If you spend any time around orthopedic or sports medicine clinics, you will hear the same question again and again, usually asked in a low voice, after all the technical explanations are done.

"Okay, but how much is this going to hurt?"

Regenerative medicine lives in that awkward space between hope and fear. Hope that your knee, shoulder, back, or tendon might heal without surgery. Fear of needles, of unknown treatments, of horror stories from a friend of a friend whose injection was "the worst pain of my life."

As someone who has watched hundreds of patients go through regenerative procedures, the pattern is clear. The pain is real, but it is usually short-lived, highly variable, and often manageable with good planning and honest expectations.

This is a practical walk through what regenerative medicine feels like, who is a good candidate, what it costs, how insurance fits in, and what the evidence really says about risk, pain, and benefit.

What a regenerative medicine doctor actually does

Before talking about pain, it helps to be precise about who we are talking about.

What is a regenerative medicine doctor? In most cases, it is not a separate residency. It is a physician who comes from a "home" specialty such as:

- Physical medicine and rehabilitation (PM&R)
- Sports medicine
- Orthopedic surgery
- Interventional pain management
- Rheumatology or internal medicine with additional training

They then complete focused training or fellowships in regenerative techniques: platelet-rich plasma (PRP), bone marrow or fat-derived cell harvesting, image-guided injections, sometimes lab-based work in cell processing.

On a typical clinic day, a regenerative medicine doctor evaluates joint or tendon pain, reviews imaging, performs diagnostic injections, and then, when appropriate, performs procedures that try to stimulate healing rather than just reduce symptoms. The work lives somewhere between traditional orthopedics and interventional pain procedures.

As for how much regenerative medicine doctors make, their income is closer to their base specialty than to some fantasy "stem cell millionaire" stereotype. In the United States, many land in the 250,000 to 500,000 dollars per year range, depending on:

- Base specialty and geography
- How much of their practice is procedural
- Whether they own their facility or work in a hospital system
- How much of their work is cash-pay versus insurance

They are not typically the highest paid doctor specialty. Orthopedic surgery, plastic surgery, cardiology, and some radiology subspecialties consistently outrank them on compensation surveys. On the other end, the lowest paying doctor specialties tend to be primary care fields such as pediatrics and family medicine, especially in non-procedural roles.

The core question: is regenerative medicine painful?

Short answer: it can be, but usually in short, predictable windows. The severity depends on three things.

First, what is being injected and where. A small PRP injection into a relatively superficial tendon is very different from a deep injection into a joint or spine structure.

Second, how the procedure is done. Ultrasound or fluoroscopy guidance, local anesthetic technique, and the specific needle path all matter.

Third, your own biology and history. People with central sensitization, fibromyalgia, prior traumatic medical experiences, or high baseline anxiety often experience more pain and longer flares.

Most musculoskeletal regenerative procedures follow a similar pattern:

- Brief procedural discomfort
- Several hours of numbness or partial relief from local anesthetic
- A "pain flare" as the anesthetic wears off and the injected material irritates tissues
- Gradual settling over 2 to 10 days

In many clinics, patients rate procedural pain in the 3 to 7 out of 10 range. A few report higher peaks, particularly with dense PRP or multiple needle passes through tight tissue. Very rarely, the wrong plan or poor technique can turn a reasonable procedure into a miserable experience. Technique and preparation matter.

What different regenerative procedures actually feel like

Patients usually do better when they have a concrete sense of what they will experience. Details defuse fear.

Platelet-rich plasma (PRP)

PRP is probably the most common regenerative treatment. Blood is drawn from your arm, spun in a centrifuge to concentrate platelets, then reinjected into the target area.

The blood draw is no more painful than standard lab work. The injection is the part most people worry about.

For joints such as knees, hips, or shoulders, the physician numbs the skin and often the deeper tissue with a local anesthetic first. You feel a quick sting with the numbing, then pressure or a dull ache as the PRP is injected. The joint can feel uncomfortably full for several hours.

For tendons, like tennis elbow or Achilles tendinopathy, the technique often involves "peppering" the diseased tendon with multiple tiny needle passes. The numbing helps, but once the anesthetic fades, patients often feel a deep, throbbing soreness that can peak over 24 to 72 hours. Walking on an injected Achilles tendon, for example, can be quite sore for several days.

In my experience, people who do well with dental procedures under local anesthesia usually handle PRP without major trouble. Those who nearly faint at a flu shot may need more hand-holding, distraction techniques, or even anxiolytic medication.

Bone marrow or fat-derived cell procedures

Some regenerative clinics perform bone marrow aspirate concentrate (BMAC) or harvest stromal vascular fraction from fat. These are more involved than PRP.

Bone marrow is usually taken from the back of the pelvic bone. The skin and tissues are numbed, sometimes with additional light sedation. Patients often describe a strong, deep pressure and sometimes a short, sharp bolt of pain when the marrow is actually aspirated. It is uncomfortable, but the Pain with a capital P moment is measured in seconds.

The re-injection part feels similar to PRP: joint pressure, a sense of fullness, then post-procedure soreness.

Fat harvesting, often from the abdomen or flank, feels similar to a small-volume liposuction. With good local anesthesia, most patients report pressure, tugging, and mild burning rather than overt pain. Bruising and soreness can linger for days.

Prolotherapy and other irritant injections

Traditional prolotherapy uses dextrose solutions or other irritants to provoke a controlled inflammatory response. The injection pattern can involve many small injections in a region. Even with numbing, this can feel like an extended vaccination session focused on one area. Burning, stinging, and mechanical soreness build up.

Patients who expect "this might sting 20 or 30 times, but it will end" usually cope better than those who were hoping for one quick poke.

Shockwave and non-injection therapies

Not all regenerative approaches involve needles. Shockwave therapy, for example, uses targeted mechanical waves to stimulate healing in tendons and fascia. It is often described as a series of sharp taps or deep pounding over the sore spot. The intensity is adjustable. Most clinics start lower and build up to a tolerable but intense level. The session lasts minutes, not hours.

Laser therapies, blood flow restriction training, and certain biologic patches are usually better **Regenerative Medicine Doctor Scottsdale** tolerated, with more of a warmth or pressure sensation than outright pain.

The "after" phase: pain flares and healing curves

Many patients expect the procedure day to be the worst part. In reality, the day or two after can feel rougher, especially once the local anesthetic has worn off.

For joint PRP, a common pattern goes like this: you walk out of the clinic mildly sore but moving reasonably well. Six to eight hours later, pain starts climbing. By the next morning, the joint feels stiff, hot, and angry. That peak phase usually lasts between 24 and 72 hours, then slowly tapers.

For tendons, the flare can be even more focused. That Achilles, elbow, or patellar tendon may feel like someone turned up the volume on your original pain. Normal walking or light use can provoke sharp jabs. Rest, protected weight-bearing, and cold packs help. So does knowing this is expected, not a sign of harm.

This is where the fear of pain can sabotage outcomes. If a patient is not prepared, they often panic, stop moving completely, or start taking every anti-inflammatory medication they can find. High-dose NSAIDs right after regenerative procedures might blunt the healing response you paid for. Most protocols prefer acetaminophen, judicious use of prescribed medications, and simple comfort measures such as ice or contrast therapy.

Over the next 2 to 6 weeks, pain usually shifts from an acute flare to a quieter background ache that gradually improves. Genuine tissue change takes time. If someone expects to wake up "fixed" a week after a severe tendon or joint injection, they are almost guaranteed to be disappointed.

Who is a good candidate for regenerative medicine?

The question is not just "Can this help me?" It is also "Am I the right person to go through this kind of process?"

People who tend to do well share a few traits:

- They have a fairly clear structural problem: chronic tendinopathy, early to moderate osteoarthritis, focal ligament injury, or a well-defined pain generator.
- They have tried and stuck with standard care first: physical therapy, exercise modification, basic injections when appropriate, weight management.
- They understand that regenerative medicine aims to nudge healing, not magically rebuild a destroyed joint.
- They can tolerate short-term discomfort and downtime for a potential long-term gain.
- They have realistic financial expectations and have thought through the cost.

On the other hand, people with widespread unexplained pain, severe joint collapse, or complex systemic illness may not be ideal candidates. In those cases, regenerative procedures can add pain and expense without much benefit.

This connects to a broader question: what is the biggest problem with regenerative medicine?

It is not the needles. The real problem is expectation mismatch, driven by aggressive marketing and uneven regulation. Too many clinics present these treatments as guaranteed "cures" rather than biologically plausible options with variable success rates.

How successful is regenerative medicine, really?

Asking "What is the success rate of regenerative medicine?" Is a bit like asking, "What is the success rate of surgery?" It depends entirely on what is being treated, by whom, and how you define success.

In literature on PRP for certain tendinopathies, such as tennis elbow or patellar tendinopathy, responders often fall in the 60 to 80 percent range for meaningful pain reduction over several months. For knee osteoarthritis, numbers are more modest and vary widely, but many studies show better symptom control than placebo or hyaluronic acid over 6 to 12 months in early to moderate disease.

BMAC and fat-derived cell therapies have promising but less standardized data. Many trials are small, designs vary, and regulatory constraints limit how aggressively these approaches can be studied and standardized in some countries.

The pattern is consistent:

- Best outcomes occur in earlier disease, when there is still something to salvage.
- Success is higher when regenerative procedures are paired with strong rehabilitation and lifestyle changes.
- Smoking, uncontrolled diabetes, obesity, and poor sleep habits drag results down.

There are also clear disadvantages of regenerative medicine. Cost sits at the top of the list. Variability in preparation techniques, especially with so-called "stem cell" therapies, is another. And although serious complications are rare in experienced hands, they do occur: infection, bleeding, nerve irritation, worsening pain, or, in very rare spine procedures, catastrophic events.

Cost, insurance, and the reality of paying for pain

When people ask, "Will insurance pay for regenerative medicine?" They are usually asking about PRP and cell-based treatments.

In many countries, the answer is "not yet" or "very selectively." In the United States, most commercial insurers and Medicare do not cover PRP or bone marrow concentrate for common musculoskeletal uses, although some niche indications and plans are starting to open. That means most patients pay out of pocket.

What is the average cost of regenerative medicine? It varies by region and by procedure, but reasonable ranges look like this for musculoskeletal work:

- PRP for a single joint or tendon: roughly 500 to 2,500 dollars per treatment
- Bone marrow or fat-derived injections: 3,000 to 8,000 dollars or more, especially when multiple sites are treated
- Shockwave therapy packages: a few hundred to a couple thousand dollars for a series of sessions

Some branded programs, such as Kinetix or similar proprietary protocols, are marketed as package deals that bundle imaging, multiple injections, and rehab. Does insurance cover Kinetix? For most commercially branded regenerative packages, the answer is no. You might get coverage for standard components like physical therapy or imaging, but not for the biologic injections themselves.

This is one reason regenerative medicine doctors are often cautious with indications. If they know the patient is paying substantial sums for something that may not work, the threshold for recommending it should be higher, not lower.

Where people travel for treatment: Joe Rogan, Panama, and medical tourism

Whenever stem cell therapy comes up, someone mentions celebrities.

"Where did Joe Rogan get his stem cell treatment?"

He has publicly discussed traveling to Panama for intravenous and targeted stem cell therapies, specifically to the Stem Cell Institute in Panama City. That clinic operates under Panamanian regulations which allow procedures that are not approved in the United States.

So what country is best for stem cell treatment? There is no simple answer, and anyone who declares a single "best" country is usually selling something. The United States and many European countries prioritize safety and strict oversight, which often slows expansion but protects patients. Other countries have more permissive frameworks that allow treatments with less robust evidence.

Medical tourism can make sense in rare cases, but it brings its own risks:

- Difficulty verifying standards
- Challenges with follow-up care
- Limited recourse if something goes wrong

The pain here is not just physical. It is the psychological stress of navigating high-stakes decisions in an international gray zone.

Where does "regeneration" really come from? Four types and a fasting myth

The phrase "What are the 4 types of regeneration?" Floats around in both biology textbooks and lay articles, but people often mean different things.

In classical biology, regeneration is categorized into types such as:

1. Epimorphic regeneration, where a structure like a limb regrows from a mass of undifferentiated cells.
2. Morphallactic regeneration, where existing tissues reorganize without major cell division.
3. Compensatory regeneration, where remaining tissue expands to compensate, like the liver growing back after partial removal.
4. Tissue-specific or cellular regeneration, where specific cells such as blood cells are continually replenished.

In clinical regenerative medicine, we often talk less about these formal categories and more about four practical pillars: cell therapies, tissue engineering, biomaterials, and biologics or small molecules that stimulate repair. When

patients ask, they usually want to know if we are actually regrowing their cartilage or tendon, or just improving function.

Related to this is a very different kind of regeneration question: does fasting for 72 hours regenerate cells?

Some animal studies and small human trials suggest that prolonged fasting triggers autophagy and changes in immune cell populations, with potential benefits for cellular housekeeping and metabolic health. There is cautious evidence that longer fasts can alter stem and progenitor cell behavior in specific contexts.

But it is a leap to claim that a 72-hour fast "regenerates" joints or tendons in the way a targeted injection might. Fasting is a metabolic intervention, not a localized structural repair tool. It can be part of a global health strategy, but it is not a substitute for carefully delivered regenerative procedures when you have a focal, mechanical problem.

Managing fear of pain: practical strategies that work

The same procedure can be a 4 out of 10 experience for one person and a 9 out of 10 for another, purely based on preparation and mindset.

Patients who cope well tend to:

- Have a clear, frank conversation with their physician about what is likely to hurt and for how long, rather than vague reassurances.
- Arrange their schedule so they can genuinely rest for a few days without pressure to push through important events.
- Prepare simple comforts in advance: ice packs, easy meals, pillows to position the treated limb, entertainment.
- Decide in advance what medications are allowed, in what doses, and under what red-flag circumstances they should call the clinic.
- Have one supportive person who knows the plan and will not panic on their behalf if pain flares.

In clinic, it is often the unspoken fear that causes the most distress. People imagine nerve-shredding agony or permanent damage. Once they understand that the worst pain is usually minutes to days, that most flares settle, and that help is available if something feels off, their shoulders drop a little and the entire process smooths out.

If someone has a trauma history, needle phobia, or existing chronic pain amplification, that should not automatically exclude them from regenerative options. But it does call for extra care: perhaps a pre-procedure visit just to walk through the room and equipment, or coordination with a therapist who can provide grounding strategies.

Where regenerative medicine fits among medical careers

A brief detour back to the professional side, because patients sometimes ask surprisingly detailed questions about medical training and pay during these visits.

Who is the highest paid doctor specialty? Surveys change year to year, but orthopedic surgeons, plastic surgeons, cardiologists, and neurosurgeons often top the charts in the United States. Regenerative medicine physicians who come from PM&R or primary care-based sports medicine usually sit below those surgical giants, though procedural work can boost income.

At the bottom of pay scales, the lowest paying doctor specialty categories generally include pediatrics, family medicine, and some psychiatry and public health roles, particularly in non-procedural, salaried positions.

Why mention this in an article about pain? Because the financial structure of medicine shapes how treatments are offered. Procedures that pay well under insurance risk being overused. Treatments that are time-intensive but poorly reimbursed risk being underused. Cash-pay regenerative medicine can drift in either direction: under-offered in cautious systems, over-hyped in entrepreneurial ones. Understanding these pressures makes it easier to interpret the advice you are getting.

Putting it all together: is it worth going through the needles?

If you strip away marketing language, the core questions become very simple.

Is regenerative medicine painful? Yes, in most cases you can expect at least short-term discomfort, often moderate, occasionally intense. That pain is usually brief, modifiable, and largely predictable with good technique.

Is the pain justified by the outcomes? Sometimes. When a well-selected patient with a stubborn tendon problem gets 60 percent less pain and can return to sport after a single PRP series, the week of soreness feels small in hindsight. When someone with advanced "bone on bone" arthritis spends thousands on a cell-based injection and feels no change, the memory of those needle passes sharpens.

Could careful fasting, supplements, or exercise alone regenerate the tissue? Not in the structural, localized way most injured joints and tendons need. Those strategies are important background players, not lead actors.

The best use of regenerative medicine **Regenerative Medicine Doctor Scottsdale** sits in the middle ground. Not as a miracle that replaces all other care, not as a scam to be dismissed outright, but as one more tool with specific strengths and limits.

If you are considering a procedure, ask your doctor to talk not just about molecules and MRI findings, but about sensations and pain:

Where exactly will the needle go? How long will it take? How do patients in your practice usually describe it? What is your plan for the first three days afterward? What will you do if my pain is worse than expected?

Good regenerative medicine starts there, in that honest conversation about needles, nerves, numbing, and the very human fear of hurting in the name of healing.

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