

## YourNavy

# Former corpsman invents surgical device

## Implanting patient's own bone reduces rejection risk, cuts cost

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Though it may sound like a pro wrestling move, the "Hensler Bone Press" will help heal injuries, not cause them.

Designed by a former Navy corpsman, the device reportedly will make spinal fusion and other orthopedic surgeries cheaper, shorter and easier. It separates bone from blood and saline during surgeries, then compresses pieces of bone into a paste that can fill in holes or be packed around hardware such as screws or pins.

Its inventor, former Hospital Corpsman 3rd Class (FMF) Sean Hensler, said using a patient's own bone for these patches reduces the risk of rejection and cuts costs — synthetic bone implants can run

more than \$5,000, depending on the surgery.

The device was designed with spinal surgeries in mind, but Hensler said it could also be used for gunshot wounds where the bone has been destroyed. Doctors repairing shattered bone with screws or pins could secure those devices with the patient's own bone by grinding down the shattered pieces and putting them into the press.

### How it works

While the surgeon drills into a bone, a surgical assistant suctions out the "bone dust" and a mixture of blood and saline solution. Without the bone press, surgical technicians would dump this mixture onto a sterile table and try to separate out usable bone by hand.

"It's very messy and it squirts



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everywhere," Hensler said of the process, which can take up to 30 minutes.

With the bone press, the blood-and-bone cocktail is suctioned into a container about the size of a specimen cup with a fine mesh strainer at the top. Once the container is full, it can be swapped out quickly for an empty one, so as to not delay the surgery.

As the operation continues, a surgical technician presses the mesh down, filtering out any bone

and compressing it. The blood and other liquid is suctioned away, leaving a substance the consistency of "semi-dry grits" in about 15 seconds, said Hensler, a neurosurgery physician assistant in Wilmington, N.C.

"It's a highly engineered French press," he said.

### Service as a springboard

Hensler served in the Navy from 1996 to 2001 and was stationed at Camp Lejeune, N.C., with 1st Bat-

alion, 2nd Marines, for most of his military career. He deployed to Tunisia, Sierra Leone and Congo during his service.

Though he did not create the bone press while serving, he credits the military with developing his love of bones.

"My Navy time is what got me to where I am," he said. "And my work ethic I attribute to the Navy and Marine Corps together."

The bone press, which costs about \$350, is disposable; it can be used multiple times with one patient, but gets thrown out when that surgery is over. The device is patent-pending — Hensler filed a provisional patent in May 2011.

Alex Ebner, a distributor of the bone press with A.C.E. Medical, said a doctor at the Cincinnati VA Medical Center is planning a trial with the device in December, but VA officials could not confirm because paperwork hadn't been processed yet.

Once the product officially launches in two weeks, Hensler will begin sending out bone presses to distributors around the country. Most will be free or half price to allow hospitals to test the product, he said. He hopes to send out 4,000 units by the end of the year. □



Hensler

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