

Everyday Health Hacks to
Worry Less and **Live Better**

**This
Book
May**



Your Life

DR. KARAN RAJAN

**This
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May
Save
Your Life**

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Published in the United States by Rodale Books, an imprint of Random House, a division of Penguin Random House LLC, New York.

RodaleBooks.com | RandomHouseBooks.com

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First published in 2023 by Century, an imprint of Cornerstone. Cornerstone is part of the Penguin Random House group of companies.

Library of Congress Cataloging-in-Publication Data is on file with the publisher.

ISBN 9780593797044

Ebook ISBN 9780593797051

Cover design by Amy Musgrave

Cover photograph by Silas Manhood

ep_prh_6.1_145852933_c0_r0

CONTENTS

Introduction

1. Is There a Plumber in the House?
Exploring Gut Pipes and Digestive Processes
2. The Lights Are On...
All About the Brain
3. The Bloody Chamber
A Hot Take on the Heart
4. Airway to Heaven
The Lethality of Lungs
5. Failure to Load
The Shortcomings of the Skeleton
6. Eyes Up
Partial Adventures in Sight
7. All Ears
A Hike Around Hearing
8. Hold Your Nose
The Hell of Smell

[9. Chewing on Nettles](#)

[A Trip Through Taste](#)

[10. What a Feeling](#)

[How Touch Can Take You Out](#)

[11. Privates on Parade](#)

[The Infernal Genius of Genitals](#)

[12. Eyes Wide Shut](#)

[How Sleep Can Slay You](#)

[13. The War on Bugs](#)

[Investigating the Immune System](#)

[14. This Is the End](#)

[Digging Up the Facts About Death](#)

[Further Reading](#)

[Acknowledgments](#)

[Index](#)

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INTRODUCTION

LET ME DESCRIBE MY JOB in non-medical terms. I slice into people when they're asleep (with their consent) and remove things. I should stress that I'm one of the good guys, because despite missing some stuff from their bodies, when they surface my patients feel more whole as a result. As a general surgeon, I have the pleasure of dealing with everything from guts to gallbladders, bleeding hemorrhoids and beyond.

Over the course of my career, I've had the blessing and misfortune to witness everything from miracle surgeries to tragic losses. In the process, I've come to appreciate that the human body is both a wonder of biology and a total deathtrap.

This book is not a medical encyclopedia. Nor will it qualify you as a doctor. You can pretty much pick up all the medical skills you need on Google nowadays. At least that's what some people are led to believe. Instead, what's on offer here is the extraordinary story of how your incredible body is also out to destroy you.

It's not all doom and gloom. Having witnessed my rose-tinted view of the human body darken from the moment I entered medical school, and continue to dim through all my years of unpicking problems, faults, and breakdowns inside my patients, I thought it would be useful to create a survival guide to this meat suit in which you're trapped for life. If you're familiar with my work on TikTok—where I started out posting about how to perform the perfect poo and found the brand of milkshake that drew millions of people to my yard—you'll know that I enjoy busting body myths and exploring subjects that

should never have become taboo. When it comes to health, not talking about personal issues does us humans a massive disservice. So, let's right that wrong here in one book, which you can read for entertainment, education, or as an occupant's guide to getting the most out of your body.

Ultimately, I'm here to guide you safely around your body's biological barbs, traps, slides, and pitfalls to improve your quality of life. Maybe you'll fine-tune your sleep health, say goodbye to indigestion, or simply enjoy the most epic and efficient dump of your existence. At the very least it might help to slow the inevitable decay your body started going through from the moment of your birth. Ultimately, my sincerest hope is that this book serves as an instruction manual to our eventual AI overlords, so they know how to take care of a human and get the most out of us.

I first crossed paths with medicine in 1996. On a particularly humid afternoon in the suburbs of Mumbai, I was playing a game of street cricket with my cousin. As he ran up to bowl towards me, he was struck by an invisible force and crumpled to the ground in agony. It was a terrifying moment. I felt so helpless, and that helplessness had a profound effect on me. Having helped my family rush him to the hospital, we spoke to the doctors who diagnosed him with a ruptured appendix. I didn't really know what that meant at the time but seeing him drop down opened my eyes to a simple truth: the human body is great, but seems hell-bent on taking us out.

At medical school interviews, where I found myself after having decided upon my "calling," they always love to dredge up the same question: "Why do you want to do medicine?" Predictably, everyone churns out the same panicky, unimaginative drivel which broadly revolves around two main themes. Firstly, "I want to help people" and secondly, "I'm fascinated by the human body ..."

Anyone who truly knows me (which, due to my long and antisocial shift hours, is kind of limited to my parents and dog) could have told you that the first reason never really applied to me. I like people, and if I can save their lives I'm thrilled, but ultimately, I am driven by an obsession with how the body

works. It's only now, however, when I look back at my career, that I realize that it's not the kind of wide-eyed fascination which we tend to express watching wildlife documentaries fronted by Sir David Attenborough. The truth is I'm a little bit like a bystander at a traffic accident. I can't stop looking, despite my better nature, because I am appalled at what I'm witnessing. Having lost count of the number of surgical operations I've conducted, and become hands-on familiar with the body's inner workings, I can confidently say that it's a miracle that we're even here as a species.

You're basically a living, breathing canvas of hand-me-down traits, and that includes structures that seemingly serve no purpose. Take chins, for example. Even our close cousins *Homo erectus* and the Neanderthals didn't feel the need to sport them. Ultimately, you just have to be content with the fact that you're the sum total of a lot of mistakes, trials, and errors. It's just that evolution has buried the evidence. Mostly.

Throughout my time in medical school, I loved to get under the skin. Above all, I was drawn to the practical anatomy sessions. I dissected into abdominal muscles and uncovered the full length of the intestines, various blood vessels, and a network of nerves that ran through the body like phone lines. This behind-the-scenes view of life felt invasive and unnatural but also essential. It was here that I decided I was going to become a surgeon. It would be an opportunity to understand how our bodies are equipped to wipe us out, but also how we can enhance them, or tweak our lifestyles, to minimize the chances of falling apart before our time is due.

We focus so much of our everyday lives on the external appearances of things and often relegate our internal organs to the recesses of our mind. The body is a family and each member—from the liver and stomach to the heart and brain—has their specific part to play in keeping us alive. Just like any family, however, everyone relies on each other for support. So, when one goes rogue, or members fall out with each other, the whole family can implode, like an internal *Jerry Springer* episode.

I fell in love with this occasionally dysfunctional family over the course of six years at medical school. Throughout this time, I spent countless hours staring at cellular architecture under a microscope, dissecting dead bodies in cadaver labs and meeting patients who taught me how the body performs in both sickness and health. Finally, I traded in the lecture slides and multiple-choice questions and started hospital rotations.

My first was general surgery.

The night before I started, I rigorously studied my gastrointestinal anatomy. If I was to be grilled by the surgeons on the minutiae of the blood supply to the large intestine, I refused to find myself afflicted by the dreaded condition I'd heard about called hot-seat aphasia (aphasia is the inability to speak, often affecting patients who've had strokes but can also transiently affect nervous medical students when they are under the spotlight).

I was scrubbed into an operation to remove a bowel cancer, but it all seemed so vastly different from the textbooks. I was also far removed from the serene environment of the cadaver lab, where you could explore organs at a gentle pace and prod and poke with curiosity. When the surgeon made the cut into the abdominal tissue, a small jet of red fluid hit my nose. This was real medicine. A living human being had placed their life in our hands.

The incision that the surgeon opened up revealed a glistening, moist interior, like wet velvet. With the patient's chest rising and falling, I peered into the abdominal cavity to see the intestines, bathed in a straw-colored juice, wriggling like a bowl of worms. At that point the anesthetist alerted us to the fact that the bleeding had caused the patient's heart rate to go up and the blood pressure to drop. The trauma we had introduced with that scalpel had caused their breathing to become labored. Such observations finally revealed to me that my learnings so far had been flawed. It was only now that I realized how distant organs, seemingly disconnected, were like tenants living in a shared flat. If one person clogs the toilet, everyone is affected.

Showing the kind of calm under pressure that took me a while to acquire, the surgeon worked quickly and skillfully to complete the procedure. With the patient stabilized, and the tumor removed, it struck me that the experience had been life-changing for more than one of us.

Medicine is an industry for specialists. Doctors have become increasingly narrowed in their scope of expertise, veering away from their predecessors who maintained a basic grasp of every field. This is a good thing, especially if you're the one being treated, because ultimately you want to feel confident that the surgeon removing your gallbladder is a master of the procedure and hasn't just memorized a YouTube tutorial. Even though I mainly deal with guts these days, I find it still helps for me to see the human body as a whole. After all, one variable can cause the entire system to alter and even falter. This balance, sometimes referred to as homeostasis, is crucial for optimal human function. I'd like to reassure you that the major players inside your body have mastered their interconnected requirements with the kind of orchestral choreography that invites praise and applause from every seat in the theater. It's just having witnessed the chaos behind the scenes, I can't join in with the clapping.

So, while I will be the first to celebrate the marvels of the human body in the journey you're about to undertake, I won't hold back on the flaws, dodgy designs, and clumsy wiring that make it so unique. For all its faults, however, this organic life support system that you're on provides ample opportunity for customization and even improvement. It's just a question of understanding how it works, and then highlighting ways to make it, well...better.

A career in medicine is the birthing ground of unlimited stories. Not just hospital gossip, new and old, including jokes, aphorisms, and anecdotes, but accounts of obscure and common diseases, unusual encounters, and scenarios that remind us we are all mortal. For good measure I've woven in some bizarre historical tales which paint a slightly dubious and often unethical

picture of medicine. After all, what is history if not the mistakes and errors from which you can learn vital lessons about life?

Before you cross the threshold, I must warn you. If you want a rose-tinted, sickly saccharine Panglossian view of the human body, then this book is *not* for you.

SAVE YOURSELF

Throughout each chapter, you'll also find "Save Yourself" tips: practical hacks, advice, and strategies to save yourself from your own body. I've no intention of reminding you to blink and breathe. By now, I would hope that you have nailed the fundamentals of staying alive. Even so, before we begin it's worth spelling out a select choice of lifestyle standards that will benefit your health across the board ...

Diet

Diet is a huge part of any positive lifestyle change. Its constituents are hotly contested with no consensus reached on the "best" approach, though you'd be wise to minimize ultra-processed foods as there is increasing evidence that they unfavorably impact our gut bacteria, have a less than ideal amount of saturated fat, and are generally low in fiber. I'm not going to promote any particular kind of healthy eating regimen and I'm also cognizant that there is a degree of privilege in having a choice over the types of food we eat. Instead, let me cut to the chase by highlighting foods you should actively seek out and aim to consume often:

- * **Plant foods** like vegetables, fruits, wholegrains, beans, nuts, and seeds. These are nutrient-dense and also contain bioactive phytochemicals that are anti-inflammatory in nature.
- * **Seafood** (if you eat fish that is), with a particular preference for oily fish like salmon, mackerel, or sardines as they are rich in

omega-3 fatty acids for good heart health.

- * **Fermented foods** like Greek yogurt, kimchi, or sauerkraut, that promote beneficial bacteria in the gut, as well as **healthy fats** like unsaturated olive oil.

Ultimately, the best diet is one that you enjoy and makes you feel good. Eating cake and being healthy aren't mutually exclusive terms and no one food either breaks or uplifts your health; eating is about patterns and consistency. As always, moderation is key and the poison is in the dose.

Hydration

Given that you're a walking bag of water, it should be common sense to say you need to stop yourself from drying out. When your body is deprived of water it steals water from other organs, including your brain, and that's... unwise.

Conversely, your body cannot cope with too much water. Your hypothalamus—the barometer in your brain—runs on a slight lag. So, it can take a while for your body to realize it has enough water in the tank. If you're very thirsty, and recklessly drink 5 liters of water in a short space of time, the cells will become overloaded with fluid. This results in a dilution of critical sodium levels; a potentially fatal condition known as hyponatremia.

All this just highlights how fragile your body can be. It can survive blizzards, beatings, and even losing limbs, but under- or overwater it and you end up like that poor houseplant on your window ledge that seemed like a good idea at the time. In order to thrive, you should aim to consume about 2 liters over the course of each day.

Fitness

There is one magic pill that improves every facet of your health across the board. The only problem is you can't swallow this pill. Instead, you must

endure it, or somehow make it enjoyable, and that pill is exercise.

Inactivity is a silent killer. The biggest evil modern society has gifted to us is a more sedentary lifestyle. Government guidelines for activity levels are typically mild and supposedly attainable. Just be honest and ask yourself, how often do you get 150 minutes of moderate-intensity physical activity a week, let alone any strength activity?

All kinds of evidence exists to show that exercise can reduce the risk of early death. For one thing, you lose around 5 percent of your muscle mass every decade after you cross the ripe old age of thirty. Yes, thirty. This rate of muscle loss doubles once you cross seventy, and is one of the central reasons why resistance training, promoting muscle strength, can make a massive difference to both quality of life and life expectancy. Ultimately, regular exercise of any kind benefits the mind as much as the body, and can be easily incorporated into a busy lifestyle. It really is the closest thing we have to real-life magic.

Alcohol and tobacco

Smoking and drinking aren't compulsory, and yet both pursuits are embedded in our culture. While the tide has been turning against tobacco for several decades now, it remains one of the single most damaging habits you can inflict on your body. Smokers not only have a reduced life expectancy, but they also experience proportionally more years of poor health than non-smokers. Besides outrageously raising the risk of lung cancer and various lung diseases, smoking ages you externally, from a yellowing of the teeth to thin, wrinkly skin. What's more, the chronic inflammation that results from smoking raises the risk of cardiovascular and neurodegenerative disease and on a cellular level causes cellular senescence, which literally means your cells become senile. On a brighter note, quitting can rapidly reduce all such risks to health, which makes it a no-brainer in my book.

If you think e-cigarettes and vaping are any healthier, think again. While we might still be accumulating the long-term risks of these newer tobacco alternatives, the data we have so far has confirmed numerous risks, from lung-related inflammation to full-blown lung failure—in some cases necessitating lung transplantation. Quite simply, if you want to keep your body from killing you then the only thing you should inhale is air (and medications, as required!).

Then we come to alcohol misuse, which is a significant threat to public health. Drinking excessively is associated with everything from heart and liver disease, digestive problems, weight gain, and an increased risk of cancer. Quite simply, quitting—or at least cutting down your intake—is one of the best things you can do to promote good health for life.

1. Is There a Plumber in the House?

EXPLORING GUT PIPES AND DIGESTIVE PROCESSES

IN MY VIEW OF HISTORY, more lives have been saved by the hands of plumbers than doctors. Surgeons, physicians, and scientists get all the glory, but I feel it's time a chunk of that credit should go to that humble guild responsible for modern sanitation and sewage infrastructure. Why? Because a country's water system is directly linked to its population health. Without plumbers, deadly diseases like cholera would be rampant and there wouldn't be much point in saving for a pension.

Plumbers and doctors might seem like very different professions. When it comes to upholding public health, however, they're inextricably linked.

The body is a temple. That's the phrase we often trot out when it comes to wellness, but it couldn't be further from the truth. The fact is your body is a complex tower block with bespoke fittings, a series of overlapping drainage pipes, a sewage system with occasional backflows, many demanding tenants, and even a few secret passageways. Steady now ...

If we were presented with the blueprint for its construction, most people would take one look at the seemingly impenetrable tangle of plumbing and look around for someone in the trade to make sense of it. Which is where medics like me come in. If we're not on another job at the time.

Just as our ancestors eventually understood the benefits of civic sanitation, we can sometimes take a while to acknowledge the importance of keeping our

human plumbing up to scratch. If your internal tubing sprouts a leak or a blockage point, it isn't just a question of a call out and a hit to the credit card. The consequences can be life-threatening.

Over time, I've come to view my purpose as a doctor to be more than just a dispenser of pills and potions. In my surgeon's gown and gloves, I might look like a civilized butcher, but there's more to my role than that. Today, I think of myself as a mechanic for humans. A biomechanic if you will, and a tradesperson just like the plumber. In the same way that cars, buildings, and tools need regular maintenance, the human body requires self-care and regular upkeep to avoid—or at least delay—misery, mishap, and the morgue. With this in mind, let me take you on a tour of the concealed pipes, service passageways, and vents that form a central part of our anatomy, the gut.

Humble beginnings

Have you ever wondered how this all began? I don't mean philosophically but simply which of your body parts was first out of the blocks from the moment of egg fertilization? Was it the brain? The heart? The backbone, or even the eyes? In answer, I would ask you to stop being such a poet about it, because the fact is that in that first magical moment you were nothing but an orifice indented on to a cluster of cells. That's right. You started life as an asshole.

Nobody can escape this unfortunate fact. We all kicked off in the same way, and it isn't pretty. The philosophers are allowed back in the room at this point, because of course this begs the question whether certain individuals every truly developed beyond this point.

Technically humans are deuterostomes. In other words, we belong to a group of animals whose blastopore (the first opening in the developing embryo) becomes its anus. Protostomes are animals whose blastopore becomes its mouth, but without exception we begin as bums, which is effectively the tail end of the gut. After the sperm breaks through the egg's outer membrane, the embryo splits into many different cells, eventually becoming a blastula. The

blastula cells tear open from the inside out, forming an outlet called the blastopore, which, as you may have guessed, will one day develop into a glorious butthole (arguably blastopore is a far more sophisticated name for your rusty sheriff's badge, but for some reason it never caught on). Whatever you want to call it, the fact remains that your existence began as an embryonic, disconnected anus floating around in your mother's uterus, which is both a harsh truth and a highbrow insult if you ever care to use it.

With the blastopore now winking and floating happily in that amniotic sac, it widens and tunnels into the other side of the blastula where a mouth is formed. Yes, this is sounding like one of those horror films you regret watching midway through, but bear with me. By week six, that ass-to-mouth alien hybrid has evolved into something altogether more human. By then, you have developed the beginnings of your intestinal tracts inside the umbilical cord, the safety rope connecting you to the placenta. Mercifully, perhaps, your eyes only start developing at week eight. Until then, you're largely sheltered from the horrors of your own flesh twisting turning and mutating into an early version of what you are now. Traumatic stuff.

“You don't want to do it like that”

If you've ever built anything from scratch, like a robot monster made out of cereal packets (just me?), the early stages of construction rarely see it take on a form that resembles the final product. This is perfectly epitomized by the shape of your nascent embryological gut when you're a four-week-old human embryo. Through a series of elaborate origami-style folds, it transforms from a simple tube running up and down to an elaborate series of bulges and protrusions that include your liver, gallbladder, intestines, pancreas, esophagus, mouth, and stomach.

The one thing that always stumped me about embryology, and how our gut develops, is why it's doing what it does. How does it know the purpose of its existence? Take for example the small intestine. It loops around itself in our embryological bodies and journeys both inside and outside of the body. The

mid-gut, which eventually consists of your small intestine, along with about half of your large intestine and your appendix, grows at a rapid pace. Such is the speed of development that at first it exceeds the capabilities of your primitive abdomen to contain it. Instead, these loops of intestine are exiled for a few weeks before snaking their way back in once your belly can contain them.

If any errors occur during this delicate dance, some babies can be born with an omphalocele, in which the intestines have developed in a sac outside the abdomen. This is frightening to see, even for a surgeon, who must attempt to rehouse it back where it belongs with immediate surgery. Then there are anorectal malformations that result in an underdeveloped anus and rectum that prevents normal stool passage; malrotation, when the intestines don't fold properly and are prone to twisting; and intussusception, in which the intestine retracts in on itself like a telescope causing bowel blockage. These are just scratching the surface of what can go wrong if just one element of the complex developmental choreography of the gut goes awry. It can result in lifelong health complications, and sometimes even death.

With all these various tubes, twists, and turns you can see why I often talk about the gut in terms of plumbing. Known as the gastrointestinal system (or GI for short), it's one long and twisting pipe with valves, fittings, and fixtures. It even boasts the functionality of a range of domestic appliances. What's more, the entire system is governed by what we now call a smart device.

Snack activation

When it comes to eating, guzzling down your meal deal is not as simple as draining bathwater into a down pipe. Yes, your lunch drops into a vertical tube once swallowed, but it's here that digestion takes place so your body can acquire energy from food, which makes it so much more complex than simply letting gravity take over. The path from mouth to anus is fraught with danger at every turn but also quite magical in the process, thanks to some botching over the course of evolution that has resulted in a system that works.

The opening gambit of digestion is not marked by the moment that food hits your tongue. Those gears started turning long before you sat down to eat. Even when you poured the boiling water into your pot of instant noodles, releasing those sweet and sour aromas to seduce your nostrils, your digestive system was already activated. That trigger fired when the thought of a snack proved irresistible. As a result, a cascade of reflexes kicked off to stimulate the secretion of salivary juices, along with the production of more stomach acid and various enzymes in preparation for the feast.

The consumption of food, and the subsequent harvesting of fuel from it before the disposal of what's left over, is an act that is core to your well-being, which is why the gut was one of the first structures to develop when you were in the womb. From that blind, floating asshole in the moist environment of your mother's uterus, a miracle took place.

Yes, you developed into a fetus, but more immediately you became a leech.

The umbilical cord is the safety rope that tethered you to your mother. It's the external plumbing system that doubled not only as your lifeline and source of food but a parasitical portal to the poor woman whose existence was set to revolve around you for quite some time to come. You enjoyed an idyllic existence in your amniotic sac, surrounded by fluid containing your own urine, free from the worries of metabolism and waste management. All your nutrients were conveniently provided to your door, nature's ultimate delivery service. The only cost was the discomfort you caused your provider for nine long months—until the terms of service changed.

At birth, and with the severing of your umbilical cord, your subscription came to an end. It's a rude awakening, and no wonder you cried. Why? Because from there on out you had to rely on your own pipework to carry out vital digestive and excretory functions. This was the moment that your inbuilt smart system came into play, priming your gut to eat, drink, and evacuate your bowels on your own.