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A card that turns a dreadful blue



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In a 4500-square-foot Middlesex warehouse, a tiny research company with only five employees is putting the finishing touches on a product its inventor hopes consumers will never have to use.

But sadly, JP Laboratories will probably have a best-seller on its hands, because this new product is a little card that measures the amount of radiation to which you have been exposed.

It's small and light -- about the size of a credit card. It's convenient to carry -- you can keep it in your wallet. And it's cheap -- probably no more than about five bucks.

Welcome to the rest of your life.

The product, which actually looks like a clear plastic credit card, is officially called a SIRAD (Self-indicating Instant Radiation Alert Dosimeter). What makes it work is a radiation-sensitive strip that turns blue when exposed to the kind of radiation emitted by nuclear bombs and so-called dirty bombs.

"It instantly measures the amount of harmful radiation one is exposed to," says its inventor, Gordhan N. Patel, explaining the color intensity registers the degree of the cardholder's exposure. "The longer you are exposed, the stronger the color gets -- the maximum being a very dark blue."

Unaffected by the kind of low- dose radiation associated with X- rays or mammograms, the dosimeter kicks in when radiation reaches levels that might require medical attention. A color-coded chart alongside the strip tells its carrier whether exposure has been sufficient to get to a hospital, and -- if medical attention is warranted -- the strength of blue tells emergency room doctors precisely how intense exposure has been so they know what level of treatment is required.

Only a few years ago, this might have sounded like a Pet Rock kind of gimmick. But this wasn't developed by some college kid with a bright idea. The 61-year-old Patel has spent decades researching and inventing color-changing monitors, many of which are in use in hospitals and the food industry. He holds some 50 patents for his research, which also includes radiation-sensitive devices, synthetic lipids, metallization of plastics and synthetic blood.

Interestingly, many of his projects have been funded by the U.S.Government. In the case of the SIRAD, the government came to him, knowing his prior research on radiation and color-changing monitors.

"We got a one and a half million-dollar grant from the government, plus a half million from the National Cancer Institute to develop this," he says, explaining that a product of this nature "takes five to 10 years" in development even before it can be tested.

Once the product was in development, he says, "we got an $800,000 grant from the Navy to develop the actual card." Finally, with an additional $105,000 from the Technical Support WorkingGroup (a sub-department of the Department of Defense and HomelandSecurity) and "a half-million of my own," Patel brought the card to its current stage.

He's interviewing manufacturers (the contract, he says, will go to the company that can make it fastest without sacrificing quality), and he says the card could be available to consumers by summer.

"We're now supplying it to the government, and that's our priority," he says. "But my goal, when I started, was to manufacture products that would help people. We have almost 20 products like this, some of them already in the market."

Many of those products are connected with the shelf life of medical supplies and food.

As it happens, Patel might today be raising food in his native India if his parents hadn't redirected him.

"My parents were farmers, and I loved farming," says Patel, who graduated from Sardar Patel University in India. "I even quit my Ph.D. and went home to farm, but my parents convinced me to go back and finish."

After completing post-doctoral research at the University of Bristol in England and Baylor University in Waco, Texas, Patel spent 10 years in research and development with Allied Corp. (now Honeywell) in Morristown. He opened his own laboratory in 1983, an outfit so small that he still jokes "the J and P stand for janitor to president," though he adds that they actually stand for the initials of his son and daughter.

Bringing the radiation detector to consumers, he says, will also fulfill one of his personal goals as an American citizen.

"We got an opportunity serve our country, and we are trying our best to do so," says Patel. "My family and I -- including the immigrant community in general, and especially the Asian-Indian community -- take pride in developing a product to combat terrorism."

Fran Wood is a Star-Ledger columnist.