The placebo effect is a psychophysiologic response of the brain based on the expectation that something will happen. While placebo is often thought of in terms of “sugar pills”, often, something as simple as a physician writing a prescription for a real drug and the patient having an expectation that this medication will work can cause an effect response.
Placebos can be any sham intervention (such as a “sugar pill” in place of real medication). Placebos have also been observed simply through the act of a physician giving positive advice or encouragement and patients “getting well” sooner than those being given negative advice.*


Placebos come in many forms, from “sugar pills” used in a control arm of a randomized controlled trial studying a new drug to sham surgery and sham acupuncture. And these placebos often demonstrate some type of a response. But the placebo effect can also been seen from something as simple as a patient meeting with a physician and feeling that issues are being addressed.
Here are some other examples of the placebo effect at work. Most striking is a 1994 study that indicated no statistical differences in pain scores for two blinded and randomized sets of post operative patients with one set having actual morphine in a Patient Controlled Analgesia pump and the other set having only normal saline. Just by believing that they were getting medication, one set of patients responded like those getting the real thing.
Considerations for Evidence-Based Medicine

- Is there any systematic evidence demonstrating the placebo effect in the clinical arena?
- How much power can the placebo effect have on the results of a study?
- Read these two articles to learn more:

Is there any systematic evidence that the placebo response has an effect? How might placebo confound/impact the work of researchers as they work to develop new Evidence-Based outcomes? These two referenced articles, both available in full-text from the library, offer additional insight.
Placebo Effect – Caught on Film

- “the study of the placebo effect, at its core, is the study of how the context of beliefs and values shape brain processes related to perception and emotion and ultimately mental and physical health...as the placebo response (study effect plus placebo effect) increases, the ability to discriminate between an active drug and a placebo decreases.” Benedetti, et.al.

With the advent of more robust brain imaging tools such as PET, researchers have now been able to capture the placebo effect at work in the brain.
PET images of brain similar section of brain responding to active medication as well as no medication.

These images, from a 2005 study, show similar areas of the brain firing in one patient taking genuine Prozac and another taking a placebo.
And these images demonstrate portions of the brain responding to an expectation of recovery versus actual recovery.
To learn more about the placebo effect, consult these readings.

