

## Baby with three genetic parents: Bioethics of mitochondrial replacement

Alana is apparently a normal, well-adjusted 13-year-old. But there is something extraordinary about her — every cell in her body is different in a way that is nearly unprecedented.

Alana was conceived with genetic material from three parents: Sharon and Paul Saarinen, who provided the egg and sperm, and a second woman who contributed genes to Alana's mitochondria, the tiny power plants that fuel every cell.

The experimental technique making this possible — a cytoplasmic transfer, in Alana's case — was halted by the Food and Drug Administration in 2001.

"We're mixing the DNA of two women in a single baby," said Sheldon Krimsky, a bioethicist and professor of urban and environmental policy and planning at Tufts University. "I don't see how that can be ethical."

**Read the full, original story: [Three Biological Parents and a Baby](#)**