

# The Fixers

When I was a kid, twelve cents could buy you a lot of fun. That's what a comic book cost then. I could buy eight of them for a dollar at the Piggly Wiggly store, and read the adventures of Superman, Batman, and the Green Lantern. When I was nine, my mom even bought me a Superman suit and cape and I would actually wear them around the house. I'd jump off the couch, the cape flying behind me, and sometimes even wore the suit under my clothes just like Superman did. My dad tells me he was scared to death that I'd try climbing up on the roof to see if

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I could really fly. I avoided that disaster, though. Even then, I knew it was make-believe. I would never be faster than a speeding bullet, but a boy could dream.

Reading my comic books, I lingered over the ads for “elevator shoes” and Liftee height pads that promised to add between two and four inches of height “invisibly.” How did those work? The word *elevator* made it sound like there was something

mechanical in there, or maybe even magical. But the shoes really just had soles that were several inches thick. Even in the ads, those monster shoes looked like they might be too heavy for my little matchstick legs to lift. I'd be taller, but I'd have to stand in one place all day.

***“BE TALLER—Stand 2–6 inches TALLER  
in a few weeks. All ages. No gimmicks.  
GUARANTEED. Send 35¢. . . .”***

The get-tall ads were right by the ones for big-muscle programs from Charles Atlas bodybuilding that would, if I sent Mr. Atlas money and followed the directions in his booklet, help me follow his path from “97-pound weakling” to “the world’s most perfectly developed man.” Even better: Mike Marvel, who

***“CAN BUILD YOU A MAGNIFICENT  
NEW HE-MAN-MUSCLED BODY  
IN JUST TEN MINUTES A DAY—  
with absolutely NO weights—  
NO bar-bells—  
NO EXERCISE AT ALL!”***

In the years between my time as a kid and yours, a lot of things have happened. Comic books

cost four dollars or more these days. And we now have spam to tell us we can get taller, or, um, bigger. But the basic idea—the idea that *there's something terribly, tragically wrong with you, and if you just give us money we will fix it*—is still the same.

The pitches have never gone away, and never will, because the marketers know that most of us believe, deep down, that in some way we don't measure up. That our bodies could be better. *Should* be better. And they think that we will pay dearly for the promise of a fix.

Sleazy salesmen have no trouble at all playing on that kind of insecurity and selling short guys fake drugs that they promise will make them taller. The U.S. government recently cracked down on a company selling something called Heightmax that was supposed to increase height by 35 percent in a year for users between the ages of twelve and twenty-five.

Let's do that math: That would mean somebody five feet tall would grow an additional 21 inches—nearly two feet. The wonderful people who pulled off this scam faked an “inventor” whose name they put in radio ads, and had testimonials from people who said their lives had been changed by the magic medicine. The ads said Heightmax would be “the answer to your prayers.”

The company didn't admit that they were scamming people. Instead, they settled the government's

lawsuit against them, paying nearly two million dollars in fines. But think about it: That means that even though the claims were obviously absurd, they had sold millions of dollars' worth of this worthless product to suckers. And that is a lesson in just how powerful the urge is to take what nature gave us and stretch it. The makers of Heightmax are not the only ones. They're just the most recent ones to get caught.

Now, don't go thinking that anybody who says he can make you taller is just full of hot air and that the only transformation he is capable of is transforming your money into his. There are legitimate treatments out there—but some of them sound more like the stuff of horror movies than medical treatment. And while the scams tend to be harmless aside from the money that the suckers lose, the treatments can lead to pain and disaster.

The most extreme example is a process called limb lengthening. The details are gruesome: Doctors actually saw apart the patient's leg bones and put the legs in adjustable braces that look a little like cages with knobs on them. (You *really* don't want to see the pictures.) The patient then turns the knobs a few times a day, which stretches the bone apart a tiny bit at a time. In other words, it's like a medieval torture rack, but it's applied in a hospital instead of a dungeon. The other difference is that the patients pay

for their torture: about \$25,000. If everything goes right, the healing bone bridges the gap bit by bit, and over six months' time in the brace the patient can get to be a few inches taller. It takes two years to recover fully.

The procedure is especially popular in China, where the government discriminates against people based on height. There are height requirements for some professions there, so being short can keep people from getting positions as diplomats, flight attendants, and more. A story in the *New York Times* said that would-be Chinese diplomats must be at least five foot seven if they are men, five foot three if they are women. The Chinese news agency says that men have to be five foot nine and women, five foot five to apply for college majors such as acting or broadcasting. What's a short person to do? Well, some folks get lengthened. And, sadly, the Chinese press is full of accounts of surgeries gone horribly wrong. There are legitimate problems, such as dwarfism or having one leg shorter than the other, that are severe enough to justify the risks of surgery, but the procedure is just way too dangerous and painful to go through just to look taller.

In 2006, China cracked down on the surgery. Mao Qun'an, a Health Ministry spokesman in China, said that it "must only be carried out for strict medical reasons."

Good luck with that one, Mao. It looks like the surgery isn't going away anytime soon. One Chinese doctor, Dr. Xia, advertises his Beijing Institute of External Fixation Technology around the world. His website says that the institute is "where science and technology meet your dreams."

Yikes.

In the United States, patients are more likely to turn to drugs when they want to grow taller. And there is a lot of work by real scientists and real drug companies to help people to grow. They aren't like the sleazy Internet guys—their treatments, depending on which study you read or which doctors you talk to, might end up buying you an extra inch or two. But there are some real problems with the way that they sell their stuff, too.

So let's talk about drugs.

No, this is not a DARE lecture. I mean medicine to give people a height boost—human growth hormone. Like the leg surgery, it started as an attempt to fix medical problems. But, like the leg surgery, its use has spread to people who are merely short.

Human growth hormone is a chemical messenger that occurs naturally in the body and is part of the process that spurs growth and development. If a person's body doesn't produce enough of it, that person is likely to be very small, and the small person is said to have a medical condition such as dwarfism.

Those people can be helped by injections of human growth hormone, which helps supply what their body doesn't.

In the early days, scientists didn't know how to manufacture the hormone, so they extracted it from the bodies of dead people. By 1985, a synthetic version had been developed and was approved for use as a medicine, mainly for those people suffering from severe problems such as dwarfism. Some doctors prescribed it for patients who didn't have those problems, though. Bodybuilders wanted it, though it hasn't been proven to actually help them. (Those guys will take just about anything that they think will pump them up.) And some doctors also started prescribing the hormones for children who don't have a hormone deficiency but are just plain short. That's a big difference.

Before long, the drug companies were pushing the government to give its blessing to what they had been doing anyway. And so, in 2003, the government did approve the use of growth hormones for short kids who weren't suffering from a medical condition—to be specific, the shortest 1.2 percent of children. For ten-year-old boys and girls, that meant anyone shorter than four foot one. The idea was that it would be used in kids likely to grow to adult heights of less than five foot three (for boys) and four

feet eleven (for girls.) Did I mention that I'm five foot three? So I am officially really short. But I didn't need a government ruling to tell me that.

The phrase that was used by the drug companies and the government to describe being short was a whopper: idiopathic short stature. *Idiopathic* is one of those great words doctors and scientists use to describe something that they don't understand, something with an unknown cause. So *idiopathic short stature* means "this person is short and it's not for any of the medical conditions we know about, such as, say, growth hormone deficiency." Now, the most common reason that somebody is short is that his parents are short—we'll talk a little more about that later on. But using fancy words derived from Greek with a lot of syllables makes it all sound very medical, very disease-ish.

It's not the first time that the medical industry has tried to sell cosmetic treatments by using a fancy medical-sounding name for the problem—they used the same trick back in the early days of breast implants.

As you might have noticed, breasts come various sizes. Some women whose breasts are on the smaller side would like them to be bigger—and, wouldn't you know it, an industry has grown up around making money off those feelings of being

too small and inadequate. The medical answer is breast implant surgery, and hundreds of thousands of women a year get the procedure done.

The companies that wanted to sell women on the idea of making their breasts bigger didn't use plain words such as *flat chested*. Instead, they made it sound like a medical condition that needed treatment, and called it "micromastia." The companies making breast implants argued that women with flat chests suffered from a lack of confidence and would lack success in love and careers. To hear the doctors talk about it, the women were destined to have a second-class life.

Sound familiar?

And so, when the Food and Drug Administration considered giving its blessing to using growth hormone to treat the terrible disease of shortness, one of the scientists from Eli Lilly, a hormone maker, called the condition a "growth failure problem." The scientists laid out a list of problems that short kids face that made it sound as if it would be cruel to deprive them of the solution. And the announcement from the government that the drug had been approved for merely short kids talked a lot about idiopathic short stature. It was all very medical-sounding.

Growth hormone has been a real blockbuster in the years since the approval. According to the market research company IMS Health, the growth

hormone market has sales of more than a billion dollars a year.

Was the approval a good decision? Giving the drug to short kids was already legal: Doctors can prescribe any drug that's been approved for one condition to treat any other condition. But the seal of approval from the FDA was really important, because it made it legal for the drug companies to *market* the drugs for the new purpose. Drug companies spend billions of dollars a year telling doctors how great their FDA-approved products are and how important it is to prescribe them. But before the FDA approval, companies weren't supposed to push doctors to prescribe growth hormone for short kids, and couldn't tell consumers—your parents—that giving you the drugs was such a wonderful idea. Whether we actually need a drug or not, we're likelier to think we need it if a doctor recommends it. Whether the drug will actually be effective or not—and many drugs do very little—we tend to believe in the promises that the companies and doctors make. Marketing also leads to bigger profits, because parents who hear about a drug are likelier to request it, even demand it, for their kids if they know it's out there. And once the doctors and parents get together, just about every kid will end up taking the treatment. After all, parents teach us to take our medicine—"It's good for you!"

FDA approval also helped to get insurance companies to pay for the treatment. That's a big deal, because hormone therapy is expensive. The cost for five years of treatment, with almost daily shots, would come to about \$100,000 per kid. And if the estimates of the effectiveness given at the FDA hearings are correct, the increase in height over what the kid would have reached anyway is a whopping 1.9 inches. So we're talking about some very expensive inches: \$50,000 apiece! You can buy a Lexus for \$50,000.

Many kids go to all the expense and trouble for less growth than that. Stephen Hall, who wrote a great book about height, *Size Matters*, is pretty skeptical about the drugs. He told me that even if someone gets the injections and grows a few inches, "it's impossible to give a drug to someone and say they would not have grown to that height otherwise."

But even if those inches really are the result of the drugs, a short person who gets the treatment will still be pretty short, said Dr. Alan Rogol, who regularly prescribes the drugs for kids with hormone deficiencies in his work as a pediatric endocrinologist. He explained that somebody who is five foot one and takes the drug might end up gaining those two, maybe two and a half inches. The treatment is successful, but as he pointed out, the kid is still pretty short.

“Go down to the mall or the center of town,” he said. “Line up all the boys [of one age] from the shortest on the left to the tallest on the right.” If you marked the line into thirds, showing the shortest third, the middle, and tallest, “the boy we just described would move a very little bit within that first third.”

A lot of experts say that, in other words, that kind of success doesn’t mean much. Alice Dreger, a bioethicist at Northwestern University, told me, “I wish the doctors would say this: ‘Your child will go from being short to being short.’”

The other problem with giving a bunch of kids powerful hormones for something other than a serious medical condition is that all drugs have side effects and risks. According to David Sandberg, a psychologist at the University of Michigan who has studied the psychology of being short, the studies so far have declared the drugs safe (aside from problems like joint and muscle pain) after a few years of use. But, he points out, that says nothing about “possible harmful effects thirty years down the road.” One of the things that the drug company pushed hard during its presentation to the government for approval was that short kids have social problems and that the drugs can help fix them. The slides they presented were a little surprising to some people: Dr. Sandberg, whose research has shown that short kids cope pretty well with being small, was surprised

to find out that his work was being cited by the drug company to support the notion that kids have big problems. Another expert who told the FDA that short kids have self-image problems and behavior problems published a study the very next year, based on the very same data that she had used for her testimony, and concluded that there actually had been “no evidence” that being short was the cause of those problems.

We’ll get back to studies and how they don’t always tell the whole story a little later, but for now, here’s what you need to know:

***All that stuff about all the psychological  
stress of being the little guy?  
And the improvement the drugs  
ought to bring about?***

***Never mind.***

Sandberg told me that he’s still stunned about the decision to approve the drug for use in kids who are merely short. “If we don’t have evidence that there’s psychological benefit,” he said, “what’s it all about?” In the end, a lot of the “problems” that people associate with being short are created by the same people who say they’re trying to fix them. It can be difficult to separate the real problems from

the marketing hype, but figuring out how to tell one from the other can make a huge difference.

The bottom line is that being short doesn't cause mental problems. It's as simple as that. And getting a little bit taller "does not magically cure" problems, Sandberg said. "It's not like taking penicillin and curing pneumonia."