Faster Recovery, and No Drooling

A technological breakthrough may soon lead to a more effective local anesthesia for dental procedures. Researchers at Harvard Medical School and Massachusetts General Hospital in Boston—led by Dr. Clifford Woolf, professor of anesthesia research at Harvard Medical School—have used a combination of capsaicin, the flavoring that makes chili peppers hot, and a derivative of lidocaine to block pain-sensing nerve cells without interfering with other sensations or movement.

Rats injected with the compound were unable to feel pain in their paws but could move normally and react to touch, Woolf notes in a study in the journal Nature.

Woolf expects chili-derived anti-itch creams and local anesthetics to come on the market in a few years. He notes that the capsaicin-lidocaine combination could lead to sophisticated new anesthesia for a range of medical procedures, including childbirth and chest surgery. For dental procedures, it would help patients recover faster while avoiding the embarrassment of drooling.

The idea behind the drug combination is that capsaicin triggers TRPV1, a protein that acts as a gatekeeper in nerve cells that sense pain. The lidocaine derivative, which cannot normally enter cell membranes, is then able to enter the pain neurons and deactivate them.