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**KNOCK-
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BEAUTY:**
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YOUR
ULTIMATE
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TO
SEXY

spring style

**C-CUP
OR
BUST!**

THE
SCIENCE
BEHIND
THE NEW
NON-
SURGICAL
BREAST
ENLARGER

**CHRISTY
TURLINGTON**

THE
EVOLUTION
OF AN
AMERICAN
BEAUTY

**HOW
FERTILE**
ARE YOU
REAL

See Inside: The BRAVA System

THE NEXT BREAST THING

The makers of the new Brava breast pump claim that a battery-powered suction bra can give you the cleavage of your dreams. Carolyn Weaver discovers the price of inflation

Let me state the problem succinctly: I'm the size of two Calista Flockharts but have the chest of only one. My negligible breasts have done perfectly well at suckling one infant and arousing my fair share of lovers. But I loathe having to wear a padded bra, and I dread taking my clothes off for the first time with a man. I've ruminated for years about buying a modest pair of implants that would make men's eyes pop, just a little. But the chance of ending up with breasts that look and feel like baseballs, as well as the possible loss of nipple sensation and the likelihood of having to undergo a repeat operation (of the 212,500 women who had breast implants in 2000, 41,000 had them removed or replaced), has kept me off the operating table.

So I decide to try and grow my own, after becoming utterly riveted to a newspaper ad touting a new, nonsurgical system called Brava, which uses a pair of vacuum-pumped domes that resemble giant L'eggs containers, sold only through doctors' offices. The before-and-after pictures on the Brava Web site are incredibly alluring; they show three women who claim their breasts have gone from painfully underdeveloped or merely small to medium-size and beautifully shaped.

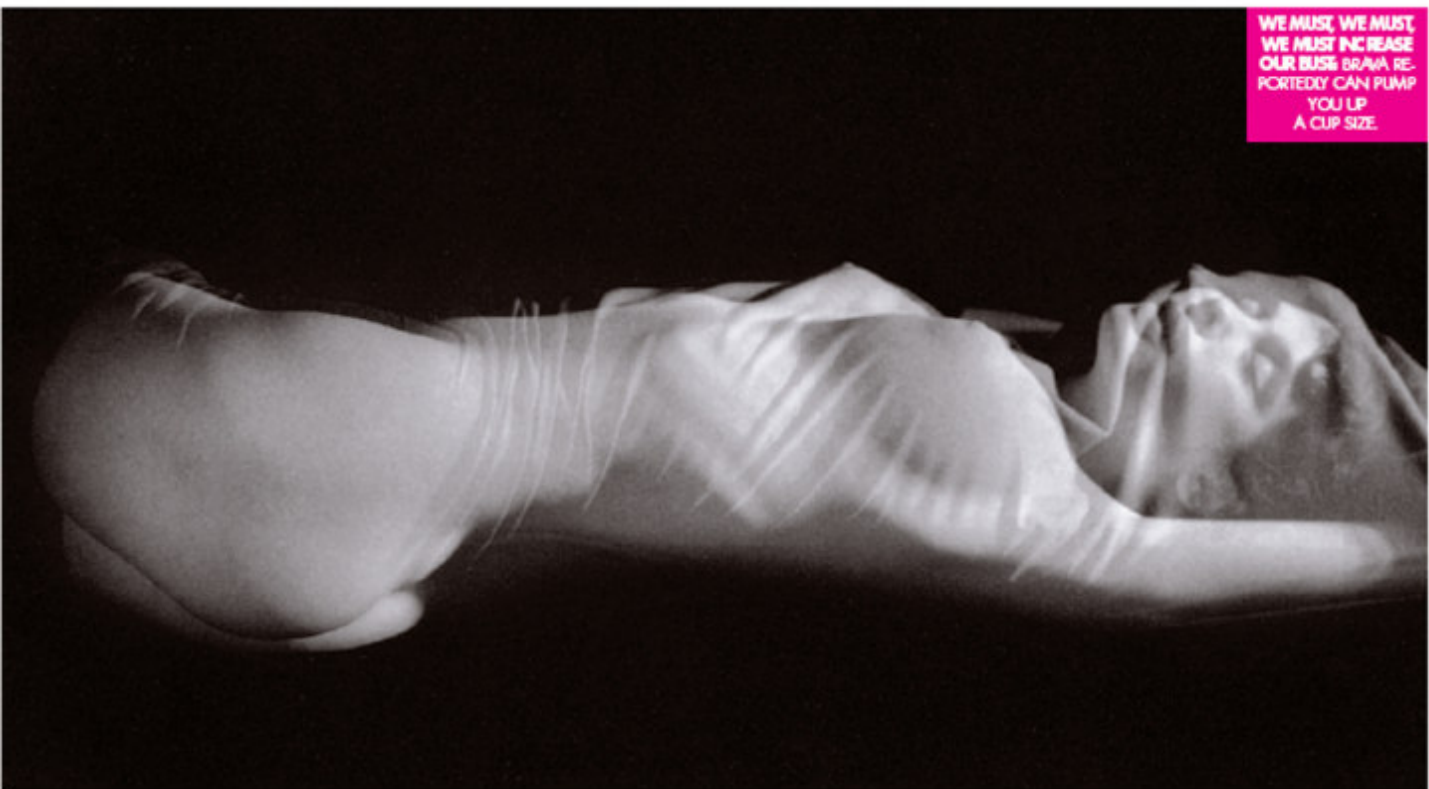
I speed over to the offices of Washington, DC, ob/gyn Robert Footer to try the thing out. An assistant named

Melissa takes me into a back office and opens up a thick attaché case containing two sets of domes—one for wide-chested women and one for narrow-chested. I whip off my shirt and bra and put the space-agey-looking things over my breasts. As the air is suctioned out electronically, through the clear plastic domes, I see my breasts seemingly inflate and stand erect. The sensation is a mild tightness, not at all unpleasant. A black mesh bra-like garment holds the domes in place. Glamorous, no. But if it works, who cares?

HOLD THAT STRETCH

Melissa tells me I've got to be committed to the project: Brava users who don't wear the device for ten hours a day for at least ten consecutive weeks will not experience any permanent increase in size. The system is based on a medical principle known as tension-induced growth: Brava's vacuum stretches the breast tissue gently, but over a sustained period of time. When healthy cells are stretched, they respond both by swelling temporarily and by replicating until, eventually, the cells divide to accommodate stretch force. Melissa adds that if I use the domes at night, my breasts will remain swollen until lunchtime, even before any real growth takes place. Some women clap them on for a few hours before a date, she says, for an extra boost. >

WE MUST, WE MUST,
WE MUST INCREASE
OUR BUSY BRAVA RE-
PORTEDLY CAN PUMP
YOU UP
A CUP SIZE.



BRAVA BREAST PUMP

I lug it all home in a huge black-and-pink box. There's enough gear here for a high-school science project: a small, rechargeable pump sensor suctions air out of the domes. The contraption buzzes when you first put it on, but quiets down after a few minutes once the right pressure is reached (though it will set off an alarm if a seal fails and a dome peels loose). I learn to press the domes as tightly as possible each night, and reconcile myself to not being able to sleep on my stomach for the next three months. Even so, I'm occasionally jarred awake by the blaring alarm when a dome comes unstuck.

The pump's recharger also contains an internal modem, which you plug into a phone when you're not wearing the device; Brava wants the data collected by the pump to be downloaded so that those who lapse from the strict schedule can't blame the company for their lack of growth. Traveling with the apparatus requires major finesse, I learn as I nest the domes inside a plastic bag and hope they won't be pulled out and puzzled over by airport security. I feel like Austin Powers with his penis-enlargement pump. (Incidentally, scientists interviewed for this article say that penis pumps do not work because the tissue is too elastic to respond permanently to vacuum-induced stretching.)

PUMP UP THE VOLUME

Despite the awkwardness of my new regimen, I enjoy rising each morning and looking in the mirror. Within a week, my breasts seem decidedly larger and feel heavier and tighter in the mornings, a bit the way they do before a period, but without any tenderness.

The Brava system was brought to market last year following eight years in development by Bio-mecanica, a company headed by Roger Khouri, MD, a well-known plastic surgeon. The Lebanese-born Khouri started tinkering with the idea when he was teaching at Washington University in St. Louis and devoting most of his practice to doing breast reconstruction on cancer patients, who are particularly concerned about the risks of implants. As a plastic surgeon specializing in hand and facial bones, Dr. Khouri was familiar with the principle of tension-induced tissue growth in reconstructive surgery. It's been used for decades to lengthen limbs and is the principle behind surgically implanted tissue expanders used in postcancer breast reconstruction. It also drives much of the body's development in youth. As cells are stretched by any form of tension—for example, in childhood, by the growing skeleton—they respond by replicating until the elongated areas fill in with new tissue.

In 1992, Dr. Khouri realized that the principle might work to enlarge breasts. "I started talking about this with some colleagues," he said. "And they would say, 'Yes, Roger, you're going to suck on women's breasts.' But I knew if you stretch tissue, it grows."

Undeterred, he began developing prototypes and offering them to healthy women to try out. A paper by Dr. Khouri and several colleagues that presented clinical results on twelve

women initially drew guffaws at the 1999 annual meeting of the American Society for Aesthetic Plastic Surgery, but later won the prize for the best scientific paper and was published in the peer-reviewed *Plastic and Reconstructive Surgery* journal in June 2000.

A follow-up study of thirty additional patients, carried out by Thomas J. Baker, MD, a past president of the American Society for Aesthetic Plastic Surgery, used the same protocols and confirmed the earlier results. Women were measured before, during, and eighteen months after they stopped wearing the system: All had lasting breast-tissue growth of approximately one bra-cup size. Magnetic resonance imaging, as well as biopsies, confirmed that the increase was not due to swelling, and that the proportion of fat to glandular and other breast tissue had not changed. There was no scar-tissue formation or asymmetry of breasts, and the results were permanent.

The company says its apparatus is meant for women who have breasts anywhere from smaller than an A cup to a B cup and who would be satisfied by an increase of one cup size in ten weeks of use. But Dr. Khouri says the latest clinical results, now being prepared for publication, of more than 100 women in four cities shows that the longer women wear the device, the more their breasts grow. He says most users can expect to add another cup size for every ten additional weeks of use, up to a C cup (which is the largest dome Brava currently makes, since the company feels that D-cup domes would be too cumbersome).

Over the first five or six weeks that the Brava domes are worn, Khouri says, breasts enlarge from both swelling and cellular tissue reproduction. As time goes on, the proportion of swelling subsides relative to the permanent new tissue growth. But you must wear the ungainly rig every day for the full ten hours; missed days, especially at the beginning, can set development back a week or more—breast cells won't grow if the stretching is not sustained. Given the exigencies of real lives, most users end up taking twelve weeks or more to grow one cup size.

VACUUM-STACKED

Dr. Khouri is proud of his invention and delighted with the satisfaction of his "girls," as he calls his patients. He reminisces about the early days, when an acquaintance became one of his first guinea pigs. "This girl had absolutely no breast tissue, just nipples pasted on her ribs," he says. "But she did not want to have implant surgery. She wore our first prototype, which used to break every other day. She went through one [ten-week] cycle and then another, and then kept using it on and off. I saw her recently, and she's not Dolly Parton, but she has cleavage."

Dr. Khouri says that beyond the potential for skin irritation, there are no health risks associated with using the domes. In fact, he's working on a model that can be worn

DESPITE THE
AWKWARDNESS
OF MY NEW
REGIMEN, I ENJOY
LOOKING IN THE
MIRROR. MY
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more comfortably for twenty-four hours a day. He claims that the obvious concern—wearing a device that stimulates cell growth might also stimulate cancer cells—is unfounded. “Tension has never been implicated in the initiation or growth of cancer,” he tells me. “Healthy cells respond to tension by growing. Cancer cells don’t respond to tension.”

The clinching evidence for the device’s safety, says Dr. Khouri, derives from the use of internal, surgically implanted breast-tissue expanders used for months at a time to prepare postmastectomy patients for implants. “There isn’t a shred of evidence,” he says, “that those millions of women, whom we know are predisposed to breast cancer, have an increased incidence of recurrence following reconstruction.”

Breast-cancer expert Susan Love, MD, who notes she is very familiar with the research behind Brava, says that the system sounds safer than other methods of breast enlargement. “There’s no reason to think it causes cancer,” she says. “Compared to most of the fly-by-night things proposed to increase breast size, it actually has some data behind it and seems to pose fewer risks than breast implants or over-the-counter drugs and creams.”

Even so, the company cautions that the device is not meant for women with a family history of breast cancer. “Why would they say that if there were no concerns about cancer?” asks Sidney Wolfe, MD, director of the Public Citizen Health Research Group. “Since the company claims it causes growth in tissue volume, where is the evidence that the new growth would not apply to cancer?” Wolfe suggests that the fact that the pump is an external device shouldn’t exclude it from scrutiny. And he calls the Food and Drug Administration’s decision

thus far not to regulate the Brava system as a medical device “preposterous.” (Even elastic bandages and wheelchairs are regulated.) David Feigal, MD, head of the medical-device regulatory branch of the FDA, says the agency initially decided not to regulate the Brava device because it seemed safe. That decision isn’t final, though, and has been under review since April 1999.

As Love points out, suction devices have long been used to start lactation in adoptive mothers who want to breast-feed. Brava users do not start lactating, however, since the suction the device creates is far less intense than what’s needed to stimulate the mammary glands. Reasonable weight gain or loss also doesn’t seem to have much effect on the permanence of the results. Users who gained more than a few pounds in the first study were excluded from the data, to avoid bias in the results. All the other women actually lost weight, even as they gained breast tissue. Dr. Khouri attributes this to an increased interest in improving their appearance, rather than metabolic changes.

CHEST PAINS

I haven’t lost any weight, possibly because my dome-wearing time conflicts with the late-evening runs I favor; there’s no way you can conceal these jutting plastic cones, even under the largest sweatshirt. When I have the rig on, I can’t even walk

around my kitchen without knocking into the cabinets. And the growth—though it’s evidenced by my own photographs and new bras—is really only from an A cup to a small B cup. To me that’s great, but it’s a modest enough increase that the nonbreast-attuned may not notice it at all.

There’s also a little thing called the “recoil” effect, which worries me. The first couple of weeks that you stop wearing the Brava domes, there’s a little bit of shrinkage. You lose about 20 percent of your gains. But then the recoil stops, Dr. Khouri assures me, saying that all the women in the studies so far have maintained their growth of at least one full bra-cup size, or 100 cc’s when they were measured over a year later (a typical implant is 250 cc’s). He noted that would be the increase I could expect as well, being a white woman with an average body weight. Dr. Khouri says, however, that women who have very low body fat, and Asian and African-American women, who typically have tighter skin, might experience slower growth than I did.

But the biggest issues with the Brava system seem to be bugs in the technology. Salt crystals from sweat clog the pump, and waiting a few days for a “loaner” pump can set you back in your breast-building progress. The company now sends out plastic filters to keep the pumps from clogging, but they cause a sharp reduction in vacuum pressure. Dr. Khouri advised me not to install the filter, saying it would hinder growth, but other Brava customers are still instructed by their doctors to use them. The pump I received initially had to be sent back for repairs, and one set of domes that I used wouldn’t stay put because of a faulty seal.

A high-profile advisory board is just one of the slick marketing strategies Brava uses to set itself apart from the jerry-rigged breast-enlargement pumps advertised in

the backs of magazines. The dozen MDs on the board (who serve uncompensated, according to the company) include Thomas J. Baker, a former president of the American Society for Aesthetic Plastic Surgery; Sherrell J. Aston, chair of plastic surgery at Manhattan Eye, Ear and Throat Hospital; and Anthony Atala, director of tissue engineering for the urology program at Children’s Hospital Boston, who confirmed he had not been paid.

The company sells the apparatus direct to the consumer (\$895 to \$1195)* and through doctors, who pay for it and then resell it to patients at a profit.

To my mind, it’s all worth it. After three months of assiduous wear, I take my new understated but definite cleavage out to a party, in a V-neck shirt and push-up bra. A man actually apologizes for staring down my shirt instead of looking me in the eye when we speak. “I’m sorry,” he says. “I just can’t help myself.” □



THE INSIDE STORY IT’S VIRTUALLY IMPOSSIBLE TO CONCEAL BRAVA’S BIG PLASTIC DOMES, EVEN UNDER THE ROOMIEST SWEATSHIRT.