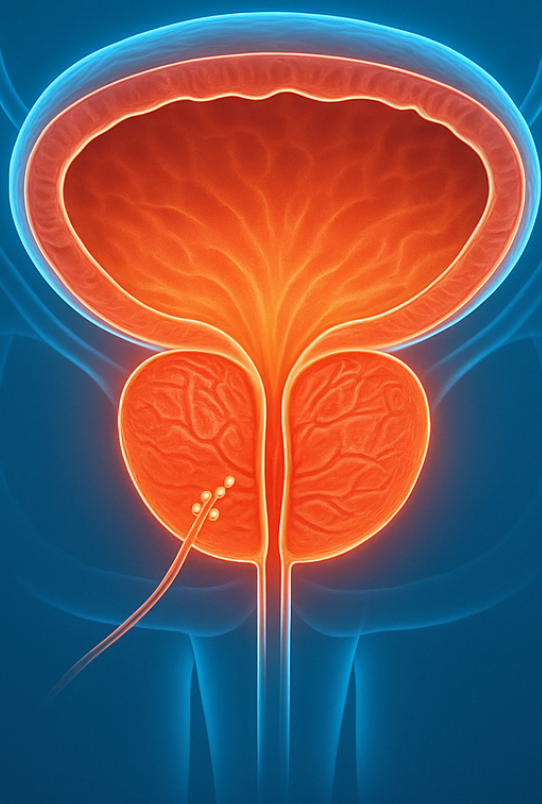


SHRINK THE PROSTATE



DAVID SHUSTERMAN
MODERN UROLOGIST

Shrink the Prostate

**Why Prostatic Artery Embolization
is the Future of BPH Treatment**

By Dr. David Shusterman, Modern Urologist

Dedication

To my parents —

Thank you for the courage it took to leave everything familiar and bring our family to this great country.

Because of your sacrifice, I was given the opportunity to pursue my education, follow my calling, and become a urologist dedicated to helping others live healthier, fuller lives.

This book, and the work it represents, would not exist without the foundation you gave me.

With all my love and gratitude,

— Dr. David Shusterman

Prologue

A Quiet Crisis in Men's Health

You wouldn't think urination could ruin a life. But it can. And it does.

Not all at once — not in some dramatic ER visit or with a flashing red alarm. Instead, it happens in silence, behind closed bathroom doors and sleepless nights. It begins with a hesitant stream, an extra trip to the toilet, an awkward laugh when someone asks why you're taking so long. Then it gets worse.

You stop going out as much. You start scoping the nearest bathroom wherever you are. You avoid flights, long drives, hikes with your kids. Sex becomes less spontaneous, then less frequent, then absent. Your confidence changes. Your rhythm changes. You change.

And worst of all? You're told that's just aging. That it's normal. That you should accept it.

As a urologist with more than 25 years of experience, I've watched this play out in thousands of men. Good men. Young men. Old men. Men who were told to take a pill and wait. Men who underwent surgery they didn't need. Men who were offered everything except the truth: **there are better options, and you deserve to know about them.**

For too long, BPH — benign prostatic hyperplasia — has been managed by default, not by design. We medicate without measuring impact. We cut because we can. We follow algorithms instead of asking men what they truly value.

That's why I wrote this book.

I wrote it because I'm tired of watching men suffer in silence. I wrote it because our field is advancing, and patients are being left behind. I wrote it because **there is a modern way to treat BPH that preserves your function, your freedom, and your dignity — and it's time you heard about it.**

This book is about the limitations of traditional care. But more than that, it's about what's possible when you have all the information. It's about Prostatic Artery Embolization — a minimally invasive treatment that has quietly, steadily changed the lives of hundreds of my patients without a single major complication.

And it's about giving you the tools to make your own best choice — not someone else's idea of standard care.

This isn't just a medical problem. It's a quality-of-life crisis hiding in plain sight.

It's time to fix that.

Welcome to the beginning of a better conversation.

— Dr. David Shusterman
Founder, *Modern Urologist*

Chapter 1

Understanding BPH - The Silent Epidemic

THE ANATOMY AND PHYSIOLOGY OF THE PROSTATE

You've heard of the prostate. If you're a man over forty, you may be feeling it every day — not physically, perhaps, but through the frustrating signals your body is giving you: slow urine flow, nighttime trips to the bathroom, that feeling of never being completely empty. As a board-certified urologist with over twenty-five years of practice, I can tell you this: the root of all this isn't mysterious. It's deeply anatomical. The prostate is a small gland, yes — but it's no small matter.

The prostate is about the size of a walnut when a man is young. It sits just below the bladder and wraps around the urethra, the thin tube that carries urine out of the body. Think of it like a rubber cuff that tightens over time. It plays an important role in producing seminal fluid — part of the reproductive system — but its location is what causes trouble in the urinary system.

With age, this gland doesn't just stay idle. For reasons tied to hormones (especially the conversion of testosterone to dihydrotestosterone, or DHT), the prostate begins to grow. Not cancerously — not dangerously, in most cases — but persistently. This is what we call **Benign Prostatic Hyperplasia**, or BPH. It's

“benign” in the sense that it’s not cancer, but don’t let that word fool you: for many men, the impact on daily life can be anything but mild.

Now here’s the anatomical problem: as the prostate enlarges, it compresses the urethra. Picture a hose being pinched. Even a slight increase in pressure can dramatically change the flow. Your bladder, trying to compensate, works harder and harder to push urine through this narrowing passage. Over time, the bladder muscle hypertrophies — it thickens — and eventually it tires. This leads to hesitancy, weak stream, urgency, dribbling, and incomplete emptying. And, of course, that dreaded nighttime symptom: waking up repeatedly to urinate, often with poor results.

There’s another issue worth noting. The prostate grows in two primary directions: outward, where it may not cause symptoms, and inward, toward the urethra and bladder neck, where it absolutely does. It’s this **inward growth**, even when the prostate isn’t especially large in volume, that often causes the worst symptoms. This is why symptom severity doesn’t always correlate with prostate size. You can have a man with a relatively small gland who is severely symptomatic, and another with a larger gland who feels mostly fine — for now.

What’s also important is the slow and cumulative nature of the damage. The bladder can stretch and scar. It can eventually lose its elasticity. Urinary retention may require catheterization. Infections can arise. And all the while, men are often told, “This is just aging. Here’s a pill.”

But understanding the structure and function of the prostate is crucial to challenging that notion. This isn’t just aging. This is anatomical compression with functional consequences — and it has anatomical solutions. As the founder of *Modern Urologist*, I’ve spent years arguing that **medicating away anatomy is like taping over a leaky pipe**. It may help temporarily, but eventually, it fails.

We must treat structure with structural solutions. That’s where modern options like **Prostatic Artery Embolization (PAE)** — a

targeted, image-guided, minimally invasive approach — begin to make much more sense. But before we get there, we need to understand the nature of the problem, and how medicine has historically responded.

And it all begins with this: the prostate, a small gland with the power to change a man's life — for better or worse, depending on how it's managed.

EPIDEMIOLOGY AND RISK FACTORS

Benign Prostatic Hyperplasia, or BPH, is one of the most common yet under-discussed medical conditions affecting men. As a urologist who has treated thousands of cases across decades of practice, I can say with confidence: **if you're a man, and you live long enough, you're going to develop BPH.** The numbers are staggering. By age 50, approximately 50% of men will have histological evidence of BPH. By age 80, that figure climbs to 90%. This isn't a niche problem — this is a near-universal one.

Yet, for all its prevalence, BPH is often managed in silence — minimized, misunderstood, or mischaracterized as a minor annoyance of aging. Part of the issue lies in the gradual onset of symptoms. Men adjust. They compensate. They stop drinking water after 6 PM. They map out bathrooms. They urinate "just in case" before a meeting or a car ride. What begins as a private inconvenience becomes a constant preoccupation — a slow erosion of freedom, comfort, and confidence.

So, what causes BPH to develop in some men more severely or earlier than in others?

The most significant risk factor is **age**. The hormonal environment of the aging male plays a central role in prostate growth. Specifically, as testosterone levels decline, the proportion of dihydrotestosterone (DHT) — a more potent derivative — becomes dominant. DHT stimulates prostate tissue to proliferate,

and over time, that proliferation becomes the enlarged, nodular gland that causes trouble.

Genetics also play a role. If your father or brothers had BPH, you're more likely to develop it. Men with a family history often experience symptoms at a younger age and may progress more quickly.

Ethnicity shows some influence, though the research is still evolving. Some studies suggest that African-American men may develop symptoms earlier and with greater severity, while Asian men may have a lower incidence of severe BPH.

There's also growing interest in **metabolic health**. Men with obesity, insulin resistance, and hypertension appear to have a higher risk of developing BPH. Chronic inflammation, elevated estrogen levels, and oxidative stress — all associated with poor metabolic health — are believed to contribute to prostate enlargement. Sedentary lifestyle, poor diet, and lack of cardiovascular fitness aren't just bad for your heart — they may be driving your prostate symptoms too.

Another under-appreciated factor is **androgen imbalance**. Contrary to the fear that testosterone therapy will worsen BPH, many modern studies suggest that the relationship is more nuanced. In some men, **low testosterone may be associated with worse BPH symptoms**, possibly due to the unchecked activity of DHT or estradiol in the absence of balanced androgens. It's a complex hormonal orchestra, and disrupting the balance can have downstream consequences on prostate health.

What's more, certain **medications** can worsen or unmask BPH symptoms — especially antihistamines, decongestants, and some antidepressants. These drugs reduce bladder contractility or increase outlet resistance, and in a man with even mild BPH, they can tip the scale toward significant dysfunction.

Lastly, **coexisting bladder dysfunction** or prior pelvic surgery can amplify symptoms. Sometimes it's not the prostate alone but how

it interacts with the bladder that causes a man to suffer more than the size of his gland would suggest.

As we explore this complex landscape of risk factors, one truth emerges clearly: **this is not just about age**. It's about physiology, lifestyle, genetics, and increasingly, our modern environment. And yet, the standard response remains frustratingly uniform: "Try this pill, and let's see what happens."

But understanding the underlying contributors to BPH is essential not just for prevention, but for meaningful treatment. If we're serious about improving quality of life — not just maintaining symptom status quo — we must match this complex condition with nuanced, modern solutions.

And that's exactly where we're headed.

SYMPTOMS AND QUALITY OF LIFE IMPACT

If you're reading this and you've ever stood over a toilet in the middle of the night, half-asleep, waiting for a reluctant stream of urine to begin — or you've sat through a meeting with your bladder feeling like it might burst — then you know the symptoms of BPH aren't just physical. They're psychological. They're social. And, over time, they reshape how a man lives his life.

The clinical term for BPH-related symptoms is **Lower Urinary Tract Symptoms (LUTS)**, and they're usually divided into two categories: **voiding symptoms** and **storage symptoms**. But that dry terminology doesn't begin to convey how disruptive they can be.

Voiding symptoms include:

- Hesitancy (trouble starting urination)
- Weak stream (slow or dribbling flow)

- Intermittency (stop-start flow)
- Straining (having to push to urinate)
- Incomplete emptying (feeling like you didn't get it all out)

Storage symptoms include:

- Frequency (needing to urinate more often)
- Nocturia (waking at night to urinate — often multiple times)
- Urgency (a strong, sudden need to go)
- Urge incontinence (leakage before reaching the bathroom)

Each of these symptoms chips away at comfort and confidence. Men start planning their lives around proximity to bathrooms. They may avoid long drives, cut back on travel, or limit outings to places they know have accessible restrooms. Some reduce their fluid intake altogether, setting themselves up for dehydration, urinary infections, or even kidney stones.

Nocturia deserves special mention. Waking one or two times per night becomes common by age 60, but frequent nighttime urination isn't just an inconvenience — it's a threat to health. Fragmented sleep increases the risk of depression, metabolic syndrome, falls, and even cardiovascular events. In elderly men, nocturia is a leading cause of sleep disruption and a common factor in nighttime accidents. Men aren't just tired — they're exhausted, mentally dulled, and at greater risk of injury.

And yet, despite all this, too many suffer in silence. Why? Because these symptoms are often brushed off by both patients and physicians as “part of getting older.” That normalization delays intervention. Men often live with BPH for years before seeking help, and by then, bladder dysfunction may already be advanced.

There's also an emotional toll. Men with moderate to severe BPH often experience:

- Anxiety over not finding a bathroom in time
- Embarrassment about frequent interruptions
- Irritability from chronic sleep deprivation
- Frustration or depression due to sexual side effects of both symptoms and medications

In my own practice, I've seen men whose relationships have suffered — they no longer share a bed with their spouse due to nighttime bathroom trips. Others have withdrawn from social activities or exercise routines because they can't trust their bladder. These aren't just anecdotes; they're the lived reality of millions.

The American Urological Association (AUA) uses a scoring tool called the **International Prostate Symptom Score (IPSS)** to quantify symptom severity. But for many men, their suffering isn't fully captured by a number. What matters more is **quality of life** — and when men finally come in for help, it's often because that quality has dropped to a breaking point.

But here's the most important point I want you to take away: **BPH symptoms don't have to be tolerated indefinitely.** They are not an inevitable sentence. There are modern, safe, and effective treatments that don't just mask symptoms but address the underlying cause. As a urologist and the founder of *Modern Urologist*, I'm here to tell you that you have options — and better ones than many physicians will tell you about.

We've reached a tipping point in urology. The old model of "watch and wait, then medicate indefinitely" is outdated. BPH doesn't just wear down the bladder — it wears down men. And modern men deserve modern solutions.

DIAGNOSTIC APPROACHES

For decades, diagnosing BPH has too often followed a limited, legacy script: a few rushed questions about urinary symptoms, a PSA test, and — almost reflexively — a **digital rectal exam (DRE)**. As a board-certified urologist and founder of *Modern Urologist*, I can confidently say: this approach is not only outdated, it's suboptimal, both in terms of **clinical accuracy** and **patient experience**.

Many patients dread the DRE, and not just because it's physically uncomfortable. It's invasive, imprecise, and psychologically off-putting to a large percentage of men. While it once played a prominent role in urologic evaluation, it no longer reflects the standards of **modern, patient-centered diagnostic medicine**. What's worse, the DRE often contributes little in cases of BPH. It offers a crude, tactile sense of prostate size and texture — but it tells us virtually nothing about how the prostate is impacting the urethra or bladder function.

In a **modern urology practice**, the preferred approach is to begin with noninvasive, high-resolution, reproducible tools — particularly **transrectal ultrasound (TRUS)**. TRUS allows us to visualize the prostate in real-time, estimate its exact volume, and evaluate the inner anatomy with remarkable clarity. Unlike the DRE, it doesn't rely on subjective interpretation or the skill of a finger. It provides objective, measurable data.

More importantly, **TRUS can be repeated** over time. This makes it a powerful tool not just for diagnosis, but for monitoring progression or response to treatment. For example, if a man starts therapy — medical or procedural — we can quantify how much the prostate shrinks or how its contour changes using ultrasound, without exposing him to radiation or unnecessary discomfort.

From the patient's perspective, TRUS is significantly better tolerated than the DRE. It's quick, performed with a thin, lubricated probe, and typically causes minimal discomfort. When

explained clearly, most patients prefer it — especially when they understand its diagnostic superiority.

Of course, TRUS is just one piece of the modern diagnostic puzzle. We still need:

- A thorough **clinical history** to understand symptom patterns
- A **urinalysis** to rule out infection or hematuria
- A **serum PSA** to help stratify cancer risk
- **Post-void residual (PVR) measurement** to assess bladder emptying
- **Uroflowmetry** to quantify flow rate and detect obstruction

In more complex or advanced cases, we might turn to **cystoscopy**, **urodynamic studies**, or **MRI angiography** — particularly when evaluating patients for **Prostatic Artery Embolization (PAE)**, which requires detailed knowledge of the prostate's vascular supply.

But the takeaway is this: **we are no longer in the era of the blind rectal exam and vague impressions**. We are in the era of image-guided precision, of personalized diagnostics, of giving men answers — not approximations.

At *Modern Urologist*, we use technology not as a gimmick, but as a means of replacing guesswork with certainty, and discomfort with clarity. The way we diagnose BPH should reflect the same modern, minimally invasive values that define how we treat it.

PART 5: PROGRESSION AND COMPLICATIONS

There is a dangerous myth in men's health that if a condition isn't immediately life-threatening, it's not worth treating aggressively. Benign Prostatic Hyperplasia, by definition, is not cancer — and because of that label, “benign,” many patients and even some physicians adopt a wait-and-see approach far longer than they should. But as any urologist who's spent time in the emergency room placing catheters at 3 a.m. will tell you, **untreated or poorly managed BPH can escalate — and the damage is very real.**

In the early stages, men adapt. They compensate for worsening flow by increasing abdominal pressure during urination. They double-void to empty the bladder as fully as possible. They get up once a night, then twice, then three times. But eventually, compensation gives way to decompensation. The bladder, forced to push against increasing obstruction, undergoes muscular changes — initially hypertrophy, then fatigue, and finally, irreversible deterioration.

One of the most common complications of untreated BPH is **urinary retention** — the inability to fully or partially empty the bladder. This can present acutely, with a man suddenly unable to urinate at all, requiring emergency catheterization. It can also be **chronic**, with high residual urine volumes silently stretching the bladder and predisposing the patient to infection, stone formation, or upper urinary tract damage.

That brings us to **urinary tract infections (UTIs)**. When urine stagnates in the bladder, it creates a perfect environment for bacterial growth. Men who never had UTIs in their younger years may begin experiencing them regularly. These aren't just uncomfortable — in older adults, UTIs can lead to delirium, sepsis, and hospitalization.

Bladder stones are another consequence of urinary stasis. These can cause pain, hematuria (blood in the urine), and additional blockage — and they often necessitate surgical removal.

Left unchecked long enough, chronic obstruction from BPH can lead to **hydronephrosis** — the swelling of the kidneys due to urine backup. This isn't common in mild BPH, but in severe or neglected cases, it can cause **renal impairment**. I've seen patients referred with unexplained kidney dysfunction, only to discover their prostates had choked off their urinary outflow to the point of backpressure damage.

In parallel to these anatomic complications, **bladder function itself deteriorates**. The detrusor muscle, responsible for pushing urine out, can lose strength or coordination. This process is called detrusor underactivity, and once it sets in, even relieving the obstruction won't fully restore normal function. That's why delaying definitive treatment is risky — the bladder's capacity to bounce back is time-sensitive.

Beyond the physical complications, we must also acknowledge the **emotional and psychological deterioration**. Chronic sleep disruption from nocturia contributes to fatigue, mood disorders, and cognitive decline. Men may become isolated, embarrassed, or depressed — especially when intimacy suffers due to urgency, leakage, or side effects from medications.

And this leads us to one of the most frustrating realities in modern urology: **many of these complications are entirely preventable** — yet we allow them to occur because treatment remains overly reliant on temporary pharmaceutical management. Rather than resolving the obstruction, medications often mask symptoms while the disease progresses in the background. By the time surgery is finally considered, the bladder may already be damaged, the patient demoralized, and the risks higher.

At *Modern Urologist*, we don't wait for BPH to become a crisis. We advocate for early, accurate diagnosis and timely, minimally invasive intervention. Tools like **Prostatic Artery Embolization**

(PAE) allow us to treat the root problem — prostate enlargement — without surgery, without general anesthesia, and without jeopardizing urinary or sexual function.

Chapter 2

The Medication Maze - Limitations of Pharmacological Management

OVERVIEW OF BPH MEDICATIONS

If you're a man in your fifties or sixties who walks into a primary care office or even many urology clinics with urinary symptoms, the odds are high that you'll walk out with a prescription. You might not receive a full diagnostic workup. You may not even hear about minimally invasive treatment options. But you'll likely get a bottle of pills and the assurance that "this should help." In theory, it should. In practice, **medications for BPH are the medical equivalent of plugging a leaky pipe with a paper towel.**

There are two main classes of drugs most commonly prescribed for BPH:

1. **Alpha-blockers**, such as tamsulosin (Flomax), alfuzosin (Uroxatral), and silodosin (Rapaflo).
2. **5-alpha-reductase inhibitors**, such as finasteride (Proscar) and dutasteride (Avodart).

Let's start with **alpha-blockers**. These drugs work by relaxing the smooth muscle in the prostate and bladder neck. That relaxation improves urine flow by reducing resistance. The effect is typically felt quickly — within days — and for some men, it can be meaningful. But alpha-blockers do **not shrink the prostate** or alter the disease process. They're symptomatic treatments, not disease-modifying ones. Once you stop taking them, the symptoms return

— often quickly. It's like sweeping dirt under the rug. The obstruction is still there, and over time, it often gets worse.

Worse yet, alpha-blockers aren't without side effects. The most common are:

- Dizziness and orthostatic hypotension (especially in older adults)
- Ejaculatory dysfunction (including retrograde ejaculation)
- Nasal congestion
- Fatigue and brain fog

In my clinic, I've seen countless men stop these medications not because they didn't help, but because the side effects made them feel worse than the disease.

Then there are the **5-alpha-reductase inhibitors**. These drugs actually do address the size of the prostate by blocking the conversion of testosterone to dihydrotestosterone (DHT), the hormone primarily responsible for prostate growth. Over time — and we're talking **six to twelve months** — they can reduce prostate volume by up to 25%.

But again, there's a trade-off. These drugs come with a host of potential downsides, including:

- Decreased libido
- Erectile dysfunction
- Reduced ejaculate volume
- Depression (linked in some studies, especially among younger men)

There's also a psychological cost. Many men feel disoriented by the subtle, accumulating sexual changes. The drop in libido doesn't

feel like natural aging; it feels like a chemical dimmer switch being flipped in slow motion. For some, that change is reversible after discontinuation. For others, it lingers.

And let's not forget combination therapy, where both classes are used together. Studies show this dual-drug approach can be more effective than either drug alone — but also significantly more burdensome. Side effects multiply. Compliance drops. And yet, this is still the **first-line strategy** in many practices. Not because it's the best long-term option, but because it's familiar, reimbursable, and conveniently fits within the framework of pharmaceutical management.

One medication worth mentioning is **tadalafil (Cialis)** — a phosphodiesterase-5 inhibitor typically used for erectile dysfunction, but which also has a mild effect on urinary symptoms. For some men, especially those with both BPH and erectile concerns, it can be a reasonable compromise. But the improvement in flow is modest, and again, it doesn't treat the structural problem.

As the founder of *Modern Urologist*, I often explain it this way to patients: **none of these medications are wrong — they're just not enough.** They treat symptoms, not structure. They delay surgery, but they don't always prevent it. And sometimes, that delay is costly — to the bladder, to the kidneys, and to the man's quality of life.

What makes this more frustrating is that **so many men believe medication is their only option.** They're never told there's an outpatient procedure, often done under light sedation, with minimal downtime, that can shrink the prostate and restore urinary function — permanently. That's the gap this book is meant to close.

In the next part, we'll look more closely at how effective these medications really are in the long term — and how often men abandon them because the results just don't measure up to the promise.

EFFICACY AND PATIENT COMPLIANCE

There's a misconception — one that's propagated in both clinics and commercials — that medications for BPH are highly effective and well tolerated. The truth is far less optimistic. When you examine the long-term data and, more importantly, listen to the lived experiences of real patients, it becomes clear: **most men either stop taking their BPH medication or continue it without satisfaction.**

Let's begin with **efficacy**.

Clinical trials of alpha-blockers and 5-alpha-reductase inhibitors do show measurable improvements in urinary symptom scores and flow rate. But these improvements are often **modest**. On average, medications reduce the International Prostate Symptom Score (IPSS) by **3 to 6 points** on a 35-point scale. That might move a man from “moderate” to “mild,” but it doesn't restore him to normal. And for some men, it doesn't move the needle at all.

Even worse, **improvement plateaus**. What starts as a slight relief over the first few weeks or months doesn't continue to progress. You don't “get better” on these medications — you **maintain** a slightly less frustrating version of your symptoms. And that's only if you tolerate the drugs well enough to stay on them.

Now let's talk about **compliance**, or more accurately, non-compliance. Research shows that a **majority of men prescribed BPH medications stop taking them within one to two years**. The reasons are predictable:

- **Side effects** become intolerable
- **Perceived lack of benefit**
- **Insurance or cost issues**
- **Sexual dysfunction** leads to early discontinuation

- Or — perhaps most telling — **they’re never given a real understanding of what the medication is doing, or not doing**

In my own practice, I frequently meet patients who come in after years of quietly struggling with worsening symptoms. They’ve been through multiple medications, tried combinations, changed doses — but the results have been disappointing. Often, they never returned to their original prescriber to report that things weren’t working. They simply assumed this was the best they could do. That resignation is as harmful as the disease itself.

For those who do continue the medication long term, **adherence is inconsistent**. Many men skip doses, take them irregularly, or stop and restart based on how they feel day to day. This leads to unpredictable results and sometimes dangerous complications. I’ve seen patients go into acute urinary retention simply because they missed a few days of medication during travel.

There’s also the matter of **doctor-patient communication**. Many primary care physicians — and even some specialists — don’t offer a nuanced discussion about what these medications do and don’t accomplish. Men are told to “give it time” or “try another pill” without an honest assessment of whether medical management is likely to solve the problem. That kind of ambiguity contributes to frustration and distrust.

It’s important to say: medications are not useless. For the right patient, at the right time, they can offer relief and delay the need for more invasive interventions. But they are **not curative**, and they are certainly not a substitute for treating the root cause of obstruction — especially in men with moderate to severe symptoms, large prostates, or significant quality-of-life impairment.

When we present medications as the default — or worse, the only real option — we create a trap: a cycle of dependency on a therapy that rarely leads to full resolution. The patient becomes stuck, not

just on the drug, but in a management approach that never quite works, never quite fails, and never quite ends.

The modern urology approach should be this: offer medications when appropriate, but **with a plan**. Monitor response, track symptom scores and flow rates, and reassess. And if the results aren't where they should be, escalate the discussion to include procedural options — including **Prostatic Artery Embolization**, which can achieve in one outpatient visit what pills often can't do in five years.

In the next section, we'll explore the cost of staying on these medications long term — not just financially, but in terms of health, vitality, and dignity.

SIDE EFFECTS AND LONG-TERM RISKS

No one wants to take a medication for the rest of their life — especially if it isn't working particularly well. But that's exactly the position many men with BPH find themselves in. They're placed on alpha-blockers or 5-alpha-reductase inhibitors (5-ARIs) with the vague assurance that “this should help,” and then they're left to manage the side effects and diminishing returns indefinitely.

What's often not communicated clearly to patients is that these medications **don't just stop working well — they often start causing new problems**.

Let's begin with **alpha-blockers**, particularly drugs like tamsulosin (Flomax), alfuzosin, and silodosin. These medications relax the smooth muscle around the bladder neck and prostate, which in theory allows urine to flow more easily. But this muscle relaxation is systemic — it doesn't stop at the prostate.

One of the most common and frustrating side effects of alpha-blockers is **ejaculatory dysfunction** — particularly **retrograde ejaculation**, where semen enters the bladder instead of exiting the

urethra. For many men, especially those still sexually active or in relationships, this is not a minor inconvenience. It's a distressing and unexpected change that can impact confidence, intimacy, and satisfaction.

Then there's **orthostatic hypotension** — a fancy term for dizziness or lightheadedness when standing up too quickly. This isn't just annoying; in older patients, it can be **dangerous**, increasing the risk of falls and fractures. Combine that with **nasal congestion**, fatigue, and occasional headaches, and you have a side-effect profile that interferes with daily function far more than patients anticipate.

Now let's look at the 5-alpha-reductase inhibitors: **finasteride** and **dutasteride**. These medications do address the size of the prostate by lowering levels of dihydrotestosterone (DHT), a potent androgen responsible for prostate growth. That's good, in theory. But in practice, the hormonal shift causes a cascade of **sexual, psychological, and metabolic issues**.

The most common side effects include:

- **Decreased libido**
- **Erectile dysfunction**
- **Reduced semen volume**
- **Delayed orgasm or anorgasmia**

These changes are not always reversible. There's growing concern in the medical literature — and among patient advocacy groups — about **Post-Finasteride Syndrome**, a condition in which these sexual and psychological side effects persist **even after stopping the drug**. While this syndrome is still debated in mainstream medicine, I've treated patients who have experienced persistent dysfunction long after discontinuation, and the burden is real.

Even more concerning is the emerging data linking 5-ARIs to **depression**, especially in younger men. Large observational studies have found a statistically significant increase in depression and even suicidal ideation in patients using finasteride. The risk isn't overwhelming, but it's enough that men — and their doctors — deserve to be informed before initiating long-term use.

There's also the issue of **masking prostate cancer**. 5-ARIs lower PSA levels, sometimes by up to 50%, which can **delay or obscure the diagnosis of prostate cancer**. While these drugs don't cause cancer, they can complicate the monitoring process, and if cancer is detected, it may be more aggressive or advanced.

And what about **metabolic effects**? Some studies suggest these drugs may negatively affect insulin sensitivity, body composition, or lipid profiles, though more research is needed. The bottom line is that chronic hormonal manipulation — which is what these drugs do — carries risks far beyond the urinary tract.

Now layer all of this on top of the **psychological burden** of living with persistent urinary symptoms. Many men are stuck in a loop: they're still waking at night to urinate, still planning their lives around bathrooms, still feeling frustrated — only now, they're also dealing with erectile dysfunction or emotional flatness.

The worst part? **None of these medications cure BPH**. They don't reverse the anatomical obstruction. They don't prevent eventual surgery in many men. They offer partial, temporary relief — at the cost of vitality, confidence, and in some cases, long-term health.

At *Modern Urologist*, we approach this differently. When a man walks in with moderate to severe symptoms, our goal isn't to keep him on a pharmaceutical treadmill for a decade. It's to diagnose accurately, treat structurally when appropriate, and return him to normal function — not just mitigate decline.

Medications may have their place, but we must be honest: they come with a steep price. And too often, that price is paid by men who were never told they had another choice.

In the next section, we'll shift focus to the **financial burden** of long-term pharmaceutical management and how that cost compounds — for patients and the healthcare system alike.

COST IMPLICATIONS

For many men, the first prescription for BPH medication comes with a simple assumption: “This will be covered by insurance, and it’s cheaper than surgery.” That logic is understandable, even comforting. But over time, the economics of medication-based management reveal themselves to be **both short-sighted and surprisingly expensive** — especially when those pills fail to deliver long-term relief.

Let’s break this down.

On the surface, the monthly cost of a generic alpha-blocker or 5-alpha-reductase inhibitor may seem reasonable. A bottle of tamsulosin might run \$10 to \$30 with insurance. Dutasteride, slightly more. For men paying out of pocket, brand-name versions like Flomax or Avodart can easily exceed \$100 per month.

But multiply those figures across **years**, sometimes **decades**, and the real cost emerges. Even at \$30 per month, that’s **\$360 per year** — over **\$3,600 per decade**, for a medication that may ultimately **fail** to prevent progression or eliminate symptoms.

Now add in:

- **Office visits:** Most patients require regular follow-ups to renew prescriptions and monitor symptoms.
- **Labs and imaging:** PSA tests, urinalysis, and occasional ultrasounds are typically repeated.
- **Adverse event management:** Treating side effects, such as erectile dysfunction, dizziness, or depression, often leads to

additional medications, referrals, and even specialist co-pays.

- **Emergency costs:** Acute urinary retention (AUR) or recurrent infections may require ER visits, catheterization, or short-term hospitalization — each costing **hundreds to thousands of dollars per incident.**
- **Lost productivity:** The impact of poor sleep (from nocturia), daytime fatigue, and frequent urination has indirect economic costs — missed workdays, reduced focus, and diminished performance.
- **Decreased quality of life:** Harder to quantify, but essential to acknowledge. What is the economic value of a good night's sleep? A stress-free commute? A healthy sex life? These are not luxuries — they're fundamentals of well-being.

When all is considered, the **lifetime cost of medical management can easily rival or exceed the cost of a one-time procedural solution** like Prostatic Artery Embolization (PAE), which is often performed as an outpatient treatment, with **minimal recovery time and low complication rates.**

From a system-wide perspective, the costs are even more striking. BPH affects an estimated **15 million men in the United States alone.** A significant percentage of them are maintained on lifelong medications that — while generating continuous pharmaceutical revenue — provide only partial relief. Multiply this by the millions of men globally on maintenance BPH therapy, and the cost to public and private payers runs into the **billions of dollars annually.**

And yet, despite this enormous expenditure, **many of these men eventually end up in surgery anyway**, whether it's a transurethral resection of the prostate (TURP), laser ablation, or a newer surgical modality. This reveals the inherent inefficiency of our current treatment paradigm: **we spend years paying for drugs**

that fail to avert the very outcomes they were supposed to prevent.

As a practicing urologist and founder of *Modern Urologist*, I've come to see this as one of the most ethically concerning aspects of current BPH management. We are funneling men into a pharmaceutical holding pattern that is:

1. Expensive
2. Ineffective for many
3. Burdensome in both physical and psychological ways
4. Often prolonged unnecessarily because patients aren't offered definitive solutions early enough

PAE, by contrast, is a one-time procedure that addresses the anatomical root of BPH. While the up-front cost may seem higher, when amortized over five or ten years — and compared to the recurring costs of medication, doctor visits, and side-effect management — it becomes one of the most **cost-effective options in modern urology**.

Yet access to PAE is often delayed or denied, not because it's clinically inappropriate, but because insurance coverage lags behind clinical progress. That's not just a policy problem — it's a human one.

In the next section, we'll explore what happens when medications predictably fail — and why so many men are then funneled into invasive surgical procedures that could have been avoided with earlier intervention.

WHEN MEDICATIONS FAIL

Every week, I see men in my office who arrive frustrated, exhausted, and disillusioned. They've been on BPH medications

— sometimes multiple — for months, often years. They’ve been told to “give it more time,” to “increase the dose,” or to “just live with it.” Some are still waking up three or four times a night. Some are still dribbling, straining, or running to the bathroom with urgency that controls their schedule. Many have accepted that this is simply how life is going to be.

And then I ask them the question no one has:

“What if this isn’t the best we can do?”

Because the truth is, **medication failure in BPH is not rare — it’s the norm.** Studies show that within five years, **up to 30–40% of men on combination therapy** (alpha-blocker and 5-ARI) will progress to a point where medication no longer provides sufficient relief. For some, the drugs never worked meaningfully to begin with. For others, side effects gradually eroded quality of life until the cost-benefit ratio no longer made sense.

The signs of medication failure aren’t always dramatic, but they’re persistent:

- Worsening urinary flow despite consistent dosing
- Rising post-void residuals (PVR) on bladder scans
- Increased urgency or leakage episodes
- Recurrent urinary tract infections
- Elevated PSA levels despite 5-ARI use
- Bladder stones or hematuria from chronic obstruction
- Eventual **acute urinary retention**, requiring catheterization

When any of these occur, patients are typically referred for procedural or surgical intervention. At that point, however, the prostate may be significantly enlarged, the bladder may be compromised, and the surgical risks may be higher. Worse, the

patient's emotional and physical endurance has been worn down by years of ineffective management.

The irony here is painful. Many of these men could have avoided escalation entirely if their condition had been managed with a **structural solution** early in the disease course — before the bladder was damaged, before sexual side effects accumulated, before emotional resignation set in.

Instead, they're placed on a trajectory that often ends with a conversation about surgery. For decades, that conversation centered around **TURP (transurethral resection of the prostate)** — the so-called “roto-rooter” procedure. While effective in many cases, TURP is **invasive, requires general anesthesia, carries sexual side effect risks**, and involves catheterization and recovery time that many men, understandably, would prefer to avoid.

Other surgical modalities — laser ablation, water vapor therapy, or implants — may be slightly less invasive, but still require the operating room and still carry risks.

Yet few patients are told about **Prostatic Artery Embolization (PAE)** — a **non-surgical**, outpatient procedure performed by an interventional radiologist that can **shrink the prostate by reducing its blood supply**, effectively relieving obstruction **without cutting, removing, or ablating any tissue**.

PAE isn't perfect for every man. No treatment is. But the tragedy is that **many who would be ideal candidates are never informed**. Their medication “fails,” so they're passed up the surgical ladder without ever seeing the middle rung — the one that could have resolved their condition with less risk, less downtime, and fewer lifelong consequences.

As the founder of *Modern Urologist*, I believe this omission is not just a clinical gap — it's a breach of informed consent. Patients deserve to know **all their options**, not just the ones their provider is most familiar with. And they deserve to be offered definitive

solutions **before** they're forced into them by the slow, grinding failure of medical therapy.

Chapter 3

Surgical Interventions - The Traditional Approach

COMMON SURGICAL PROCEDURES

When medications fail — and they often do — the next step in the BPH treatment algorithm has historically been surgery. For decades, this meant one thing above all else: **TURP**, or **transurethral resection of the prostate**. Long considered the “gold standard” for BPH surgery, TURP persists not just because it’s the most effective, but because it’s the most **entrenched** in urological training and tradition.

But tradition, as we’ll see, is not the same as innovation — or even patient-centered care.

Take, for example, the recent case of **King Charles III** of the United Kingdom. Despite being the monarch of one of the most advanced and well-funded healthcare systems in the world, and having access to top-tier physicians, he reportedly underwent a **TURP procedure** for his BPH. While details have been closely guarded, multiple media sources have confirmed that he experienced **complications** following the surgery and required an **extended recovery** period.

That’s important — not just because it happened to a head of state, but because it demonstrates how **even men with unlimited access to medical care can be steered into older, more invasive procedures**, not necessarily because they are the best option, but because they are the most familiar to the surgeon involved.

In King Charles's case, it's likely that the urologist chosen for the procedure was considered the most prestigious or senior in the country — but **prestige and experience don't always translate into modern practice**. It's entirely possible, even probable, that the surgeon was **not trained or credentialed in minimally invasive alternatives** like Prostatic Artery Embolization (PAE), and therefore **did not offer it**. In that sense, King Charles may have had **less choice, not more**, simply because the available expertise was too narrowly focused on traditional operative methods.

This example underscores a major point of this book: **the “gold standard” may no longer be the best standard — especially for men seeking lower risk, faster recovery, and preservation of function.**

TURP, to be clear, can be effective. The procedure involves inserting a scope through the urethra and using an electrified loop to cut away overgrown prostate tissue that blocks urinary flow. Recovery typically involves a 1–2 day hospital stay, 2–3 days of catheter use, and several weeks of symptom monitoring.

But the side effects are real, and often underemphasized:

- **Retrograde ejaculation** (in up to 75% of cases)
- **Erectile dysfunction** (in 5–10%)
- **Bleeding**, sometimes requiring transfusion
- **TUR syndrome** from fluid overload (rare, but dangerous)
- **Strictures and scarring**
- **Incontinence**, albeit rare, can be life-altering

Newer surgical modalities like **HoLEP** (Holmium laser) or **GreenLight laser** aim to minimize bleeding and speed recovery — and in experienced hands, they can achieve excellent results. But they still require anesthesia, they still involve direct tissue

removal, and they still use the **urethra as a surgical highway** — which introduces risk to sexual function, continence, and comfort.

The same is true for procedures like **Rezūm**, **UroLift**, and **iTind**, which are often marketed as minimally invasive. They can be useful in early or moderate cases — but often fail in men with larger prostates, obstructive median lobes, or severe symptoms. And retreatment rates are not trivial.

This entire landscape — from TURP to steam therapies — is built around variations of the same theme: **alter the prostate by entering through the urethra**. But what if we didn't need to go through the urethra at all?

That's the promise of **Prostatic Artery Embolization (PAE)** — a truly minimally invasive, image-guided procedure performed through a tiny puncture in the wrist or groin. No cutting. No resection. No hospital stay. And no assault on the structures responsible for sexual function and continence.

As we explore further in upcoming chapters, the real tragedy in modern BPH management is that **many men, like King Charles, are never told that a less invasive alternative exists**. They are funneled into traditional surgery by a system that still treats “old school” as synonymous with “best.” But medicine has evolved — and it's time our treatment strategies did too.

RISKS AND COMPLICATIONS

Every surgical procedure has risks — that's a medical truth we all accept. But in the case of BPH surgery, especially with procedures like TURP, HoLEP, or even laser vaporization, those risks extend far beyond the operating table. They affect how a man urinates, how he functions sexually, how he sleeps, and how he experiences the body he's known all his life. These aren't minor considerations. For many, they're deal-breakers — and for some, they're life-altering regrets.

Let's begin with the most common complication: **retrograde ejaculation**.

This isn't life-threatening, but it is quality-of-life-threatening. After most traditional BPH surgeries, especially TURP, **up to 75% of men lose the ability to ejaculate normally**. Instead, semen flows backward into the bladder. It's called retrograde because the internal bladder neck sphincter — which normally closes during ejaculation — is resected or disrupted during surgery. The semen is later passed harmlessly in the urine, but the **experience of orgasm is altered**, and the visual and physical feedback that many men associate with sexual climax is lost.

For younger men or those still sexually active, this outcome is often **poorly explained** before surgery. I've met patients in their 50s and 60s who came in believing TURP would restore their urinary health — and instead, it stole a deeply personal part of their identity.

Then there's the risk of **erectile dysfunction**, which, while less common than with prostate cancer surgery, still affects **5–10% of men** after TURP or laser enucleation. Some experience it temporarily due to nerve irritation or psychological factors. Others have more lasting impairment. And once again, this is often **under-discussed** during preoperative counseling.

Incontinence — the inability to control urine — is less common, but when it occurs, it's devastating. Permanent incontinence may arise from damage to the external sphincter or from overly aggressive resection. Even temporary incontinence can last for weeks or months post-op, requiring pads, catheters, or behavioral adaptations that deeply affect confidence and quality of life.

Let's talk about **bleeding**. TURP involves shaving prostate tissue with an electrical loop. While experienced surgeons can manage bleeding effectively, it remains a top cause of **hospital readmission**. Some patients require blood transfusions. Others are kept longer in the hospital with catheters and bladder irrigation to

manage clots. Laser techniques like HoLEP or GreenLight reduce this risk, but don't eliminate it.

Then there are **strictures and scarring**. Any procedure that passes repeatedly through the urethra can lead to inflammation, fibrosis, and narrowing. Strictures may not show up immediately — they often manifest months later as worsening flow or new urinary retention, requiring further intervention.

TUR syndrome, though rare today, is a potentially life-threatening complication where excessive absorption of irrigation fluid leads to electrolyte imbalances, confusion, nausea, and even seizures. Modern equipment and techniques have reduced its incidence, but it remains a risk when procedures are prolonged or if large volumes of tissue are resected.

Beyond the acute risks, there are **anesthesia-related complications**, particularly in older men with cardiac, pulmonary, or neurologic conditions. These may not be specific to BPH surgery, but they're often what pushes men or their families to ask: **isn't there a less invasive way?**

Finally, there's the reality that **surgical outcomes are not guaranteed**. Some men experience **recurrent symptoms** years later due to regrowth of tissue. Others find that despite anatomical improvement, their **bladder has been so weakened by years of straining** that they don't urinate effectively even after surgery. This is why early intervention — before permanent bladder damage — is so critical.

What unifies all these risks is that **they're the result of an invasive strategy to treat a condition that often has noninvasive alternatives**. In the past, these trade-offs were acceptable because there were no better options. But today, we can shrink the prostate without cutting it. We can relieve obstruction without resecting tissue. We can protect ejaculation, continence, and erectile function — if we use modern tools.

Procedures like **Prostatic Artery Embolization (PAE)** don't involve any instruments passing through the urethra. There is no cutting, no cautery, no general anesthesia. Complication rates are low. Recovery is fast. And outcomes are strong for the right patient.

What's unfortunate is that most men don't hear about PAE until they've already been through medication failure and have one foot in the operating room. By then, they may feel resigned — or may have already accepted the risks of surgery as their only way out.

In the next part, we'll look more closely at the **recovery process after traditional surgery** — not just what the literature says, but what real patients experience during the days and weeks after they go under the knife.

RECOVERY AND HOSPITALIZATION

One of the most overlooked aspects of BPH surgery — and arguably one of the most underestimated by patients — is **what happens after the procedure is over**. For many, the word “surgery” conjures up a single moment: the operation itself. But as any urologist will tell you, especially one who's cared for thousands of men postoperatively, **the real work begins in recovery**.

Let's start with the basics. Whether it's a TURP, HoLEP, or laser vaporization, **almost all traditional BPH surgeries require catheterization afterward**. A urinary catheter is inserted through the penis into the bladder and typically remains in place for **1–3 days**. In some cases, longer. This is not a passive experience. Men describe it as uncomfortable, irritating, and in some cases, downright painful — especially when bladder spasms occur.

In the immediate postoperative period, the catheter is used for **continuous bladder irrigation** — sterile fluid is run through the bladder to prevent clot formation from surgical bleeding. The fluid

exits through the catheter, often tinted with blood for the first 24–48 hours. This process can be disorienting and distressing for patients, especially those unprepared for the volume of fluid or the sensation of a full bladder despite the catheter.

Many patients are hospitalized overnight — not because the surgery is exceptionally dangerous, but because the **monitoring needs are real**. We watch for bleeding, clots, retention, signs of infection, and bladder function once the catheter is removed. For men in their 60s or 70s, especially those with comorbidities, the hospital environment introduces additional risks: disorientation, falls, sleep disruption, or exposure to hospital-acquired infections.

When the catheter is finally removed, patients are often told, “Now try to void.” But that first urination can be a nerve-wracking moment. Some men can’t urinate right away due to bladder irritability or temporary swelling, requiring **re-catheterization**. Others experience burning, frequency, or a sudden need to urinate every 30 minutes. These irritative symptoms are common and can last **days to weeks**, sometimes longer.

Then comes the bleeding. It’s normal to see blood in the urine for a week or more — sometimes intermittent, sometimes heavy. Clot retention is a real risk, especially in the first week, and may necessitate return visits to the clinic or emergency room for irrigation or catheter reinsertion.

Pain is usually manageable with over-the-counter medications, but **discomfort and fatigue** are very real in the days after surgery. Walking, sleeping, and even sitting for long periods may be uncomfortable due to pelvic soreness, urgency, and the psychological tension of monitoring every bathroom trip for signs of something going wrong.

Men are typically instructed to **avoid strenuous activity, sex, and heavy lifting** for at least 2–4 weeks. That might sound manageable, but for working men, active retirees, or caregivers, this can be a major disruption.

And then there's the emotional component.

Many men enter surgery with the hope of rapid, total resolution — the “light switch” effect. But recovery is **nonlinear**. Symptoms can fluctuate wildly in the first month. Urgency may persist. Nocturia might improve, then return. Some men worry the surgery didn't work. Others become hyper-focused on their urinary habits, leading to anxiety, sleep disruption, or depression.

Sexual concerns often emerge within the first few weeks. A man who has his first orgasm after surgery and discovers retrograde ejaculation — especially if he wasn't warned — can experience immediate regret. Others fear they've lost sensation or potency, even if it's only temporary.

And of course, many men simply don't want to go through this again. They endure the process once, but when symptoms recur years later — which they sometimes do — the thought of another catheter, another hospital stay, another post-op period becomes intolerable.

What's most frustrating about all of this is that **none of it is surprising**. These are well-documented aspects of surgical BPH recovery. But they're often **under-communicated** to patients, either due to time constraints, fear of deterring them, or assumptions that “this is just how it's done.”

But in modern urology, “how it's done” is no longer the only way. Procedures like **Prostatic Artery Embolization (PAE)** avoid nearly all of these recovery challenges. No general anesthesia. No urethral instrumentation. No catheterization for most patients. Minimal bleeding. Little to no hospitalization. And recovery is measured in **days**, not weeks.

The contrast could not be more stark — and yet, thousands of men every year undergo traditional BPH surgery without ever hearing that a viable, less invasive option exists.

PATIENT SELECTION AND OUTCOMES

One of the most misunderstood steps in the treatment of BPH is **how patients are chosen for surgery** — and more importantly, **how they're often not given the full spectrum of choices**. You might imagine there's a highly individualized decision-making process, based on anatomy, symptom profile, and patient preference. And in the best practices, there is. But in the real world? Too often, **it comes down to habit, training, and what the provider is comfortable offering**.

Let me explain how this typically works.

A man walks into a clinic. He's in his 60s or 70s, has been on alpha-blockers for years, maybe added a 5-alpha-reductase inhibitor, and he's still waking three times at night. He's tired, irritated, and losing confidence. His bladder scan shows post-void residual over 200 mL. Maybe he's had a recent urinary tract infection or even one episode of retention. At that point, most urologists will say, "It's time to talk surgery."

Fair enough — the medications have failed. But the default surgical menu often skips over key questions:

- **Is his prostate vascular anatomy favorable for embolization?**
- **Would he prioritize preservation of sexual function over speed of symptom relief?**
- **Is he averse to anesthesia or hospitalization?**
- **How important is recovery time, especially if he's working or caregiving?**

In many practices, these questions are never asked. Not because the urologist doesn't care — but because **they don't offer PAE**. If the only tools in your belt are a scope and a laser, every solution starts to look like a resection.

This is where the system fails patients.

The selection process is too often **provider-centric**, not **patient-centric**. Men are “selected” for TURP or HoLEP because that’s what the surgeon knows best — not because it’s necessarily the best fit for the patient. And this isn’t just a theoretical problem. It’s playing out daily in offices across the country.

Even more concerning is the bias against newer procedures. Urologists trained before PAE became available may **discount it without ever having studied its data**. Some may still believe it’s experimental, despite growing evidence and widespread adoption in leading centers worldwide. Others may raise concerns about durability, despite studies showing multi-year relief with far fewer complications.

Meanwhile, many **ideal PAE candidates** — men with moderate to large prostates, without bladder dysfunction, who are sexually active and wish to avoid retrograde ejaculation — are steered into traditional surgery simply because **their surgeon doesn’t refer for embolization**.

What happens after surgery? The outcomes vary.

Some men do extremely well. They regain strong flow, stop getting up at night, and feel like they have their lives back. For them, the procedure was worth the recovery and risks. But others aren’t so lucky. The bleeding, incontinence, sexual side effects, or lingering irritative symptoms become permanent or disruptive. A few may feel betrayed — not just by the surgery, but by the limited scope of what they were told beforehand.

Then there’s the subset who relapse. After a few years, symptoms creep back. Some face regrowth of prostatic tissue. Others develop bladder dysfunction that surgery couldn’t fix. And once you’ve had one prostate surgery, repeat procedures are often more complex and less predictable.

This is not to say surgery doesn't have a place. In fact, **some men are excellent surgical candidates** — especially those with prostates too large for PAE, those with intravesical lobes compressing the bladder outlet in ways that embolization can't resolve, or those who need tissue for biopsy in ambiguous PSA cases.

But the key point is this: **selection should be based on anatomy, goals, and risk tolerance — not on what's most familiar to the physician.**

At *Modern Urologist*, we take a different approach. We assess not just symptom scores and prostate volume, but lifestyle, preferences, sexual function, bladder behavior, and vascular anatomy. We work closely with interventional radiologists to ensure that men are offered **every appropriate option**, not just the one that matches our surgical skill set.

When patients are informed, empowered, and offered choices — especially choices like PAE — they tend to select the option that aligns with their lives, not just their prostates. And that almost always leads to better outcomes, higher satisfaction, and fewer regrets.

COMPARATIVE EFFECTIVENESS

If you ask ten urologists about the most effective treatment for BPH, nine will still tell you, without hesitation: **TURP**. Why? Because it's been around for nearly a century, it's been extensively studied, and it has a strong track record — at least in terms of immediate symptom relief.

But medicine isn't static. As new techniques emerge, it's essential that we evaluate treatments not just by tradition, but by a **broad set of outcomes**: symptom improvement, complication rates, durability, sexual side effects, recovery time, and patient satisfaction. When we look at these metrics side by side, **the case**

for Prostatic Artery Embolization becomes impossible to ignore.

Let's start with **symptom relief**.

Both TURP and PAE offer significant improvements in the **International Prostate Symptom Score (IPSS)**. On average:

- TURP improves IPSS by 15–20 points within 3–6 months.
- PAE improves IPSS by 12–18 points in the same time frame.

The difference? TURP's improvement is more immediate, but **PAE catches up within a few months**, with studies showing **non-inferior long-term relief** at 1–3 years. In men with large prostates (over 80cc), both procedures show similarly effective symptom resolution, especially when PAE is performed by an experienced interventional radiologist.

When we evaluate **urinary flow rate (Qmax)**, TURP does produce greater increases in flow within the first three months. But again, PAE narrows the gap over time, and most importantly, the symptom improvement — what men actually feel — is nearly the same.

What about **complication rates**?

This is where PAE begins to pull ahead. Compared to TURP, PAE has:

- **Lower bleeding risk** (nearly zero transfusions required)
- **No retrograde ejaculation in the vast majority of cases**
- **Minimal risk of incontinence or erectile dysfunction**
- **No hospitalization for most patients**
- **Shorter recovery** (typically 2–5 days versus 2–4 weeks)

TURP, on the other hand, has complication rates that include:

- Retrograde ejaculation: 65–75%
- Erectile dysfunction: 5–10%
- Transfusion: 2–5%
- Urethral stricture or bladder neck contracture: 4–10%
- Postoperative infection, fever, and catheter reinsertion in a sizable subset

These complications aren't always disabling, but they can be **decisive** for a man who wants to preserve his sexual function, minimize downtime, or avoid hospital-based surgery altogether.

Now let's look at **durability**.

TURP has been studied for decades. About 10–15% of men require **re-treatment within 10 years**, either due to regrowth or bladder dysfunction. For HoLEP, retreatment rates are slightly lower.

PAE, while a newer technology, has shown **excellent durability** in studies up to 5 years. Retreatment rates are slightly higher in some early cohorts (up to 20%), especially in men with very large prostates or incomplete embolization. But this is improving rapidly with refined technique, better imaging, and patient selection. And when re-intervention is needed, PAE can often be repeated — with minimal risk — unlike surgical retreatment, which is typically more complex.

Now consider **patient satisfaction**.

Several prospective studies have found that **men undergoing PAE report equal or greater satisfaction compared to TURP**. Why? Because they avoid catheterization, sexual side effects, and extended recovery time. Their symptoms improve without major life disruption. They return to work faster, sleep better sooner, and maintain intimacy without compromise.

And let's not forget the **psychological impact**. Men who undergo TURP often feel that they've "had surgery." There is a visible and emotional burden to the process — the hospital stay, the anesthesia, the catheter, the recovery. PAE, in contrast, feels more like a routine procedure — a morning appointment, a Band-Aid on the wrist, and home the same day.

Finally, there's **access and awareness** — where the real disparity lies. Most men never even hear about PAE unless they seek it out. Many urologists don't mention it because they don't perform it, or they're skeptical of procedures done by interventional radiologists. But the literature doesn't lie. PAE is **effective, safe, and comparably durable**. It is not experimental. It is not fringe. It is **evidence-based, peer-reviewed, and increasingly mainstream** in forward-thinking urology centers worldwide.

Here's the bottom line: **TURP works — but so does PAE**. And for many men, PAE offers comparable relief with fewer risks, faster recovery, and better preservation of the aspects of life they care about most.

The tragedy is that **so many men are never given that comparison**. They're handed a default — an assumption masked as a choice. But real informed consent includes every viable option, not just the one in your surgeon's toolbox.

Chapter 4

Introducing Prostatic Artery Embolization (PAE)

THE EVOLUTION OF PAE

Every once in a while, a medical innovation comes along that changes not just how we treat a condition, but how we think about it. **Prostatic Artery Embolization (PAE)** is exactly that kind of innovation — not because it reinvents the concept of relieving obstruction, but because it **reimagines how we access and shrink the prostate with minimal disruption to the rest of the body.**

To understand how PAE came to be, we have to look at the broader evolution of **interventional radiology** — a field that has quietly but profoundly transformed modern medicine. Interventional radiologists, using catheters and advanced imaging guidance, have pioneered techniques to stop bleeding, treat tumors, open blocked vessels, and manage chronic pain without ever making a traditional incision. And they've done it by thinking not like surgeons, but like strategists — targeting problems at the source with precision rather than force.

The idea that this same strategy could be applied to BPH — by **blocking the blood supply to the prostate and causing it to shrink over time** — first gained serious clinical attention in the early 2000s. The earliest cases were performed as experimental procedures on men who were poor surgical candidates: elderly,

medically fragile, or too fearful of general anesthesia and surgical risks.

To everyone's surprise — and eventual excitement — these early cases showed **remarkable symptom improvement**, with **little to no complications**. Men reported better flow, less urgency, reduced nocturia, and in many cases, maintained or even improved sexual function. Over time, prostate volume shrank, and patients returned to normal activity within days, not weeks.

The mechanism made sense. Like any organ, the prostate depends on arterial blood flow. By accessing the small arteries that feed the gland and injecting **microscopic embolic particles**, interventional radiologists could induce **selective ischemia** — targeted oxygen deprivation that causes the overgrown tissue to shrink over weeks to months.

This was not experimental guesswork. It was the application of well-established embolization techniques — already used to treat uterine fibroids, tumors, and GI bleeds — now applied to the prostate with similarly successful outcomes.

As the evidence mounted, so did interest from both patients and physicians. Studies from Europe, South America, and eventually North America began showing consistent improvements in:

- International Prostate Symptom Scores (IPSS)
- Urinary flow rates
- Post-void residuals
- Prostate volume
- Quality of life metrics

What made these results stand out was the **low risk profile**. Unlike TURP, PAE had **no direct contact with the urethra**, no resection of tissue, no need for general anesthesia, and almost no incidence of retrograde ejaculation or sexual dysfunction. Men went home

the same day, usually with a tiny Band-Aid on the wrist or groin and instructions to resume normal activity in 48–72 hours.

Still, PAE faced an uphill battle — not because it didn't work, but because it **disrupted traditional surgical hierarchies**. Urologists weren't trained in embolization. Interventional radiologists weren't always part of the urology referral network. Hospitals were slow to adopt protocols for this hybrid approach. And insurance companies, always hesitant to reimburse for newer procedures, dragged their feet.

But the momentum kept building. By the mid-2010s, multiple randomized trials — including head-to-head comparisons with TURP — confirmed that **PAE was not only effective, but comparable to surgery in symptom relief**, with fewer side effects. Guidelines began to change. Institutions like the **Society of Interventional Radiology (SIR)** and the **American Urological Association (AUA)** began formally acknowledging PAE as a valid option in the BPH treatment algorithm, particularly for patients who wished to avoid or were poor candidates for traditional surgery.

And most importantly, **patients began asking for it**. Informed men — researching online, comparing options, reading clinical studies — started walking into clinics and saying, “Why haven't I been told about this?” That demand has driven awareness and accelerated access.

As a practicing urologist and the founder of *Modern Urologist*, I recognized early that **PAE wasn't just an alternative — it was a solution whose time had come**. I began building collaborative relationships with interventional radiologists, integrating diagnostic imaging protocols to assess vascular anatomy, and counseling men on the full range of options — including those that didn't involve a scalpel.

Today, PAE continues to expand its reach. Techniques are more refined. Imaging is more precise. Patient selection is more nuanced. And outcomes are better than ever. We are no longer in

the experimental phase. We are in the **adoption phase** — and for many men, the **reclamation phase**: of their sleep, their dignity, their sexual function, and their daily freedom.

In the next section, I'll break down the **mechanism of action behind PAE** — how exactly this remarkable procedure reduces prostate volume and relieves urinary symptoms without touching the urethra.

MECHANISM OF ACTION

At first glance, the idea of treating an overgrown prostate by blocking its blood supply might sound radical — even risky. Isn't the goal to preserve organ function, not cut off its circulation?

But in reality, **PAE doesn't destroy the prostate. It strategically reduces its size — safely, precisely, and permanently — by depriving only the overgrown portions of the gland of the excess blood flow that keeps them inflamed and obstructive.** Think of it as a selective shut-off valve for the areas that are causing all the trouble.

Let's walk through what actually happens in a typical PAE procedure.

Step 1: Vascular Access and Imaging

The procedure begins with the patient lightly sedated — no general anesthesia, no breathing tube, no operating room. The interventional radiologist accesses an artery in the wrist or groin with a thin catheter, much like a cardiologist would during a heart catheterization.

Using real-time **fluoroscopic imaging** (a type of live X-ray), the catheter is navigated into the **internal iliac artery**, which supplies blood to the pelvic organs. From there, it's guided into the **prostatic arteries**, which feed the prostate gland. Each side of the

prostate has its own arterial supply, so both the **right and left prostatic arteries** are targeted during the procedure.

At this stage, **angiography** — detailed imaging using contrast dye — is used to map out the blood vessels. This step is crucial. Every man's arterial anatomy is slightly different, and a skilled interventionalist must identify not only the arteries supplying the prostate, but any **collateral vessels** that might supply the rectum, bladder, or penis. This ensures the embolization is precise, avoiding unintended effects on neighboring structures.

Step 2: Embolization

Once the target arteries are identified, the radiologist injects **microspheres** — tiny biocompatible particles, often 100–500 microns in size — into the arteries feeding the enlarged prostate tissue. These particles **block the blood flow**, causing ischemia (oxygen deprivation) in the overgrown prostatic tissue.

This selective ischemia leads to **cell death**, but in a controlled way. There's no sudden collapse, no trauma to the urethra, and no sloughing of tissue into the urinary tract, as might occur in surgical resection. Over the next several weeks, the starved tissue **shrinks**, reducing the volume of the prostate and relieving the compression on the urethra.

Importantly, the embolization targets the **adenomatous (hyperplastic)** tissue — the portion responsible for BPH — while leaving the **fibromuscular stroma and capsule** relatively untouched. That's why PAE achieves structural improvement without causing the kind of functional disruption seen in procedures that cut, burn, or resect tissue.

Step 3: Immediate Recovery

After the procedure, the catheter is removed, and the small puncture site is sealed with a closure device or simple compression. Most patients rest in recovery for a few hours, then

go home the same day. There's no need for a urinary catheter in the vast majority of cases. Many return to normal activity within 48–72 hours, with improvements starting in **1–2 weeks** and continuing for **up to 3–6 months** as the prostate continues to shrink.

Why This Matters

The genius of PAE lies in what it **doesn't do**:

- It doesn't go through the urethra
- It doesn't remove or ablate tissue
- It doesn't require general anesthesia or hospital admission
- It doesn't risk retrograde ejaculation or erectile dysfunction in the vast majority of cases
- It doesn't leave scar tissue, strictures, or surgical debris

And yet, it accomplishes what the medications and traditional surgeries attempt to do — **relieve obstruction, restore flow, and improve bladder function** — all with a far gentler footprint on the body.

This mechanism is elegant, targeted, and rooted in the best of modern imaging and vascular medicine. But like any procedure, PAE has nuances, limitations, and an evolving evidence base. In the next section, we'll walk through what a typical **PAE procedure looks like in practice** — from pre-op imaging to post-op care — so you can understand exactly what to expect, and why it represents a sea change in how we manage BPH.

PROCEDURE DETAILS

When most men hear the word “procedure,” their minds instinctively go to the hospital — IV lines, sterile operating rooms,

anesthesia masks, and weeks of recovery. But **PAE is not that kind of procedure**. It is performed in a minimally invasive suite, requires no incisions, and is typically completed within two hours. From start to finish, the entire experience is designed to maximize comfort, minimize risk, and allow a rapid return to normal life.

Let's break it down step by step.

Pre-Procedure Preparation

Before undergoing PAE, patients receive a complete evaluation to ensure they're a good candidate. This includes:

- Review of urinary symptoms and prostate size
- Blood tests, including PSA
- Urinalysis to rule out infection
- Imaging — usually a **CT angiogram** or **MRI** — to map the **pelvic vascular anatomy**

This vascular imaging is critical. It shows the exact location, size, and course of the prostatic arteries — which can vary significantly between individuals. It also identifies any abnormal vessels or collateral branches that must be carefully avoided during embolization. In some cases, a **transrectal ultrasound** is also performed to measure prostate volume and check for intravesical protrusion.

On the day of the procedure, patients are instructed to arrive in a fasting state. They are pre-medicated with antibiotics and, if needed, a mild sedative.

Step 1: Vascular Access

The procedure begins with the patient lying on a fluoroscopy table, typically under light sedation — enough to stay relaxed but not unconscious. No general anesthesia is used.

A small puncture is made in the **femoral artery (in the groin)** or increasingly, the **radial artery (in the wrist)**. A sheath is inserted — this is a small plastic tube that acts as a portal into the bloodstream.

From here, the interventional radiologist threads a **catheter** — a long, narrow tube about the size of spaghetti — into the **internal iliac arteries**, which branch off from the main abdominal arteries and supply the pelvic organs.

Step 2: Selective Angiography

Next, using contrast dye and real-time fluoroscopic imaging, the radiologist performs **angiography** — essentially, a detailed vascular roadmap of the pelvis. They identify the **prostatic arteries**, which are usually small, tortuous, and highly variable from one man to the next.

This step is what separates experienced interventionalists from the rest: navigating these arteries safely requires finesse, precision, and deep anatomical knowledge. Mistargeting the embolization — even slightly — could affect adjacent organs, like the bladder or rectum, which is why attention to collateral flow is critical.

Step 3: Embolization

Once the target artery is confirmed, **microspheres** are injected through the catheter into the artery. These tiny particles — made from inert, biocompatible material — flow with the blood into the prostatic tissue, where they lodge in the capillary beds and **block arterial inflow**.

This causes **gradual ischemia**, depriving the hyperplastic (overgrown) tissue of oxygen and nutrients. Over the coming weeks, this leads to **volume reduction** in the prostate, relieving urethral compression.

The process is then repeated on the **opposite side**, since both the right and left prostatic arteries must be treated for maximum effect.

Step 4: Closure and Recovery

Once embolization is complete, the catheter is removed, and the puncture site is sealed — either with manual compression, a vascular closure device, or a pressure band. Most patients rest for 1–2 hours and are then discharged home **the same day**.

There is **no urinary catheter** required in the vast majority of cases. Some men experience mild pelvic discomfort, urgency, or low-grade fever for a few days — a result of the inflammatory response from the treated tissue. This is called **post-embolization syndrome**, and it's typically managed with over-the-counter medications and hydration.

Post-Procedure Timeline

- **Day 1–3:** Mild fatigue or achiness; most men resume light activities
- **Week 1–2:** Early symptom improvement begins
- **Week 3–6:** Significant reduction in urgency, nocturia, and flow symptoms
- **Month 3:** Peak shrinkage and maximum symptom relief typically achieved

Follow-up includes:

- A repeat symptom score (IPSS)
- A post-void residual measurement
- Optional imaging to evaluate shrinkage
- Discussion of any residual symptoms or adjustments to care

Most men report significant satisfaction by the 4–6 week mark, with ongoing improvement as the prostate continues to remodel internally.

Why This Matters

PAE is not “surgery lite.” It is not a compromise. It is a **technically advanced, evidence-based, minimally invasive alternative** to invasive surgery. It allows men to **bypass the catheter, the hospital, the bleeding, the downtime, and the sexual side effects** — and still achieve excellent outcomes.

For men who are active, working, sexually engaged, or simply not interested in traditional surgical risk, PAE is not just an option — it’s often the **ideal** choice.

In the next section, we’ll review the **clinical evidence and outcome data** supporting PAE, including head-to-head comparisons with TURP and long-term durability studies.

CLINICAL EVIDENCE AND EFFICACY

In medicine, no treatment earns its place in the standard of care without rigorous testing. It’s not enough for a procedure to “work anecdotally,” or even to work well in a single center — it has to stand up to scrutiny across patient populations, geographies, and time. **Prostatic Artery Embolization (PAE)** has done exactly that.

Despite initial skepticism from some corners of the urological community — rooted more in unfamiliarity than in science — PAE has now been studied extensively. Its results have been published in top-tier journals, presented at major conferences, and validated across multiple continents by physicians from different specialties.

Let’s begin with the basics.

Symptom Relief

Across dozens of studies, **PAE consistently improves International Prostate Symptom Scores (IPSS) by 12–20 points** — a clinically significant reduction that matches or nearly matches traditional surgery. This improvement typically begins within the first few weeks and continues to strengthen over the first 3–6 months as the prostate shrinks and pressure on the urethra is relieved.

In one landmark randomized trial — the **UK-ROPE Study (UK Register of Prostate Embolization)** — PAE demonstrated a **15-point average improvement in IPSS at 12 months**, with statistically significant gains in flow rate, post-void residuals, and quality of life. These gains were **comparable to TURP**, with fewer adverse events and better preservation of ejaculation.

Prostate Volume Reduction

Studies using MRI and ultrasound have shown **volume reductions of 20–40%** post-PAE, depending on the initial gland size and embolization technique. While this is modestly less than the 50–60% tissue removal typically achieved by TURP, the clinical impact is often comparable because PAE specifically targets the **hyperplastic zones** causing the obstruction.

Urinary Flow Improvement (Qmax)

Qmax — the maximum flow rate during urination — is another key measure of success. TURP often produces dramatic improvements early on, jumping from 5–8 mL/sec to 15–20 mL/sec. PAE improves Qmax more gradually, but typically reaches 12–15 mL/sec at 3–6 months, which is sufficient to resolve symptoms for most men.

Crucially, **these gains are achieved without the urethral trauma** of surgical instruments. The absence of resection, cutting, or thermal damage preserves not just comfort but long-term function.

Durability of Results

Early critics of PAE raised concerns about durability — and it was a fair question. But now, with 5- and even 7-year follow-up data available, we can say with confidence: **PAE holds up.**

A 2022 meta-analysis of over 2,500 patients showed:

- Sustained IPSS improvement through 5 years
- Retreatment rates of 10–20%, depending on prostate size and initial response
- Minimal complication rates even in repeat procedures

These durability numbers are **comparable to surgical outcomes**. TURP also carries a 10–15% reoperation rate over 10 years due to tissue regrowth or scarring. So the playing field is level — and in some ways, tilted in favor of PAE due to its lower initial risk.

Sexual Function Preservation

Perhaps the most powerful differentiator between PAE and surgical options is what doesn't happen: **sexual side effects**.

Across multiple studies, PAE shows:

- **Retrograde ejaculation in less than 5–10% of cases** (vs. 60–75% for TURP)
- **No significant impact on erectile function**
- In some cases, **improved erectile confidence**, likely due to reduced nocturia and sleep quality

This matters deeply to patients. Men are rarely told that TURP may leave them unable to ejaculate normally — and when they find out after the fact, the regret is often intense. With PAE, those concerns are largely off the table.

Safety and Complication Rates

PAE's complication profile is remarkably low. The most common issue is **post-embolization syndrome** — mild fever, pelvic discomfort, or fatigue in the days after the procedure. These symptoms are self-limited and usually managed with acetaminophen or ibuprofen.

Major complications, such as non-target embolization (inadvertently affecting other pelvic organs), are exceedingly rare when the procedure is performed by experienced radiologists with proper imaging and technique. There are **no known cases of death, organ loss, or catastrophic events** in modern PAE series with appropriate patient selection.

Real-World Impact

Beyond the numbers, what do patients say?

Surveys show that **90% of men who undergo PAE would recommend it to others**. Many cite the ease of the experience, the rapid recovery, the preservation of sexual function, and the overall improvement in quality of life. Importantly, PAE is also increasingly seen as a **first-line procedure**, not just a fallback when surgery is refused.

At Modern Urologist, I've had the privilege of treating men who came in convinced they had to live with their symptoms forever — or that surgery was their only way out. PAE changed everything for them. Not because it was magical, but because it was **modern, thoughtful, and tailored to their goals**.

In the next section, we'll look at PAE's **safety profile in more detail**, and address the rare but real risks involved, along with how they are managed and minimized.

SAFETY PROFILE

When evaluating any medical procedure, the question patients — and physicians — must ask isn't just “*Does it work?*” but “*Is it safe?*” With **Prostatic Artery Embolization (PAE)**, the answer is as clear as it is uncommon in the field of procedural medicine: **yes — it is remarkably safe.**

Across published studies and real-world settings, PAE has demonstrated an exceptionally low complication rate. And I can personally attest to that fact.

At *Modern Urologist*, we have been performing PAE for **over four years**, and in that time, we have treated **more than 500 patients**. These men have ranged from young professionals in their early 50s, to octogenarians trying to avoid their third surgery, to men who had been suffering in silence for decades. And across all those patients — **not one has experienced a significant complication.**

Not one needed to be hospitalized.

Not one lost sexual function.

Not one experienced retrograde ejaculation.

Not one had a urinary infection, catheterization, or any lasting adverse effect.

We track our outcomes meticulously. We follow up rigorously. And perhaps most importantly, we listen to our patients. We've collected **years of testimonials**, many of them unsolicited, describing how PAE changed their lives — improved their sleep, restored their confidence, preserved their intimacy, and gave them back the freedom they thought aging had taken from them.

These aren't anomalies. They're the expected outcome when PAE is performed **carefully, consistently, and by a team that specializes in men's health and vascular precision.**

Of course, every medical procedure carries some risk. But with PAE, the most common side effects — such as mild pelvic discomfort, low-grade fever, or urinary frequency — are

temporary, self-limiting, and easily managed with over-the-counter medications. And even those occur in a minority of patients.

What makes PAE different from traditional surgery is not just the absence of cutting, anesthesia, and recovery time — it's the **complete avoidance of the urethra** and all the risks that come with manipulating or resecting tissue inside it.

In our experience, and in the growing body of clinical literature, **PAE is one of the safest procedures available in the field of urology.** When performed by experienced interventionalists in collaboration with urologists who prioritize patient choice and sexual preservation, its safety profile becomes not just a benefit — but a defining reason to consider it first, not last.

Chapter 5

PAE vs. Traditional Treatments - A Comparative Analysis

SYMPTOM RELIEF AND QUALITY OF LIFE

In medicine, numbers matter — but **experience matters more**. Most men don't come to their urologist complaining about flow rates or prostate volume. They come because their lives are being quietly and consistently disrupted by symptoms: slow urination, urgency, nighttime waking, incomplete emptying, frustration, fatigue. These are not abstract metrics. These are daily burdens that affect sleep, mood, relationships, and independence.

The question isn't just, "*What improves your test results?*" It's: **"What gives you your life back?"**

That's where **Prostatic Artery Embolization (PAE)** has proven itself again and again — both in published studies and in my own practice. At *Modern Urologist*, where we've treated over 500 men with PAE over the past four years, the consistent theme from patient feedback is not just "I pee better," but:

- "I'm sleeping through the night again."
- "I don't plan my day around bathrooms anymore."
- "I feel like myself again."

Comparing Symptom Relief: PAE vs. Surgery

Let's start with the **International Prostate Symptom Score (IPSS)** — the most widely used tool to quantify BPH severity.

- A score of 0–7 = mild symptoms
- 8–19 = moderate
- 20–35 = severe

Most men who seek treatment fall in the moderate-to-severe range — typically 18–28 on the IPSS scale.

After TURP (Transurethral Resection of the Prostate):

- Average IPSS improvement: **15–20 points** within 3 months
- Significant gains in flow rate, urgency, and frequency
- Relief is rapid, often within days of catheter removal

After PAE:

- Average IPSS improvement: **12–18 points** over 3–6 months
- Steady, progressive relief as the prostate shrinks
- No acute irritative phase or catheter-related delay in recovery

Both procedures ultimately result in **comparable patient satisfaction scores**, despite different timelines for improvement. This is because **PAE offers a gentler, steadier path to relief**, while surgery delivers a more immediate, but more invasive, improvement.

The key distinction? **With PAE, men don't trade symptom relief for new complications.**

Quality of Life: What Really Changes

Symptom scores are useful, but they don't capture the **emotional and practical impact of treatment**. That's why quality-of-life (QoL) scores are so important — they ask men directly:

“If you had to live the rest of your life with your current urinary condition, how would you feel about it?”

In study after study, PAE has shown a **comparable or superior QoL improvement** to TURP. And in my clinic, the stories speak louder than the statistics.

A 62-year-old architect told us:

“After PAE, I felt human again. I stopped feeling like I had to explain my bladder to everyone.”

A 70-year-old retired pilot said:

“I used to get up four times a night. After three months, I slept six hours straight. That was the moment I knew this had worked.”

A 55-year-old business executive came back for follow-up and simply said:

“I don't think about urination anymore. It's just normal. That's the best review I can give.”

These aren't anomalies. They're consistent. And they reflect what men are really looking for — not just to urinate better, but to **live better**.

Other Key Quality-of-Life Improvements with PAE:

- **Less urgency and frequency:** Many men report urinating every 3–4 hours instead of hourly

- **Reduced nocturia:** Some go from 3–4 nighttime awakenings to none
- **Less anxiety and planning:** Travel, social events, and exercise become easier
- **Improved mood and confidence:** Relief from constant disruption and embarrassment
- **Preservation of sexual identity:** Unlike surgery, PAE avoids the “psychological shock” of ejaculatory or erectile changes

These gains are **often underestimated** by providers but felt deeply by patients. When you restore a man’s ability to sleep, travel, and focus without interruption, you’re not just treating a gland — **you’re restoring autonomy.**

Who Benefits Most?

While PAE can be effective across a range of prostate sizes and ages, certain groups consistently report **exceptional quality-of-life improvement:**

- **Men with significant nocturia**
- **Men still working or traveling regularly**
- **Sexually active men**
- **Men wary of anesthesia or hospitalization**
- **Men with prior surgeries looking to avoid another one**

In these groups, PAE is not just an equal option to surgery — it is a **superior one** in terms of overall patient-centered benefit.

In the next section, we'll compare not just how well PAE and surgery work, but how often **they go wrong** — focusing on the rate, nature, and consequences of **side effects and complications**.

SIDE EFFECTS AND COMPLICATIONS

For generations, the calculus around treating BPH has been this: tolerate mild to moderate symptoms until they're no longer manageable, then accept the risk of surgery as a necessary trade-off. That made sense when TURP and open prostatectomy were the only definitive options. But in the era of **Prostatic Artery Embolization (PAE)**, that model no longer holds.

Why? Because PAE offers comparable outcomes with **a dramatically lower complication rate**, and perhaps more importantly, **fewer compromises to how a man lives, functions, and relates to his body**.

Let's take a clear, side-by-side look.

1. Retrograde Ejaculation

This is perhaps the most common — and least anticipated — complication of traditional BPH surgery.

- **TURP**: Occurs in **65–75%** of men
- **HoLEP**: Similar or higher rates
- **GreenLight laser**: Roughly **40–60%**
- **PAE**: Fewer than **5–10%**, and often **temporary**

In most cases of surgical-induced retrograde ejaculation, the internal sphincter at the bladder neck is damaged or removed, causing semen to flow backward into the bladder during orgasm.

While it's not harmful physically, it can be **deeply disruptive emotionally**. For sexually active men — especially those still forming intimate relationships — this side effect can feel like **a loss of identity or masculinity**, one they were never adequately warned about.

In my practice, the **preservation of ejaculation** after PAE has been one of the most important contributors to post-procedure satisfaction. Men feel whole, functional, and undiminished — not just relieved of their urinary symptoms.

2. Erectile Dysfunction

- **TURP:** Reported in **5–10%** of patients
- **HoLEP/GreenLight:** Similar or slightly lower
- **PAE: No increased risk**, and some men report improvement

Traditional surgeries can cause **nerve damage or vascular compromise** that results in temporary or permanent erectile dysfunction. Even when potency is preserved, the anxiety surrounding the risk itself creates a psychological burden.

In contrast, **PAE avoids all genital and pelvic nerve structures**, preserving erectile function consistently. And for some men, improved sleep, reduced urinary anxiety, and less medication dependence actually **improve sexual performance and satisfaction** after the procedure.

3. Incontinence

- **TURP:** Mild, transient incontinence in **up to 10%**; persistent in **<2%**
- **HoLEP:** Similar, with higher rates in elderly men

- **PAE: Virtually nonexistent**

Surgical trauma to the urinary sphincters can lead to stress or urge incontinence, even in otherwise healthy men. While physical therapy can help, some cases are permanent. For a condition as psychologically charged as bladder control, this can be devastating.

PAE avoids these structures altogether — no resection, no cauterization, no catheters passing through the sphincters. That's not just technically elegant — it's **functionally protective**.

4. Bleeding and Clot Retention

- **TURP:** Bleeding requiring irrigation or transfusion in **2–5%**
- **HoLEP:** Lower, but still possible
- **PAE: Near-zero risk**

After TURP, it's routine to see blood in the urine, sometimes in large clots. This can lead to urinary retention, catheter reinsertion, ER visits, and hospital readmission. It's also a major source of anxiety for patients.

In over 500 PAE procedures performed at *Modern Urologist*, **we have not had a single case of post-procedural bleeding requiring intervention.**

5. Hospitalization and Catheterization

- **TURP:** 1–3 days in hospital, catheter for 2–5 days
- **HoLEP/GreenLight:** Similar
- **PAE: Outpatient**, no general anesthesia, and **no catheter in most cases**

This is one of the most striking lifestyle differences. Surgery requires recovery time, downtime, and planning. PAE is often **done on a Friday and back to work Monday**. Men walk in, get treated, and walk out with a Band-Aid and a follow-up appointment — not a Foley catheter and a discharge packet.

6. Long-Term Surgical Risks

Surgery also introduces potential **structural complications**, including:

- **Bladder neck contractures**
- **Urethral strictures**
- **Residual or recurrent obstruction**
- **Need for reoperation** in 10–15% of men within 10 years

With PAE, while **retreatment may be needed in 10–20% over five years**, the approach is non-surgical, repeatable, and rarely escalates into higher-risk procedures.

A Word on Perception

Many patients are surprised to learn how common and serious these side effects are — not because the information isn't out there, but because **providers don't always present it clearly**. In our current system, PAE is still underrepresented in many urology offices. And as a result, men are often nudged toward surgery **without a truly informed conversation**.

I believe that's not just outdated — it's unethical.

At *Modern Urologist*, we put every risk and benefit on the table. We explain the trade-offs. We show the data. And more often than

not, when patients see the difference in side-effect profiles, they make the same choice: **PAE first.**

In the next section, we'll explore what this difference in safety means for recovery — how men feel during those first hours, days, and weeks after treatment, and why recovery after PAE isn't just faster — it's almost unrecognizable compared to surgery.

RECOVERY TIME AND HOSPITALIZATION

If there's one moment that defines how dramatically PAE diverges from traditional prostate surgery, it's **the morning after.**

For the man who just had a TURP or HoLEP, the morning after surgery means lying in a hospital bed, catheter in place, fluid bags running, bladder spasms waking him every 45 minutes, and a nurse gently reminding him not to move too quickly. There's blood in the catheter tubing, burning in the bladder, and a quiet hope that when the catheter comes out, he'll be able to urinate on his own.

For the man who had PAE, the morning after is entirely different.

He's at home. He slept in his own bed. He probably walked out of the clinic the day before, feeling more like he had a dental cleaning than a prostate treatment. There's no catheter, no hospital gown, no pain pump. Maybe some mild pelvic discomfort or fatigue, but nothing requiring narcotics. And most importantly: **his life is already returning to normal.**

This contrast is not a luxury. It's **the defining advantage of modern, minimally invasive care.**

Traditional Surgery: The Recovery Experience

Let's walk through what a typical post-TURP patient experiences:

- **Hospital Stay:** 1–2 nights, often in a urology or general surgical ward
- **Catheterization:** Foley catheter placed during surgery, typically left in for 2–5 days to allow the bladder to rest and flush out clots
- **Bladder Irrigation:** Continuous infusion of saline to prevent clot formation; tubing often blood-tinged or visibly red for 24–48 hours
- **Pain/Discomfort:** Burning sensation with urination, bladder spasms, and pelvic soreness
- **Medication:** Bladder relaxants, pain medications, sometimes antibiotics
- **Discharge Instructions:** No lifting, no sex, no strenuous activity for 2–4 weeks
- **Follow-Up:** Typically within 1–2 weeks, to monitor flow, healing, and complications

And that’s assuming everything goes well.

In cases where bleeding, clot retention, urinary retention, or infection occurs, the recovery may involve:

- Emergency room visits for catheter reinsertion
- Repeat bladder irrigation
- Delayed return to work or daily function
- Lingering irritative symptoms that last **weeks or even months**

It’s not just the physical toll. It’s the psychological drag — the vigilance, the uncertainty, the sense that even if the surgery “worked,” you’re not quite yourself anymore.

PAE: The Recovery Experience

In contrast, the post-PAE experience is more like recovering from **a long dental appointment than a surgical procedure**.

Here's what our patients at *Modern Urologist* typically report:

- **Hospitalization:** None. It's a true outpatient procedure
- **Catheterization:** Not needed in more than **95% of patients**
- **Discomfort:** Mild to moderate pelvic aching or pressure for 24–48 hours
- **Fatigue:** Some men feel slightly tired for a few days; others return to work within 48–72 hours
- **Medications:** Over-the-counter pain relief; short course of antibiotics
- **Activity Restrictions:** Very few — most resume normal routines within days
- **Symptom Relief Timeline:** Gradual but noticeable within 2–3 weeks, improving steadily over 2–3 months

There's no fear of urinating for the first time. No dread of catheter removal. No need to avoid exercise, intimacy, or travel for weeks. Men bounce back — and they do it with dignity intact.

Impact on Daily Life

Perhaps the most underrated benefit of PAE recovery is how little it interferes with **life**. Men can:

- Return to work quickly, especially in desk-based or part-time roles

- Travel within days — even fly
- Resume sex within a week or two, often with preserved ejaculation
- Sleep through the night without spasms, pads, or monitoring fluid bags
- Avoid the emotional toll of hospital-based care — no gown, no alarm clocks, no overhead lights at 3am

This difference matters. Especially for younger men still in their careers, for older men caring for spouses or grandchildren, for any man who simply values independence — **PAE offers freedom.**

Psychological Recovery

Surgery doesn't just impact the body — it impacts the mind.

We've had patients who, after TURP, felt **disconnected from their bodies**, worried about loss of control, or reluctant to be sexually active due to fears of new limitations. With PAE, those fears are largely absent.

Instead, men report:

- A sense of relief that they didn't have to go through "a major ordeal"
- Gratefulness that they preserved everything important to them
- Surprise that a treatment for such a disruptive condition could itself be so minimally disruptive

That's the power of minimally invasive medicine — not just to fix a problem, but to do it **without creating new ones.**

In the next section, we'll tackle the **durability of outcomes** — how long PAE relief lasts, how it compares to surgical re-treatment rates, and what options exist if symptoms return years later.

LONG-TERM RESULTS AND DURABILITY

When patients ask about any procedure, they're really asking one key question:

“Will this fix the problem — and will it last?”

This is where the history of BPH treatments gets complicated. Surgical interventions like **TURP**, long considered the “gold standard,” are not as permanent as many believe. Likewise, **PAE**, despite being newer, has shown durability that holds up across multiple years and large patient cohorts.

Let's look at the evidence and real-world experience — including what we've seen in our practice over hundreds of cases.

The Reality of TURP Durability

TURP is often marketed as a definitive, one-and-done procedure. While it's true that many men experience immediate and profound symptom relief, **that relief is not guaranteed to last** — especially for men with larger prostates or early signs of bladder dysfunction.

Here's what the data shows:

- **Retreatment rate after TURP:**
 - Around **10–15% within 5 years**
 - **15–20% or more by 10 years**, depending on patient age, prostate size, and comorbidities
- **Reasons for failure:**

- Tissue regrowth
- Incomplete resection
- Bladder dysfunction that surgery didn't address
- Scar formation or strictures requiring secondary procedures

Even HoLEP, which removes more tissue and is often touted for its lower re-treatment rate, carries similar long-term caveats. The procedure may be more “complete,” but the trauma to the urinary tract is also greater, and side effects are more common.

This reality is rarely explained to patients upfront. Many assume they're trading short-term discomfort for lifelong results. The truth is murkier — **even surgery does not guarantee permanence.**

PAE: The Long-Term Picture

Prostatic Artery Embolization, while newer, has now been studied with **5- and 7-year follow-up data** — enough to assess whether its benefits are fleeting or foundational. And the answer is clear: **PAE holds up.**

Here's what recent meta-analyses and large clinical trials have demonstrated:

- **Sustained IPSS improvement** in over 80% of patients at 3–5 years
- **Stable flow rate (Qmax)** increases over time
- **Low re-intervention rates** — around **10–20% within 5 years**, often due to incomplete embolization or unique vascular anatomy

- **Preservation of sexual function and urinary continence** in almost all patients

In short, **PAE offers long-term durability that rivals surgery** — and does so without the functional compromises or postoperative trauma that surgery often brings.

What If PAE Needs to Be Repeated?

The question isn't just whether retreatment is necessary — it's **what retreatment looks like.**

In the case of surgery:

- Repeat TURP or HoLEP is **technically more difficult** due to scar tissue
- Risk of side effects and complications **increases with repeat procedures**
- Recovery is often longer and less predictable

In contrast, if a man needs repeat PAE:

- It is **performed the same way** as the original — through the arteries, without cutting or anesthesia
- Imaging from the first procedure helps the radiologist plan more precisely
- The second embolization often targets **residual or newly recruited arteries**, which can now be addressed with updated techniques
- Recovery is again rapid, outpatient, and low risk

At *Modern Urologist*, we've followed men for several years post-PAE and have only had to repeat the procedure in **a small**

minority — and in every case, **the second experience was as smooth and successful as the first.**

Predicting Durability: Who Stays Symptom-Free Longest?

Not all prostates are the same, and not all men respond identically. But we've observed — and the literature confirms — that the men who enjoy the **most durable response** to PAE tend to have:

- **Moderate to large prostates** (but not extreme hypertrophy over 150cc)
- **No advanced bladder dysfunction**
- **No prior surgery or pelvic radiation**
- **Well-controlled cardiovascular health**, which affects the vascular supply

Age doesn't limit PAE's success — we've treated men in their 80s with durable outcomes. What matters more is **vascular anatomy and symptom type**, which can be assessed pre-procedure with advanced imaging.

A New Definition of “Long-Term Success”

When men ask me, “Is this going to last?” — I tell them what I know from experience, from research, and from over 500 cases in our own practice:

PAE doesn't just give you results — it gives you options.

Yes, the relief is real. Yes, it lasts. But most importantly, **if symptoms return, you're not stuck.** You haven't burned bridges. You haven't sacrificed function. You're not dealing with scar tissue

or nerve loss. You've preserved the option to treat again — safely and simply.

That's the new gold standard:

Effective, repeatable, and non-destructive.

COST AND ACCESSIBILITY

The best treatment in the world means nothing if people can't access it. And in healthcare — especially in the United States — access isn't always dictated by what's effective or safe. It's often dictated by what's **profitable, reimbursed, or institutionally entrenched**.

That reality has made PAE's adoption slower than it should be. Despite **strong clinical evidence, enthusiastic patient feedback, and a safety profile that outclasses many surgical options**, PAE remains **underutilized**, misunderstood, or **simply omitted from the conversation** in many urology practices.

Let's break down the reasons — and how to navigate them as a patient or provider.

1. Procedure Costs: What It Actually Takes

PAE is not an experimental or boutique procedure. It uses well-established interventional radiology infrastructure — the same fluoroscopy suites and angiographic tools used for embolizing fibroids, treating liver tumors, or stopping GI bleeds.

The direct costs of PAE — including imaging, embolic materials, physician time, and facility use — are **comparable to or lower than TURP or HoLEP**, especially when factoring in:

- No general anesthesia

- No hospitalization
- No catheterization supplies or bladder irrigation kits
- No multi-day recovery support

In our clinic at *Modern Urologist*, we perform PAE as an outpatient procedure, with **streamlined, bundled pricing** for those paying out-of-pocket and complete insurance coordination for those with coverage. The total financial burden is often **less than surgery** — especially when considering indirect costs like lost work, follow-up appointments, and complication management.

2. Insurance Coverage: The Inconsistent Reality

Here's where things get murky:

- **Medicare covers PAE** in most U.S. regions
- **Private insurers are highly variable** — some approve it easily; others require appeals or preauthorization
- **Many providers don't offer it because they don't perform it** — not because it isn't covered

This creates a cycle of silence. If a urologist doesn't perform PAE, or isn't partnered with an interventional radiologist who does, they may not even bring it up. Patients are then funneled into more invasive procedures **without ever knowing a gentler option exists**.

It's not uncommon for men to hear:

“That's not approved”

“That's not standard”

“That's not what we recommend”

When what's actually true is:

“We don’t offer that here, and we’re not incentivized to refer you elsewhere.”

This is a major disservice to patients.

That’s why at *Modern Urologist*, we’ve spent years **building direct relationships with insurance providers**, streamlining documentation and appeals, and educating care coordinators so that when a patient chooses PAE, **they don’t hit roadblocks**. We’ve been successful in getting coverage for the majority of our patients — often with **zero out-of-pocket costs**.

3. Institutional Economics: Why Surgery Still Dominates

Traditional surgeries like TURP, HoLEP, and GreenLight laser are deeply embedded in hospital economics. They generate:

- **Surgical facility fees**
- **Anesthesia billing**
- **Inpatient hospital revenue**
- **Device company profits**

In contrast, PAE:

- Requires no OR time
- Is typically outpatient
- Uses generic or low-cost embolic materials
- Shifts the revenue stream to interventional radiology and outpatient care

In large health systems, the **incentive to prioritize surgery** often outweighs the incentive to explore more efficient, patient-friendly options like PAE. And unless individual physicians advocate for change — or work outside the traditional hospital model — this bias persists.

That's why PAE has found more success in **independent practices, hybrid urology-radiology clinics, and value-driven healthcare models** where the goal is outcome, not overhead.

4. Patient Navigation: Finding a PAE Provider

One of the most frustrating barriers for patients is simply **finding someone who offers PAE**.

Most urologists **do not perform** PAE — because they aren't trained to. And while some are aware of it, many won't refer outside their practice network, or may downplay its benefits due to lack of familiarity. Interventional radiologists, meanwhile, may perform the procedure — but **don't always market directly to patients** or coordinate follow-up care unless partnered with a urologist.

This creates a fragmented experience.

That's why I built *Modern Urologist* as a **comprehensive center** — where men can learn about all their options, get imaging, see urologists and interventionalists in the same office, and **choose the treatment that aligns with their values, lifestyle, and health goals**.

We remove friction. We restore choice.

And most importantly, we give men access to **modern medicine that puts their needs first**.

5. The Cost of Doing Nothing

There's one more hidden cost to consider: **the cost of delay**.

Many men, frustrated by the limited options they're offered, choose to stay on medications that aren't working. They endure symptoms for years, not realizing that a safe, effective, outpatient solution is within reach. That delay costs them:

- Sleep
- Confidence
- Intimacy
- Productivity
- Quality of life

When PAE is available — and especially when it can be done without hospitalization, without interruption to life, and without long-term side effects — the true cost is not the procedure. It's **not knowing it was possible**.

Chapter 6

The Hidden Option - Why PAE Isn't Always Offered

THE KNOWLEDGE GAP IN UROLOGY

If you're reading this book, chances are that you or someone close to you has been affected by BPH — and that you've already sat in a urology office and been told what your “options” are. What most men don't realize until later — sometimes after surgery, sometimes after frustration, sometimes after hours of Googling — is that **those options were often incomplete.**

You weren't given the full menu.

And that's not because your doctor didn't care. It's because **the healthcare system — and specifically the field of urology — still has a blind spot when it comes to modern, minimally invasive solutions like PAE.**

Let's explore where this knowledge gap comes from, how it affects real patients, and what needs to change.

1. The Training Problem

Most practicing urologists trained before PAE became widely available. In fact, if you finished residency before 2015, there's a

good chance **PAE wasn't mentioned at all in your training.** And even today, few urology programs offer formal exposure to interventional radiology techniques — meaning the average urologist has never seen a PAE done.

Now, to be fair, no physician can offer what they don't know. But the issue is deeper than that. Because even now, as evidence mounts and societies like the American Urological Association acknowledge PAE in their guidelines, **many urologists still dismiss it as experimental or unproven — despite published data proving otherwise.**

Why? It comes down to **professional culture and comfort.** Urologists are surgeons. They are trained to think in terms of scopes, resections, and laser energy. PAE exists outside that domain, and it requires collaboration with a different specialty — interventional radiology. That means learning new workflows, sharing patients, and in some cases, **referring care outside their practice.**

And not every physician is ready to do that.

2. The Financial Disincentive

There's no polite way to say this, but it matters: **urologists make more money doing surgery than referring to PAE.**

TURP, HoLEP, and laser procedures generate:

- Facility fees
- Surgical billing
- Follow-up visits for catheter checks, imaging, and post-op care
- In some systems, bonuses tied to surgical volume

PAE, in contrast:

- Is performed by a radiologist
- Generates no income for the referring urologist
- Often removes the need for further office procedures

Even in practices that acknowledge PAE as an option, there may be **a quiet financial resistance** to recommending it. It's not always malicious — sometimes it's unconscious. But the effect is the same: patients are told that surgery is “more definitive,” “better studied,” or “what we usually do here,” when the reality is that **referring for PAE disrupts the traditional revenue structure**.

At *Modern Urologist*, we've structured our care model differently. We collaborate — not compete — with interventional radiologists. We prioritize patient outcome and satisfaction **over reimbursement patterns**. And we've found that when men are truly given all their options, they almost always **choose what's least invasive, safest, and most aligned with their lifestyle**.

3. Outdated Guidelines and Lagging Institutions

For years, the official guidelines from major urology societies gave PAE a lukewarm endorsement at best. They cited “lack of long-term data” or “technical variability,” even while endorsing newer laser platforms with far fewer studies behind them.

Why? Because **PAE was developed outside the urology world**, and most academic leadership in urology didn't see it as “theirs.” It wasn't until randomized trials like the UK-ROPE study and long-term registries began publishing in force that the tide started to turn.

But even now, the dissemination of those findings is **slow and uneven**. Large urology groups may continue offering the same

menu of options — medications, then TURP or HoLEP — simply because that's what they've always done.

As a result, **patients are left out of the evolution** of care.

4. The Patient's Dilemma: Trusting the Gatekeeper

Most men trust their doctors — as they should. But that trust becomes a liability when the gatekeeper isn't offering all the keys. Imagine going to a car dealership and being told you can only buy gas-powered sedans, even though the electric model around the corner is quieter, faster, and cheaper to run. You'd feel misled — not just because of what you bought, but because of **what you weren't told**.

That's exactly what happens to many men with BPH. They undergo a TURP or GreenLight laser procedure, only to find out months later that a painless, outpatient alternative was available all along.

And for some, that discovery brings **regret, resentment, and a sense of betrayal**.

5. The Culture of “We've Always Done It This Way”

Change is hard in medicine. Especially when the “old way” still technically works. But functioning doesn't mean optimal. And tradition doesn't mean right.

We've spoken to hundreds of patients who were told PAE was “too new,” “not covered,” or “not definitive.” And in every case, the truth was different. They weren't given accurate, balanced information — they were given the narrative that supported their provider's comfort zone.

That has to change. And it starts with **transparency, education, and shared decision-making**.

In the next section, we'll explore how we built *Modern Urologist* around these very principles — putting patients in control, integrating specialties, and offering a truly modern approach to prostate care.

Excellent — now let's walk through the story, structure, and philosophy behind *Modern Urologist* — and how it represents a radical departure from the way BPH care has been delivered for decades.

BUILDING A MODERN UROLOGY PRACTICE

When I founded *Modern Urologist*, it wasn't just to open another private urology clinic. It was to **create a different kind of practice** — one that aligned with what I knew was possible in men's health: high-quality, evidence-based care that **respected patients' intelligence, time, bodies, and futures**.

I had been in the field long enough — over 25 years — to watch our tools and knowledge improve, while the system around us remained stuck in outdated models. The standard urology office still too often worked like this:

- Patients referred to the same handful of procedures
- Little conversation about newer alternatives
- Treatment pathways dictated more by tradition than innovation
- Referrals kept “in house”
- Sexual and quality-of-life outcomes treated as secondary

This wasn't just inefficient — it was **dishonest**. And it was costing patients not just comfort and function, but autonomy.

So I decided to reimagine what a urology practice could be — starting from one core principle:

Give patients all the information, all the options, and the ability to choose care that fits their life.

1. A Clinic Built Around the Patient, Not the Procedure

At *Modern Urologist*, the patient journey doesn't start with a prescription or a scope. It starts with a conversation.

When a man comes in with BPH symptoms, our goal is not to “convert him to surgery” or “push him into PAE.” It's to understand:

- How long he's had symptoms
- What matters most to him (sleep? sex? avoiding surgery?)
- What he's already tried, and what he's afraid of
- What kind of recovery and outcome he's hoping for

From there, we offer **a full spectrum of modern diagnostics**, including:

- **Transrectal ultrasound** to measure prostate size
- **Advanced urinary flow and residual tests**
- **PSA interpretation** in context, not alarmist scripts
- **Vascular imaging** when appropriate, to assess for PAE candidacy

This diagnostic clarity **informs**, not dictates, the path forward. We talk openly about:

- Medications — and why they often fail
- TURP and HoLEP — with honest discussion of side effects
- PAE — what it is, how it's done, and what to expect
- Lifestyle, diet, and hormonal factors that play into symptom severity

Patients leave empowered, not pressured.

2. Integrated Care With Interventional Radiology

One of the biggest obstacles in most communities is the **disconnect between urology and interventional radiology**. These are two specialties that should be working hand-in-hand, but in reality, they often operate in silos.

At Modern Urologist, we solved this by:

- **Bringing both specialties under one roof**
- Having **collaborative case conferences** to discuss complex patients
- Ensuring **seamless transitions** for patients choosing PAE — no paperwork ping-pong, no disjointed care

When a patient opts for PAE, we coordinate:

- Pre-procedural imaging
- Insurance approval and appeals (when needed)
- A single point of contact from scheduling through follow-up

- Long-term follow-up within the same clinic, so outcomes are tracked and supported

This model has resulted in **better outcomes, better satisfaction, and far more informed decisions.**

3. Respect for Sexual and Emotional Health

Traditional urology too often treats ejaculation, libido, and erectile function as **secondary concerns**, or worse, **acceptable casualties** of treatment. That attitude is not only outdated — it's negligent.

At *Modern Urologist*, we make sexual preservation a priority in BPH care. We educate men on:

- What different treatments will or won't affect
- The real rates of retrograde ejaculation or ED
- How PAE offers functional preservation — and why that matters long-term

We also openly discuss the **emotional impact of BPH** — from sleep deprivation to anxiety to diminished intimacy. We don't rush through visits. We ask questions. And we listen.

4. Streamlined Access and Transparent Cost

Another barrier we eliminated: **confusion around insurance and billing.**

PAE is covered by Medicare and many private insurers, but navigating approvals can be exhausting. That's why we:

- Have a **full-time staff member dedicated to insurance navigation**

- Pre-authorize everything
- Offer **transparent, bundled pricing** for patients without coverage
- Work with patients, not against them, when it comes to affordability

The result? Fewer delays, fewer surprises, and more men **getting the treatment they want — not just the one they're told to take.**

5. Follow-Up That Follows Through

Our responsibility doesn't end when the procedure does. We offer:

- Regular follow-up appointments at 1 month, 3 months, 6 months, and annually
- Repeat imaging if symptoms change
- Adjustments to medical therapy if needed
- The option for **repeat PAE years later**, should symptoms recur — which in most cases is just as smooth as the first time

We've built this model on **trust, transparency, and innovation** — not habit, hierarchy, or financial priority.

And it's working.

Over 500 men have undergone PAE in our practice over the past four years. We've had **no major complications, hundreds of success stories**, and perhaps most meaningfully, **more informed patients than ever before.**

That's what modern urology looks like.

In the next section, we'll focus on **how you, the reader, can advocate for better care** — whether you're a patient looking for options or a provider ready to challenge the status quo.

Shall I proceed to **Part 3: Patient Advocacy and Empowerment**?

Excellent — now let's turn to the most important piece of this entire conversation: **you** — the patient, the decision-maker, the one living with the symptoms, the one entitled to better care.

This next section is about **empowerment** — giving you the mindset, language, and strategies to advocate for yourself in a medical system that too often defaults to tradition over innovation.

PATIENT ADVOCACY AND EMPOWERMENT

Modern medicine is full of contradictions. We have robots that assist in surgery, AI algorithms that help diagnose rare diseases, and imaging technology that can detect cancer at the size of a sesame seed. Yet a man with BPH might still walk into a urology office and be handed **a 30-year-old prescription and a referral for TURP** — without ever hearing about safer, more modern options like Prostatic Artery Embolization.

The reason? Inertia. Reimbursement. Habit. And above all, **asymmetry of information**.

Most men walk into a consultation assuming their doctor will give them the best available treatment. But the truth is: **most doctors give you the treatment they know best, not necessarily the one that's best for you**.

That's why patient advocacy matters. And it starts with understanding that **you're not a passive recipient of care — you're a participant**. Here's how to take that role seriously.

1. Get Informed Before the Appointment

Before you even step into the office:

- Read about **all your options**, not just the ones offered by your primary care doctor
- Make a list of **your priorities**: Are you trying to avoid surgery? Maintain sexual function? Return to work quickly?
- Bring questions — not just about the procedure, but about what *won't* happen: Will I ejaculate normally? Will I be catheterized? Will I be awake or under anesthesia?

You are not being “difficult” by asking. You are being **thorough** — and protecting your future self.

2. Ask Directly About PAE

If the doctor doesn't mention PAE, ask:

“What are your thoughts on Prostatic Artery Embolization? I've read that it's a non-surgical option with a fast recovery and lower risk of sexual side effects.”

Watch the response carefully. A good physician will welcome the question. A dismissive or defensive reaction — “That's not standard,” “That's not real treatment,” “I don't recommend that” — is a red flag. Push respectfully:

“Is that based on your experience, or on data? Have you referred patients for it?”

Remember: **you're not challenging their expertise — you're clarifying your options.**

3. Demand Shared Decision-Making

In modern care, treatment should be **a collaboration**. If a provider only offers one path, or steers you toward the same surgery they offer every other patient, that's not shared decision-making — it's a funnel.

A balanced approach should include:

- A discussion of at least 3–4 treatment options
- Transparent risks and benefits
- The opportunity to reflect, ask questions, and even seek a second opinion

Anything less is **not real consent** — it's convenience masked as care.

4. Find a PAE-Experienced Team

If your urologist does not offer or refer for PAE, look for:

- **Urology practices partnered with interventional radiologists**
- **Centers that advertise minimally invasive BPH care**
- **Patient communities online** who have had PAE and can recommend providers

At *Modern Urologist*, we regularly see patients who've traveled from out of state after being told they "weren't candidates" elsewhere — only to find they were excellent candidates, and went on to experience life-changing relief.

You deserve a second opinion if something doesn't sit right.
You deserve modern care.

5. Don't Settle for "Normal" If You're Not Okay

One of the most common phrases we hear from men who've delayed treatment for years is:

"I thought this was just part of aging."

"I didn't want surgery, so I figured I'd just live with it."

"I didn't know there was another way."

It doesn't have to be that way.

Waking up four times a night is not normal. Planning your life around bathroom access is not acceptable. Giving up your sex life or work life because of your prostate is not necessary.

PAE doesn't just treat symptoms — it treats the **belief that your suffering is inevitable.**

6. Share Your Experience

If you've had PAE — or even if you've just learned something valuable about your care — share it. Tell other men. Write a review. Educate your primary care doctor. Talk to your sons and brothers.

BPH is not rare. Neither is misinformation.

But you can be part of changing the standard — one honest conversation at a time.

HOW PROVIDERS CAN MODERNIZE BPH CARE

The path toward better BPH care doesn't begin with new devices or reimbursement changes — it begins with a **mindset shift**. For decades, urology has defined success in procedural terms: Was the prostate resected? Did the IPSS improve? Was the flow rate higher? But as patients become more informed and treatments more nuanced, that standard is no longer enough.

Modern urology must measure success by a broader — and more human — metric:

Did the patient get the outcome they wanted, with the fewest trade-offs possible?

This is the foundation of a new model — one that embraces Prostatic Artery Embolization (PAE) not as a threat to tradition, but as an opportunity to improve lives more gently and sustainably.

Here's what providers — especially urologists — can do to modernize.

1. Expand the Treatment Menu — Honestly

If a urology practice only offers medications, TURP, and laser options, it is not offering modern care. That's not an opinion — it's a failure of scope.

Modern BPH care should include:

- **Prostatic Artery Embolization (PAE)**
- **UroLift and Rezūm** (when appropriate)
- **Lifestyle, hormonal, and holistic strategies** for select cases

- Honest discussions about long-term outcomes, including sexual preservation and re-treatment

Offering all of these doesn't require performing all of them in-house — it requires **building referral relationships, educating staff, and presenting a full picture** to the patient.

When providers say, “We don't offer that,” the next line should be, “But we know someone who does.”

2. Partner With Interventional Radiologists

The historical divide between urology and interventional radiology has no place in modern care. PAE is a collaborative opportunity, not a turf war. Urologists can lead the diagnostic and counseling side, while radiologists perform the procedure and manage the technical side. Together, this model offers:

- Faster treatment
- Less redundancy
- Better communication
- More holistic follow-up

At *Modern Urologist*, our collaboration with interventional radiologists has made it possible to:

- Offer **same-week evaluations and procedures**
- Reduce preauthorization delays
- Maintain **unified electronic records**
- Provide **joint follow-up care** that tracks both urinary and vascular outcomes

This should be the new standard — not the exception.

3. Update Consent Conversations

Informed consent is not just a signature — it's a process. That process must include:

- A full review of **all available treatments**
- Clear discussion of **side effects**, including retrograde ejaculation, erectile function, catheter duration, and downtime
- An opportunity for **questions without condescension or pressure**
- Printed or digital materials for further reflection

When patients later say, “I wish I had known,” that's not just regret — that's a system failure. Providers can fix that by **elevating their conversations and slowing down their assumptions**.

4. Respect Quality of Life and Sexual Preservation

Traditional surgical urology has historically downplayed or normalized side effects like:

- Retrograde ejaculation
- Temporary or permanent erectile dysfunction
- Catheterization
- Incontinence
- Loss of sexual confidence

But these are not minor complications — they are **major quality-of-life events**. Men in their 40s, 50s, and 60s are not finished with

life. Even men in their 70s and 80s are still sexually active, still traveling, still seeking dignity in their care.

Modern providers must **prioritize preservation**, not just removal:

- Preserve ejaculation where possible
- Preserve sensation and intimacy
- Preserve function and flexibility for future care
- Preserve the patient's self-perception

PAE supports this approach by avoiding the anatomical structures most associated with sexual and urinary dysfunction — and that's a technical and ethical win.

5. Advocate for Institutional and Insurance Reform

Providers can do more than just practice differently — they can **speak up within their systems**. That includes:

- Pushing for **PAE inclusion in surgical referral pathways**
- Urging **insurance panels** to adopt standardized coverage for PAE
- Educating medical directors, hospital executives, and payer gatekeepers about **long-term cost savings** of less invasive options
- Publishing outcomes and patient stories that **shift cultural norms**

When PAE is normalized in training programs, when insurers stop requiring appeals, and when institutions support collaboration, BPH care will catch up with the rest of modern medicine.

6. Embrace the Shift — Or Risk Being Left Behind

Healthcare is changing. Patients are more informed, more empowered, and more connected to others who've been through the system. If urologists cling to a narrow procedural model, they will not only lose relevance — they will lose **the trust of their patients**.

By embracing:

- Collaboration
- Transparency
- Patient preference
- Sexual preservation
- Minimally invasive precision

...providers don't lose control — they **gain alignment with what medicine is supposed to be**: healing, not harm. Guidance, not gatekeeping.

WHAT NEEDS TO CHANGE IN THE SYSTEM

Even the most progressive clinic can only go so far if the healthcare system it operates in is stuck in the past. If PAE is going to move from “alternative” to “mainstream,” then the institutions, payers, and policy architects of medicine need to shift as well.

Right now, too many patients are steered toward older treatments **not because they're better**, but because they're easier to bill, better known, or institutionally embedded. That's not a clinical failure — it's a **systemic one**.

Here's what needs to change to bring BPH care fully into the 21st century.

1. National Guidelines Must Fully Embrace PAE

While some progress has been made, the leading urology and interventional societies still **lag behind the data**. The American Urological Association (AUA), for example, mentions PAE in its guidelines — but does so with caveats and caution that don't reflect its robust safety profile and global adoption.

We need:

- Clear, **positive endorsements** of PAE as a first-line option for eligible men
- **Updated algorithms** that include PAE in stepwise treatment trees
- **Joint guidelines** between urologists and interventional radiologists
- Inclusion of PAE in **medical school and residency training**, not just CME lectures

This is how new standards are born — when institutions codify what patients and frontline clinicians already know works.

2. Insurers Must Stop Creating Barriers

The current insurance process for PAE is unnecessarily complex:

- Some private insurers require **multiple medication failures** before considering PAE
- Others refuse to authorize it unless TURP has been tried and failed — despite its invasiveness

- Appeals processes are time-consuming and discouraging for both providers and patients

These barriers are based on **obsolete cost assumptions**. In truth:

- PAE is **less expensive** than surgery when factoring in recovery and complications
- It reduces **ER visits, readmissions, and medication dependence**
- It can delay or prevent more costly procedures altogether

We need insurers to:

- Adopt **universal coverage for PAE**, especially for men with moderate to severe BPH
- Stop treating minimally invasive care as “elective” or “experimental”
- Standardize preauthorization forms across carriers
- Reward outcomes, not just procedure volume

This shift isn’t just ethical — it’s fiscally responsible.

3. Hospitals Must Embrace Collaborative Models

In many hospital systems, interventional radiology (IR) and urology barely interact. This fragmentation leads to:

- Missed referrals
- Inconsistent messaging to patients
- Competition instead of collaboration

The better model is a **co-managed care structure**:

- Shared patient panels
- Joint clinics or multidisciplinary BPH programs
- Unified follow-up pathways
- Collaborative publishing of data and outcomes

Some academic centers have begun this, but most private systems lag behind. Leadership from both departments — and administrators — is needed to build the infrastructure for **seamless care**.

4. CMS and Regulatory Bodies Must Lead with Incentives

Medicare (CMS) can be a powerful force for modernization if it chooses to be. By adjusting policy levers, CMS can:

- Create **bundled payment models** that include PAE alongside other BPH procedures
- Offer **bonuses for shared decision-making documentation**
- Require reporting on **patient satisfaction and functional preservation**, not just symptom scores
- Fund **demonstration projects** for community-based, multidisciplinary BPH care

By putting its financial weight behind minimally invasive care, CMS can change the tone for every payer and institution that follows its lead.

5. Public Health and Men's Health Campaigns Must Include BPH

Public discussion of men's health has long focused on **prostate cancer, ED, and testosterone**. BPH gets sidelined, even though it affects far more men, far earlier, and often with greater impact on quality of life.

A modern public health agenda should include:

- Awareness campaigns about **BPH as a treatable, quality-of-life condition**
- Educational outreach about **PAE and non-surgical options**
- Engagement with men's groups, retiree communities, and online forums
- Testimonials and storytelling from patients who've had PAE

Normalizing the conversation is half the battle — and it begins with visibility.

6. Technology Companies and EMR Platforms Must Catch Up

Electronic medical record (EMR) systems, decision support tools, and referral algorithms still overwhelmingly default to TURP and medications when documenting BPH treatment. Even templated notes often fail to include PAE as an option.

Vendors and health IT teams should:

- Include **PAE as a selectable treatment option** in urology workflows

- Add **decision-support nudges** for patients who meet criteria
- Enable **cross-specialty referrals** directly within the EMR

This reduces the burden on busy providers and helps ensure patients see **all viable options**, not just the ones coded in first.

In Summary

If we want the future of BPH care to be minimally invasive, sexually preserving, and recovery-light — then every part of the system has to move:

- **Guidelines must evolve**
- **Insurers must remove friction**
- **Hospitals must foster collaboration**
- **Regulators must incentivize innovation**
- **Patients must be informed**
- **Technology must reflect reality**

Only then will PAE — and the modern, compassionate care model it represents — become the standard men deserve.

Chapter 7

Real Patient Stories

JIM, THE BUSINESS TRAVELER

Jim was 59 when he first came to our office. A sharp, high-energy executive in the logistics industry, he lived in airports and conference rooms, toggling between time zones like some people switch television channels. He prided himself on efficiency — he didn't waste time, he didn't accept vague answers, and he didn't believe in unnecessary downtime.

But for the past 18 months, Jim had been living with a silent saboteur: **BPH symptoms that were beginning to unravel his routine and confidence.**

He described the problem plainly:

“Every two hours like clockwork. Whether I'm in a client pitch, on a plane, or sleeping — I have to go. And it's never satisfying. I go, then I'm back in 20 minutes. Nights are worse. It's not just the sleep loss. It's the stress. Am I going to make it through this next flight? Will there be a line at the airport bathroom? It's humiliating.”

He had tried everything:

- Tamsulosin: made him dizzy
- Finasteride: tanked his libido

- Saw palmetto: “garbage” in his words
- And his urologist’s suggestion? “You’re probably headed toward TURP.”

That was his red line.

“I told him, I’ve seen what TURP does. My dad had it. Sex life was gone. Catheter for five days. Looked like someone had mugged his urethra.”

Jim walked out of that office determined to find another answer — and found our clinic.

The Consultation

When Jim came in, he had already done his homework on PAE. What he needed wasn’t a sales pitch — it was someone to talk to him **clinician-to-clinician**, someone who respected his time, intelligence, and unwillingness to be railroaded into a procedure he didn’t want.

We walked through his imaging. Prostate volume: 82 cc.

Bladder: no signs of dysfunction.

PSA: stable.

IPSS score: 24.

Sexually active. Still traveling monthly. Still in excellent cardiovascular health.

Perfect candidate.

He nodded before I could finish.

“So let’s do this. I want my life back. I don’t want a catheter and I don’t want retrograde ejaculation.”

We scheduled the PAE for the following week.

The Procedure and Aftermath

Jim showed up on a Thursday morning, joking with staff, watching Bloomberg TV in the waiting room. He walked into the suite. We accessed his right femoral artery, guided the catheter to the prostatic arteries, embolized the targeted areas, and finished in under 90 minutes.

He walked out that afternoon with a small bandage, no catheter, no anesthesia hangover.

I called him that weekend. He said:

“Felt a little sore Friday night. Took a Tylenol. That was it. Honestly, if you hadn’t told me something happened in there, I wouldn’t know.”

The Results

Within two weeks, he was urinating less often. By one month, he was sleeping through the night. At his three-month follow-up:

- IPSS down to 6
- Zero medications
- No sexual side effects
- Full ejaculation
- Back to monthly Asia-Europe trips, no issues

His words stuck with me:

“You saved my quality of life, Doc. I dodged a bullet. And I’ve told every guy at the golf club: stop living in the bathroom and go get this done.”

Jim's case is not unusual. He was simply:

- Educated
- Unwilling to settle
- Given access to care by a clinic that respects autonomy

PAE didn't just fix his flow. It **fit his life**.

HENRY, THE RELUCTANT PATIENT

Henry was 72 when he first sat across from me.

Polite, quiet, and cautious, he had taught high school math for over four decades. Retired now, his life revolved around his wife, his garden, and the grandkids he helped watch every other weekend. He wasn't a complainer. He wasn't dramatic. And he definitely wasn't the kind of person who rushed into medical procedures.

But after years of frustration, he finally made an appointment at *Modern Urologist*.

What brought him in wasn't pain, or fear — it was **exhaustion**.

He explained it softly:

“It's been over ten years now. At first, it was just more urgency. Then getting up at night. Then not being able to finish. I've been on Flomax, finasteride, dutasteride... every pill they've got. And I just don't want to live like this anymore.”

He went on:

“I'm tired, Doc. I'm tired of not sleeping. I'm tired of planning my day around bathrooms. I'm tired of the dull ache in my lower back when I can't go. I'm tired of feeling old.”

His previous urologist — a reputable one, to be clear — had recommended TURP, explained the risks, and told him:

“You’re not getting any younger. Might as well get it done.”

But Henry had watched two of his closest friends recover from TURP. One had incontinence for three months. The other lost sexual function entirely. That was enough to make him stall — and **keep stalling** — for years.

When he arrived in our office, he was done stalling.

The Evaluation

Henry’s prostate was large — around 105 cc — but not out of reach. He still had decent bladder function, based on his post-void residual. His PSA was mildly elevated but consistent over time. His main symptoms were:

- Nocturia (5–6 times per night)
- Hesitancy
- Weak stream
- Incomplete emptying

He had resigned himself to living like this forever — until we told him about PAE.

His face lit up when we explained:

- No cutting
- No hospitalization
- Low risk of retrograde ejaculation
- No catheter for most patients
- Outpatient recovery

“Why didn’t anyone mention this before?” he asked.

That’s the question that still echoes for me — every time I hear it.

The Procedure

Henry’s case wasn’t technically easy — the arteries were slightly tortuous, and it required careful mapping and slow embolization. But everything went smoothly. He was home that evening. He reported some pelvic aching for about 48 hours, managed with Tylenol and a heating pad.

No catheter. No anesthesia fog. No fear.

The Transformation

Henry’s recovery was gradual — slower than Jim’s, but no less steady. At two weeks, he reported better stream strength. At one month, he was down to getting up twice a night. At three months:

- IPSS dropped from 28 to 10
- Stream normalized
- No urinary retention
- Back in the garden, pain-free, and off all medications

But what moved me most was his tone. He wasn’t just improved — he was **at peace**.

He told me:

“I feel like myself again. My wife says I smile more. My grandkids don’t ask why Grandpa always has to pee.”

He paused.

“I just wish I had found you five years ago.”

What Henry Taught Me

Not every patient is aggressive like Jim. Most are like Henry — quiet, patient, deferential to authority. And they fall through the cracks when providers don’t mention newer options, or assume age equals passivity.

But when we give them knowledge — and respect — they make excellent decisions.

Henry didn’t want surgery.

He didn’t want side effects.

He didn’t want pity.

He wanted to live, comfortably and quietly — and now, he does.

LUIS, THE YOUNG FATHER

Luis was only 51 when he came to our clinic, but he felt 67.

Not because of his health overall — he was fit, lean, still playing basketball on weekends with his teenage son — but because of what his prostate had been doing to him for the past five years.

It started small. Nighttime urgency. Interrupted flow. That slow trickle that left him wondering if he was done or if his bladder was just giving up.

But it escalated.

By his early 40s, Luis was waking up four or five times a night. His workouts suffered. His patience with his kids grew shorter. His productivity at work dipped — all because he couldn’t sleep through the night, couldn’t sit through meetings, and felt like he had no control over his own body.

Worse still: his sex life, once vibrant and central to his identity and marriage, had quietly deteriorated. Not because of ED — but because of embarrassment, fatigue, and the psychological toll of never feeling at ease in his body.

He had seen two urologists. Both told him the same thing:

“You’re young for this, but it happens. Start with tamsulosin. If that doesn’t work, we’ll try finasteride. If that doesn’t work... TURP.”

The pills gave him lightheadedness and a strange sense of disconnection from his body. Finasteride made things worse: he lost morning erections, felt depressed, and couldn’t concentrate.

He was told the side effects were “acceptable.”

Luis disagreed.

The Frustration of Being a Young BPH Patient

One of the most painful aspects of Luis’ experience was **not being taken seriously**. Because of his age, doctors assumed:

- He could tolerate meds longer
- He wouldn’t “need” surgery for a while
- His quality-of-life concerns were overblown

But BPH doesn’t ask your age before it starts interfering with your life. And younger men — like Luis — often feel **more alienated** by traditional care, because the treatment pathways assume they’re older, less sexually active, or more tolerant of side effects.

When Luis found our clinic, he was done accepting that logic.

His Evaluation

Prostate: 65 cc
No prior surgeries
Normal PSA
Strong pelvic floor
Excellent vascular health

But his symptoms were significant. His IPSS was 21. He had borderline high post-void residual volume, and he was no longer sleeping more than two hours at a stretch.

We discussed all options. When we got to PAE, I saw the first flicker of hope in his eyes.

“So wait... you’re telling me I can fix this without hormones, without cutting, and without giving up my sex life?”

Yes.

“Then what are we waiting for?”

Luis’ PAE Experience

We scheduled the procedure the following week. His embolization was textbook — quick access, excellent vascular anatomy, full occlusion achieved. He was in and out the same day.

I called him two days later.

“Doc... I already slept five hours straight. That hasn’t happened in years.”

He took it slow for a few days, then returned to work on Monday. No issues. By week two, he was back at the gym. By week four, he had cut his nightly bathroom trips from five to one.

At his three-month follow-up:

- IPSS: 5
- No medications
- Full sexual function
- Restored confidence

But the best part? He told me:

“My wife said I laugh more. I didn’t even realize I stopped. I just feel human again.”

Why Luis Matters

Luis represents a growing segment of BPH patients: younger men with real symptoms, real careers, and real relationships they’re trying to protect. The standard treatments aren’t built for them — but **PAE is**.

It’s discreet. It’s outpatient. It doesn’t sterilize them, sedate them, or strip away their identity.

We don’t need to wait until men are in their 60s to take their symptoms seriously. Luis proves that modern care means **meeting patients where they are, not where the textbooks left off**.

THOMAS, THE SKEPTICAL ENGINEER

Thomas was a 64-year-old engineer who approached his health like he approached his work: with precision, documentation, and very little tolerance for ambiguity. By the time he walked into my office, he had already read the Cochrane reviews on BPH treatments, cross-compared embolization studies, and plotted the risk-benefit curves of every major procedural option — in Excel.

He wasn't desperate. He was **meticulous**.

And he was stuck.

"I've ruled out TURP. Too many side effects. HoLEP seems better, but I'm concerned about ejaculatory dysfunction. UroLift sounds appealing, but the data's thin. Meds gave me nasal congestion and some minor ED. I'm here because I haven't ruled out PAE — yet."

I smiled.

"You're doing more homework than most urologists."

He smiled back.

"That's why I still have my prostate."

The Engineer's Dilemma

Thomas didn't suffer from panic or incontinence or disabling symptoms. But his BPH was getting worse:

- Increased hesitancy
- Sleep interrupted three times per night
- Daily rituals governed by bathroom logistics
- A growing sense of anxiety that **the window to act was closing**

What made him hesitate wasn't fear — it was uncertainty.

"There's not as much long-term data on PAE. And the anatomical variability concerns me. What if the procedure misses a lobe or is incomplete?"

He wasn't wrong. PAE does require precision. Outcomes depend heavily on the skill of the interventionalist and the mapping of the

prostatic arteries. He needed to hear not just that it works — but **why** it works, and **how** we ensure it works.

The Conversation

So we walked through it together:

- The embolization process
- Our 3D imaging techniques
- The ways we verify arterial occlusion in real-time
- The consistency of IPSS improvement over time
- The remarkably low complication rate, especially in practices with high procedural volume

We also discussed:

- Our own clinic's track record: 500+ PAEs, zero serious complications
- The low re-intervention rate when anatomy is favorable
- The ability to re-embolize, if needed, with low risk

By the end of our talk, Thomas leaned back and said:

“I’m still skeptical. But you’ve moved the needle.”

A week later, he emailed:

“I’ve reviewed your published outcomes, cross-referenced a few more studies, and reanalyzed my risk matrix. I’m in.”

Thomas' PAE

We scheduled his PAE with full pre-procedural imaging, careful attention to his bilateral vascular supply, and Thomas, true to form, asked to review his embolization images afterward — which we gladly provided.

The procedure went smoothly. Minimal discomfort. No complications. He sent me a thank-you email the next day, timestamped 6:03 a.m., subject line:

“First uninterrupted night in three years. Data point recorded.”

Three Months Later

At follow-up:

- IPSS: dropped from 18 to 4
- Full stream
- No medications
- Full ejaculation and sexual function
- No signs of recurrence on imaging

He brought in a printout comparing his own data to the PAE cohort averages:

“I’m within two standard deviations. I’ll take it.”

Why Thomas Matters

Thomas reminds us that patients aren’t passive. They read. They question. They verify. And if we want to reach the skeptics, we need to meet them with **science, transparency, and humility** — not dogma or defensiveness.

PAE didn't sell itself to Thomas. Evidence did.

And that's the heart of modern medicine: not convincing, not coercing — but **equipping intelligent people with the truth**, and letting them choose.

ROBERT, THE MAN THEY GAVE UP ON

Robert was 81 when his daughter wheeled him into our office. He had been a builder in his younger days — strong, proud, self-made. But now, his back was hunched, his eyes dimmed, and he wore the look of someone who had stopped expecting improvement. His daughter spoke for him at first.

“He's had a catheter for almost four months now. The urologist said it's permanent. Said surgery would be too risky and meds wouldn't work. So they just... gave up.”

Robert blinked slowly but didn't speak.

We looked through the records. Multiple failed voiding trials. Enlarged prostate — over 100 grams. Chronic retention. The standard TURP had been ruled out because of his cardiac status and a past stroke. HoLEP and GreenLight were also dismissed by previous providers due to anesthesia risk.

He had been relegated to a catheter — **not because no options existed, but because no one had thought to refer him for PAE.**

The Exam

Robert's vitals were stable. No acute illness. His mobility was limited, but his mind was sharp. When I finally spoke directly to him, he looked up for the first time.

“If I could just pee again, I'd feel like a man.”

That was all he said.

And it was everything.

The Assessment

PAE was not just possible — it was ideal for someone like Robert:

- No general anesthesia
- Minimal cardiovascular strain
- Local access through the groin
- No cutting
- Minimal post-procedural pain
- High success rate even in large prostates
- Outpatient recovery, with no need for hospitalization

We ordered imaging, confirmed favorable vascular anatomy, and scheduled the procedure.

His daughter wept when we told them we could help.

“I thought nobody would take him.”

The Procedure

It took just under two hours. We embolized both prostatic arteries successfully with no complications. He tolerated it well — stayed awake throughout, even asked questions. No sedation, no fuss. Just calm, focused medicine.

He was home that evening.

Over the next two weeks, we monitored him closely. His bladder began to regain tone. We kept his catheter in place initially, giving the prostate time to shrink. Three weeks after the procedure, we removed the catheter — and **he voided on his own** for the first time in nearly five months.

He cried in the exam room.

The Result

At his three-month visit:

- IPSS: from unmeasurable to 11
- Voiding completely independently
- No urinary tract infections
- No medications
- Smiling
- Upright
- Reclaiming his daily walks and pride

He told me:

“I don’t know how much time I’ve got left. But at least I get to use it as me. Not some broken version of myself.”

Why Robert Matters

Because for every young man we save from surgery, there’s an older man who’s been forgotten.

Because too many doctors equate age with futility.

Because BPH is not just a plumbing issue — it’s **a dignity issue**.

Robert reminds us that **it's never too late to help someone feel whole again.**

And that PAE isn't just for the fit or the frustrated — it's for anyone who still wants to live fully.

Chapter 8

The Future of BPH Care

FROM STANDARD TO SUPERIOR – WHAT THE FUTURE COULD LOOK LIKE

If you've made it this far, you understand something that too many healthcare systems still don't: BPH isn't just about urination. It's about quality of life. Identity. Energy. Sleep. Confidence. And if we treat it like a checklist of symptoms — instead of a deeply personal and increasingly common condition — we'll keep missing the opportunity to do better.

The future of BPH care must not simply be about **what works**. It must be about **what works best for the person in front of us, at this moment in their life**.

Here's what that future looks like — and what's already happening to bring it closer.

1. Every Man Gets a Personalized Path

In the BPH clinics of tomorrow, there will be no “standard treatment.” There will be **standard tools**, yes — but the path will be built around each man's values, priorities, and health profile.

He'll sit down for an hour-long intake, not a rushed fifteen-minute consult. His questions won't be treated as interruptions — they'll be the basis of the plan. His sexual health, career, and family obligations won't be brushed aside — they'll be factored into every decision.

With modern imaging, symptom scoring, and non-invasive flow metrics, we'll tailor:

- Whether he starts with behavior, medication, or procedure
- What risks are acceptable to him
- How we preserve his function and identity
- Which outcomes he values most: stream strength, sleep, intimacy, or simplicity

This isn't a fantasy — it's already the model at clinics like ours. The future is about making it universal.

2. PAE Becomes a First-Line Procedural Option

Just as angioplasty replaced open-heart surgery for most coronary blockages, **PAE should replace resective prostate surgeries for the majority of BPH patients.**

In this future:

- PAE is no longer considered “alternative”
- It's offered alongside medications as a **minimally invasive first procedural step**
- Patients with prostates over 50–60cc aren't defaulted to TURP or HoLEP
- Long-term sexual preservation is **expected**, not hoped for

- Interventional radiologists and urologists co-manage BPH seamlessly

This transition is already in motion. More interventional programs are training for PAE. More urology societies are acknowledging its role. And as data mounts and awareness spreads, **it will be malpractice not to mention it.**

3. Devices, Techniques, and Imaging Improve Even More

Technological innovation never stops — and PAE is no exception. The future will bring:

- **Real-time embolization mapping** to ensure full coverage
- **Smart embolics** that target specific gland zones with greater precision
- Better pre-procedural imaging to predict response and personalize the embolization plan
- Integration of **AI-driven flow models** to determine which patients are ideal candidates and how arteries should be approached

And in parallel, non-invasive diagnostics like **MRI-guided prostate mapping, advanced uroflowmetry, and molecular PSA panels** will eliminate guesswork from the evaluation phase entirely.

4. Male Patients Become More Proactive and Vocal

In the near future, men won't just come in "because they have to." They'll come in **because they want to feel better — and know there are good options.**

The next generation of male patients will:

- Use online forums and reviews to vet providers
- Ask about PAE before their doctors do
- Refuse to be put on medications indefinitely without explanation
- Value sexual and urinary function equally
- Demand outcomes, not just interventions

And as they do, the healthcare system will adapt — because **informed patients shift the market** more than any guideline ever could.

5. PAE Expands Globally as a Standard of Care

Already, PAE is gaining traction outside the United States. Centers in Europe, Asia, and South America are adopting it with enthusiasm, especially in countries where **hospital beds are limited, and minimally invasive care is a cost-saving imperative.**

In the future:

- PAE will be available in community clinics, not just large academic centers
- Rural and under-resourced regions will use **mobile interventional units** to bring the procedure to local hospitals
- Global guidelines will reflect the full evidence base
- Training programs will include PAE as standard, not elective

This democratization of care will bring dignity and comfort to millions more men — especially in places where surgery is a barrier due to cost, distance, or risk.

6. Dignity Will Define the Standard

Above all, the future of BPH care will be defined not by which tools we use — but by **how we use them to preserve dignity**.

The ability to urinate without stress

The ability to sleep through the night

The ability to maintain sexual function

The ability to recover in peace, not in a hospital bed

The ability to choose, not be told

That is modern urology.

That is the world we're building.

That is the future — and we can start living in it now.

WHAT WILL IT TAKE TO GET THERE?

The future of BPH care isn't just waiting around the corner. It's something we have to **build together** — piece by piece, decision by decision, system by system. And that means recognizing what keeps the current model in place, and what it will take to dismantle it.

There is no one lever to pull. The evolution will come from multiple forces applying pressure at the same time — patients demanding better care, doctors updating their knowledge, institutions shifting priorities, and payers getting out of the way.

Let's look at what each player must do.

1. What Patients Must Do: Learn, Ask, Refuse, Share

Patients are not just passive recipients of care — they are **the final decision-makers**. The future will come faster if more men:

- **Educate themselves** before their first appointment
- **Ask about PAE by name**
- **Refuse procedures they don't fully understand**
- **Share their experiences** online and in conversation
- **Demand second opinions** when something doesn't feel right

The more men who ask about Prostatic Artery Embolization, the more pressure will be placed on providers to stay current, on insurers to cover it, and on practices to include it. Every patient who speaks up becomes **a node in a movement**.

When you demand transparency, you make the system better for every man who comes after you.

2. What Providers Must Do: Expand, Collaborate, Listen, Update

Many urologists don't mention PAE not out of malice, but because they:

- Weren't trained in it
- Don't perform it themselves
- Haven't updated their understanding since residency
- Don't want to refer outside their practice

That must end. Providers need to:

- **Expand the treatment menu** they offer and understand
- **Collaborate with interventional radiologists** rather than compete
- **Listen more closely to what patients actually value**
- **Update their knowledge base** annually — not once a decade

The doctor of the future isn't the smartest in the room — he's the **most informed, most curious, and most collaborative**.

And importantly, providers must make **referral for PAE an integrated option**, not an afterthought. If they can't perform it, they must at least respect it — and point patients to someone who can.

3. What Health Systems Must Do: Integrate and Incentivize

Hospitals and health networks will need to stop treating PAE as a fringe service, and instead:

- **Integrate PAE into BPH pathways**
- **Support co-management between IR and urology**
- **Build scheduling systems that allow seamless transitions between specialties**
- **Track outcomes across all modalities**, not just TURP and HoLEP

Systems that do this won't just improve outcomes — they'll reduce complications, lower costs, and attract more patients who are looking for progressive, whole-person care.

And administrators must ensure that **no man is denied a modern treatment just because of internal politics or provider preference.**

4. What Insurers Must Do: Cover, Standardize, and Trust the Data

Insurance companies can either be the brake or the gas pedal. Right now, they are often the former — requiring:

- Failed medical therapy
- TURP-first logic
- Peer-to-peer reviews from people who've never read a single PAE study

This is outdated and harmful.

To move forward, insurers must:

- **Cover PAE as a first-line procedural option**
- **Standardize authorization criteria**
- **Stop requiring multiple medication failures in men with clear anatomical obstruction**
- **Accept real-world data and patient-reported outcomes as valid evidence**
- **Bundle payments around patient goals, not procedure codes**

Every time they make patients jump through hoops for PAE, they reinforce the very inertia that makes our system inefficient.

5. What Policymakers Must Do: Incentivize Innovation and Choice

The Centers for Medicare and Medicaid Services (CMS), along with state and federal health policy agencies, can push the field forward by:

- Creating **quality metrics that include patient satisfaction and function**, not just IPSS scores
- Rewarding providers who offer **shared decision-making** and maintain high outcomes without overutilization
- Investing in **cross-disciplinary care models** that break down silos between urology and IR
- Funding **long-term data collection on newer treatments** like PAE

And most importantly, policies must recognize that **older men deserve the same degree of innovation, autonomy, and comfort as any other patient group**.

6. What Medical Educators Must Do: Teach the Full Picture

BPH education in most training programs is still focused on:

- Recognizing symptoms
- Prescribing alpha blockers or 5-ARIs
- Performing TURP or laser resection

We must revise that curriculum. Medical schools, residencies, and CME courses must:

- Include **PAE as a standard treatment module**
- Invite interventional radiologists to teach in urology programs
- Emphasize **long-term functional outcomes** and not just anatomical changes
- Teach the economics and ethics of referral-based care

The next generation of urologists should graduate fully informed, not selectively trained.

7. What Thought Leaders and Researchers Must Do: Publish, Promote, Push

The science behind PAE is strong — but it must be continually promoted:

- Comparative studies
- Long-term outcomes
- Patient satisfaction research
- Cost-effectiveness modeling
- Studies in younger and more diverse populations

And those in positions of influence — researchers, journal editors, conference organizers — must **put that data front and center**, not buried behind procedural dogma.

Real change is slow — until it isn't.

Once enough pressure builds, once enough people know, and once the standard is revealed to be inadequate, the system flips. TURP didn't become standard overnight. Neither did laparoscopic surgery or robotic prostatectomy.

Now it's PAE's turn.

The evidence is here. The experience is here. The patients are ready.

We just have to bring the rest of the system with us.

Chapter 9

Final Thoughts and Your Next Step

IF YOU'RE A PATIENT, THIS IS WHAT YOU DO NOW

You've read a lot. You've probably learned more about benign prostatic hyperplasia than most general physicians know. And maybe, just maybe, you're starting to feel something you haven't felt in a while:

Clarity. And control.

So let's turn that into action. Here's what to do next if you or someone you love is struggling with BPH.

Step 1: Decide What You Value Most

Before you talk to a doctor, talk to yourself. Ask:

- What am I most tired of — the urgency? The sleep loss? The anxiety?
- What matters most to me — preservation of sexual function? Avoiding surgery? Quick recovery?
- How much risk am I willing to accept for relief?

- What outcomes would make me feel like myself again?

You don't need to know the treatment — you need to know **your priorities**. Because the right treatment fits the life you want to live.

Step 2: Stop Assuming Pills Are the Only Answer

If you've been on tamsulosin, finasteride, or dutasteride for over six months with minimal relief, you already have your answer:

Medication is a bridge — not a destination.

And if you're experiencing side effects like fatigue, brain fog, sexual dysfunction, or dizziness, those are not “normal” or “acceptable.” They're trade-offs. You deserve a plan that does better.

Step 3: Schedule a Consultation — and Ask the Right Questions

When you meet with a urologist or primary care doctor, ask:

- What are all the treatment options for my BPH, not just the ones you provide?
- Am I a candidate for Prostatic Artery Embolization?
- Can you refer me to an interventional radiologist for a second opinion?
- What are the potential sexual side effects of the options you're offering?
- How many patients like me have you seen go through each of these treatments?

Watch the answers carefully. Confidence is good. Dismissiveness is not.

If a doctor scoffs at your questions or downplays your research, they're not respecting you as a participant in your own care.

Leave.

Step 4: Research PAE Providers Near You

PAE is now available in dozens of major metro areas and growing quickly across the country. Look for:

- Interventional radiology groups with PAE experience
- Clinics with dedicated BPH pathways
- Practices (like ours) that have performed hundreds of PAEs safely and effectively

Call and ask:

- How many have you done?
- What's your complication rate?
- How do you coordinate with my urologist?
- What will my recovery look like?

Your body is not an experiment. You deserve experience, transparency, and a plan.

Step 5: Talk to Other Men

There's power in stories. If you're nervous, skeptical, or uncertain, seek out men who've had PAE. Ask them:

- What was your experience like?
- How quickly did you recover?
- What do you wish you'd known sooner?
- Would you do it again?

You'll hear what I hear every week:

"I only wish I hadn't waited so long."

Step 6: Take Back the Driver's Seat

You are not stuck. You are not at the mercy of old standards. You are not required to suffer through another month of medication side effects, sleepless nights, or the quiet erosion of confidence.

The next chapter of your health is up to you. And that next chapter can begin now — with a single decision to say:

"I deserve better. And I'm going to find it."

IF YOU'RE A PROVIDER, THIS IS WHAT LEADERSHIP LOOKS LIKE

Leadership in medicine doesn't require a title. It doesn't require a podium. It begins with a question that too many clinicians stop asking:

"Is there a better way?"

If you are still asking that question — in a field that often rewards doing what's always been done — then you are the kind of leader this moment needs.

We are at a turning point in BPH care. Not a revolution of technology — we already have that. A revolution of **mindset**. And it will come from providers who are willing to challenge three things: their habits, their training, and their egos.

Let's walk through what that kind of leadership looks like in practice.

1. Offer More Than What You Know How to Do

If you're a urologist, and you only offer medications and TURP (or HoLEP), your menu is incomplete. It doesn't matter how skilled you are at those procedures — you are treating **your comfort zone**, not your patient's needs.

Real leadership means:

- Saying, "I don't do that procedure, but I can refer you."
- Learning enough about PAE to counsel patients fairly.
- Welcoming shared care models instead of resisting them.
- Measuring success not by procedure volume, but by patient outcome and satisfaction.

You are not lesser for referring. You are **stronger for collaborating**.

2. Update Your Mental Model — Every Year

BPH care has changed. If your understanding of PAE is based on studies from 2013 or hallway rumors, then it's outdated. Leadership requires intellectual humility — the ability to say:

"I didn't learn this in training, and I need to catch up."

Do this:

- Read the latest literature — not just abstracts, but methods and outcomes.
- Attend lectures from interventional radiologists, not just urologists.
- Ask colleagues in other specialties how they're treating the same condition.
- Track your own patient outcomes — not just symptom scores, but quality of life.

You don't need to believe in every new treatment. But you do need to understand it **before you dismiss it**.

3. Treat the Whole Man — Not Just the Prostate

Too often, we measure success in milliliters voided, grams resected, or pressures reduced. But the man in front of you is not a chart. He is:

- Trying to sleep
- Trying to stay sexually active
- Trying to work without anxiety
- Trying to feel like himself

Ask about intimacy. Ask about work. Ask about pride.

Leadership is not just technical. It's **empathetic**. It recognizes that our interventions should match our patients' lives — not ask them to accept a lower standard because it's what we're used to doing.

4. Build Bridges, Not Silos

If you've been trained to view interventional radiology as a competitor, it's time to reframe that instinct. PAE is not a threat to urology — it is **a tool that makes our field more humane, more versatile, and more modern.**

True leaders will:

- Call the IR department and set up referral protocols.
- Create BPH clinics that co-manage patients.
- Publish joint outcome data.
- Invite IRs to educational events and case conferences.

The best care doesn't happen in silos. It happens **at the intersections.**

5. Use Your Influence to Normalize the New Standard

Whether you realize it or not, your language matters. When you talk to residents, colleagues, or patients about PAE, you are shaping the culture of your practice.

So stop calling it “experimental.”

Stop saying “it's not for everyone” unless you can **explain why with evidence.**

Start saying, “This is a proven, less invasive option that may be perfect for you.”

And if you're in a position of leadership — department head, academic faculty, CME director — you have even more power. Use it to:

- Update your teaching slides.

- Adjust your clinic algorithms.
- Encourage fair comparisons between treatment modalities.
- Celebrate case successes, not just surgeries.

Leadership is contagious. When one clinician changes their approach, others follow. But someone has to go first.

6. Practice With the End in Mind

Every time you recommend a treatment, ask yourself:

“If this were my father, my brother, or me — would I still choose this?”

If the answer is no, it’s time to reevaluate. Because leadership isn’t about following guidelines. It’s about practicing **with integrity** when the guidelines haven’t caught up yet.

Your patients don’t want you to be perfect.

They want you to be current.

They want you to be honest.

They want you to be on their side.

And if you are, you’ll not only improve lives — you’ll shape the future of BPH care for the better.

Thank you — let’s close the book with a message from me to you.

This is not a summary. It’s a statement of belief, a reflection of experience, and a commitment to what I know is possible.

A PERSONAL NOTE FROM THE AUTHOR

I’ve been a board-certified urologist for over 20 years. I’ve seen thousands of men walk through the door with one thing in

common: they were tired — of symptoms, of silence, of side effects, of being told this was just part of aging.

And for much of my career, I gave them the best I could offer based on what I was taught: medication, TURP, maybe a newer device. I believed in the system. I believed we were doing right.

But over time, that belief began to crack. Because my patients wanted a better less invasive treatment option with less risks and complications.

They were told to accept retrograde ejaculation as normal. Told that being catheterized for days or weeks was “just part of it.” Told to live with diminished confidence, discomfort, and altered intimacy — because that’s what the standard of care allowed.

But medicine isn’t supposed to settle for “standard.”
Medicine is supposed to **evolve**.

That’s why I founded *Modern Urologist*. Not to reject tradition, but to build on it. To honor the science while re-centering the patient. And in that pursuit, I found this amazingly minimally invasive procedure called: Prostatic Artery Embolization — and everything changed.

For the past four years, our clinic has performed **over 500 PAE procedures**.

We’ve had minimal **complications**.

We’ve collected **years of patient testimonials**.

And we’ve seen men — men just like you — get their lives back without invasive surgery and without compromise.

This book is not just a guide. It is a **statement of truth**:

You don’t have to live with BPH symptoms forever.

You don’t have to fear losing what makes you feel like yourself.

You don’t have to accept old answers just because they’re familiar.

You have options. You have agency. And you have a path forward.

Whether you're a patient or a doctor, this isn't the end. It's the beginning of a better conversation — one in which **the right care is the care that fits you best.**

And if your next step leads you to my clinic, I'll be ready. If it leads you elsewhere, I hope it leads you to someone who listens — and someone who knows there's more than one way to treat a man with dignity.

BPH doesn't have to define your life.

It doesn't even have to interrupt it.

Because now you know better — and when you know better, you can demand better.

Thank you for reading. And more importantly, thank you for believing in modern care.

— Dr. David Shusterman
Founder, *Modern Urologist*

About the Author



David Shusterman - Modern Urologist