Take two pins and touch them to the tip of your finger. If they are far apart, you’ll have no trouble feeling their two distinct pricks on your skin. But move them closer, and eventually that distinction is lost, and you feel only one point pressing into your finger. That threshold of tactile acuity averages around 1.6 millimeters, but it differs from person to person. Why? In this issue of *PLoS Biology*, Henning Frenzel, Gary Lewin, and colleagues show the answer is at least in part genetic. They report that mutations in at least one gene correlate with reduced touch sensitivity, and, most intriguing of all, that the gene is also responsible for a form of hereditary deafness. That’s probably no coincidence, as appears to be the function of two senses, as appears to be the case with *USH2A*, mutation diminishes them both. There are likely to be other such genes awaiting discovery.

Exactly how *USH2A* mutation affects either sense is unknown. The encoded protein, usherin, is found at the base of the stereocilia, where it may serve to link other cellular proteins to the extracellular matrix, a function perhaps well-suited to transferring extracellular mechanical distortion into the cell, where it could help influence membrane depolarization. Whatever the actual mechanism, the finding that it plays a role in touch will likely trigger important research into its precise function, especially since skin is a more accessible target for experiment than the inner ear.

Frenzel H, Bohlender J, Pinsker K, Wohlsbeben B, Tank J, et al. (2012) A Genetic Basis for Mechanosensory Traits in Humans. doi:10.1371/journal.pbio.1001318.