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WORM REGAINS FAVOR IN MEDICINE

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Leeches are back in the world of medicine.

For the first time at Avera St. Luke's Hospital in Aberdeen, the blood-sucking worms were used this fall to help save a woman's fingertip almost entirely ripped off by a heavy-duty stapler.

It's the first time leeches have been used at Avera St. Luke's Hospital in conjunction with a reattachment operation, said Dr. Sanjay **Mukerji**, who performed the surgery. But they were used in Aberdeen about a decade ago for a foot injury, he said.

Prior to the 20th century, healers commonly used leeches to suck what was called "bad blood" from people with a variety of maladies. "They thought people had bad humors or fluids, and blood-letting was a big part of treatment," **Mukerji** said. Now, leeches are used to suck from areas where there's too much blood.

And that's precisely what the black and slimy critters, each an inch or so long, did to help reattach Yvonne Warne's fingertip.

The 53-year-old Aberdeen woman came to Avera St. Luke's emergency room on Nov. 1 with the tip of her left index finger hanging by a thread of skin after an accident at the Aberdeen printing company where she works. She was stapling magazines together with a foot-operated stapler when, "My foot apparently got heavy on the pedal," Warne said.

Vessels and bones were totally crushed, **Mukerji** said. About 90 percent of the fingertip was separated from the rest of Warne.

Performing surgery under a microscope a couple of hours after Warne arrived at the hospital, the doctor was able to reconnect some vessels, each about as wide as a hair. "The very fine stitches cannot be seen with the naked eye," **Mukerji** said. "That was the hardest part."

In a way, however, what he did takes less skill than a carpenter, he said. That's because tissue is pliable and works with the healer. "Tissue is forgiving. Wood is not," the surgeon said.

He connected the tip to the rest of Warne's finger with a pin. Blood began to flow into the tip through the

vessels the surgeon had stitched together. But there was no way for blood to flow back out until other vessels reconnected naturally. The fingertip turned blue from containing too much blood.

That's when the leeches came in. They were attached to the finger, one or two at a time, to suck blood out of the tip. "That doesn't mean the surgery failed," **Mukerji** said. "Leeches are now the accepted mode of treatment for injuries of this level."

The worms also secrete a substance that prevents clotting --- a substance far surpassing any blood thinner humans have devised, **Mukerji** said.

"They tickle," Warne said of leeches when they suck. "They're so cute." At first a leech or two was attached every four hours. As healing progressed, a leech went on every 12 hours. When the meal is over, they quit sucking and fall off, enlarged and contented. Then they're destroyed for sanitary reasons.

The leeches were shipped overnight to Aberdeen from New York City once **Mukerji** realized he'd need them. Though leeches are easily obtained at bait shops, the type the doctor used are specially raised for medicinal purposes.

Considering the extent of the crushing injury, **Mukerji** said he probably would not have tried to reattach the fingertip had Warne not insisted.

"I asked him to please try," she said.

"Actually, she didn't say please," **Mukerji** said with a laugh. "She just said, 'Do it.' "

He said he had a 50-50 chance of being successful, and it appears this surgery will be. "I am pleased," he said.

Leeches are no longer being attached to Warne's finger because blood is flowing in and out of the fingertip, and healing flesh tissue is reattaching. Warne left the hospital on Thursday, and the pin is expected to be removed in about three weeks. Full recovery will take about six weeks. **Mukerji** said his main concern is that she will experience long-term stiffness in the finger.

He is the only surgeon in Aberdeen with experience and training in the use of leeches for reattachment surgery, and Warne's ordeal marked the first time **Mukerji** has used the worms since arriving in the city in June 2001.

For the public, what matters most is that the procedure is now available in Aberdeen, he said. That's something people might want to know, especially during the harvest season when there's increased risk of injury to limbs, the doctor said.

Here's what to do if someone loses a finger, hand or other limb, according to **Mukerji**:

- * Put the item in a plastic bag and seal it.

- * Surround the bag with ice, but don't put ice in the bag. A dismembered limb can be reattached up to 24 hours later if it's kept cold, the doctor said. A warm one, however, is viable for reattachment for only three to four hours.

- * Get to an emergency room.

The leeches flown in for Warne were still on standby at Avera St. Luke's before she was released from the hospital, in case she needed them again. But staff did move the worms from the nursing station on Warne's wing to a different part of the hospital.

"Nurses don't like them in their refrigerator, especially next to their pudding and jellies," **Mukerji** said with a laugh.

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