

# Embryo's cell stampede

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As an embryo grows towards its final adult form, the initial fertilized egg cell must divide many times over into cells that will become specialized and form the many different tissues and organs of the body.

This process of [embryo development](#) is a dynamic one, as this time-lapse video of microscope images illustrates. [Cells](#) don't just sense where they are in the growing embryo and develop into the appropriate tissue. They move around and migrate to where they need to be.

Dr. Shankar Srinivas and colleagues at Oxford University's Department of Physiology, Anatomy and Genetics are working to understand the molecular signals that govern these cell migrations in the early embryo. After all, if this development is disrupted, the embryo may not be viable or it could lead to birth abnormalities. While the work focuses on mouse [embryos](#), the molecular pathways identified will have equivalents in humans.

The video forms part of a report this week in the journal [PLoS Biology](#). It shows that an important set of cells (tagged with a green marker in the left-hand video) – which determine where the head of the embryo will be – move up through the growing embryo, nudging aside neighbouring cells to get where they need to be.

The right-hand video has been artificially colored to make what's happening clearer. The same cells are coloured green again, while another type of migrating cell is magenta. Static cells, coloured blue, form a barrier to stop both sets migrating too far.

Provided by Oxford University

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