When a patient sits down in my clinic and asks, “Can I avoid surgery with regenerative medicine?”, I mentally walk through a fairly strict checklist. Hope is important, but realistic odds matter more. Good regenerative care is just as much about saying no as it is about saying yes.

This field attracts hype, marketing and big promises. It also offers real, life-changing benefits for the right patient, at the right time, with the right condition. Sorting one from the other is the work of a careful evaluation, not a sales pitch.

Below is how I think through who is a good candidate for regenerative medicine instead of surgery, why some people very clearly are not, and what you should know before you write a check or cancel a surgical date.

## What exactly is a regenerative medicine doctor?

The phrase gets used loosely, which confuses patients.

In practice, a regenerative medicine doctor is a physician who uses biological tools to help the body repair, replace or regenerate damaged tissue. That might include platelet-rich plasma (PRP), bone marrow or adipose derived cells, sometimes perinatal products like amniotic or umbilical tissue, and, in research settings, more advanced cell therapies or tissue engineering.

The doctor’s base specialty matters more than the label on the website. Regenerative work is commonly done by:

- Physical medicine and rehabilitation (PM&R) physicians
- Sports medicine doctors (often family medicine or internal medicine trained)
- Orthopedic surgeons
- Pain management anesthesiologists
- Occasionally neurologists, rheumatologists, dermatologists and others

A sports medicine doctor who spends their days treating knees and shoulders brings a different kind of judgment to your torn meniscus than a cosmetic clinic that “added PRP” to its menu.

When you are choosing where to go, ask about both: their regenerative training and their underlying specialty. You want someone who deeply understands both the condition and the standard surgical and nonsurgical options.

## The doctor’s mental checklist: can we treat this instead of cutting it out?

In my own head, I quickly screen through five pillars before recommending regenerative medicine instead of surgery.

1. The problem: what tissue is actually damaged, and how badly?
2. The person: age, activity goals, health status and pain tolerance.
3. The evidence: what do studies and my own outcomes suggest for this specific condition?
4. The alternatives: what happens if we do standard care, surgery or nothing?
5. The practicalities: cost, logistics, insurance, time off work.

If all five line up in favor of regenerative treatment, you are probably a good candidate. If two or more pillars lean heavily toward surgery, I encourage patients not to waste time or money chasing injections.

## First screen: which conditions respond best?

Not all problems are created equal. Some respond beautifully to regenerative approaches, some respond moderately, and some simply do not.

### Joint and tendon problems that often do well

Mild to moderate osteoarthritis in knees and hips often fits the sweet spot. A 45-year-old with knee pain that flares when running, mild arthritis on x-ray, and an MRI that still shows decent cartilage stands a much better chance than a 78-year-old whose knee joint has essentially collapsed.

Tendinopathies are another strong category. Chronic tennis elbow, jumper's knee (patellar tendinopathy), plantar fasciitis and some rotator cuff tendinopathies, particularly if there is no full-thickness tear, commonly improve with PRP or related approaches, especially when combined with a serious physical therapy program.

Some partial ligament tears, like mild to moderate sprains of the ulnar collateral ligament in the elbow or certain ankle ligaments, can respond if the joint is still reasonably stable and the tear is not complete.

In these scenarios, regenerative medicine is not "magic fluid." It is a way of nudging biology along when you still have something to work with.

### When surgery is usually the better primary choice

On the other end are structural problems that are essentially mechanical, where no amount of cells or growth factors can replace missing hardware.

Examples:

- A knee with bone on bone contact, obvious deformity and severe loss of motion
- A full-thickness rotator cuff tear in an active person whose tendon has retracted and atrophied
- Advanced hip arthritis where even walking to the mailbox is a project
- Significant spinal instability with nerve compression that is not responding to conservative care

In these settings, I tell patients that regenerative medicine might ease pain somewhat, but it will not restore the architecture of the joint. You can spend thousands to gain a bit of relief, or you can invest that time and money into a well-planned surgery and rehab that has a higher chance of restoring function.

This is where the question "Who is a good candidate for regenerative medicine?" really means: "Can we realistically improve tissue quality enough to avoid or delay a more invasive procedure?"

If the answer is no, it is better to be honest.

## What are the 4 types of regeneration, clinically speaking?

Textbooks in biology talk about epimorphosis, morphallaxis and so on, but when patients ask about "types of regeneration" they usually mean the clinical levers we can pull.

For musculoskeletal and orthopedic issues, I think in four basic categories:

1. Stimulating repair: things like prolotherapy or certain needling techniques that create a mild, controlled injury to trigger healing.
2. Concentrating your own healing factors: platelet-rich plasma is the main example, using high concentrations of your platelets and growth factors.
3. Mobilizing or delivering cells: bone marrow aspirate concentrate, adipose derived cell preparations and, in some countries, expanded stem cell products.
4. Structural and scaffold-based methods: cartilage scaffolds, some meniscal implants, and tissue engineering approaches that provide a framework for your cells to grow into.

Different problems call for different tools. A young athlete with a small cartilage defect in the knee may benefit from a scaffold procedure, while an office worker with chronic tennis elbow might respond to PRP and eccentric strengthening.

## Is regenerative medicine painful?

Pain is very procedure dependent.

PRP injections into a small tendon, done under local anesthesia and ultrasound guidance, are usually uncomfortable but tolerable. Most patients describe a short, sharp pain at the moment of injection, then a deep ache for 24 to 72 hours.

Bone marrow aspiration from the pelvis is more significant. With good anesthesia, it is quick, but patients often feel sore at the harvest site for several days.

Joint injections range from mild to moderately painful. Shoulders and knees are generally better tolerated than hips or certain small joints.

The real discomfort often comes from the post-procedure flare. Regenerative techniques usually provoke inflammation as part of the healing response, so pain can temporarily increase before it improves. That means you may have a rough few days to a week, even with appropriate medication and activity modification.

Anyone promising “painless” regenerative treatment is selling, not practicing medicine.

## Evidence and success rates: what can you realistically expect?

Patients understandably ask, “What is the success rate of regenerative medicine?” The honest answer: it depends heavily on the condition, the technique and the definition of success.

For knee osteoarthritis, for example, studies on PRP often show that 60 to 70 percent of patients report meaningful pain reduction and functional improvement at 6 to 12 months compared with baseline, with some maintaining benefit for longer. But “meaningful” might mean going from 8 out of 10 pain to 3 or 4, not back to a teenage knee.

For chronic tendinopathies, success rates can be similar or higher, particularly when the rehab program is solid and the patient is genuinely committed to activity modification.

For severe structural problems or advanced arthritis, success rates in terms of avoiding surgery are much lower. You may gain symptom relief, but the underlying deterioration continues.

A good regenerative medicine doctor does not quote a generic number. They give condition-specific odds, anchored in both published data and their own experience. If someone advertises a 90 percent success rate for nearly everything they treat, be skeptical.


## The biggest problem with regenerative medicine

If I had to pick the single biggest problem with regenerative medicine today, it would be the mismatch between marketing and evidence.

Patients see celebrities on podcasts, hear dramatic stories about professional athletes avoiding career-ending surgeries, and assume the same approach will work for their 30-year degenerative spine disease. Social media posts rarely mention that those athletes were also doing months of high-level rehab, had access to world-class trainers and sometimes had surgical procedures as well.

Regulation and terminology are another issue. Some clinics call products “stem cells” that, under a microscope, contain few if any viable stem cells. There is also a cottage industry of medical tourism: people fly to countries with looser rules, chasing aggressive but unproven treatments.

That does not mean overseas stem cell therapy is automatically bad. It means you must ask careful questions and understand the risk-benefit balance.

As of now, the United States, Canada, the EU, and a few other regions tend to have stricter regulatory oversight. Places like Panama and Mexico have become popular for certain stem cell protocols, particularly for high-profile patients. A frequently asked question is: “Where did Joe Rogan get his stem cell treatment?” He has said publicly that he traveled to Panama for intravenous stem cell infusions at a clinic known for treating athletes and public figures.

When people ask “What country is best for stem cell treatment?”, the truthful answer is that there is no universally “best” country. Some offer more cutting-edge experiments with less oversight, others prioritize safety and

regulation at the cost of limiting what can be offered. Patients need to decide how much risk and how much uncertainty they are willing to accept.

## Insurance, costs and uncomfortable money questions

Regenerative therapies sit in an awkward space: too new and variable for many insurers, but not exotic enough to escape heavy marketing.

Patients often ask:

- Will insurance pay for regenerative medicine?
- Does insurance cover Kinetix or other branded programs?
- What is the average cost of regenerative medicine?
- Are regenerative medicine doctors just chasing cash?

The reality is mixed.

Most commercial insurance plans in the United States do not cover PRP or stem cell injections for orthopedic problems, labeling them investigational. A few plans will cover PRP for very specific indications, such as chronic tennis elbow that has failed other treatments, but this is still more the exception than the norm.

As for branded protocols like "Kinetix," coverage is highly variable and often limited. In many cases, insurance *ispwscottsdale.com Regenerative Medicine Doctor Scottsdale* may pay for the office visit, imaging and physical therapy, but not for the injectate itself if it is considered experimental or proprietary. You need to ask the clinic's billing staff to check your exact plan, and then verify with your insurer in writing.

Costs are equally variable. As of the mid-2020s, many patients pay out of pocket. Typical ballparks in the U.S.:

- Single PRP injection: often 500 to 2,500 USD, depending on location, system used and anatomy treated.
- Bone marrow derived procedures: commonly in the 3,000 to 8,000 USD range per treatment area.
- Multi-site or staged protocols: can exceed 10,000 USD.

So what is the average cost of regenerative medicine? For an orthopedic patient in a major U.S. City, a reasonable expectation is 1,000 to 5,000 USD per joint or tendon area for a well-run, evidence-based program that includes follow-up and rehab. Outliers exist in both directions, but bargains and ultra-premium prices both deserve scrutiny.

## How much do regenerative medicine doctors make?

People are understandably curious about the financial side, especially given the out-of-pocket nature of many treatments.

Income for regenerative medicine doctors varies wildly, mainly because there is no single job description. Some are academic physicians earning standard faculty salaries. Others own high-end private clinics with concierge-style offerings.

If you look at broader data, orthopedic surgeons and other procedural specialists remain among the top earners in medicine. When people ask "Who is the highest paid doctor specialty?", orthopedic surgery, plastic surgery, cardiology and certain interventional fields nearly always sit near the top. On the other side, "What is the lowest paying doctor specialty?" is often answered with primary care fields such as pediatrics, preventive medicine or family medicine in many salary surveys.

A sports medicine or PM&R physician who adds regenerative offerings may see higher income than a purely insurance-based practice, but there are also significant costs: specialized equipment, staff time, malpractice coverage, and expenses for biologic processing systems.

In other words, while some doctors in this space do very well financially, many are simply trying to practice in a way that gives them more time with patients and more tools than a 5-minute prescription visit allows. When interviewing clinics, you can often tell which side of that spectrum they live on by how hard they push you toward a package before they have even examined you.

## Safety, disadvantages and realistic downsides

Patients hear "your own cells" and assume zero downside. That is not accurate.

Common disadvantages of regenerative medicine include:

Short-term pain and downtime. As mentioned earlier, procedures can be painful, and the recovery period may involve reduced activity, missed work and a temporary increase in symptoms.

Financial risk. Because many treatments are not covered, you bear the cost even if the outcome is modest. Spending several thousand dollars for partial improvement can feel frustrating if your expectations were not calibrated.


Uncertain long-term benefit. For some conditions, we have reasonable mid-term data on safety and outcomes. For others, especially systemic or intravenous cell therapies, long-term safety and durability remain less clear.

Variable quality of products and technique. Not all PRP is created equal. The concentration, composition and preparation method matter. The same goes for cell-based therapies. Two clinics may use the same buzzwords but

deliver very different biologic products.

Lack of regulation in some markets. In countries and states where enforcement is lax, dubious operators can offer aggressive treatments without adequate oversight, which raises infection risk, contamination risk and the possibility of inappropriate cell use.

Patients deserve frank discussions about these disadvantages, not just glossy brochures.

## The fasting question: does a 72-hour fast really regenerate cells?

I am hearing this question more often: "Does fasting for 72 hours regenerate cells?"

There is some fascinating research, especially from Valter Longo's group and others, suggesting that prolonged fasting or fasting-mimicking diets can trigger changes in stem cell activity and immune cell turnover in animal models, and limited human studies show shifts in certain markers.

But equating "changes in cellular markers" with "regrowing your knee cartilage" is a leap too far. At this point, fasting is best seen as one of many potential lifestyle levers that may support overall health and possibly enhance the body's capacity for repair, not as a stand-alone regeneration therapy for specific orthopedic damage.

I am not opposed to carefully supervised fasting in appropriate patients. I am very opposed to people with complex medical conditions fasting without medical guidance because they think it will replace proper diagnostics and treatment.

## A practical self-check: are you likely to qualify?

When a patient is on the fence, I often walk them through a plain-spoken set of questions. You can do the same for yourself before you even book a consultation.

Here is a simple self-check you can read through:

- Is my joint or tendon problem mild to moderate on imaging, or has one or more surgeons described it as "end stage" or "bone on bone"?
- Am I willing to commit to a serious rehab and activity-modification plan after treatment, not just "get the shot and go back to normal"?
- Do I understand that results are probabilistic, not guaranteed, and that I might spend several thousand dollars for partial rather than dramatic improvement?
- Have I already tried high-quality conservative care, including a well-designed physical therapy program, not just a few random exercises?
- Do I have enough time and flexibility in my work and life to handle a few weeks of post-procedure flare, limited activity and follow-up visits?

If you answer yes to most or all of those, you are much more likely to be a good candidate for regenerative medicine instead of surgery. If the honest answer to several is no, we should have a different conversation.

## How I actually decide in clinic: a real-world checklist

The mental process becomes more concrete during an actual visit. By the end of a thorough evaluation, I try to have clear answers to these key points.

- Diagnosis clarity: Do we know exactly what structure is generating the pain, confirmed by imaging and exam, or are we guessing?
- Structural reserve: Is there enough healthy or salvageable tissue to biologically improve, or is the damage advanced and global?
- Goal alignment: Are the patient's goals realistic compared with what regenerative therapy is likely to deliver?
- Risk comparison: Are the risks and recovery time of surgery clearly greater than those of regenerative treatment for this specific case?
- Financial and logistical fit: Can the patient reasonably afford the treatment, time off, and follow-up without major hardship?

When all five line up in favor of regeneration, I confidently recommend it. When some do and some do not, we talk through trade-offs. When most lean toward surgery or a different nonsurgical route, I advise against spending Regenerative Medicine Doctor Scottsdale money on biologics.

Patients often appreciate hearing, "If you were my sister or my father, here is what I would suggest." That is the standard I try to use.

## A word about expectations and "miracle stories"

Celebrity experiences drive a lot of interest. The Joe Rogan example is just one of many. Top athletes and public figures often receive high-dose stem cell treatments abroad, combined with elite rehab. Some do extraordinarily well. You hear about those on podcasts and in interviews.

What you do not see are the quiet cases where results were modest, or where people ultimately needed surgery anyway. Those patients seldom make headlines.

In everyday practice, the win often looks more modest, and more meaningful:

A 52-year-old former runner with knee osteoarthritis who can now hike local trails and bike with their kids, instead of limping around the grocery store.

A carpenter whose chronic elbow pain drops enough that they no longer dread lifting tools at work. A mid-career teacher who delays joint replacement by five or seven years, keeping their job and independence intact.

These are not miracle cures. They are real, measurable improvements in real lives. That is the territory where regenerative medicine shines.

## Putting it all together: surgery, cells or something in between?

Sometimes, the right answer is actually "both." I have patients who underwent surgery for clear mechanical problems, then used regenerative techniques afterward to support healing or manage residual issues. I also have patients who used regenerative medicine to delay surgery until retirement or until caregiving duties eased.

The choice is rarely binary.

If you are considering this path, here is a rough way to frame your decision in plain language:

If your joint or tendon is severely damaged, several surgeons independently agree that replacement or repair is clearly indicated, and your daily life is quite limited, surgery is often the wiser first step.

If your imaging shows mild to moderate damage, your pain is real but you still have decent function, and you are strongly motivated to avoid or delay surgery, a well-planned regenerative program is worth serious consideration.

In both cases, the most important factor is the clinician in front of you. Ask them about their experience, their outcomes, their skepticism as well as their enthusiasm. Ask how they think about failures, not just successes. Good regenerative medicine doctors are comfortable telling some patients, “You are not a good candidate” and then helping them find the right surgeon or alternative.

That blend of judgment, evidence and humility is the real regenerative medicine, no marketing slogan required.

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