

Complete the text with one suitable word.

In 1996, 56 volunteers took part _____ a study to test a new painkiller called Trivaricaine.

On each subject, one index finger was covered in the new painkiller while the _____ remained untouched. Then, both were squeezed in painful clamps.

The subjects reported that the treated finger hurt less _____ the untreated one.

This shouldn't _____ surprising, except Trivaricaine wasn't actually a painkiller, just a fake concoction with no pain-easing properties at _____.

What made the students so sure this dummy drug _____ worked? The answer lies in the placebo effect, an unexplained phenomenon wherein drugs, treatments, and therapies that aren't supposed _____ have an effect, and are often fake, miraculously make people feel better.

Doctors _____ used the term placebo since the 1700s when they realised the power of fake drugs to improve people's symptoms. These were administered when proper drugs weren't available, or if someone imagined they were ill. In _____, the word placebo means "I shall please" in Latin, hinting at a history of placating troubled patients.

Placebos had to mimic the real treatments in order _____ be convincing, so they took the form of sugar pills, water-filled injections, and even sham surgeries.

Soon, doctors realised _____ duping people in this way had another use: in clinical trials. By the 1950s, researchers were using placebos as a standard tool to test new treatments. To evaluate a new drug, _____ instance, half

the patients in a trial might receive the real pill. The other half would get a placebo that looked the same. Since patients wouldn't know whether they'd received the real thing or a dud, the results wouldn't _____ biased, researchers believed. Then, if the new drug showed a significant benefit compared _____ the placebo, it was proved effective.

Nowadays, it's less common to use placebos this way because _____ ethical concerns. If it's possible to compare a new drug against an older version, or another existing drug, that's preferable to simply giving someone no treatment _____ all, especially if they have a serious ailment. In these cases, placebos are often used as a control to fine-tune the trial so that the effects of the new versus the old or alternative drug can be precisely compared.

But _____ course, we know the placebos exert their own influence, too. Thanks to the placebo effect, patients have experienced relief from a range of ailments, including heart problems, asthma, and severe pain, even _____ all they'd received was a fake drug or sham surgery.

We're still trying to understand how. Some believe that instead of being real, the placebo effect is merely confused _____ other factors, like patients trying to please doctors by falsely reporting improvements. On the _____ hand, researchers think that if a person believes a fake treatment is real, their expectations of recovery actually do trigger physiological factors that improve their symptoms.