary: Retrospective analysis of SET with known outcome demonstrated that there were significant differences of duration of compaction, KIDScore and iDAScore (version 1) with respect to clinical outcome. Analysis confirmed previous findings that KIDScore and iDAScore are good predictors of clinical pregnancy.

<https://doi.org/10.1093/humrep/deac107.243>

Comparison of the deep learning tool iDAScore® and the current annotation model, KIDScore™ D5, for finding the embryo with best chance of pregnancy after elective single blastocyst transfer – a randomized multi-centre prospective pilot study

Bohlin et al 2024. Reprod. Biomed. Vol. V8 Suppl. 1.

Summary: An RCT comparing KIDScore and iDAScore the same clinical pregnancy rates, 50.0 % was achieved in both groups, $p = 1$. Embryos selected using the deep learning tool iDAScore resulted in the same pregnancy rate and clinical pregnancy rate as KIDScore™ D5. Since iDAScore is independent of user annotation and hence independent of the embryologist's knowledge, expertise and workload, the embryo selection is less subjective. Using iDAScore is timesaving and hence could benefit clinics with a high workload or with less experienced embryologists.

[https://www.rbmojournal.com/article/S1472-6483\(24\)00214-1/abstract](https://www.rbmojournal.com/article/S1472-6483(24)00214-1/abstract)

iDAScore and PGT

Predicting blastocyst ploidy from morphokinetic events occurring between day 3 and day 5 using a continuous deeplearning model (iDAScore ver2)

Ueno et al. 2025 Hum. Reprod. 40 suppl. 1 i251

Summary: Retrospective analysis of 1934 blastocysts looked at changes in iDAScore from D3 to D5. A downward shift in the morphology scores from day-3 to day-5 was strongly associated with lower euploidy rates and with maternal age. iDAScore D5 demonstrated an AUC of 0.701 for predicting euploidy.

<https://doi.org/10.1093/humrep/deaf097.422>

Correlation of iDAScore and PGT-A Outcomes across Age and Embryo grading

Lee et al. 2025 Hum. Reprod. 40 suppl 1 i271

Summary: Retrospective analysis of 1527 blastocysts that underwent PGT. Analysis of Euploidy prediction of iDAScore 2.0 stratified by age and embryo quality. A higher mean iDAScore was associate with lower genetic abnormalities across all ages, notably in ≥ 41 patients and lower-grade embryos (BC, CB), where predictability is stronger.

<https://doi.org/10.1093/humrep/deaf097.460>

Assessing the predictive ability of iDAScore v2.0 for embryo euploidy rate

Ng et al. 2025 Hum. Reprod. 40 suppl. 1 i276

Summary: Retrospective analysis of 4325 day 5 and 6 blastocysts with iDAScore v2.0. Blastocysts were stratified into 5 maternal age groups) and iDAScore into 4 groups: 1 (1.0-6.6), 2 (6.7-8.1), 3 (8.2-9.0), and 4 (9.1-9.9). These results demonstrated that the iDAScores correlate with euploidy rate across all age groups. There is especially a strong correlation between a higher euploidy rate in blastocysts with iDAScore of > 6.7 , compared to those with an iDAScore of < 6.7 .

<https://doi.org/10.1093/humrep/deaf097.469>

Impact of iDAScore v2.0 on clinical pregnancy rates in euploid single embryo transfers (SETs)

Yap et al. 2025 Hum. Reprod. (2025) 40 suppl 1 i218

Summary: Retrospective cohort study of 382 single euploid blastocyst transfers. CPR of iDAScore v.2 was analyzed. iDAScore was split into 3 score groups and stratified by 4 age groups. iDAScore v2.0 was significantly correlated with higher clinical outcome in age groups less than 37. Blastocysts with iDAScore of ≥ 6.1 tend to have higher CPR compared to those with iDAScore of ≤ 6.0

<https://doi.org/10.1093/humrep/deaf097.553>

Correlation between artificial intelligence-derived iDAScore and euploid blastocyst outcomes in IVF

Ryu et al. 2025 Hum. Reprod. (2025) 40 suppl 1 i320

Summary: A retrospective analysis with iDAScore v.2 correlated to ploidy status in different age groups. Mean iDAScores varied significantly across biopsy groups: euploid (6.091), mosaic (5.099), and aneuploid (4.292) [p mosaic > aneuploid across all age groups except for the >42 group (p<0.001)].

<https://doi.org/10.1093/humrep/deaf097.556>

Does embryo categorisation by existing artificial intelligence, morphokinetic, or morphological embryo selection models correlate with blastocyst euploidy rates?

Kato et al. 2023 Hum. Reprod., Volume 38, Issue Supplement_1.

Summary: Study showed that iDAScore and KIDScore performed better than Gardner grading for predicting euploidy, although not accurate enough to replace genetic testing. Note that KIDScore and iDAScore were not trained to predict chromosomal constitution.

<https://doi.org/10.1093/humrep/dead093.294>

Correlations between the artificial intelligence scoring system (iDAScorev1.0) and live birth outcomes in preimplantation genetic testing for aneuploidy cycles

Lee et al. 2023 Hum. Reprod. Volume 38 Supplement_1, i315.

Summary: Elevated iDAScore (version 1) scores are positively correlated with the probabilities of pregnancy and live birth (LB) in SETs following PGT-A.

https://academic.oup.com/humrep/article/38/Supplement_1/dead093.622/7202815?

A model based on artificial intelligence for the non-invasive prediction of embryo aneuploidy

Polia et al. 2023 Hum. Reprod., Volume 38, Issue Supplement_1.

Summary: This study demonstrated that iDAScore was correlated with euploidy, and that a model including age, TE and iDAScore could predict euploidy with an AUC of 0.747. Note iDAScore was not trained to predict euploidy.

<https://doi.org/10.1093/humrep/dead093.293>

Initial experience of using iDAScore as a tool to predict euploid blastocysts

Tan et al. 2023 Hum. Reprod. Volume 38, Supplement_1, i281.

Summary: Grouping of iDAScore into 4 score ranges and compared euploidy rates of Day 5 and 6 blastocysts. Euploidy rates of Group A,B,C and D were 56.7% (17/30), 60.0% (105/175), 65.9% (178/270) and 74.8% (288/385) and were statistically significant.

https://academic.oup.com/humrep/article/38/Supplement_1/dead093.554/7203247

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https://academic.oup.com/humrep/article/38/Supplement_1/dead093.554/7203247

iDAScore explainability

Association of a deep learning-based scoring system with morphokinetics and morphological alterations in human embryos

Takahashi et al. 2023 Hum. Reprod., Volume 38, Issue Supplement_1.

Summary: The morphokinetic analysis revealed that during the transformation to blastocyst stage, morphokinetic and morphological events were strongly associated with iDAScore.

https://academic.oup.com/humrep/article/38/Supplement_1/dead093.295/7202916

Comparing the performance of an artificial intelligence model for predicting embryo implantation between clinics with patient cohorts of different maternal age distributions

Johansen et al. 2023 Hum. Reprod., Volume 38, Issue Supplement_1.

Summary: iDAScore version 2 study. Examining how AUC can vary between clinics with different age distributions.

<https://doi.org/10.1093/humrep/dead093.296>

Temporal development of scores from a time-lapse based artificial intelligence provides no additional benefit compared to the latest score

J Lassen et al 2023 Hum. Reprod., Volume 38, Issue Supplement_1.

Summary: Study showing that the latest iDAScore which has taken into consideration the latest full sequence of development is the best available score. i.e. knowing the score on D2 and D3 does not influence the latest score. Therefore it is not necessary to take early scores into consideration

<https://doi.org/10.1093/humrep/dead093.148>

Applying two artificial intelligence-based embryo selection models on 5,624 blastocysts: prediction of implantation potential with machine learning and deep learning systems

Bori et al., 2022 Fert. Ster. volume 118, issue 4, supplement, e263.

Summary: This external validation demonstrated that both KIDScore D5 and iDAScore were correlated to the morphological evaluation performed by embryologist, and implantation outcome.

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iDAScore, KIDScore D5 and Vitrolife Technology Hub are not FDA 510(k) cleared and are not available for sale in the United States of America.

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