

How Patients Think, and How They Should

By DANIEL J. LEVITIN
Published: October 7, 2011

Most of us believe we are rational decision makers. But medical decisions are especially complex, thanks to the numerous unknowns and the uniqueness of each person's body. Suppose you've just found out that you or a loved one has [prostate cancer](#), one of the many examples in [Jerome Groopman](#) and Pamela Hartzband's illuminating new book, "Your Medical Mind."

Nearly every urologist would recommend radical surgery to remove the organ. Sounds reasonable, doesn't it?

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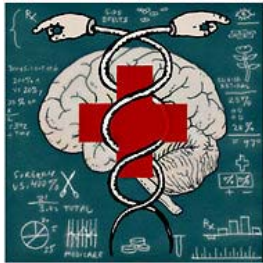
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But let's look at the numbers more closely. Prostate cancer is slow-moving; more people die with it than from it. According to one 2004 study, for every 48 prostate surgeries performed, only one patient benefits — the other 47 patients would have lived just as long without surgery. (Groopman and Hartzband discuss the important epidemiological concept "number needed to treat," which applies to surgeries, [prescriptions](#), therapies, you name it.) Moreover, the 47 who didn't need the surgery are often left with an array of unpleasant and irreversible side effects, including incontinence, [impotence](#) and loss of sexual desire. The likelihood of one of these side effects is over 50 percent — 24 of our 47 will have at least one. This means a patient is 24 times more likely to experience the side effect than the cure.

YOUR MEDICAL MIND

How to Decide What Is Right for You

By Jerome Groopman and Pamela Hartzband
308 pp. The Penguin Press. \$27.95.

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"Your Medical Mind," a kind of sequel to Groopman's 2007 best seller, "[How Doctors Think](#)," aims to empower patients to become active participants, indeed negotiators, in decisions about their health care. "The path to maintaining or regaining health is not the same for everyone," Groopman and Hartzband write. "Medicine involves nuanced and personalized decision making by both the patient and the doctor." I suspect insurance companies, H.M.O.'s and more than a few doctors are going to hate this book.

Groopman and Hartzband explore two sets of biases that affect patient decisions. We can be minimalists, preferring to do as little as possible, or maximalists who aggressively pursue treatment. We can be technology enthusiasts, seeking the newest drugs or procedures, or naturalists who believe the body can cure itself, perhaps with the aid of spiritual and plant-based remedies. Of course, these orientations interact: anyone who lives in Northern California knows someone who eagerly takes armloads of [herbal supplements](#) while having their chi realigned in between weekly [acupuncture](#) sessions (maximalist--naturalist). And there are minimalist-technologists, who avoid medical treatment when possible but if surgery is required will ask for the latest high-tech robotic [laser surgery](#). Understanding these biases, the authors argue, can lead to more effective doctor-patient dialogue.

Groopman, an oncologist at Harvard Medical School and a staff writer at *The New Yorker*, and Hartzband, an endocrinologist at Harvard, introduce a number of other helpful concepts readers may not be familiar with, like the “risk for disease,” which is important to untangling disease statistics. Say a drug promises to reduce your risk of fatal illness X by 50 percent. Sounds great, doesn’t it? But suppose there was only a one-in-1,000 chance that you’d get the disease to begin with: reducing your risk by 50 percent means that you’ll now have a one-in-2,000 chance of getting it. Most medications have side effects, and the likelihood of these may far exceed that of being helped by the medication. For example, the “number needed to treat” for a particular [cholesterol](#)-lowering drug is 300. (For every 300 people taking it, only one [heart attack](#) is prevented.) The drug has a 5 percent probability of side effects, including severe muscle and [joint pain](#) and gastrointestinal distress. Thus, for every person helped, 15 people (5 percent of 300) will experience side effects and not be cured. In other words, anyone taking the drug is 15 times more likely to experience the unwanted effects of the medication than the beneficial ones.

Of course, none of us want to think of ourselves as a statistic. What if the one person saved is me? When it comes to deciding whether to pursue a certain treatment, the rational course is to consider all the relevant factors — age, weight, medical history, other conditions and so on — and then follow these newly refined statistics, a process known as Bayesian reasoning, a method Groopman discusses in “How Doctors Think.”

Yet studies by cognitive [psychologists](#) have shown that our brains are not configured to think statistically, whether the question is how to find the best price on paper towels or whether to have back surgery. In one famous study, Amos Tversky and Daniel Kahneman found that even doctors and statisticians made an astonishing number of inference errors in mock cases; if those cases had been real, many people would have died needlessly. The problem is that our brains overestimate the generalizability of anecdotes. Scientists call anecdotes the “n of 1,” pseudo-experiments with no controls and only one subject. The power of modern scientific method comes from random assignment of treatment conditions; some proportion of people will get better by doing nothing, and without a controlled experiment it is impossible to tell whether that homeopathic thistle tea that helped Aunt Marge is really doing anything.

Groopman and Hartzband understand our psychological need for first-person stories, illustrating their statistical points with vivid case histories, including their own. (Groopman describes a failed spinal surgery that turned him from a maximalist to a more “risk averse” patient, a self-described “doubter”; Hartzband recounts the time she passed on an [M.R.I.](#) after a ski accident and the knee got better on its own.) You’ll close the book with an entirely new attitude and set of tools for making medical decisions.

Much of this decision making revolves around your own willingness to take risks and your threshold for putting up with inconvenience, side effects or pain. Returning to prostate surgery, consider that six weeks is the advised recovery period. Coincidentally, the operation will, on average, add six weeks to your life. (This averages across the 47 people who had no benefit from the operation and the one person who did.) To my way of thinking, the decision then becomes this: When do you want to “spend” those six weeks? When you’re relatively young and feeling well, or at the end of your life, when you’re old and only dimly aware of your surroundings?

But as Groopman and Hartzband argue, we can put up with things we could not have imagined. Extensively incapacitated patients tend to report life satisfaction equal to what they reported previously. Facing death, we often completely reassess what we thought we could tolerate, just to add a few more weeks to life.

“If medicine were an exact science, like mathematics, there would be one correct answer for each problem,” Groopman and Hartzband write. There isn’t. One close friend of mine with prostate cancer opted for immediate surgery, fully aware of the risks and side effects, just to “get the [cancer](#) out — now!” Another said he would rather risk dying sooner than lose sexual function, and so he rejected surgery in favor of a [vegan](#) diet and [yoga](#), and has no regrets 10 years later, remaining happily symptom-free. Groopman and Hartzband’s important book will help doctor and patient learn how each of us navigates our own tolerance for risk, thus improving outcomes on both sides of the examination table.

Daniel J. Levitin is a professor of psychology at McGill University and the author of “This Is Your Brain on Music: The Science of a Human Obsession.”

A version of this review appeared in print on October 9, 2011, on page BR28 of the Sunday Book Review with the headline: Heal Thyself.