

First the hype, now the science: Evidence-based recommendations for PRP

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Platelet-rich plasma (PRP) has grabbed headlines in recent years for its role in helping some of sports' biggest stars return to play following injury –including golfer Tiger Woods, Super Bowl winner Hines Ward and NBA legend Kobe Bryant.

Professional and amateur athletes alike seek PRP to address a wide-range of orthopaedic conditions, including injuries to the joints, ligaments, tendons and muscles. PRP is made by placing a sample of a patient's own blood in a centrifuge to concentrate the platelets, which are cells rich in growth factors. The PRP is then injected back into the injury to stimulate tissue growth and healing.

Use of PRP has proliferated in recent years especially in sports medicine where injured athletes are eager to recover faster and return to their sport. Despite its rising popularity, PRP remains a costly treatment rarely covered by insurance because little scientific evidence has supported its use – until now.

A paper in the December issue of the *Journal of the American Academy of Orthopaedic Surgeons (JAAOS)* offers the first evidence-based recommendations for use of PRP in orthopaedic care. The authors, including two Northwestern Medicine orthopaedic surgeons, determined which musculoskeletal conditions PRP is successful in treating and where more research is needed.

"The hype around PRP definitely came before the science," said

Wellington Hsu, MD, the lead author on the paper, spine surgeon at Northwestern Memorial Hospital and assistant professor in [orthopaedic surgery](#) and neurological surgery at Northwestern University Feinberg School of Medicine. "In medicine, we rely on scientific evidence to support best use of treatments, but with PRP that hasn't been the case. Interest in PRP jumped way ahead of the research."

PRP does not involve any drugs or chemicals. "PRP is completely natural and uses the patient's own blood platelets to enhance the body's biological healing process," said Michael Terry, MD, co-author on the paper and an orthopaedic surgeon at Northwestern Memorial and associate professor of orthopaedic surgery at the Feinberg School. "There are very few documented complications associated with PRP; it's safe and has shown good results for many conditions."

The authors completed a comprehensive evaluation of published PRP research from around the world to develop their recommendations.

"While evidence suggests that that PRP improves tissue healing, we also found that success varies depending on the preparation method and composition of the PRP, medical condition, location on the body and tissue type," Hsu said.

The authors concluded that current evidence supports PRP as a treatment for conditions including arthritis in the ankle and tennis elbow (lateral epicondylitis) and that injecting PRP during ACL reconstruction contributes to healing. When it comes to using PRP for osteoarthritis of the knee, the authors were encouraged by early research, but recommended further study. They also suggested further study was needed in regards to Achilles tendon repair, rotator cuff injuries and other chronic tendinopathies aside from the elbow. PRP is not beneficial in bone healing applications and should not be used in spinal fusion or other bone grafting procedures, the authors concluded.

"We're hopeful that our findings can serve as a roadmap on how and when PRP is appropriate in orthopaedic care," said Terry. "Now that we have a better understanding of when this therapy is effective, we can tailor it to other applications. For example, if we know evidence supports PRP use for arthritic ankles and knees, it makes sense to start looking at it for osteoarthritis of the hip."

With scientific support now available, the costly treatment could eventually become more attainable for patients in the future.

"Insurers have not covered PRP because of the lack of science," said Hsu. "Patients currently pay out of pocket, sometimes thousands of dollars, to get PRP. With evidence-based recommendations, insurance companies hopefully will consider coverage for this therapy."

Provided by Northwestern Memorial Hospital

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