Episode Book

EPISODE #5693

Head-of-Bed Elevation for Nighttime Reflux

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SYNOPSIS

Waking up with acid in your throat is miserable, and the advice you'll hear first — elevate the head of the bed — has been in every gastroenterology guideline for decades. But when researchers actually went looking for controlled trials, they found five. Total. Across the entire world literature. This episode digs into what those trials show, why the thing most people buy isn't the thing that was studied, and what to look for if you're standing in a store at 1am trying to pick a wedge.

We cover the 2021 Albarqouni review in BMC Family Practice that screened 1,206 records and found five usable trials, the 2020 IBELGA crossover trial that doubled the rate of meaningful symptom improvement, and a 2026 Thai non-inferiority trial that pitted a wedge pillow directly against an added evening PPI dose. Along the way: why stacking pillows under your head doesn't count, why 20 centimeters keeps showing up, and the mechanical reason the incline has to start at your hips.

TRANSCRIPT



Corn

Daniel's been having a rough time at night again, and he wrote in with a question that sounds simple until you start pulling on it. He wants to know about elevating the head of the bed as a non-drug intervention for nighttime reflux. Three things specifically. What does the evidence actually show for it? What height has been most validated by the research? And if you're going out to buy a wedge pillow, what should you actually be looking for?



Herman

The interesting thing is that this is one of the oldest pieces of advice in gastroenterology and almost nobody has ever stopped to check whether it works.



Corn

That's the tension. It's in every guideline, it's the first thing a doctor says when you complain about waking up with acid in your throat, and it's been recommended for decades. And the evidence base behind it is startlingly thin.



Herman

Thin, but not empty. There's a real signal in there. It's just smaller and messier than anyone's marketing suggests.



Corn

Right. So the question splits into three layers. Does elevation work at all, which angle has actually been tested, and what does that mean when you're standing in a store or scrolling a listing at one in the morning wondering which piece of foam is going to fix your esophagus.



Herman

And the answer to the third one is surprising. The thing people buy is not the thing that was studied.



Corn

So let's start with what the evidence actually says, and why the answer is more complicated than the guidelines make it sound.



Herman

First we need to be precise about what the intervention even is. Head-of-bed elevation is not stacking pillows under your head. That's the most common mistake people make, and it's the reason a lot of them conclude the whole idea is useless.



Corn

Because pillows under the head still leave the torso flat.



Herman

You prop up your skull, your shoulders are on the mattress, your stomach is still at the same height as your esophagus. Cleveland Clinic's Scott Gabbard put it plainly. Regular pillows only elevate your head, which isn't enough to prevent acid reflux. Wedge pillows elevate your entire torso.



Corn

So the mechanical requirement is that the incline starts at the hips.



Herman

Or lower. Somewhere between the hips and the mid-back. Everything above that needs to be on the ramp. The moment your torso flattens out, the stomach is back at the same gravitational level as the lower esophagus, and the whole thing stops working.



Corn

And the mechanism is just gravity, right? On a flat bed, gravity is neutral for your stomach contents. On an incline, it isn't.



Herman

That's the whole idea. When you lie flat, there's a clear path from stomach up into the esophagus, and the lower esophageal sphincter is often the thing that's already failed. Elevation makes that path uphill. It doesn't fix the sphincter, but it makes the acid fight gravity on its way up, and it also reduces how long any acid that does escape sits against the lining before it drains back.



Corn

There's a second effect too, isn't there? It's not only about keeping acid down.



Herman

There's a clearance component. When you're inclined, anything that does reflux tends to drain back faster than it would if you were flat. So you get less of it up there and less time in contact with the mucosa.



Corn

And every major guideline endorses this. The ACG guideline in 2022 says, and I'm quoting, we suggest elevating head of bed for nighttime GERD symptoms. That's a conditional recommendation with a low level of evidence. The AGA says it recommends elevation for selected patients who are troubled with heartburn or regurgitation when recumbent.



Herman

Both of those are real endorsements, but notice the language. Suggest, conditional, selected patients, low level of evidence. That's not a guideline that's confident. That's a guideline filling in a gap because it doesn't have anything better to offer a patient who doesn't want another drug.



Corn

And this is where the actual evidence base gets interesting, because the numbers are almost comically small.



Herman

The definitive synthesis is Albarqouni and colleagues, published in BMC Family Practice in January 2021. They screened one thousand two hundred and six records looking for controlled trials of head-of-bed elevation for reflux symptoms.



Corn

And found five.



Herman

Five controlled trials. Two hundred and twenty-eight patients total across the entire world literature. Every one of them at high risk of performance bias, and four of them at high risk of selection bias.



Corn

Performance bias meaning patients knew whether they were sleeping on a wedge.



Herman

Impossible to blind, right? You can't put someone on a placebo incline. So every participant knew what they were getting, and that inflates the symptom improvement in every trial in the field.



Corn

And the heterogeneity was so bad they couldn't even pool the results.



Herman

They explicitly state meta-analysis was impossible because the outcome measures were too different across trials. Some measured acid exposure time, some measured symptom scores, some measured sleep disturbance, some measured all three with different instruments. So you can't average them.



Corn

So the conclusion of the most rigorous review of this topic is essentially, we don't have enough clean data to be sure.



Herman

Their exact phrase is low quality evidence of benefit. And that's worth parsing. It's not evidence of no benefit. They say explicitly, we did not find evidence of no benefit from this approach, but rather we found low quality evidence of benefit.



Corn

Which is a different claim. It's not that the trials showed nothing. It's that the trials were too small and too poorly controlled to prove the thing they were pointing at.



Herman

And then they add a line worth sitting with. Head-of-bed elevation could still be considered as a cheap and safe alternative to drug interventions with unfavourable safety profiles.



Corn

Which is basically the entire case for this intervention in one sentence. We can't prove it works, but the drug it's competing against has known harms, and this one costs nothing and can't hurt you.



Herman

Within reason. There's a caveat to that which we'll get to. But the headline is that.



Corn

What's the best single result in that thin base?



Herman

The 2020 IBELGA crossover trial. Villamil Morales in Colombia, sixty-five patients, six weeks, randomized crossover. That's the largest and best-designed trial in the field.



Corn

And the result?



Herman

Sixty-nine percent of the elevation group reported a clinically meaningful symptom change at six weeks, versus thirty-three percent of controls. Risk ratio of two point one, ninety-five percent confidence interval one point two to three point six.



Corn

That's a real effect. Doubling the chance of meaningful symptom improvement.



Herman

The confidence interval is wide, because sixty-five patients, but it doesn't cross one. That's statistically significant, and the magnitude is clinically meaningful.



Corn

And that was measured how? Patient-reported symptoms?



Herman

Patient-reported, which is the thing I flagged. It's unblinded, so the effect could be partly placebo. But here's what makes it more believable. The physiological studies underneath it point in the same direction.



Corn

Walk through those.



Herman

Hamilton in 1988 measured intra-esophageal acid exposure directly with pH probes. On flat beds, acid sat in the esophagus twenty-one point two percent of total monitored time. With either a wedge or bed blocks, it dropped to about fifteen percent. That's a real reduction in acid contact, measured with an instrument, not a questionnaire.



Corn

And Khan 2012?



Herman

Twenty-centimeter block under the head of the bed, seven days, supine reflux time dropped from fifteen point zero percent to thirteen point seven percent, p equals zero point zero zero one. Modest percentages, but that's the actual time acid spends against the esophagus overnight, and it moved. And sleep disturbance improved in sixty-five percent of patients.



Corn

Sixty-five percent reporting better sleep is arguably the thing patients care about most.



Herman

It's the outcome they'd notice. Nobody comes into a clinic asking to reduce their acid exposure time by one point three percentage points. They come in saying they wake up at three in the morning choking on stomach acid and they can't sleep.



Corn

So the physiological signal and the symptom signal both point the same way. And neither is airtight.



Herman

Both small, both unblinded, both short. But they're not contradicting each other. That's what moves it from plausible to worth trying.



Corn

Now here's the piece I think most people don't know, and it's the thing that makes the whole shopping question weird.



Herman

The wedge pillow evidence is weaker than the bed-block evidence.



Corn

Explain what that means.



Herman

In the Stanciu 1977 crossover trial, they compared bed blocks and a wedge directly. Bed blocks significantly reduced acid exposure and the number of reflux episodes. The wedge arm showed no significant reduction in either.



Corn

So in the one trial that actually tested them head to head physiologically, raising the entire bed beat the wedge.



Herman

That's a single small 1977 trial, so don't over-read it. But the 2021 review notes that only one of the five trials in the entire evidence base used a wedge alone. Most of the evidence we just described is for elevating the whole bed. Kicking the head of the bed up on blocks. Which is not what most people buy.



Corn

Because most people buy a wedge pillow.



Herman

Because the bed blocks are inconvenient. They're ugly, they slide, if you have a partner who doesn't have reflux they now also sleep on an incline, and you can't put them under a platform bed. So people buy the wedge, and the wedge is the thing with the weaker evidence base.



Corn

Which sets up a strange gap. The thing studied most is not the thing bought most, and the thing bought most has been studied least.



Herman

Until 2026. And this is the trial that changes the conversation.



Corn

The Thai one.



Herman

Hirunrattanaporn and colleagues, published in Neurogastroenterology and Motility, February 2026. Twenty-four patients, four weeks, randomized. Wedge pillow versus an added evening dose of PPI for nocturnal reflux symptoms.



Corn

Twenty-four patients is small.



Herman

It's small. But it's a non-inferiority trial, which is the right design. It's not asking whether the pillow beats the drug. It's asking whether the pillow is at least as good, which is a lower bar and a more honest question. Because if it's at least as good, then the cheaper, safer thing wins.



Corn

And the result?



Herman

On the NGSSIQ symptom score, the wedge pillow group was thirty point zero one, the PPI group thirty-six point three three, mean difference minus six point three two. Non-inferior.



Corn

And sleep quality?



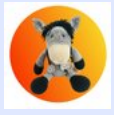
Herman

Significantly better in the pillow group. Five point five five versus seven point five three, p equals zero point zero zero one. And eighty-three point three percent of the pillow users reported satisfaction with the intervention.



Corn

So the pillow was, in a small four-week trial, as good as the drug on symptoms and better on sleep.



Herman

That's the headline of the trial. And it's the strongest wedge-specific evidence we have. But hold the size in mind. Twenty-four patients, four weeks. It's a proof of concept, not a settled answer.



Corn

The other thing I want to nail down before we get to shopping is the height and angle question, because this is where the research converges.



Herman

The most consistently validated figure across trials is twenty centimeters, about eight inches, of head-of-bed elevation.



Corn

Used where?



Herman

Khan 2012, Harvey 1987, Morales 2020, Huang 2019. Four separate trials across four decades, all landing at roughly twenty centimeters.



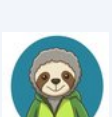
Corn

That's as close to a consensus as this field gets.



Herman

For height. For angle, you have to convert. Huang's wedge was twenty centimeters high, sixty-two centimeters long, which works out to about a twenty-degree elevation angle. Hamilton's foam wedge was twenty-five centimeters high at a twenty-two-degree angle.



Corn

So the tested range is twenty to twenty-two degrees.



Herman

Roughly. Which is much shallower than what most people think of as a wedge pillow.



Corn

And much shallower than what gets sold, which is the next part of the conversation.



Herman

The research validates roughly twenty degrees. Cleveland Clinic's consumer guidance says most reflux wedges sold sit at thirty to forty-five degrees and elevate six to twelve inches. That's a substantial gap.



Corn

So the research says twenty. The products are thirty to forty-five.



Herman

And the Sleep Junkie sizing guide is useful here because it maps height to angle directly. Six to eight inches gets you twenty to thirty degrees, which they describe as gentle, allows side sleeping, and they call the most common starting point. Ten to twelve inches gets you thirty to forty-five degrees, which they describe as closer to sitting than lying, and better for reading than sleeping.



Corn

Better for reading than sleeping is a devastating thing to put in a product guide.



Herman

It's honest. A forty-five degree wedge is not a sleeping position. It's a recliner you're lying on the floor next to.



Corn

So the first thing to understand about the shopping problem is that the steepest wedge might be the one that fails you most.



Herman

Steeper is not better here. The mechanism is gravity holding your stomach contents down, and gravity doesn't need forty-five degrees. It needs enough incline that the esophagus is meaningfully above the stomach. Twenty degrees does that. Forty-five degrees does that and also makes you slide down the ramp all night.



Corn

And the trial data backs this up because the twenty-degree wedges are the ones that produced the symptom improvements.



Herman

The measured improvements came from shallower wedges, and the complaints came from steeper ones. There's a very underreported finding in the Morales trial.



Corn

The adverse events.



Herman

Sixty-two percent of the participants in the elevation arm reported some adverse event, versus none in the control group.



Corn

That's a stunning number compared to how this is usually presented.



Herman

It's stunning but it's mostly minor. Bed slipping, unsteadiness getting up, musculoskeletal pain, varicose vein pain. And a small number reported sexual activity interference.



Corn

The bed slipping is interesting. The wedge and the body migrate.



Herman

That's a real mechanical problem with incline interventions. Your body drifts down the slope over the night because there's nothing stopping you. You wake up with your head at the bottom of the wedge and your feet somewhere near the headboard.



Corn

Which is exactly what happens when the angle is too steep.



Herman

Right. The steeper the wedge, the more you slide, the more likely you are to abandon it. And in the same trial, sixty-three percent still preferred head-of-bed elevation to sleeping flat. So most people found it worth the friction.



Corn

Then there's the free add-on that almost nobody selling a wedge pillow mentions.



Herman

Sleeping on your left side.



Corn

Why does side matter?



Herman

Your stomach has a shape. It empties toward the right, and it sits on the left side of the abdomen. Sleeping left-side-down puts the stomach below the esophagus and puts the junction in a position where gravity helps keep acid down. Sleeping on your right does the opposite.



Corn

And there's trial data for this?



Herman

Person and colleagues in 2015, twenty volunteers, randomized. Significantly less esophageal acid exposure sleeping left-side-down on an inclined device versus any other position. Wedge with no particular side, right side, flat, all worse.



Corn

And confirmed since?



Herman

A 2023 systematic review and -analysis in the World Journal of Clinical Cases found left lateral decubitus position reduces acid exposure time versus right-side and versus supine.



Corn

So the side you sleep on is doing meaningful work, and it's free, and the wedge pillow marketing doesn't mention it.



Herman

Because you can't sell it. It's the kind of thing a good clinician adds when they write the prescription for the wedge.



Corn

And it compounds. If you're going to sleep inclined, sleep inclined and on your left. If you have to pick one of the two, that's a different question, but the trials don't answer it.



Herman

They don't. The left-side finding is separate from the elevation finding. Nobody's run a trial of incline plus left side versus incline plus right side in the same patients with symptom endpoints.



Corn

So now we know the research validates roughly twenty degrees, and we know the products sit at thirty to forty-five. Let's talk about how you actually translate that into a purchase.



Herman

Start with the fact that height alone tells you almost nothing about a wedge. You have to know height and length together, because together they define the slope.



Corn

Because a ten-inch wedge over twenty-four inches and a ten-inch wedge over twelve inches are two different objects.



Herman

Completely different. The first one is a gentle ramp you could sleep on. The second one is a step. It hits your mid-back at ten inches and drops off, and you spend the night with a rigid edge digging into your spine.



Corn

So the transition point matters as much as the peak.



Herman

Where the wedge ends is where your body has to bend. If it ends between your shoulder blades, that's the problem. If it ends between your hips and mid-back, you can lie on it.



Corn

Second thing is foam density, which I think is the most underrated variable.



Herman

It's the thing that determines whether the angle you paid for is the angle you get. High-density polyurethane core, and the number to look for is two point zero pounds per cubic foot or higher. That's what holds the slope under a body.



Corn

And low-density foam compresses.



Herman

It compresses a lot. You put your shoulders on it, and if the foam is soft, the top end sinks. A wedge advertised at thirty degrees might compress to fifteen under load.



Corn

Which brings us to the test you can do with your hand.



Herman

Press the high end of the wedge with your palm. If it gives more than about an inch, it will collapse under your shoulders. That's the single most useful thing you can do in a store before buying.



Corn

Adjustability.



Herman

Folding or adjustable wedges let you tune the angle and they let you repurpose the pillow if you give up on the reflux part. Given how much trial and error is involved in finding the right angle for a given body, adjustability is worth more than a slightly better foam.



Corn

Sleep position.



Herman

Side sleepers want softer memory foam and a contoured incline so the shoulder has somewhere to go. Back sleepers want a firmer flat wedge. Stomach sleepers are not candidates for any of this. You cannot elevate your torso from the hips and still lie on your stomach, and if you try, you'll hurt your neck.



Corn

And a head pillow point that catches people out.



Herman

Once your torso is inclined, the distance from your shoulder to the mattress drops. Your usual pillow is now too tall. You'll wake up with your chin pushed toward your chest or your neck cranked, and it'll wreck the experience. Most people need a lower-loft pillow or an adjustable pillow once they start sleeping on a wedge.



Corn

The boring stuff.



Herman

Removable washable cover, because the foam core itself can't go in a machine. Non-slip base, because wedges migrate down the bed. And a return policy, which I want to flag because it's the real safety net.



Corn

Because you cannot judge a wedge from a photo.



Herman

You can't judge the angle, you can't judge the firmness, and you can't judge whether your particular body tolerates the slope. That's a sleep-on-it question, and sleep-on-it means you need to be able to send it back. A generous return window matters more than any spec on the listing.



Corn

Storage too, since wedges don't fold if they're not the folding kind.



Herman

They're big. A queen-size wedge pillow is a substantial object and you can't stuff it under the bed.



Corn

So the shopping translation from the research is, aim for something closer to twenty degrees, not thirty to forty-five, prefer six to eight inches over ten to twelve, look at the foam density and press the top with your hand, adjust if you can, and buy something you can return.



Herman

And sleep on your left.



Corn

Now step back, because there's a reason this is more than a comfort question. This is really a story about proton pump inhibitors.



Herman

It is. The whole reason a wedge pillow is interesting in 2026 is that we've spent two decades prescribing PPIs to enormous numbers of people, and the long-term safety picture is not clean.



Corn

Fractures, pneumonia, C. difficile.



Herman

All the things that show up in long-term observational data. The causal picture is contested, and some of it is probably confounding, but there's enough there that clinicians now try to deprescribe people who don't need lifelong acid suppression.



Corn

And that's where the 2026 trial matters most. It's the first real evidence that a pillow is not worse than the drug.



Herman

In twenty-four patients, for four weeks. But if you're a clinician who wants to take someone off a PPI and you need a non-drug option to hand them, that's a new argument.



Corn

And note the sleep quality result. Better sleep in the pillow group.



Herman

That's the outcome that matters most to patients because reflux has two harms. It damages the esophagus, and it wakes you up. The pillow seems to help both, and the pill showed no advantage on the sleep side in that trial.



Corn

The big limitation is duration. The longest intervention in any of these trials is six weeks.



Herman

Six weeks. Nothing on durability. Nothing on whether the benefit fades after six months when the novelty of the incline wears off. Nothing on whether people actually stay on the wedge for a year.



Corn

And nothing on PPI-sparing over months.



Herman

Nobody has run a trial where patients start on a PPI, add a wedge, and get titrated down over six months. That's the study that would actually change clinical practice, and it doesn't exist yet.



Corn

So where does this land? The evidence is thin, low quality, unblinded, small. But there's a physiological signal and there are symptom signals and there's now a non-inferiority result. And the intervention costs almost nothing and has no systemic side effects. That's actually a reasonable trade.



Herman

The question is whether the most validated angle is the same as the one you'll actually buy.



Corn

I have to say, the angle number stopped being abstract the moment I thought about what it would feel like to sleep on twenty degrees. It's barely perceptible. Forty-five would feel like being in a recliner.



Herman

Which is why the products sell the steep ones. They photograph better. A shallow wedge looks like a mattress topper. A steep wedge looks like it's doing something.



Corn

Before we wrap up, Hilbert has something he wants to add. Something he learned the hard way about what's actually inside the box.



Hilbert

I have one of those. Bought it maybe four years ago. Advertised as medical grade, thirty degree therapeutic angle.



Corn

You still have it?



Hilbert

Still on the bed. I measured it. The high point is eighteen degrees when nothing's on it.



Herman

Eighteen degrees against a claimed thirty.



Hilbert

Under my shoulders it's closer to twelve. I know because I put a level on it.



Corn

You put a level on your pillow.



Hilbert

The foam gives. Anybody who's lain on it knows the foam gives. The listed density was nowhere near what I got. I could tell that before I even measured it, just from how fast it bottomed out.



Herman

Twelve degrees under load would put it well below even the twenty we were talking about.



Hilbert

Below the bottom of the validated range. So I spent a hundred and forty dollars on a piece of foam that gets steeper on the box than it gets on the bed.



Corn

Did you return it?



Hilbert

Missed the window. Two weeks, and I was traveling for one of them. Most people who buy the wrong wedge just eat it rather than box up a queen-size piece of foam.



Herman

That's a real detail we hadn't covered. The return window is the thing that decides whether you can experiment.



Hilbert

That's the part the trials can't tell you. They can tell you what angle works. They can't tell you whether the angle you bought is the angle that shows up. You can't judge that from a photo, and you can't judge it until you sleep on it. Which means the number on the listing only matters if you can send it back.



Corn

That's a much bigger deal than most people realize. Everyone optimizes for the wedge and ignores the return policy.



Herman

It flips the calculus. A mediocre wedge with a generous return window is a better purchase than a perfect wedge you're stuck with.



Hilbert

If you're going to sleep on the thing for six weeks to find out, the window has to be longer than six weeks. Otherwise you're just guessing.



Corn

That's a good reminder that the number on the box is not the number you get. Let's pull this together.



Herman

The single most common wrong belief here is that stacking regular pillows under your head does the same job as elevating the head of the bed. It doesn't. Your skull goes up, your torso stays flat, your stomach is still level with your esophagus, and nothing about the mechanics changes.



Corn

You have to elevate the whole torso from the hips up. That's the intervention. Pillows under the head are what people try first, and then they conclude the whole idea doesn't work.



Herman

A second wrong belief worth flagging, since we're here. That steeper is stronger.



Corn

The most validated angle in the literature is around twenty degrees. Forty-five degrees is a reading chair. Buy accordingly.



Herman

No long-term data. Six weeks is the longest any of these trials ran, and we have no idea whether the benefit holds over months or whether people keep using the wedge after the first month.



Corn

No head-to-head trial of wedge against bed blocks against an adjustable bed with symptom endpoints.



Herman

If a bigger trial confirms the 2026 non-inferiority result against PPIs, this cheap intervention becomes a much bigger part of the deprescribing conversation. That's the one to watch.



Corn

The final thought is pretty simple. The evidence is low-quality but promising. The validated angle is about twenty degrees. The thing you buy is probably steeper than the thing that was studied, and the foam may not hold the angle it advertises. So elevate the whole torso, sleep on your left, check the return policy before you commit, and use a level if you want to know what you actually bought.



Herman

If this was useful, leave us a review. It helps other listeners find the show.



Corn

Thanks to our producer Hilbert Flumingtop. This has been My Weird Prompts, the human-AI collaboration podcast. Email us at show at my weird prompts dot com. We'll be back soon.



Herman

See you tomorrow.