

## Power scanner shines light on skin imperfections

### HOW MANY WAYS DO MY PORES BETRAY ME? LET THIS MACHINE COUNT THE DIPS AND BUMPS

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Some people can hardly bear to look in the mirror at their pimples, wrinkles and sunburn blotches, much less count them.

But Raj Chhibber sees a big business opportunity in adding up all those facial defects.

With sales of skin-care products expected to rise as the population ages, Chhibber has sunk \$1 million of his own money into developing a computerized face-scanning device that not only detects skin-related disorders, but also quantifies them.

Moreover, the machine provides tips about everything from how much sun exposure a person can handle to their likelihood of developing acne, wrinkles and other problems in the future.

"We think we will revolutionize this industry," said Chhibber, who sells the Clarity Pro scanner through his San Jose-based BrighTex Bio-Photonics and his partner, Moritex of Japan. "We can have a huge difference in everybody's lives."

Some doctors, health spa operators and others who treat skin disorders already use scanners. But most machines on the market merely help spot problems, without calculating the extent of them, according to Jeff Russell, executive director of the International Association for Physicians in Aesthetic Medicine.

Moreover, "what's unique about Clarity Pro that no one else does, it can tell when wrinkles are going to begin and where," Russell said. "It's technically amazing."

Among those trying it out are scientists at cosmetic giant Avon, based in New York City. An Avon representative acknowledged the company is using at least one Clarity Pro for research. But she declined to comment further, saying she didn't want to reveal Avon trade secrets.

Dr. Richard Noodleman, a Campbell dermatologist, also got a demonstration of the machine at BrighTex's office. He already relies on a more widely used scanner, called a VISIA Complexion Analysis System, made by Canfield Imaging Systems of New Jersey. But he said the Clarity Pro seems to offer a clearer picture and more detailed analysis of skin problems.

Noodleman added that the need for such machines is great.

"For both the physician and their patient there can be things going on in the skin that are not readily visible," he said. "I think it's a very useful idea."

BrighTex, which Chhibber founded last year after he spent years in the semiconductor industry, designs Clarity Pro's software, while Moritex makes the rest of the machine. So far, the firms have sold about 40 of the gadgets, which range in price from \$20,000 to \$50,000, Chhibber said.

The machine is shaped like an oval sink turned on its side. After snapping pictures with normal as well as ultraviolet light, the device uses algorithms to calculate the number of skin problems it detects. Then it prints out an analysis with photographs and charts detailing the bad news.

The idea is to provide enough information about a patient's skin so their doctor or other professional can better advise them on what treatments to take, how long to sunbathe and even what foods to eat.

After measuring the extent of sun damage on a customer's face, for example, Clarity Pro provides a graph showing the maximum number of minutes the person should spend under the sun, based on daily ultraviolet indexes.

The device also measures areas of unhealthy redness and tabulates how many pores are afflicted by acne-causing bacteria and excessive sebum, an oil the body produces that can promote bacterial growth.

It can even tell in excruciating detail the number of wrinkles on a person's face, as well as the length and depth of each line.

A woman in her 50s who recently underwent a Clarity Pro scan was informed she had 182 wrinkles, 1,262 deeply inflamed pores and a skin-tone evenness score of 17.1, meaning she had some redness or blemishes.

That's just for starters, however. Chhibber said he plans to soon sell a machine tailored to the requirements of hair-care specialists and eventually wants to offer a low-cost version for home use.

Another option he's considering is to develop a system that lets someone snap a picture of his or her face with a cell-phone camera and e-mail the data to BrighTex, which would analyze the image and send the results back for a fee.

Winning widespread acceptance for his machine could take time, however.

Most skin-care professionals are used to examining patients without scanners and might be reluctant to buy one, according to a study last year by Millennium Research Group. Nonetheless, it concluded, "the market for digital dermoscopy devices will be well poised for expansion if these barriers are overcome."

John Bailey, executive vice president for science at the Cosmetic, Toiletry and Fragrance Association, expressed concern that it might be hard for scanners to provide consistently relevant skin calculations, given such diversity in the U.S. population.

Even so, he added, "if there is a device that measures something meaningful and allows a better use of treatments, then certainly there would be an incentive to use it."

Chhibber, who said he has seven full-time employees in the United States and 14 in India, is optimistic his machine's sales will take off, especially considering how much is being spent on medicines for pimples, wrinkles and other skin issues. Indeed, U.S. sales of skin-care products are expected to grow from \$7 billion in 2005 to 9.2 billion by 2010, according to a study by MarketResearch.com.

Chhibber says he believes his device is well suited to assess the effectiveness of those products. If someone tries a drug to reduce their forehead furrows or enlarge their lips, for example, they can easily tell by using Clarity Pro over a period of time whether the treatment is having any measurable effect, he said.

That might disappoint many consumers, he suspects.

"Most of the products don't work," he said. "It's all smoke and mirrors."

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