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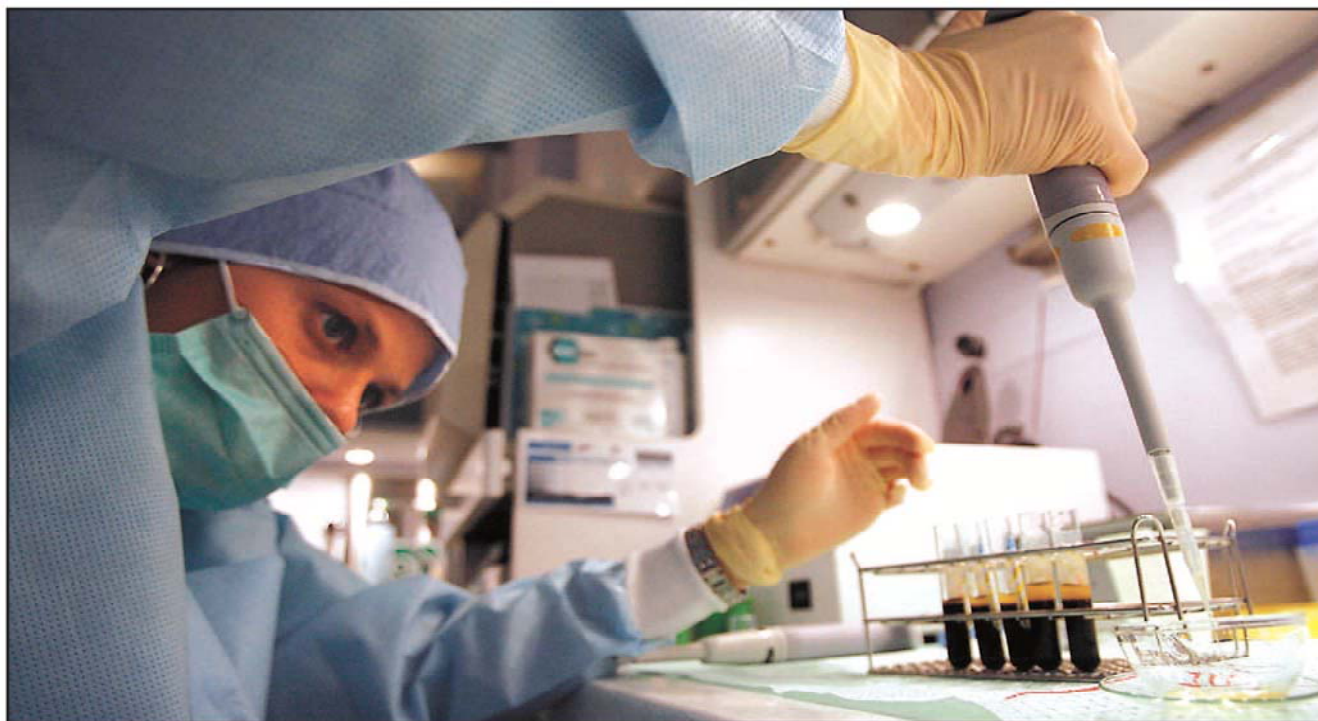
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"They tell other cells in the body, 'Hey, we need tissue repair right here.'"

— Dr. Jochen P. Pechak



ORVILLE MYERS/The Herald

Teresa Maguire, lead surgical assistant, transfers a patient's blood plasma into small bowl that will be mixed with calcium chloride to make membrane at the Perio & Implant Center of Monterey Bay in Monterey.

DENTIST UTILIZES PATIENTS' BLOOD CELLS TO SPEED HEALING

METHOD ALSO USED TO TREAT ULCERS, REGENERATE TISSUE

By **ADAM MANN**
Herald Staff Writer

Using an extract taken from a patient's blood, lead surgical assistant Teresa Maguire moistened tiny grains of bone resembling coarse sand. The mixture formed a milky-white, putty-like paste. Within seconds, Maguire said, the grains

absorb the patient's DNA, reproducing his bone.

Maguire works in the Monterey dental office of periodontist Dr. Jochen Pechak, who uses a pioneering treatment to accelerate a patient's natural healing process. The technique, called Plasma Rich in Growth Factors, or PRGF, employs

proteins called growth factors, which are derived from blood and play a key role in tissue repair and renewal.

"These are basically messenger proteins," Pechak said. "They tell other cells in the body, 'Hey, we need tissue repair right here.'"

Originally from Germany, Pechak is not a typical

dentist. His office is naturally lit and comfortable, with a modern aesthetic design. The staff uses aromatherapy and offers cappuccinos and tea to waiting patients.

His wife, Maya, who runs the clinic's daily business, describes him as a constant

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learner. “He believes that no matter what your skills, you can always be better,” she said.

Scanning the medical literature, Pechak read about PRGF, which doctors have utilized to halve their patients’ healing time. Developed in Spain and approved by the FDA, the technique is used in chronic ulcer treatment, bone and soft tissue regeneration, and tendon and ligament restoration. Pechak has used it in his office about seven months.

He describes the results as “remarkable” and reports less trauma and nerve damage from his patients. Because it uses a patient’s own blood, there is no risk of allergic reaction, he said.

Prior to surgery, the staff drew a small amount of blood — about the same as is taken during a blood test — from their patient, Allen East. East had an abscess in a molar and it needed to be removed.

In the compact technician’s room, Macguire doled out the blood into six test tubes, placing them in a centrifuge for eight minutes to separate the components. The heavy red blood cells sunk to the bottom, topped by white blood cells, and then a plasma full of concentrated growth factors. Pechak’s staff calls the top layer “the good goo.”

Macguire carefully removed small amounts of the plasma layer into three glass bowls, each of which will make a different product.

The first extraction contained the most growth factors. Pale and yellow, it was manipulated into forming a special yolky membrane that will cover the surgery site. The next section was mixed with bone from donors to



ORVILLE MYERS/The Herald

Dr. Jochen P. Pechak begins an extraction and bone graft on Allen East.

form the gumlike substance used to regrow East’s jawbone. The final subunit will be used to soak the surgery site with an extra dose of growth factors.

Meanwhile, in the clean, comfortable surgery room, Pechak worked with a head-mounted flashlight while pleasant music played.

“Here we go,” said Pechak as he started to loosen the tooth. “You’ll feel a little pressure.”

He wiggled the tooth with his dentist’s implements. East’s toes curled. After a few minutes, the tooth came out, looking black and rotten. There was a large crater left behind in the gums.

Macguire brought the three dishes in. Pechak placed the bone putty matrix into the crater and then laid the yolky membrane over. He gently stitched the membrane in place. East, under local anesthesia, reported no pain.

“I just felt pressure,” he said. “But it didn’t hurt at all.”

There was a surprising lack of blood. Pechak explained that the “cells want to go to work right away” and



Teresa Maguire, lead surgical assistant, draws out some of the plasma from a patient’s blood sample to be used by Dr. Pechak.

the bleeding turns off “like a switch.”

The entire operation took about an hour.

Within a week, the membrane will be indistinguishable from the rest of East’s gum line. After three months, his jawbone will grow into the cavity. Pechak will drill a small titanium implant into this new bone, and East will soon have an artificial tooth, held in as tightly as his real teeth.

Pechak, who has performed several hundred of these surgeries using the protein procedure, said they are relatively straightforward. His wife said that the new technique is not very

expensive, generally under \$500.

“And most insurances cover a portion,” she added.

While the cutting-edge technology may be preferable to bridges and other alternatives, Pechak said he would prefer that patients took preventive care of their teeth and gums. The results are about more than just good oral hygiene.

“Bacteria from periodontal disease flow in the blood,” he said, “and have been connected to heart disease, diabetes and stroke.”

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