

BODY BREAST FACE

By Nancy A. Melville

STAFF CORRESPONDENT

face

## Cool therapy Water circulation mask an alternative to frozen peas

*Device borrows from orthopedic medicine for continuous, uniform cooling following facial procedures*

**National report** ♦ In the high-tech world of cosmetic surgery in which laser devices and surgical equipment become more cutting-edge every day, patients are typically sent home with astonishingly low-tech post-op tools — ice, painkillers and sometimes the herbal remedy arnica. Of course, ice melts, painkillers either wear off or pile up in the kidneys, and arnica cannot really be tweaked to be tissue specific.

The makers of a new recovery system decided there had to be a better way. Taking a cue from orthopedic and sports medicine, they developed a device to allow for the continuous delivery of cool water therapy that could be maintained at a safe and effective temperature, between 50 and 61 degrees. The device, called the AqueCool Rapid Recovery System, includes a toaster oven-sized thermo-electric cooling device and form-fitting mask outfitted with tiny microchambers through which cold water continuously circulates. Various masks suitable for cosmetic surgery procedures are available, including periorbital, mandibular and full-facial masks. Tubes connect the masks to the water cooling device for water circulation.

**ANECDOTAL EVIDENCE** There is currently no published data on results achieved using the device, but its maker, San Francisco-based

Aqueduct Medical, Inc., says the controlled cooling helps to reduce post-operative swelling, bruising and pain, and contributes to an overall reduction in downtime. Some doctors who have used the device concur. Glenn H. Weissman, M.D., a board-certified facial plastic surgeon based in Arcadia, Calif., tells *Cosmetic Surgery Times* that he observed impressive results in the 12 patients who had used the system in the six weeks since it was introduced at his practice. "Patients may not have anything to compare this to, but I've been in practice for 26 years and when I compare this to what I used before, there is significant improvement in post-op comorbidities," says Dr. Weissman. "Pain, swelling and bruising are dramatically reduced from what I've seen before." Dr. Weissman says his patients appreciate the fact that the device is easier to use than ice, and the uniform exposure to the cool water is more conducive for recovery. "Ice is variable, and as it melts, it goes from cold to hot, and it requires constant attention. This, on the other hand, is consistent and continuous."

### MASK VS DRESSING

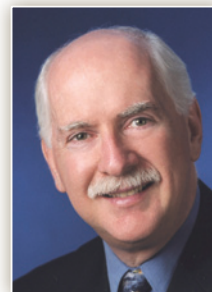
Conventional bandaging following facial plastic surgery might include "Q-tip" dressing, with the head wrapped in heavy cotton or gauze to deliver pressure and decrease swelling and possible bleeding. Dr. Weissman says the AqueCool masks can represent a handy alternative. "[With conventional dressing], the wrap attempts to reduce bleeding and bruising, but in doing so, it insulates the tissue. This causes heat at the surface of the skin, which, in some cases, can lead to increased bruising," he

notes. "The mask removes that problem and completely obviates the need for such a heavy bandage." Malcolm Paul, M.D., a board-certified plastic surgeon practicing in Irvine, Calif., has used the device on about 20 patients and says he observed the best results when the mask was used in the jaw and neck area. "I was really impressed with the jaw and neck area results,"

says Dr. Paul, a clinical professor of surgery at the University of California, Irvine, Aesthetic and Plastic Surgery Institute. "In almost all of the patients, the recovery seemed faster. They looked good the very next day, rather than days later, and they had virtually no bruising or swelling."



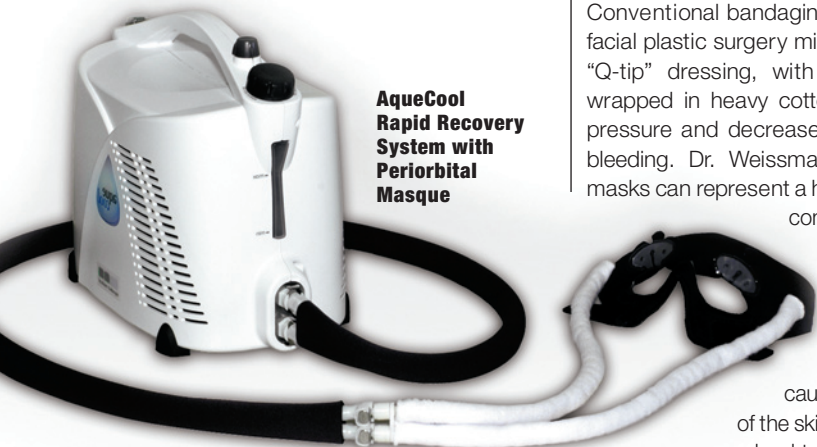
Dr. Paul



Dr. Weissman

**FACIAL INTERFACE** The jaw and neckline can be awkward areas to get to with ice, and Dr. Weissman agrees that those areas were the best application he's found for the mask. "The form-fitting mask offers a nice interface between the skin and bandage and works very well," he says. "When the mask is used over the eyes, you can't get as much skin to interface, so I wouldn't say it's as advantageous for the periorbital area." While similar devices are more common in orthopedics,

the concept is not entirely new to cosmetic surgery, observes Richard Fitzpatrick, M.D., a pioneer of laser resurfacing and associate clinical professor at the University of California, San Diego. "We used a device like this about five years ago, but ultimately didn't see any advantage over icing," he says. "It turned out to be too much of a hassle. What I found works better is a short-acting steroid," he adds. "We give 4 mg to 6 mg of dexamethasone IM, and that makes a big difference in reducing swelling." Dr. Fitzpatrick says he has personally used devices similar to AqueCool on his own



**AqueCool  
Rapid Recovery  
System with  
Periorbital  
Masque**

Photo credit: Aqueduct Medical, Inc.

knee, and does see the benefit in orthopedic and sports medicine uses. "The primary advantage is you get uniform cooling around the leg at a preset temperature, so you don't need to use ice packs. I used mine very obsessively and it worked really well. But in practice, I didn't find the same advantage on the face," he says. "Maybe [the AqueCool device] offers something different. I certainly don't see anything wrong with it if it's not too costly."

**COST CONCERNS** Cost was a concern shared by Susan Kaweski, M.D., F.A.C.S., chairman of the Technology Assessment Committee for the American Society of Plastic Surgeons. "It sounds like a good thing, but patients generally don't want to spend extra for aftercare," she says. "They expect they are paying for everything at one time. If this costs more than ice in a bag, surgeons could potentially tack that on to the overall cost, or just recommend the tried and true, which is cold compresses."

The cost for the device is indeed more than that for ice bags, running from about \$100 to \$300 for the mask, plus the machine, which is rented for about \$30 to \$50 per day, according to its manufacturer. Dr. Weissman says his practice

absorbs the cost of the masks, and patients pay only for the machine rental. Drs. Paul and Weissman each say cost hasn't been a big issue for patients, and the payoff has been in the form of very positive results. "My patients really noticed the difference [compared to ice]," says Dr. Paul. "They said the mask was much more comfortable than they'd expected, and it was not too cold."

Dr. Weissman says his patients reported that instead of it being uncomfortable, they found the mask refreshing. "They would go home anticipating this tight uncomfortable bandage and, instead, they said they felt like they were getting a facial. To look at it, you would think you would feel claustrophobic with this thing around your face, but I put the device on myself and I felt the exact opposite. It felt cool and soothing," says Dr. Weissman.

When researching the field in which to market the technology, the company's founders honed in on cosmetic surgery where they were "shocked" that pain killers and frozen peas were still a standard of care, despite the common use of cooling devices in other fields of medicine, says Eric Selvik, vice president of marketing for AqueDuct Medical. "We realized that aesthetic medicine patients were

looking for something better to help them recover," he explains. "The bag of peas just isn't a good standard of care for anyone, let alone for someone paying a lot of money for a facelift." Because downtime is a key cosmetic surgery complaint, any measure by which it may be reduced is likely to pay off in patient satisfaction, he adds.

"Patient satisfaction should be your end result, and if someone has a procedure and has swelling and pain for a few weeks after a procedure, even if they eventually look good, their overall satisfaction may be quite diminished. If you can minimize the side effects after a procedure, patients' overall satisfaction can go up and they'll probably be more likely to recommend you to friends," says Mr. Selvik. ◀

**Disclosure**  
Drs. Paul and Weissman report no financial interests related to this article.  
**For more information**  
[www.aqueductmedical.com](http://www.aqueductmedical.com)



**Dr. Fitzpatrick**

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"This is the BEST! [The AqueCool] made me feel so much better. I can't imagine going through the procedure without it..."  
— Rochelle

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