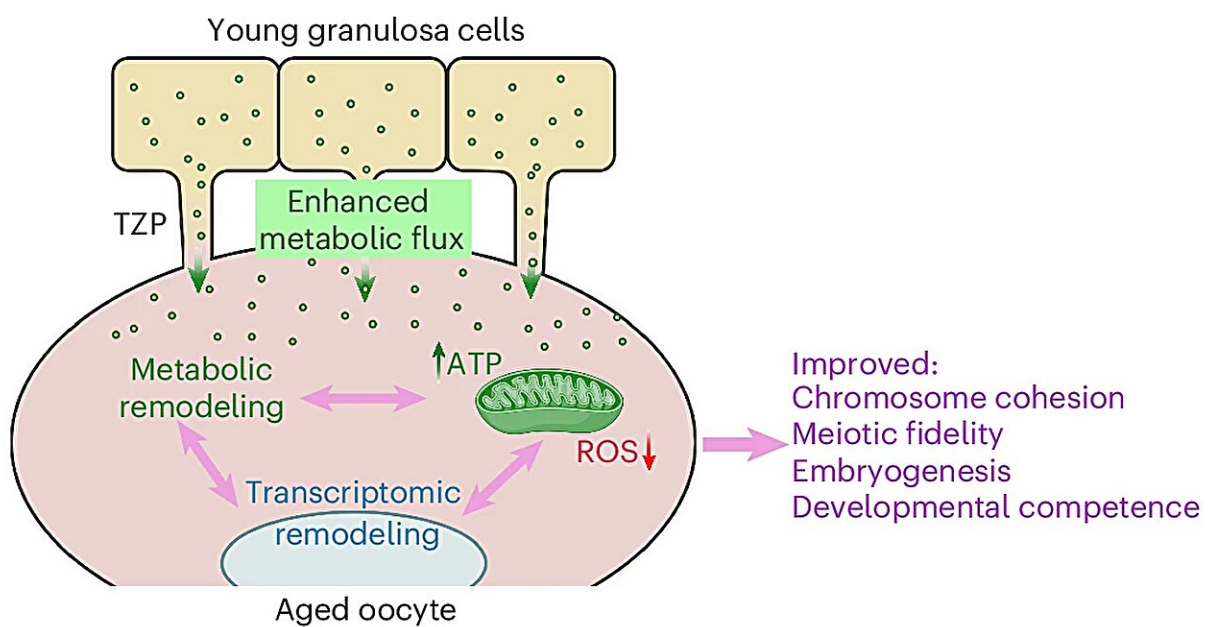


Implanting aged oocytes in young follicles can produce rejuvenated eggs, researchers find

September 11 2024, by Bob Yirka



Schematic summary of the subprocesses contributing to the rejuvenation of aged oocytes by young granulosa cells. Credit: *Nature Aging* (2024). DOI: [10.1038/s43587-024-00697-x](https://doi.org/10.1038/s43587-024-00697-x)

A multi-institutional team of ovarian biologists and other reproductive specialists reports that putting an oocyte from an older mouse into the follicle of a young mouse can rejuvenate the oocyte, allowing for the release of an egg on par with those of a young mouse. The results are

[published](#) in the journal *Nature Aging*.

Prior research has shown that as mammals age, they produce fewer oocytes, and those that they do produce are lower in quality than those produced when they are younger. Oocytes, which develop in the ovary, mature into eggs, which are then released into the [fallopian tubes](#).

In this new study, the researchers noted that there were additional changes to the follicles, which, they suspected, may have an impact on the maturing [oocyte](#). To find out, they conducted experiments in which they removed oocytes from the follicles of young mice and replaced them with oocytes from an older mouse and allowed the oocytes to mature into eggs. They then tested the quality of the egg and any offspring that resulted.

The research team found that oocyte quality improved after implantation into a younger follicle. More specifically, the researchers found there were fewer abnormalities in the chromosomes, along with improvements in mitochondrial function and [gene expression](#). As the metabolism of the oocytes and subsequent eggs improved, they were more likely to result in a pregnancy.

The pups produced from these [eggs](#) were more likely to be healthy than others birthed from older control mice, though not as healthy as [pups](#) born to young mice from young oocytes. The team also found that if they switched the procedure, putting young oocytes into older follicles, the oocytes appeared to age.

The team determined that the reason for the rejuvenation of older oocytes was most likely due to changes to the transzonal projections that connect oocytes to the follicle as mice age.

More information: HaiYang Wang et al, Rejuvenation of aged oocyte

through exposure to young follicular microenvironment, *Nature Aging* (2024). [DOI: 10.1038/s43587-024-00697-x](https://doi.org/10.1038/s43587-024-00697-x)

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