

# Multicenter Assessment Of Prediction Of Blastulation By An Oocyte Quality AI Score

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## Objective

To assess CHLOE-OQ score prediction of blastulation.

## Methods

Retrospective study on oocytes post denudation (pre ICSI) and post ICSI embryo development. All embryos were placed into Embryoscope (Vitrolife, Sweden) post denudation for image analysis.



AI oocyte quality (OQ) machine learning algorithm

Chloe OQ



1264 time-lapse embryo videos.



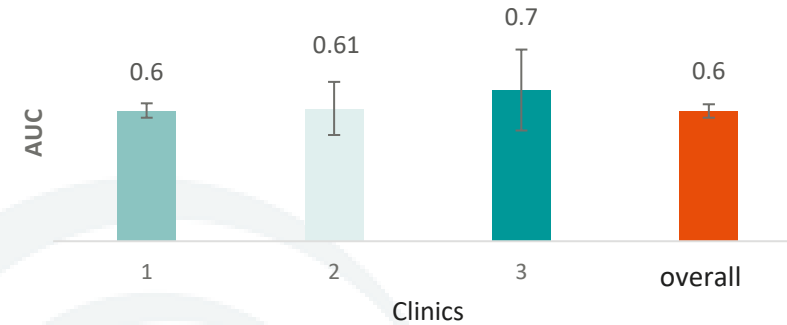
1-10 Oocyte quality (OQ) Score. Subgroups A and B determined based on CART binning.

Blastulation rate in each subgroup: A 0-8, B 8.1-10

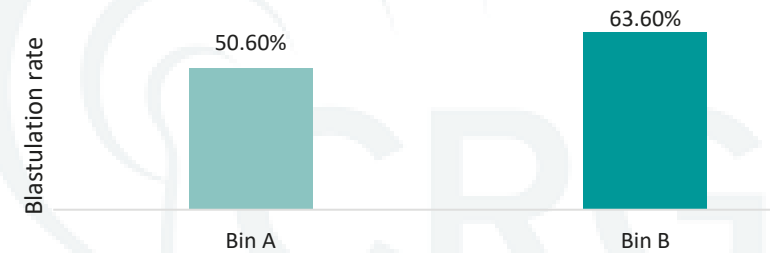
Prediction of blastulation (AUC)

## Results

- Overall and per clinic, OQ score was predictive of blastulation (AUC).



- Group B had a higher probability of blastulation than Group A, ( $p < 0.001$ ).



\* Showing a direct association of CHLOE OQ Score with blastulation rate.

## Conclusion

- CHLOE OQ is predictive of blastulation and was validated with a robust and diverse dataset.
- Performance was similar in 3 different clinics with different practices.
- The higher the OQ score, the higher the likelihood that the oocyte may result in a blastocyst.
- CHLOE-OQ can aid in oocyte cryopreservation planning.