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Why Do Fingers Wrinkle in Water?

1. The common belief

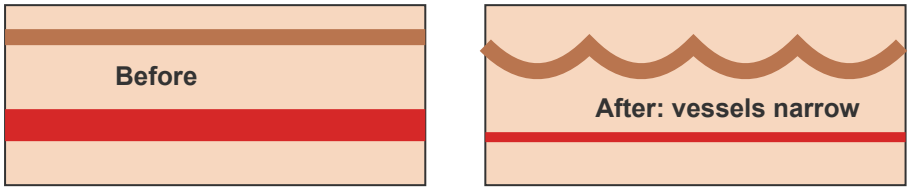
Many people think skin simply absorbs water and swells. But if that were the whole story, every finger would wrinkle the same way.

2. The nerve evidence

In the 1930s doctors noticed that fingers with **median nerve damage** did not wrinkle normally in water. Wrinkling needs working nerves, and doctors still use it as a simple bedside test of nerve function.

3. How it happens

1. After a few minutes in water, the **sympathetic nervous system** sends a signal.
2. **Blood vessels** under the skin narrow (vasoconstriction).
3. The **volume** of the fingertip falls.
4. The skin, anchored to deeper tissue, is **pulled down** into wrinkles.



4. Why? Still debated

Study	Result
Kareklas, Nettle & Smulders, 2013	Wet objects were moved faster with wrinkled fingers (reported as about 12%); no difference for dry objects
Haseleu et al., 2014	Could not reproduce the benefit; no effect on handling wet objects

The idea is that wrinkles act like **tyre grooves**, channelling water away for better grip. It is a hypothesis, not a settled fact. **Cause: known. Purpose: an open question.**

Solved example

Q. A patient's index finger stays smooth after 20 minutes in warm water while the others wrinkle. What does this suggest?
A. Wrinkling needs working nerves, so the nerve supply to that finger may be damaged. Water alone would have wrinkled it.

Practice questions

1. (MCQ) Water wrinkling is controlled by (a) sweat glands only (b) the nervous system (c) hair follicles (d) bones
2. (Very short) What happens to blood vessels in the fingertip during wrinkling?
3. (True/False) It is proven that wrinkles evolved for wet grip.
4. (Short) What evidence shows wrinkling is not just water absorption?
5. (Short) Why might wrinkles be compared to tyre grooves?
6. (Very short) Name the study year that could not repeat the grip result.

Answer key

1. (b).
2. They narrow.
3. False: the purpose is still debated.
4. Fingers with nerve damage do not wrinkle normally.
5. Grooves may channel water away and improve grip.
6. 2014.

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