

How cells stick together when it's needed, pull apart when not

When I was nine, biology gave me my first existential crisis. If I am built out of trillions of tiny cells, I worried, what's to keep me from crumbling into a pile like a dried-out sandcastle? Almost two decades later, as a Ph.D. student in mathematics at the University of California, Davis, I'm still trying to figure out how cells cohere together, such as in arterial linings, or move around, such as when immune cells hunt down invaders in the body. And I use a mix of biology, physics and mathematics to do it.

Moving and staying put might seem totally different, but they have one key thing in common: force. It takes force for a cell to grab onto a given surface and pull its way through the body, and also to hang on tight against the everyday strains of gravity, blood flow or simple physical movements.

Read the full, original story: [How the Body's Cells Hold on Tight](#)