

## An Italian family's curious insensitivity to pain

Shortly after her sixth birthday, while climbing a pole in a neighbor's yard in the Tuscan city of Siena, [scientist Letizia Marsili] stuck herself in the side on an errant nail; after stanching the flow of blood, while her friends watched in horror, she pronounced herself fine to keep playing. Later, she twisted her ankle while rock climbing, and kept going; she burned her hands with hot oil. In each situation, the experience was the same: She felt a shudder of discomfort that melted away in seconds.

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Not only did Letizia Marsili possess an exceptionally high tolerance to pain, [physician Anna Maria] Aloisi explained to [neurobiologist John] Wood, but so did much of her family. She'd done some rudimentary testing on Letizia's mother, her sister, her sister's daughter and Letizia's own sons. All of them shared the same reaction to pain.

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[The mutation the family has,] ZFHX2 was crucially involved in pain perception in a way nobody had previously understood.

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ZFHX2 appeared to regulate how other genes operated, including several genes already linked to pain processing and active throughout the nervous system, including in the brain—a sort of “master regulator.”

**Read full, original post:** [The family that feels almost no pain](#)