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Recovery from Joint Replacement takes a Big Step Forward

Mark Klaassen, MD

"The human body has an amazing ability to take care of itself," remarks Mark Klaassen, M.D., a Board Certified Orthopaedic Surgeon at OSMC. "Think about this example: as soon you get a small cut on the finger, chemical messages are sent out from the site of the wound that say, 'Hey, we have a problem here. Send in the troops.' The 'troops' show up in the form of platelets – components of your blood that cause clotting and promote healing. Before long, bleeding stops, a scab forms, and you're as good as new."

The same phenomenon takes place during orthopaedic surgery ¬– but on a much larger scale because of the sizeable incision the surgeon must make when operating on the knee or hip joint. "One of the most significant issues we deal with in joint replacement surgery is the healing of the soft tissue that was affected during the procedure," Dr. Klaassen explains. "It's major surgery that involves a major wound. Ideally, the tendons, ligaments, and muscle tissue will heal quickly so maximum strength and flexibility can be restored to the joint. But healing a wound of that size will naturally be a slow process."

But what if it was possible to energize the healing process and accelerate the recovery? A recent advance in biotechnology can make that happen. It's based on the remarkable characteristics of Autologous Platelets – the part of our blood that contains "growth factors" that are vital to healing. The technique Dr. Klaassen uses allows him to harvest a concentration of these growth factors and apply them directly to the wound at the end of surgery, thus creating a super-charged healing environment.

"Prior to surgery, we collect a volume of blood from the patient. Then, using special centrifuge equipment, we're able to isolate and capture a concentration of Autologous Platelets – the 'troops' I mentioned earlier. Near the end of the surgery, before the wound is closed, we spray a fine gel of this material throughout the surgical site. The platelets we harvest join forces with the patient's natural receptor cells and a highly accelerated healing process begins."

The advantages of the technique extend beyond faster healing of the wound. Studies show that most patients experience a greater range of motion than would otherwise be achieved, and the risks of arthrofibrosis (excessive scar tissue that can restrict movement) may be reduced.

Near the end of surgery, Klaassen brings yet another biotechnology technique to the table. "After replacing the joint and applying the platelet gel to the interior area, we close the wound and seal it with Fibrin, a glue-like substance that again comes from the patient's own blood. Fibrin is strong enough that we generally don't even need external stitches or staples on the incision. And, like the platelet gel, Fibrin contains a natural concentration of growth factors that stimulate the healing process."

In addition to quicker healing, sealing the incision this way results in a much less visible scar than would be possible with stitches or staples. "With this technique, a patient's scar in six weeks looks like it's been healing for six months," Klaassen remarks. "I've never had a patient who likes an unsightly scar, so an improved cosmetic result is a nice bonus for the patient."

Klaassen emphasizes that this accelerated-healing approach to joint replacement surgery works so well because the material that's applied – both inside and outside of the wound – comes from the patient's own blood. "If we were introducing some foreign substance into the site, we'd have a natural risk of rejection. That just doesn't happen with this procedure, since we're simply reintroducing a substance the patient's own body produced in the first place."