MJ SPECIAL REPORT

Every time you walk into a physician's office, you run the risk of overtreatment: Tests you don't need, medications that are ineffective (or dangerous), procedures that cause more problems than they solve. In many cases the best thing for your health is to do nothing.

WHEN TO SAY NO TO YOUR DOCTOR

BY **JOSEPH HOOPER** + PHOTOGRAPHS BY **ADAM LEVEY**

It's been a couple of years, so you decide to see your primary-care physician for a physical. You feel fine, but it's the responsible thing to do. You get your blood pressure measured and your blood drawn. Within a few days you'll get the lab report that will give you the readout on the amount of cholesterol and sugar in your blood. (This drill is so routine that you and your doctor don't even discuss the implications of a possible bad test result.) If you've entered your middle years, he'll probably ask if you want the lab to test your blood for PSA, a screening test that can tell you if you're at an elevated risk for prostate cancer.

You figure it's probably good to get out in front of these things, so you nod yes. Insurance covers it anyway.

Congratulations — you've just stepped onto a conveyor belt pulling you into a broken system that delivers disappointing results at ever-increasing cost. To wit: The United States spends roughly twice as much per capita as most of the nations of Western Europe, whose citizens on average outlive us by a couple of years. Our own national Institute of Medicine says we waste $210 billion annually on treatments of no or marginal benefit. In a study last year, researchers from the Mayo Clinic went through 10 years of the *New England Journal of Medicine*, from 2001 through 2010. Of the established tests and procedures reevaluated in studies in the journal, 40 percent were found to be worthless.

You may not care that Spain is kicking our national butts in the longevity sweepstakes, or that our wasteful health care system is driving up insurance premiums. But understand that a medical system that routinely uses drugs and procedures to treat the *possibility* of future disease poses a potential threat to your health. "As doctors, we have focused on the few we might be able to help," says Dr. Gilbert Welch, a professor at Dartmouth's Institute for Health Policy and Clinical Practice. "The time has come for us to give equal attention to the many who are dragged through the process unnecessarily."

Let's go back to that seemingly benign checkup. "The problem with getting a physical is that doctors are looking for an action plan for whatever turns up," says Dr. David Newman, director of clinical research at Mount Sinai School of Medicine. And so, for instance, borderline high blood pressure, or, as it's sometimes known, prehypertension, can invite a prescription for antihypertensive drugs — with accompanying side effects and no good evidence of benefit. Ditto for the meds to push down high blood sugar for type 2 diabetes. And then there are the statin drugs prescribed to bring down high LDL cholesterol — about one-fourth of American adults take them, risking significant side effects on drugs that have shown little or no ability to decrease heart attack risk in people who haven't already had one. And the PSA screening test for prostate cancer? Two years ago, the U.S. Preventive Service Task Force recommended no one be screened, citing "very small potential benefit and significant potential harms." And yet over the past 20 years, a high PSA reading has sent more than 1 million American men down a one-way street to radiation therapy or surgical removal of the gland, with notorious side effects. "Impotence and incontinence are the hallmarks of having gone to the doctor over the age of 50," says Newman.

40%

OF TESTS AND PROCEDURES WERE FOUND TO BE WORTHLESS AFTER EVALUATION BY THE *NEW ENGLAND JOURNAL OF MEDICINE.*

A handful of well-respected, influential physicians have recently gone public with their dissatisfaction, not to say outrage, over the state of the medical status quo: Welch in his book *Overdiagnosed: Making People Sick in the Pursuit of Heath;* Newman in *Hippocrates' Shadow: Secrets from the House of Medicine;* Dr. Otis Brawley, the chief medical officer at the American Cancer Society, in *How We Do Harm: A Doctor Breaks Ranks About Being Sick in America;* and University of North Carolina professor of medicine Dr. Nortin Hadler, most recently in *The Citizen Patient: Reforming Health Care for the Sake of the Patient, Not the System*. They all decry a system that has oversold the American public not only on the $300 billion worth of pharmaceuticals people snap up every year, but also on the profoundly false idea that high-tech medicine is more potent than behavior — diet, exercise, stress management — when it comes to warding off the most common "diseases of aging." In fact, when the doctor-authors crunch the numbers, the signature medical advances of the past

KEY QUESTIONS TO ASK YOUR DOCTOR

In the real world, grilling your doctor on his approach to evidence-based medicine is not likely to go well. So be as respectful as you are direct. Here's what to ask:

Is this really necessary?
The moment a doctor recommends a screen, scan, drug, or procedure is the time to question the efficacy of whatever he's suggesting.

How certain are you this will benefit me, and what's the basis of your certainty?
Most doctors are measured against standard treatment guidelines, which should not be a substitute for clinical judgment. According to Weill Cornell's Dr. Jonathan St. George: "If your doctor says, 'I want to do this test or procedure because that's what the guidelines say, and I don't want to get a bad grade,' it's probably time to get a new doctor."

What are the risks versus the rewards?
Gary Fradin, creator of themedicalguide.net, recommends framing the question like this: "Out of a hundred guys like me, how many will benefit from this course of action, and how many will be harmed?"

How do you get paid?
Finding a doctor who is on salary — rather than one who gets paid on a fee-for-service basis — can be a buffer against overtreatment, but almost all doctors are under some economic pressure to treat more.

several decades — from statins and cardiac stents to diagnostic-imaging technologies such as MRI and the CT scan — turn out to have had an enormous impact on medicine's financial bottom line but precious little effect on public health. "In the U.S., we don't stress preventing disease," Brawley says. "We stress finding disease early and treating it, which is a shame."

Make no mistake: A good doctor is, or should be, your most trusted resource if you're sick. If you're not sick and he wants to treat you anyway, that doesn't necessarily make him a bad doctor. But it does make him a player in a system that operates according to the unspoken and often unexamined assumption that more treatment is better for the patient. It's unquestionably better for the financial health of the stakeholders in the system: the doctors, the pharmaceutical industry, the health-insurance companies, and the hospitals. If you don't know how the game is played, the odds go up that you'll wind up the loser.

The remedial prescription calls for you to take more responsibility for your own health care because you can't be sure anyone else is. The first requisite is the ability to say no to your doctor. That's not as daunting as it sounds, thanks to the Web resources at your disposal. Not only can the Web ground you in the fundamentals of medical literacy, it's also a way to tap into a more sophisticated means of pushing back against rising overtreatment in the medical establishment. Three websites jump out: uspreventive servicestaskforce.org, from a volunteer panel of medical experts that reports to Congress; choosingwisely.org, produced by the American Board of Internal Medicine Foundation, a nonprofit group trying to upgrade medical practices; and thennt .com, created by reform-minded iconoclast David Newman.

We live in an era of defensive medicine, with doctors overprescribing and overtreating, in part because they're afraid of malpractice lawsuits or professional censure, and in part because they're trained to abhor inaction. This *Men's Journal* package is about becoming a defensive patient, about saying no — or, at the very least, "time out" — when the system is foisting on you the questionable screenings, drugs, and procedures described in the pages that follow. These treatments may have a plausible rationale behind them (though not convincing data); they may be the so-called standard of care; they may even be lifesaving for a certain subgroup of patients. But often they're not in *your* best interest.

Screening for Disease Where No Symptoms Exist

The idea of screening for disease sounds so reasonable that no one could be opposed to it: After all, forewarned is forearmed. "It's a good idea that we don't know how to do very well," Hadler says. "Our screening tests stink, and we're testing for too many things that aren't serious problems or for which we don't have effective treatments. I would be furious if anyone checked my cholesterol or PSA." The premise of looking for disease in people who don't have symptoms began, according to Welch, in the mid-1960s, when the Veterans Administration conducted a small study that treated about 70 men who had severely high blood pressure with antihypertensive drugs, and then compared the outcomes with a similar group of 70 who had received no treatment. During the six-month study period, 27 untreated men suffered some major health event,

including four deaths, while only two in the treated group fell ill. This amazing success story was the eureka moment that convinced doctors that if they could identify people with merely moderately elevated blood pressure, then they could treat it and get good results. But, Welch says, sky-high blood pressure turned out to be "the low-hanging fruit." Since then, screening successes have been few and far between. When you narrow the definition of *normal* — many doctors routinely classify a guy with a 130/85 blood pressure as borderline hypertensive — you expand the pool of people available to be treated. That's good for the drug companies, but you cross a line in which the small benefit that may be derived by a few will be wiped out by side effects needlessly endured by the many. "It's hard to make basically well people better," Welch says, "but it's not that hard to knock them off their game."

BLOOD PRESSURE

Blood pressure is the one health measure that virtually all doctors agree should be taken regularly. (It can be done with a home monitor or the cuff at your local pharmacy.) As the veterans study made clear, high

blood pressure is a serious threat — think heart attack, stroke, death — and if you've got a systolic BP of 160 or higher, you want to know about it. Even doctors who are pharmaceutical skeptics mostly recommend bringing it down by any means necessary, including drugs.

The problem isn't measuring blood pressure per se; it's interpreting the results when they're not terrible but still less than ideal. If getting consistent readings of systolic pressure in the borderline or prehypertension range of 130 to 139, or even in the mild hypertension range of 140 to 159, pushes you to make changes in diet, exercise, and handling stress, then that's a valuable screening test that will pay key dividends. If it prompts your physician to put you on antihypertensive drugs, then it's a screen of dubious value since the most comprehensive study, a 2012 meta-analysis of previous research, found that treating mild hypertension with drugs in people without heart disease didn't do any good.

CHOLESTEROL

The standard lipid panel screen that's done at your checkup gives you a reasonably accurate estimate of the total amount of LDL (low-density lipoprotein, or "bad cholesterol") circulating in your blood. But focusing on LDL fits an outdated model of heart attacks: Plaque inside the coronary arteries, partly composed of LDL, grows so large that it cuts off the blood supply to the heart. We now know that heart attacks result from a complex interaction between plaque and inflammation: A piece of plaque breaks off from the arterial wall, causing a blood clot to form, which blocks blood flow, causing the heart attack. And long-running population studies like the Framingham Heart Study confirm that

LDL is only part of the puzzle; by itself, it's not a strong predictor of cardiac mayhem. Newman notes that three-quarters of first heart attacks occur in people with normal LDL. Still, a lot of clinicians put great significance on a high LDL result, and it's a problem for which they have a solution: statin drugs, which indeed drive the number down. Some cardiologists who are willing to admit that LDL has been a flop as a screen for heart disease put their faith in a later generation of advanced lipid tests, which give a more specific picture of LDL cholesterol in action — for instance, the size of the particles or the number that invade the artery walls. But no one has ever done a rigorous study showing that these tests are better at predicting future heart attacks than the plain-vanilla LDL number. "These 'advanced' tests are flaming horseshit," Newman says. Put more generously, the jury is out.

WEB ED: Where to Start Your Medical Education

Once you have an initial conversation about a health issue with your doctor, you can and should use the Web to get the background and perspective that you'll bring to the next discussion. Here's where to go:

THE MAYO CLINIC mayoclinic.org This consumer health information site is an excellent place to start. It presents easily digested information broken down by category. A lot of major medical centers have consumer sites, but they typically mix useful basics with pleadings for their new procedures.

THE U.S. HEALTH AGENCIES apha.org Perhaps surprisingly, the government runs a network of linked first-rate sites (including those for the Centers for Disease Control and National Institutes of Health) that cover common diseases and treatments, with information that's seemingly unbiased and frequently updated. "With the exception of the roll-out of ObamaCare," Welch says, "the government runs some damn good websites." Just type "CDC" or "NIH" and whatever topic you're seeking information on in a Google search.

JOHNS HOPKINS welch.jhi.edu/welchone/consumer-health-and-patient-information This is also a handy directory website that links you to a laundry list of Hopkins, government, and non-government sites.

THE COCHRANE COLLABORATION cochrane.org This international consortium of doctors and biostatisticians (some volunteer, some staff) has combed through, to date, more than 5,000 tests and treatments to tease out evidence of benefit, or lack thereof. The site's stock-in-trade is the meta-analysis, combining and re-analyzing data from past studies. Many of its meta-analyses, widely admired in the medical world for their rigor, have challenged received medical wisdom. Summaries of the reviews

PSA

"When it comes to screening," Brawley says, "a doctor who says, 'Let's err on the side of caution,' may actually be erring on the side of grave harm." Nowhere are the stakes higher or the errors more grievous than with prostate cancer. It is, after lung cancer, the cancer that kills the most American men, responsible for 30,000 deaths a year. Logically, early detection should be a blessing, but little about prostate cancer screening is logical.

Until the mid-1990s, screening consisted of the venerable digital rectal exam, the physician's latexed finger traveling up the rectum to feel the gland for hardness and irregular shape. If the cancer was advanced enough to reveal itself by touch, it usually deserved to be treated aggressively. By then, in fact, it had probably gone metastatic, spreading throughout the body. Treatment was damage control and, the urologists hoped, to buy time, not to save lives.

The arrival of the prostate-specific antigen (PSA) screening test changed the equation. It measured the amount of an enzyme, made by the prostate, that leaked into the bloodstream in greater quantity when the gland was enlarged, possibly because of cancer. For the first time doctors had a respectable chance of catching the cancer before it spread, when it was still encased in the gland. In increasing numbers, the urological surgeons cut it out and the radiologists burned it out, using ever more elaborate technologies.

There were drawbacks from the get-go. The screen wasn't very specific. A suspicious PSA reading of two or four or higher might be caused by a normal age-related enlargement of the gland or an infection, prostatitis. According to the research literature, about three-quarters of the men who got alarming PSA scores and were subjected to the discomfort and infection risk of a prostate biopsy turned out to be false-positives — no cancer found. And the men whose biopsies came back *with* cancer, for whom PSA had done its job of early detection, were in a quandary. "Roughly half the elderly men in America have evidence of cancer in their prostate, yet only 3 percent will die from it," Welch says. In other words, however much a urologist hopes he is doing the right thing by finding and treating prostate cancer in an individual patient, he knows, or should know, that the majority of patients with detectable amounts of cancer would be better off left alone because the treatment is more dangerous than the disease.

50%

OF ELDERLY MEN IN AMERICA HAVE EVIDENCE OF CANCER IN THEIR PROSTATE. ONLY 3% WILL DIE FROM IT.

The medical system is left with a kind of Sophie's choice: How many men are you willing to treat, at the cost of severe collateral damage (some amount of erectile dysfunction and incontinence is inevitable), to try to cure them of a cancer that in most men will turn out to be more or less harmless (i.e., they'll eventually die of something else)? How many do you harm in the quest to save a relative few? To answer that, you must have some idea of how many lives are being saved by aggressive treatment of localized prostate cancer found through PSA screening. To that end, nearly a quarter of a million men, here and in Europe, have been enrolled in clinical trials to compare the outcomes of men who had been screened with PSA (which means if they had prostate cancer, it was likely found and treated earlier) to men who had not (which means if they had the disease, it was almost certainly found and treated at a later, more lethal stage). The numbers vary some. What they have in common is that they are lousy. Welch puts it broadly: For every man who "avoids a prostate cancer death, roughly 50 are treated needlessly." Both Welch and Brawley, a prostate cancer expert, refuse to get their own PSA tested.

The sobering research results published in the past several years have shaken the urological establishment's faith in screening and early detection. The American Urological Association, which back in 2009 recommended that men at the age of 40 get an initial PSA reading, now acknowledges in its new guidelines that the risks of false-positives and overtreatment are so great, only men in the 55-to-69 age-group should even consider it, in consultation with their doctors. The government's U.S. Preventive Service Task Force recommends that no one get the screen; that goes beyond what Brawley and Welch believe, which is that men should have the option. Some may come to the rational conclusion that they're willing to endure most anything if there's a chance to lessen the risk of dying young. What Brawley and Welch and virtually all epidemiologists hate is the idea of mass screening — the hospital van pulling up to the mall to offer free or discounted PSA tests, ensuring down the line that a lot of scared and ill-prepared men will flock to the hospital for more testing and, in some cases, treatment. You can't tell the average American male he's got a cancer growing in his body without his wanting to get it yanked or burned out, and the hell with a nuanced discussion of the numbers. "The time to talk to your doctor about PSA is before you take the test," Welch says.

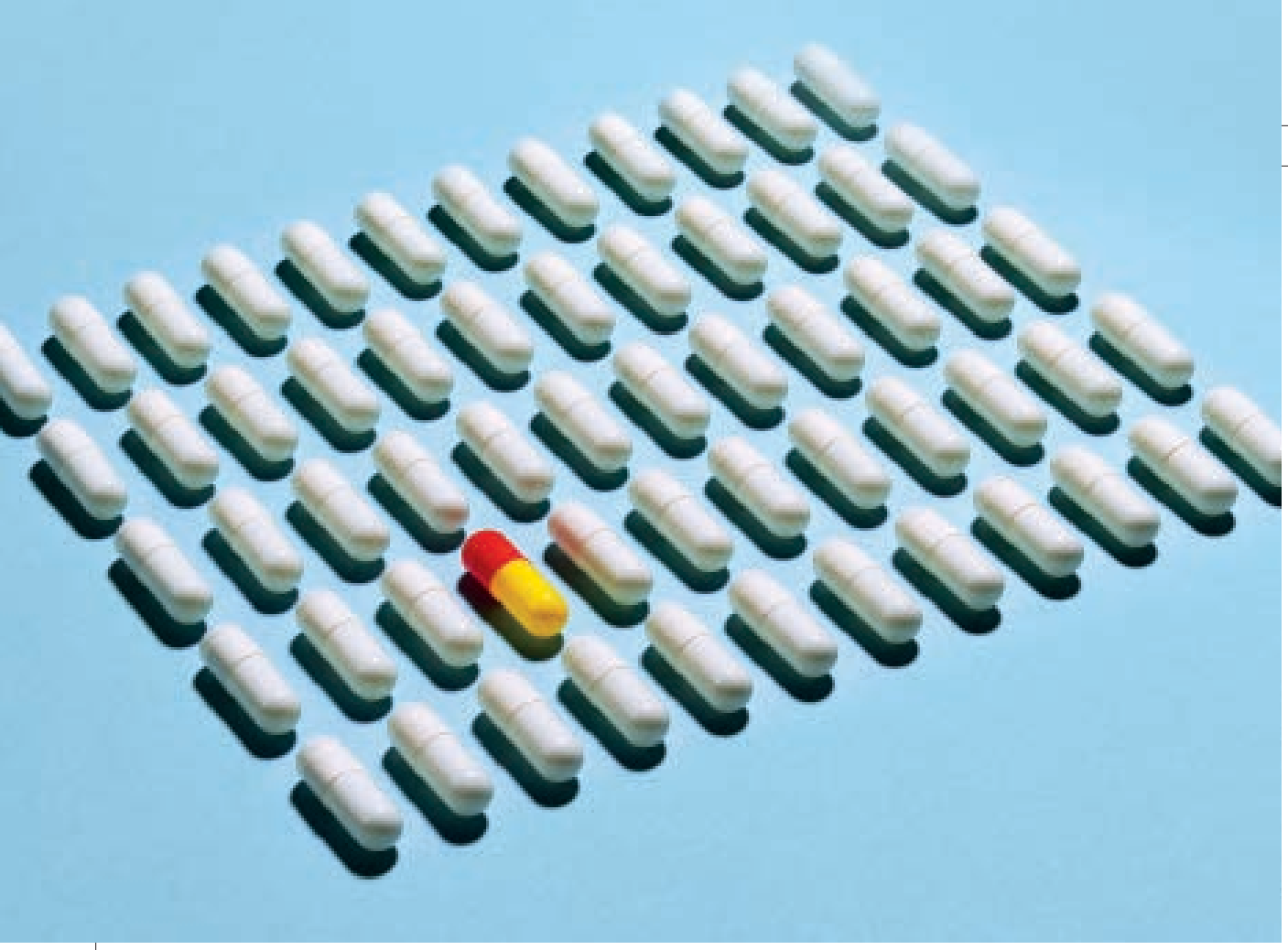
are available free of charge on the website.

UPTODATE.COM analyzes treatment options with a similar independent-minded zeal. Founded by Harvard nephrologist Bud Rose, the site analyzes more than 10,000 tests and treatments and has become a go-to resource for those who don't have time to wade through mountains of published research. And as the name suggests, the material is updated every few months, a huge plus considering how long outdated advice can survive on seemingly authoritative health sites. Hundreds of reviews are available for free on the site (type "patient information" into the search box). To get access to the whole site and the longer, more technical discussions aimed at doctors, you'll have to subscribe, but you can do so for a moderate fee when you need to go deeper.

USE WITH CAUTION

THE AMERICAN HEART ASSOCIATION SITE
Our experts advise bringing skepticism to anything you read on websites produced by medical societies or their allies, disease advocacy groups such as the AHA. Be sure to cross-check against other sources of information. As Newman writes in *Hippocrates' Shadow,* "The overarching mission of these societies is to provide lobbying and advocacy for their constituents who pay annual dues." The advice you get from the disease foundations is usually colored by the pharmaceutical and medical-device companies that provide much of their funding.

WEBMD When it comes to shameless, even artfully camouflaged shilling, nothing beats one of the nation's most-visited health sites, the for-profit, advertising-supported WebMD, which often imparts information via health quizzes. For instance, 100 percent of the people who took a quiz on depression sponsored by Eli Lilly, the makers of Cymbalta, found out they had a "high likelihood of major depression."



Drugs: Effective for the Few, Prescribed to the Many

Most of us trust, or at any rate hope, that the benefits of a drug our doctor prescribes will outweigh the side effects. Why else would we take it? We would probably be shocked to learn that most drugs don't do anything good for the majority of the people who use them. That's probably because we picture a simple cause-and-effect relationship, like antibiotics curing an infection. "But most chronic diseases involve a complex chain of biochemical interactions," says Dr. Jonathan St. George, assistant professor of emergency medicine at Weill Cornell Medical College. "The idea that you're going to take one drug that affects one pathway and dramatically change the course of

the illness is just pie in the sky." The statistical measure that crystallizes this inconvenient truth is the NNT, or "number needed to treat" — that is, the number of people who have to take a drug in order for one person to benefit. There are plenty of popular drugs with NNTs over 50, and a drug with an NNT of five or fewer might fairly be considered a wonder drug — for instance, sumatriptan for migraines or steroids for kids with croup. "But if I told my patients that the drug I was prescribing them had only a 20 percent chance of working," St. George says, "they'd look at me like I was crazy."

The reason you've probably never heard of the NNT is that the pharmaceutical industry ignores it when marketing its wares to the public. According to Newman's website, thennt.com, which crunches the best available research data to arrive at NNTs for common tests and therapies, statins have an NNT of 60 — meaning 60 people would have to take a statin drug for five years to prevent one person from having a nonfatal heart attack. Not one heart attack death would be prevented. Picture a similar effect this way: a study in which a control group of 1,000 people taking no heart medication suffered 24 heart attacks over a five-year period, while the group on statins suffered 16. Because these numbers are small, even relatively minor differences between the incidence of heart attacks translate into an impressive-sounding difference, when you measure it as a percentage — the so-called relative risk. Now you've got the makings of a pharmaceutical ad campaign: "Statins reduce heart attacks by 33 percent."

It gets worse. Stanford epidemiologist John Ioannidis got the medical world's attention in 2005 with a journal article titled "Why Most Published Research Findings Are False." In it he notes that 80 percent of published drug studies are funded by the drug industry, and that some 30 percent of all drug studies are never published, presumably mostly the negative results that never enter into the final cost-benefit reckoning.

But, Hadler says, even if we were to take the research at face value — that a given drug has a statistically significant benefit when

the NNT is, say, 50 or higher — the benefit is so small it's clinically meaningless. But fortunes are made from such microscopic benefits. The pharmaceutical companies can create blockbuster drugs by promoting meds that have shown benefit in a smaller, targeted population — say, statins for people who've already suffered a heart attack — to a larger, relatively healthier population, with the hope that the medication might be good for them, too. "Blockbuster drugs demand overtreatment," Hadler says. Beyond the side effects that the overtreated may suffer for no offsetting gain is what Newman calls the culture of the pill. "It's destructive to physicians," he says, "and to patients who believe, 'I can forget all the lifestyle stuff because I can take a pill and I'll be good.'"

80%

OF PUBLISHED DRUG STUDIES ARE FUNDED BY THE PHARMACEUTICAL INDUSTRY.

STATINS

Introduced in the States in the late 1980s, statins inhibit an enzyme that the liver uses to make cholesterol, in most people dropping that LDL number by between 30 and 50 percent. At a cost. Newman crunches the research figures and calculates that for every 50 people on statins, one will develop type 2 diabetes who otherwise would not have. The statistic that tells you what you need to know about the severity of a drug's side effect is the "number needed to harm." So if we're talking about diabetes risk, the NNH for statins is 50 — dose 50 people with a statin and you can expect to see one extra case of type 2 diabetes turn up.

The most common side effect of statins is muscle pain and weakness and, in severe cases, muscle breakdown. Here the NNH is 10 — 10 to treat, one to harm. Mental "fuzziness" and forgetfulness haven't been rigorously studied enough to generate an NNH, but enough anecdotal reports have come in that two years ago the FDA slapped statins with a cognitive safety alert.

So this past November, when a panel convened by the American Heart Association released its new guidelines on statins, you might have expected it would take a more conservative line on prescribing — that, given the possible side effects, they would want to prescribe the drug only to a more select group of patients for whom the benefits clearly outweigh the harms. But with statins you'd be wrong.

The committee recommended new guidelines that, if faithfully followed, would, according to Brown University–affiliated cardiologist Dr. Barbara Roberts, put 44 percent of American men over the age of 40 on statins. ("The American Heart Association has been the death star for years," Newman fumes.) Because the evidence that statins confer significant heart protection by lowering LDL was so weak, the committee took a new tack, recommending the drugs for anyone at even a moderately elevated — for any reason — risk of heart attack, a 7.5 percent risk over the next 10 years, a figure calculated by the committee's own formula.

An op-ed piece in the *New York Times* the next day, cowritten by the horrified editor of *JAMA Internal Medicine*, pointed out that people on statins in this new, broader group would have, according to her calculations, an NNT of 140 — 140 to treat, one to benefit — without there being an overall reduction in death or life-threatening illness. "Statins give the illusion of protection to many people," Dr. Rita Redberg wrote, "who would be much better served by simply walking an extra 10 minutes a day." For the sake of comparison, a study published last year in the *New England Journal of Medicine* found that going on the Mediterranean diet, heavy on olive oil, nuts, and beans, had an NNT of 61 — for every 61 people on the diet, one was spared a heart attack, a stroke, or death. That's not a great number for a drug, but for a diet it is. If millions of people ate this way, a lot of people benefit and no one gets hurt — an NNH of zero.

How could some of the most eminent cardiologists in the country have fallen into this statistical rabbit hole? Welch points to the myopia of medical specialists in general: "They don't want to miss anyone who might conceivably benefit from diagnosis and treatment, and what they don't see is the harm that this strategy produces."

Then there is the money factor. More than half the doctors on the committee have received compensation from the pharmaceutical industry in the form of speaking and consulting fees and research subsidies. They recused themselves from voting on the committee recommendations only if they "felt" there was a conflict of interest, according to one committee member quoted on WebMD. But even harsh critics of the cozy relationship between mainstream academic medicine and the pharmaceutical industry tend not to impute bad faith to the doctors. The bias in favor of drug therapy has, they say, been internalized. "They're mostly true believers," Newman says. Says Roberts, author of *The Truth About Statins*, "They've drunk the Kool-Aid."

BAD MEDICINE: Treatments and Tests You May Want to Avoid

Culled from the lists of "Things Physicians and Patients Should Question" on choosingwisely.org. The philosophy: If it ain't broke, don't try to fix it.

MRI FOR FRONT KNEE PAIN This one made the American Medical Society for Sports Medicine's "5 to Avoid" list because knee "abnormalities" turn up so frequently on MRI that it's often impossible to know if a patient's knee pain is connected to what the orthopedist is seeing on the scan. In general, the common surgeries that a knee MRI leads to — mainly trimming a torn meniscus and debriding the knee of tissue debris — haven't been any more effective than physical therapy.

MRI AND X-RAYS FOR BACK PAIN As with the knee, structural abnormalities of the spine are incredibly common on MRI and notoriously hard to connect with nonspecific pain symptoms. Most lower-back pain clears up on its own within six weeks.

ANTIBIOTICS FOR SINUS INFECTIONS "Unless symptoms last for seven or more days or worsen after initial improvement." This warning from the American Academy of Family Physicians doesn't seem to be doing much good. The AAFP notes that antibiotics are prescribed more than 80 percent of the time for sinusitis on an outpatient basis, even though the infection is viral, not bacterial, and the drugs won't do much or any good.

SUPPLEMENTAL TESTOSTERONE The "low T" craze has spread even to men with normal testosterone levels who are having problems with erectile dysfunction. The American Urological Association, the Endocrine Society, and the American Association of Clinical Endocrinologists advise against using supplemental testosterone as an ED remedy in men with normal levels. There is a risk of side effects, and the research to date doesn't suggest it does much good.

BLOOD PRESSURE MEDS

Almost a third of American adults suffer from high blood pressure, the majority in the mild-hypertension, 140/90 to 159/99 camp. And most of them are on antihypertensive drugs, which is why, according to one analysis of data from the American Heart Association, last year they spent about $32.1 billion on meds and doctor visits, nearly 1 percent of the nation's health care bill. The catch, and you saw this one coming, is that while the risk of heart attack and stroke goes down when blood pressure drops in response to changes in diet or exercise or handling stress, when you use drugs to treat mild hypertension to get the same reduction, nothing comparably good happens. And according to thennt.com, the drugs have an NNH of 12: For every 12 treated, one will suffer from side effects that, depending on the type of drug, include fatigue, dehydration, and sexual dysfunction.

For men on the cusp of high blood pressure, with a systolic reading in, say, the high 140s or 150s, there is no one-size-fits-all rule as to whether they should be on the meds if they can't bring the numbers down themselves. Welch's advice: Go to the government's online heart-risk calculator at heart.org and see how much risk reduction you'll likely get from dropping your blood pressure a certain number of points. And buy a home blood-pressure monitor. "You get real positive feedback when you exercise and your blood pressure falls," he says.

ANTIBIOTICS (FOR UPPER RESPIRATORY INFECTIONS)

One-fifth of the antibiotics prescribed in the U.S. are for upper respiratory infections. The patient walks into the doctor's office or the urgent care clinic with a nasty case of bronchitis or sinusitis and, most of the time, walks out with a scrip. This scenario seems impervious to the fact that most of the infections are viral, not bacterial, and that the antibiotics are worthless against them. In study after study, the drugs have been found to do precious little good, at best shortening the duration of a symptom like a cough by a day or so, and at the risk of building up antibiotic resistance in cases where the drugs may really be needed. Doctors know all of this, but, as Hadler says, "in this system, it takes me 20 seconds to prescribe a drug and 20 minutes to explain to the patient why they don't need it."

Unnecessary Scans Lead to Unnecessary Procedures

Dartmouth's Gilbert Welch, probably the nation's most influential white-coat critic of overtreatment, calls it the "look for more, see more, treat more" syndrome. Magnetic resonance imaging (MRI) and computed tomography imaging (CT scan) both came into widespread use in the 1990s, and since then their use has exploded: There's been a fivefold increase in chest CT scans to look for heart disease, a sixfold increase in MRIs to look for structural problems in the spine, a tenfold increase for the knee. Welch points out that the medical system has a hard time seeing an abnormality and not wanting to do something about it, a major driver of what he calls our current "epidemic of diagnoses."

MJ SPECIAL REPORT

Surgeries You May Be Better Off Without

The process by which medical procedures become established medical practice makes the drug-approval process look good. Before the FDA will approve a new drug, the pharmaceutical company must demonstrate that it does something better than the competition's, inspiring a lot of statistical ingenuity. ("We have a saying in research medicine," Roberts says. "If you torture the data long enough, it will confess to anything.") But a new medical device has to clear a lower regulatory bar — only that it's not dangerous — before it can be introduced to the public. The procedure itself is rarely systematically evaluated: A few influential doctors bring out something new, it catches on, and in a few years we have procedures like cardiac stenting to reduce heart attack risk or spinal-fusion surgery to

Witness the corresponding rise in cardiac stent procedures to open partially blocked coronary vessels, in spinal surgeries to remove damaged disks, and in arthroscopic knee procedures to remove damaged cartilage, most commonly the meniscus, the shock absorber of the joint.

The catch is, the detailed visual can mislead the doctor into thinking that the abnormality he's seeing on the image is causing the problem, or the potential problem, that he'd like to fix. But studies have shown that 40 percent of people picked at random have meniscal damage that shows up on MRI, and more than 50 percent have deteriorated disks, so there's no way to know if what's showing up on the MRI has anything to do with a patient's knee or back pain.

"Don't even think about getting an MRI for your back or knee pain," says Newman of diagnostic tests that are routinely done thousands of times each day in this country. He points to the one major randomized controlled study that compared patients with back pain who received an MRI with a similar group who got an X-ray. The MRI group, with the more detailed (and far more expensive) images, didn't experience treatment outcomes that were any better than the X-ray group's.

But the MRI seems unstoppable. A recent Canadian study concluded, after reviewing a thousand MRI requests by doctors on behalf of their patients with lower-back pain, that more than half were either "of uncertain value" or, worse, "inappropriate." And the U.S. has five times as many scanners per capita as Canada, an estimated 7,000 to 10,000. The machines are expensive — and so large that hospitals and treatment centers often have to renovate to accommodate them — so you can be sure they will be used to amortize the cost and generate profits. More imaging, both MRI and CT scans, leads inexorably to more procedures to fix things that never needed to be fixed in the first place. Consider the CT scan that reveals a blockage in a coronary artery that nevertheless poses little heart attack risk. It's still an invitation to a cardiologist to insert a stent.

Even if a CT scan doesn't lead to overtreatment, the amount of radiation it subjects the patient to is a health risk in itself. Brawley estimates that up to a third of radiologic testing done in this country, by both CT and conventional X-ray, is unnecessary. That's unconscionable, he says, given that some experts estimate about 1 percent of cancers in the U.S. are caused by radiation from medical imaging.

relieve back pain that become institutional cash cows with little scientific evidence that they work as advertised.

Once a procedure becomes established, it's protected by a phalanx of moneyed interests. In *How We Do Harm*, Brawley recounts the tale of a fledgling federal agency, now called the Agency for Healthcare Research and Quality, which was created to review how well common medical treatments actually work. In 1995 it reported that the research on spinal-fusion surgery for back pain was unequivocal: It produced results that were no better or not much better than doing nothing. Outraged, the North American Spine Society convinced a group of Republican congressmen that the agency was wasting taxpayer money on shoddy research. After nearly losing its funding, the agency limped away from the inquisition with a 21 percent budget cut. "The self-serving surgeons were saying the hell with what the science says," Brawley wrote, "and everyone else was apathetic or worse."

50%

OF THE 700,000 STENTS DONE IN THE U.S. YEARLY ARE DONE TO PATIENTS IN NO DANGER OF HEART ATTACK.

CORONARY BYPASS SURGERY AND STENTING

Much of the profit and prestige of modern American medicine derives from two ways of dealing with coronary artery disease and the heart attack risk that goes with it. First came coronary bypass grafts in the 1960s and '70s — surgeons replace a segment of plaque-obstructed artery with a graft vessel, usually harvested from the thigh. Amazing stuff. As Hadler notes, the cardiac surgeons had cornered the market on "gold and glory" until the cardiologists, formerly relegated to mere diagnosis and pill-pushing, got into the act. No longer was it necessary to cut a patient open to get at the problem. The newly christened "interventional cardiologists" could thread a thin plastic tube, slipped in through the wrist or the groin, into the coronary vessels. In the 1980s and '90s, the usual procedure was a balloon angioplasty: inflating a small balloon attached to the tube to compress the plaque against the vessel walls. That's been largely replaced by stenting. After the balloon is inflated, a wire-mesh cylinder, a stent, is inserted to keep the vessel propped open. Stenting and similar procedures have flourished, accounting for more than a million procedures a year. If only they worked as well in the heart vessels as they do on paper. "The bleakest chapter in the entire history of Western medicine" is how Hadler, the Cassandra of American

medicine, assesses both bypass surgery and the entire field of interventional cardiology.

David Letterman and Bill Clinton will happily tell you their surgeons saved their lives, but the research plainly argues that for most people, bypass surgery, for all its risks, doesn't produce much or any better results than less-drastic medical therapies.

When it comes to stenting, the best research suggests it's probably a good idea for the patient who is in the throes of a heart attack, and is arguably a good idea for the patient with "unstable" heart disease, at the highest risk for a heart attack. The problem is, about half of the 700,000 stenting procedures done in this country every year are done to patients in no immediate danger of a heart attack. Newman calls it "Whac-a-Mole," guessing which vessel might blow and putting a stent in it. Over the past few years, a pushback has been building, with a small but growing number of criminal cases brought against unscrupulous hospitals and doctors guilty of excessive or inappropriate stenting.

PROSTATE CANCER TREATMENT

Often lost in the shouting over PSA is a more fundamental question, on which hinges not only the worth of prostate cancer screening but of prostate cancer treatment itself. When screening and diagnosis works the way it is supposed to — when, say, the doctor has identified an early-stage cancer still localized in the prostate gland that is aggressive, fast-growing, and likely to kill you if not treated — will submitting to surgery or radiation meaningfully extend your life? The eminent urologist Dr. Paul Schellhammer puts it this way: "There is a kind of prostate cancer that can be cured but does not need to be; there is the kind of prostate cancer that needs to be cured and cannot be. We all hope there is a kind of prostate cancer that needs to be cured and can be cured." If that hope is not realized, and you can't effectively fight back when your life depends on it, then all the urology establishment's cheerleading about more-selective screening and new genetic tests to more accurately gauge a cancer's lethality doesn't amount to much.

The numbers do not encourage. In the past 20 years, there have been two huge clinical trials comparing the outcomes of men who had been screened with PSA (if they had prostate cancer, it was more likely to be treated early) with those who had not. The European study showed fewer deaths from prostate cancer in the PSA group but no difference in overall mortality. The American trial saw no difference in either measure, deaths from prostate cancer or total deaths. Another American trial zeroed in on the question at hand, comparing the outcomes of men who had been diagnosed with a PSA test and had their prostates surgically removed with those of PSA-diagnosed men who adopted the watch-and-wait approach. (Only 731 men were tracked in total because it proved so difficult to find men who were willing to watch and wait.) There was no statistically significant difference in the fates of the two groups. There was a suggestion that men with the more aggressive disease did better with surgery, but only just that.

This is not the version of the story you are likely to hear from your urologist. Dr. Robert Mordkin, chief of *(continued on page 102)*

THE MRI: Screening by the Numbers

Exhibit A in the case against overdiagnosis and overtreatment in American medicine is the MRI. The best information on escalating MRI usage comes from the government's Medicare data, according to Dr. David Levin, professor of radiology at Thomas Jefferson University. In 2000, 95 out of 1,000 Medicare patients had an MRI. By 2008, that number had almost doubled.

Major players here are the orthopedic surgeons who own their own MRI units. In 2000, these surgeons did 31,770 scans on "fee for service" Medicare patients. By 2011, that number had mushroomed sevenfold to 222,901. Levin estimates the total number of scans these docs were doing at four times that number. "That's a lot of scans, especially for doctors whose basic business is not doing MRIs," he says.

Study after study has found that private-practice physicians who own their MRI scanners and other imaging equipment use them more often than physicians who don't, the so-called self-referral. You have to pay for the thing somehow. A new top-drawer unit costs in the neighborhood of $1.5 million to $3 million, and then throw in another roughly half a million dollars to accommodate the behemoth: buttressing a building to support its weight and shielding everyone in the vicinity from its intense magnetic field.

All this expense is, of course, passed on to you, typically in the form of sky-high insurance premiums. An MRI scan on your back or knee will typically cost around $700 to $800, the discounted price that your insurer has negotiated, and will come out of your pocket if you haven't met your insurance deductible. If you don't have insurance, you'll be stuck with the full-freight MRI scan sticker price, $3,000 to $4,000. "You're screwed because the hospital or the medical group will come after you for it," Levin says. And if that uninsured MRI leads to unnecessary treatment? Double-screwed.

SAY NO TO YOUR DOCTOR *continued from page 90*

urology at Virginia Hospital Center, says that when he has a patient with all the hallmarks of an aggressive, early-stage cancer, he's eager to operate, despite the side effects. (His clinical sense is that, after a skillfully done surgery, most men will eventually regain their bladder control. Sex is a different story. The penis will be less responsive, though with the help of ED drugs, intercourse, he says, is often possible.) Even though this hypothetical patient has sky-high scores on the PSA and Gleason tests (another measure of potential lethality), Mordkin says, "This is a guy who can be cured. Based on the predictive models of his pathology, he has about an 80 percent chance that he will never die from prostate cancer."

But the epidemiologist asks: Then why haven't all these cures been captured in the rigorous studies that compare the outcomes of men who got the surgery with the men who didn't? "Until I see data from randomized controlled trials," Newman says, "why would I trust what a urologist says? His anecdotal impression that he is saving lives is exactly what they were saying when they were bloodletting 200 years ago: 'Dude, trust me, this is the right stuff!'"

Almost unbelievably, millions of dollars and scores of studies haven't produced a knockout winner in this fight over the fate of your prostate. Dr. David Bostwick, the nation's preeminent prostate cancer pathologist, argues that many of the epidemiological studies that show screening and early-stage treatment of prostate cancer as having little or no benefit are hopelessly flawed. He believes that patient data accumulated by major cancer centers suggests that surgery and radiation are extending lives.

Here's the takeaway, such as it is: If you have been diagnosed with early-stage prostate cancer, make sure before you contemplate aggressive treatment that you fall in the group that is most likely to benefit from it — with terrible PSA and Gleason numbers. As to how much benefit, you better hope that the urological surgeons and pathologists are right. Brawley notes that the mortality rate for prostate cancer has dropped 20 percent over the past 20 years, but, he says, it's probably not attributable to increased screening and treatment, since the decline began before the advent of widespread PSA screening. "We hope that something we're doing is working," he says.

DISK SURGERY FOR LOWER-BACK PAIN

A disk is a hard-cartilage, fluid-filled shock absorber that sits between two vertebrae. Surgery to remove a damaged disk and fuse together the two vertebrae has been around for close to a century. But it wasn't until the 1970s that the idea that disk fusion might help relieve back pain caught on. If, when a doctor injected fluid into the interior of a damaged disk, it hurt, then maybe the disk was causing the pain. Then, when the MRI came along, you could see that disk damage in breathtaking detail.

But 40 years on we've learned that disk damage showing up on MRI is incredibly common. In one study in *Spine,* about a third of subjects under 40 without back pain symptoms showed damage. "If there's one thing we know in spine surgery, it's that abnormalities like degenerated disks do not correlate with back pain," says spine surgeon Dr. David Hanscom, author of *Back in Control: A Spine Surgeon's Roadmap Out of Chronic Pain*. "It's an urban legend that if everything else has been tried for back pain, then you try surgery. It doesn't work."

You can find small individual studies in which fusion surgery appears to be effective at relieving pain — the results are famously unpredictable. But if you look at the research as a whole, fusion tests out about as well as nonsurgical treatment, with positive results between 30 and 60 percent. And because they mostly track patients only for a matter of months, Hanscom says, what these studies only hint at is the long-term surgical fallout: worse pain, infection, the original vertebral fusion breaking down and requiring further fusions to stabilize the spine. Amazingly, the popularity of surgery for back pain continues to rise. According to one study, 200,000 spinal fusions were done in 2000; seven years later there were 500,000, the majority of them done at least in part to relieve chronic back pain. "Right now there are some very high-volume surgeons having major spine centers built for them," Hanscom says. "The hospitals can't get their hands out of the cookie jar."

What surgery can be good for, Hanscom and most any spine surgeon will tell you, is correcting a structural problem that shows up on imaging studies that matches the patient's symptoms. Garden-variety back pain doesn't rise to that level. True, a patient may indeed have a fractured disk that is pressing on a spinal nerve and causing numbness, pain, and muscle weakness, but those symptoms are experienced in the leg, not the back. "I tell those patients that I can do surgery to relieve the symptoms, but it's not going to relieve the back pain," Hanscom says. "And probably two-thirds of the time, that's their biggest complaint."

Hadler, who has contributed his own back-treatment exposé, *Stabbed in the Back,* regards disk surgery as the only true rival to coronary stents and grafts in the modern medical disaster department. As the North American Spine Society's congressional run around science seems to indicate, some bad ideas are too well defended to die.

KNEE ARTHROSCOPY

The knee story, like the disk-surgery story, follows the pattern spelled out by Welch: "Look for more, see more, treat more." Damage visible on MRI, especially to the menisci, the two crescent-shaped, cartilage shock absorbers between the thigh and shin bones, has helped drive more than 500,000 arthroscopic knee surgeries a year in this country, making it the most common form of orthopedic surgery. With an arthroscope, a three-tubed scope slipped inside the knee, the orthopedist can remove torn pieces of menisci, smooth out aging connective tissues, and generally clean house more quickly and neatly, and with far less rehab time, than with the open knee surgeries that came before. But the research raises a question: Just because you can do something better, does it mean you should? In one 2002 study done by a VA hospital in Houston, the study group received the arthroscopic surgery and the control group got sham surgery — the telltale three-incision stigmata and nothing more. Both groups got about the same benefit in pain relief and mobility, results that were replicated in a Finnish study published nine months ago in the *New England Journal of Medicine*. In a multicenter study, also in the journal, last year, a group of patients who had a meniscal tear did no better after arthroscopic surgery than a similar group who received six weeks of physical therapy to strengthen the muscles around the knee. Consider that 465,000 "partial meniscectomies" are done in this country every year. "It's open season on the American knee," Hadler says.

Patients with meniscal tears did no better after knee surgery than a group that did physical therapy.

A generation or two ago, the doctor was a god and his treatment decisions were commandments written in stone. Today we're coming to understand that even good doctors (and their patients) can be victimized by a health-insurance-driven system that rewards overtreatment. "Very few doctors are offered the opportunity to practice according to their conscience," Hadler says darkly. Still, it would be a mistake to assume any course of action your doctor wants to take is immediately suspect. "If your doctor is adamant about something," Welch explains, "you might want to listen. He might know what he is talking about." More important than whether you and your doctor agree on everything is the respectful give-and-take that should be the hallmark of the therapeutic relationship. As Hadler puts it, if medicine can change from a "telling what to do" profession to a "telling the patient the information" profession, we'll all be better off.

When to Say No to Your Doctor

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