FEAR KEEPS US alive in a dangerous world—but too much can make it hard to function. Research is guiding us toward new ways of stamping out problematic anxieties, such as phobias, by attacking them on multiple fronts. —Amy Nordrum

VIRTUAL TRAINING
When it comes to the bogeyman, kids are often told it’s all in their heads. That’s useful advice, since managing the ways we think about and react to fears can help keep them in check. In a new study of fear of heights, subjects used computer simulations to work through risky scenarios. The exercise was as effective in reducing symptoms as exposure therapy—in which a person faces down what they fear—the current gold standard of phobia treatment. “A lot of individuals with anxiety interpret ambiguous information in a negative way, so we were trying to train them to think in a more positive way,” says Shari Steinman, a coauthor of the study and a psychologist at the University of Virginia. Similar approaches have shown promise for social anxiety and fear of spiders.

UNCONSCIOUS REWIRING
Just like memories, fears can coalesce while you’re fast asleep. Researchers are trying to reverse that process by taking advantage of the brain’s ability to learn, even at rest. In one study, researchers induced an aversion to certain faces and scents in 15 people by grouping those stimuli with exposure to a mild electrical shock, and then reduced those fears by re-exposing the people to the scent—without the shock—while they slept. Once they awoke, subjects no longer exhibited fear upon seeing the associated faces. “We can take this to mean that individual memories related to a fearful or anxiety-producing event can be specifically targeted and changed during sleep,” says Katherine Hauner of Northwestern University, who coauthored the study.

EXPLORING THE GUT
Fear messages run between the brain and stomach along a two-way street called the vagus nerve—a pathway researchers are probing for clues to controlling how fear is communicated. Rats became less fearful of open spaces and trying new foods when the gut-to-brain part of their vagus nerve was severed, suggesting that it plays an important role in innate fear. Stimulating the vagus nerve, conversely, has been shown to help alleviate conditioned fear in rats. This technique could potentially improve therapy for people with post-traumatic stress disorder and other forms of severe anxiety.

SNUGGLING UP
Clutching a teddy bear or curling up on the couch during a thunderstorm doesn’t just feel good—something about touching soft materials actually soothes our worries. A team of European researchers put soft textures to the test across four experiments. They measured participants’ preferences for hard and soft pen grips and candy and the effect of holding a soft fabric when thinking about uncertainty in the world and in their lives. “Holding something soft increased people’s tolerance for uncertainty in daily life,” says Femke Van Horen, a researcher at VU University Amsterdam. While interpersonal touch has also been shown to have soothing effects, therapists might use a soft blanket to help ease clients without touching them.