If you’ve ever had a bad tumble, you’ve probably had X-rays taken. Using an extra-powerful version of light, an X-ray machine lets doctors get a gander at your skeleton. Just like a flashlight beam can shine through a window but not a wall, an X-ray beam passes through stuff that’s made of lightweight atoms (soft tissues like skin, fat, and muscles), and it’s absorbed by stuff that’s made of heavy atoms (like bone). Typically tissue looks gray, and bone looks white. A plate underneath your body captures the full image—and exposes the black empty spaces where the bone has been broken.

There are different kinds of X-rays, too. Mammography, partly invented by Pitt med alum Robert Egan, can find cancerous growths inside breast tissue. We’re still waiting for someone to invent X-ray spectacles, though! —Lela Nargi

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