



Darrell Sapp/Post-Gazette

Sanna Gaspard, founder and CEO of Rubitection Inc., demonstrates her invention to detect bedsores at Carnegie Mellon's Project Olympus office in Oakland.

CMU graduate develops a device that might better detect bedsores

DEVICE FROM B-1

way to diagnose the sores, Ms. Gaspard thought.

The blanch test used to diagnose bedsores hasn't changed much in generations, even though the results can be unreliable. For the test, the caregiver simply presses a finger on the site of a suspected bed sore, pushing blood out of the capillary bed, then releasing the pressure to calculate how fast blood flow and skin color returns.

But the test doesn't always work. For those with darkly pigmented skin, the blanch test is often worthless because great amounts of melanin can mask test results, according to Todd M. Przybycien, Carnegie Mellon University chemical and biomedical engineering professor and Ms. Gaspard's adviser for her doctorate thesis.

"In folks with darkly pigmented skin, you don't see that blanching until it has gone very far, which means

the sore progresses much faster," said Mr. Przybycien, whose father died from bed sore complications. "It's a huge problem. These things are miserable."

Ms. Gaspard, a native of the eastern Caribbean island of Saint Lucia, founded Rubitection Inc. in 2010 and has received \$350,000 in grant funding for her hand-held, battery operated tool, which measures skin temperature, consistency and other factors that indicate skin breakdown.

Rubitection, which has offices in CMU's Project Olympus center in Oakland, has two full-time employees and several part-time consultants.

Ms. Gaspard says the tool has worked well in the lab and she's confident it will work in clinical settings, so she's recruiting long-term care facilities where she can prove its effectiveness. Such clinical trials will be needed for

Food and Drug Administration approval, which is required before the device is marketed.

Rubitection recently got a boost when Ms. Gaspard took first place in the AlphaLab Gear National Hardware Cup Mid-Atlantic Regional, which was held at Bakery Square in Larimer. She received a check for \$3,000 plus a shot at a \$50,000 prize in the national finals in April.

Still, big challenges await, including an anticipated Series A fundraising round next year when she plans to approach angel investors. Knowing the enormity of the problem has only steeled her resolve, she said.

"I said to myself, I don't know how I'm going to sell this, but I know it's needed," Ms. Gaspard said. "It can have a huge impact."

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