Dr. Gurpreet Singh Padda, MD: Trial Suggests PRP May Delay Knee Replacement for Patients Already on the Surgical List

For World Arthritis Day, Dr. Gurpreet Singh Padda, MD sets out what recent randomized evidence does, and does not, show about severe knee osteoarthritis



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ST. LOUIS, MO, UNITED STATES, October 12, 2026 /EINPresswire.com/ -- Dr. Gurpreet Singh Padda, MD, MBA, MHP, who directs Regen.MD in St. Louis, is marking World Arthritis Day with an unusually restrained reading of his own field's best recent evidence. Patients with grade 3 and 4 knee osteoarthritis are routinely told they have reached the end of the road, and that the remaining question is when to schedule replacement rather than whether to have one. Recent randomized data complicates that, and Dr. Padda argues the complication is worth reporting precisely because it is narrower than the claims usually made for it.

In a randomized controlled trial published in June 2026 in the Journal of Orthopaedic Surgery and Research (Lacko M et al., J Orthop Surg Res 2026;21(1):453, DOI 10.1186/s13018-026-07013-w), 90 patients with Kellgren-Lawrence grade 3 to 4 knee osteoarthritis, all already on total knee replacement waiting lists, were randomized to two platelet-rich plasma injections, betamethasone, or aceclofenac.

Pain fell from 6.2 to 3.3 on a visual analog scale in the PRP arm. Composite WOMAC improved from 49.0 to 32.5. In the NSAID arm WOMAC worsened, to 57.9. Opioid consumption in morphine milligram equivalents was lower in the PRP group. No PRP patient withdrew; six control patients proceeded to earlier replacement. Inflammatory and cartilage-turnover markers

moved as expected, with COMP, MMP-3, IL-6, IL-18, TNF-alpha and CGRP falling and sTREM2, sRAGE and TGF-beta1 rising.

What the authors actually claimed

The investigators framed this as safe bridge therapy prior to arthroplasty. They did not claim cartilage regrowth, and neither should anyone reporting on it. Overstatement is precisely why regenerative medicine is dismissed in orthopedic circles where the underlying evidence is genuinely improving, and Dr. Padda treats the distinction as a professional obligation rather than a nicety.

"The authors called it a bridge," Dr. Padda said. "I would rather report a bridge accurately than a cure badly."

What a bridge buys is the part patients are rarely walked through. A knee replaced early is a knee that will likely need revising, and a revision is a materially different operation from the first one.

The biomarker panel in the trial is worth reading for what it does not establish. Falling inflammatory and cartilage-turnover markers are consistent with a joint whose degradative signaling has quieted. They are not evidence that cartilage was rebuilt, and no imaging endpoint in the trial was designed to test that. Dr. Padda's reading is that the markers explain why the symptom result held for the duration measured, and that anyone extending them into a structural claim has left the data behind.

The injection that misses

Bone marrow lesions, changes within the bone beneath the cartilage, track closely with pain in advanced osteoarthritis. A standard injection into the joint space does not reach them. This is not a question of operator skill; it is a question of compartment.

In work published in the Journal of Clinical Medicine in November 2025, 86 patients with grade III to IV disease received intraosseous plasma rich in growth factors or intraosseous saline. The treatment group met the minimal clinically important improvement threshold in 66.7 percent of cases against 46.3 percent for control ($p = 0.0038$).

Regen.MD performs intraosseous and subchondral platelet-rich plasma alongside intra-articular and tendon injections, delivering platelet concentrate through the cortex under fluoroscopic guidance and pairing it with a joint-space dose. The indication is narrow and stated as such: the joint that still hurts after a technically correct intra-articular injection.

"The lesion is in the bone," Dr. Padda said. "We keep injecting the space next to it and calling the result disappointing."

Osteoarthritis is partly a metabolic disease

The framing of osteoarthritis as mechanical wear, a joint used until it failed, survives in public understanding long after the research moved on. Dr. Padda regards that lag as the most consequential misunderstanding in the field, because it determines what gets measured before a procedure.

Adipose tissue secretes leptin and adiponectin, and both appear in synovial fluid at concentrations that correlate with disease severity. Leptin in particular promotes matrix metalloproteinase expression in chondrocytes, driving the same cartilage degradation attributed to load. This is why obesity raises osteoarthritis risk in the hand, a joint bearing no weight at all.

Advanced glycation end products add a second mechanism. Non-enzymatic cross-linking stiffens collagen in cartilage, tendon and ligament, reducing the tissue's capacity to absorb load and altering how chondrocytes respond to it. The process is cumulative and largely independent of current glycemic control, which means a patient whose numbers have recently improved is still carrying the consequences of the years before that.

Taken together these describe a metabolic phenotype of osteoarthritis distinct from post-traumatic disease, one in which the joint is failing partly because of the environment it sits in. The practical consequence is that two patients with identical imaging can have different ceilings, and the difference is visible on a blood panel rather than on the scan.

"We call it wear and tear," Dr. Padda said. "Then we find leptin in the joint fluid and keep using the phrase anyway."

Related reading:
The waiting-list trial in plain terms: https://regen.md/knee-replacement-waiting-list-trial/
Why joint degeneration is not only mechanical: https://regen.md/metabolic-terrain-joint-degeneration/

About Regen.MD

Regen.MD is a physician-led orthobiologics and regenerative medicine practice in St. Louis, adjacent to St. Louis Lambert International Airport, directed by Dr. Gurpreet Singh Padda, MD, MBA, MHP. It uses platelet-rich plasma, bone marrow aspirate concentrate and micro-fragmented adipose tissue, placed under fluoroscopic and ultrasound guidance, and evaluates the metabolic conditions that impair tissue repair as part of the same assessment. It serves Missouri and Illinois.

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