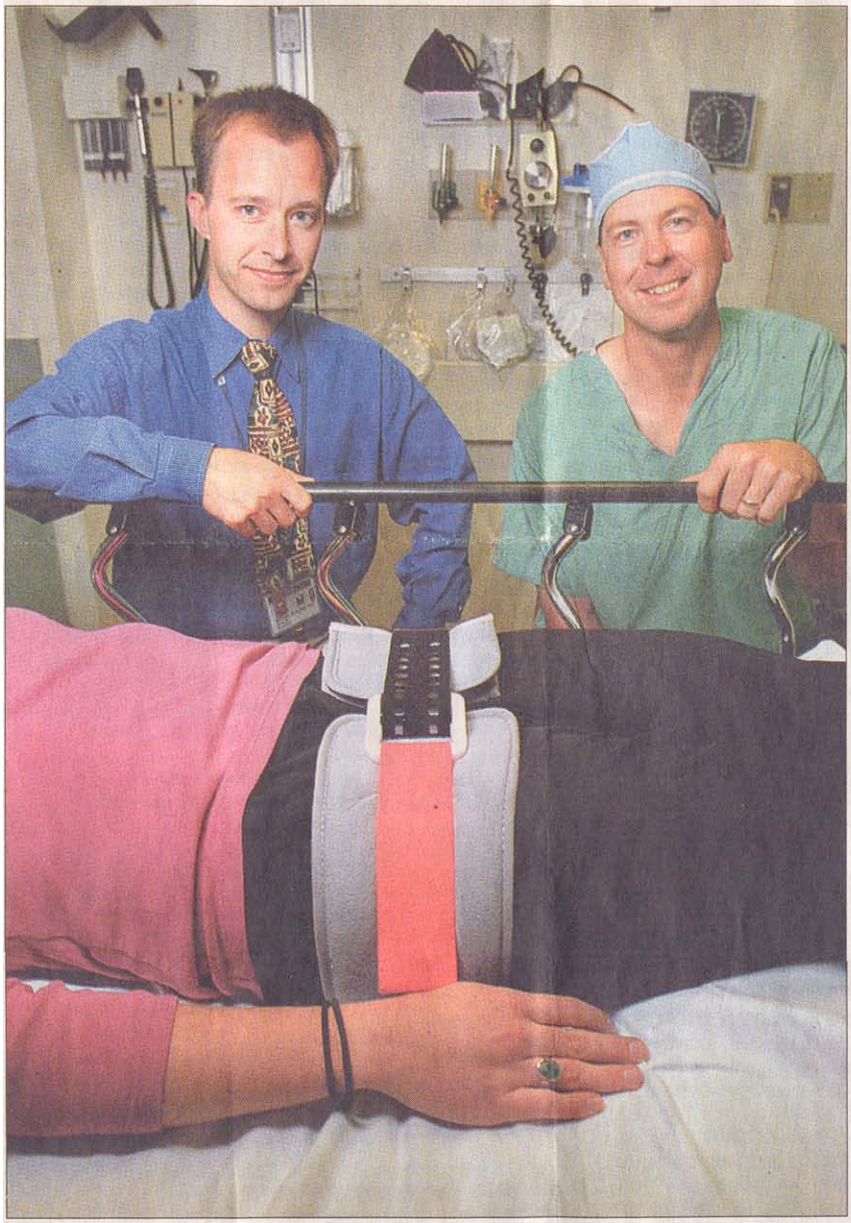
Legacy research pays dividend

A pelvic sling invented in Portland bodes well for the local medical industry



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Michael Bottlang, an engineer at Legacy Biomechanics Laboratory, and Steven Madey, an orthopedic surgeon at Legacy Emanuel Hospital & Health Center, led the team that developed a pelvic sling that will be made and distributed by the Seaberg Co. of Newport.

By JONATHAN BRINCKMAN
THE OREGONIAN

An Oregon company will pick up where a team of surgeons and engineers with Legacy Health System operations in Portland left off in producing a device to stabilize fractured pelvis bones. The company will manufacture and distribute the apparatus that the medical specialists invented.

The development is notable because it is an early instance of medical technology invented in Portland reaching the market. Many economic growth advocates are banking on such commercialization being repeated. Portland last week announced that it will spend nearly $50 million to help develop a 31-acre site off Southwest Macadam Avenue that will include a biotech research center.

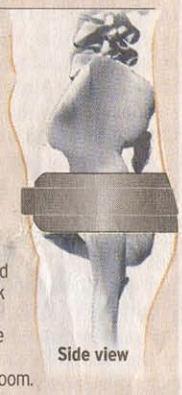
"This is a great Oregon story," said Todd Sherer, director of technology and research collaboration at Oregon Health & Science University. "The fact that Legacy found a manufacturer and this is going to find its way to market is remarkable."

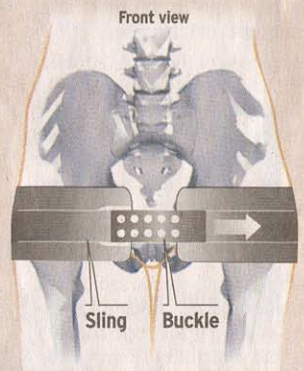
The device, to be called the SAM-Sling, will be made and distributed by the Seaberg Co. of Newport. Seaberg is a privately owned firm founded in 1985 that already makes the SAM-Splint, a portable rolled-up splint that is in wide use throughout the world.

Dr. Sam Scheinberg, president and founder of Seaberg, said he expects the SAM-Sling to retail for about $50 and be commercially available late this year. It likely will be carried in ambulances and used by the military, he said.

STABILIZING PELVIC FRACTURES

The pelvic sling is a beltlike strap and buckle that is placed low on a trauma victim's hips. One or two people can apply the belt, pulling on one end until it snaps into place. The sling is designed to stabilize the pelvis and bring a fracture back into its original orientation while the victim is taken to a hospital emergency room.





Source: Legacy Health System Biomechanics Laboratory

DERRIK QUENZER/THE OREGONIAN

"It's always been our dream to work with a major entity like Legacy," Scheinberg said. "We're just delighted how this all worked out."

The sling was devised after three surgeons at Legacy Ema-

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Pelvis: Surgeons, engineers team to make sling

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nuel Hospital & Health Center realized four years ago that there was no safe and reliable way for emergency medical workers to treat fractured hips.

Hip fractures are dangerous because they can cause a fatal loss of blood. The bleeding comes mainly from the veins around the pelvis and from vessels within the bones, not from damaged arteries.

The common way to treat a hip fracture at an accident scene is to wrap the victim's pelvis in a sheet. But there are no clear guidelines on how tightly to wrap the pelvis. If it's wrapped too loosely, bleeding may not stop, and if it's wrapped too tightly, harm can be done as bones are shifted.

The surgeons worked with engineers at Legacy Biomechanics Laboratory to design the sling, a belt that wraps low around the waist. The team came up with a device that is tightened until springs snap into place. The mechanism ensures that the hips will be bound with the optimal amount of pressure while the patient is transported to a hospital.

"If you are a first responder, put this around the hip and pull 'til it clicks and locks," said Michael Bottlang, director of Legacy Biomechanics Laboratory. "It provides a consistent, reliable and safe treatment."

To work on the device, Legacy System received $288,000 in grant money from the U.S. Office of Naval Research for laboratory studies and for clinical studies, Bottlang said. Legacy, a nonprofit organization that also operates Legacy Good Samaritan Hospital in Portland, kicked in another $130,000 in research funding, he said.

Legacy secured a patent for the device, then contacted Scheinberg of the Seaberg Co. to ask whether he would be interested in manufacturing it. He immediately expressed interest, Bottlang said, and the hospital and the company agreed on terms.

The company agreed to give the hospital an upfront fee for manufacturing rights and then to pay a royalty for each unit sold. Neither the company nor the hospital would disclose specifics of the deal.

"Negotiations were short, dominated by mutual agreement and satisfaction," Bottlang said. "This has the strong potential to provide a modest but persistent revenue stream for Legacy."

Scheinberg said subcontractors in Oregon will manufacture the sling.

Joseph Cortright, a Portland-based economist, said the pelvic sling is an example of a commercial device that arose because practitioners knew they had a problem and found a way to solve it.

"A lot of the time we have this belief that the most valuable knowledge is created in the laboratory," he said. "But when you understand a problem because you work with it, you often understand that problem really, really well."

Dr. Tony Melaragno, chief of research at Legacy, said the sling is the first medical device developed at Legacy to be commercialized.

"For me, the exciting thing is that we're actually marketing something that helps people," he said. "We think this can stimulate more."

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