

# Study prompts rethink of how ovaries develop

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(Medical Xpress)—New research from the University of Adelaide will rewrite the text books on how an ovary is formed, as well as providing new insights into women's health and fertility.

The study, published today in the journal [PLOS ONE](#), also names a new type of cell that plays a key role in the development of ovaries and [ovarian follicles](#), which are responsible for the production of eggs in women.

The discovery is expected to prompt further studies around the world to better understand how ovaries and ovarian follicles develop in female fetuses. This could be critical to treating or preventing a range of health conditions in later life, including infertility and ovarian cancer.

"For more than a decade, scientists have believed that ovarian [follicle cells](#) are derived from the epithelial cells on the surface of the [ovary](#) as it develops," says research leader Professor Ray Rodgers, from the University of Adelaide's Robinson Institute.

"Instead, contrary to conventional thinking, we've found a new cell type that is the precursor to both the cells on the surface of the ovary and the follicular cells. We call this the GREL (Gonadal Ridge Epithelial-Like) cell."

Professor Rodgers says this work could lead to new insights into a range of conditions, such as premature ovarian failure, [early menopause](#),

polycystic ovarian syndrome (PCOS) and ovarian cancer.

"The role of the ovarian follicle in many of these conditions is very important," he says. "For example, the PCOS ovary is associated with an increased number of growing follicles that at some point just stop working.

"With early menopause, there is a theory that some women may not have had enough egg-producing ovarian follicles at development, so once their reserve of follicles has been used up earlier, menopause sets in.

"[Ovarian cancer](#) is a different story – about 90% of ovarian cancers are of an epithelial type. However, our study has shown us for the first time that when the ovary is first developing, it doesn't have an epithelial layer. Why this is, we're not sure yet."

**More information:** The paper can be found online on the PLOS ONE website: [dx.plos.org/10.1371/journal.pone.0055578](https://dx.plos.org/10.1371/journal.pone.0055578)

Provided by University of Adelaide

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