

# Imagination can reduce pain

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Credit: Leiden University

If you imagine in advance that something is not going to hurt, this could mean you experience less pain. This discovery was made by health psychologist Kaya Peerdeman during her Ph.D. research on the placebo effect. Ph.D. defence 7 February.

The starting point for Peerdeman's research was the [placebo effect](#), where expectations play a key role: because you expect a treatment will help, you actually experience a positive effect—from a [placebo](#) as well as from a 'real' treatment. Peerdeman and her colleagues went a step further and studied whether the [imagination](#) has an effect on this expectation, and consequently on the experience of pain. Earlier research has shown that exercises in using the imagination can reduce pain because they help you relax or distract you.

## How can you study the imagination?

Peerdeman investigated whether visualising pain reduction even before the pain occurs can actually reduce the pain. She asked test candidates to immerse one of their hands in water that was so cold as to be painful. Then the candidates had to imagine that it would be less painful if they were wearing a warm, waterproof glove. Peerdeman: "We discovered that the candidates expected less pain having done this exercise with their imagination and that they actually felt less pain when they put their hand in the cold water."

The effect of the imagination may also be stronger depending on what a person says to you. It is very important for the effect of a [treatment](#), what information you are given on placebos and active treatments. This has emerged from the meta-analysis Peerdeman carried out on different techniques for influencing expectations. According to Peerdeman this finding is in the first place important for doctors and other healthcare professionals. It emphasises the importance of the instructions that they give when treating pain and other complaints.

## Translating findings to clinical practice

Peerdeman believes it is useful to examine whether her findings with healthy individuals can be applied to patients. You could then use their imagination to treat their complaint. A person could, for example, do an imagination exercise prior to a painful intervention, such as an operation. "The imagination has an [effect](#) on the patient's expectation, and as a result of what they imagine, can reduce the amount of [pain](#) they experience," Peerdeman explains.

Provided by Leiden University

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