





## BEST OF WHAT'S NEW

## HEALTH

**HOTHEAD  
TECHNOLOGIES FOR  
FOOTBALL HELMETS**

### A HELMET THAT PROTECTS YOUR BODY

A broken leg can end a football player's season, but overheating can end his life. A Hothead helmet will get football players off the field before heat stroke sets in, a problem that's killed 39 players since 1995. Every 10 seconds, a thermometer inside measures skin temperature near the player's temporal artery and transmits it to a PDA monitored by a trainer on the sidelines. An alarm sounds if the player's temperature crosses 102.5°F to ensure that the coaches get to the player before he reaches 104°, the point where organ systems begin to fail and it becomes more difficult to revive the athlete. **From \$49/sensor, plus PDA service; [hotheadtechnologies.com](http://hotheadtechnologies.com)**

**SAM MEDICAL CELOX  
TRAUMA GAUZE**

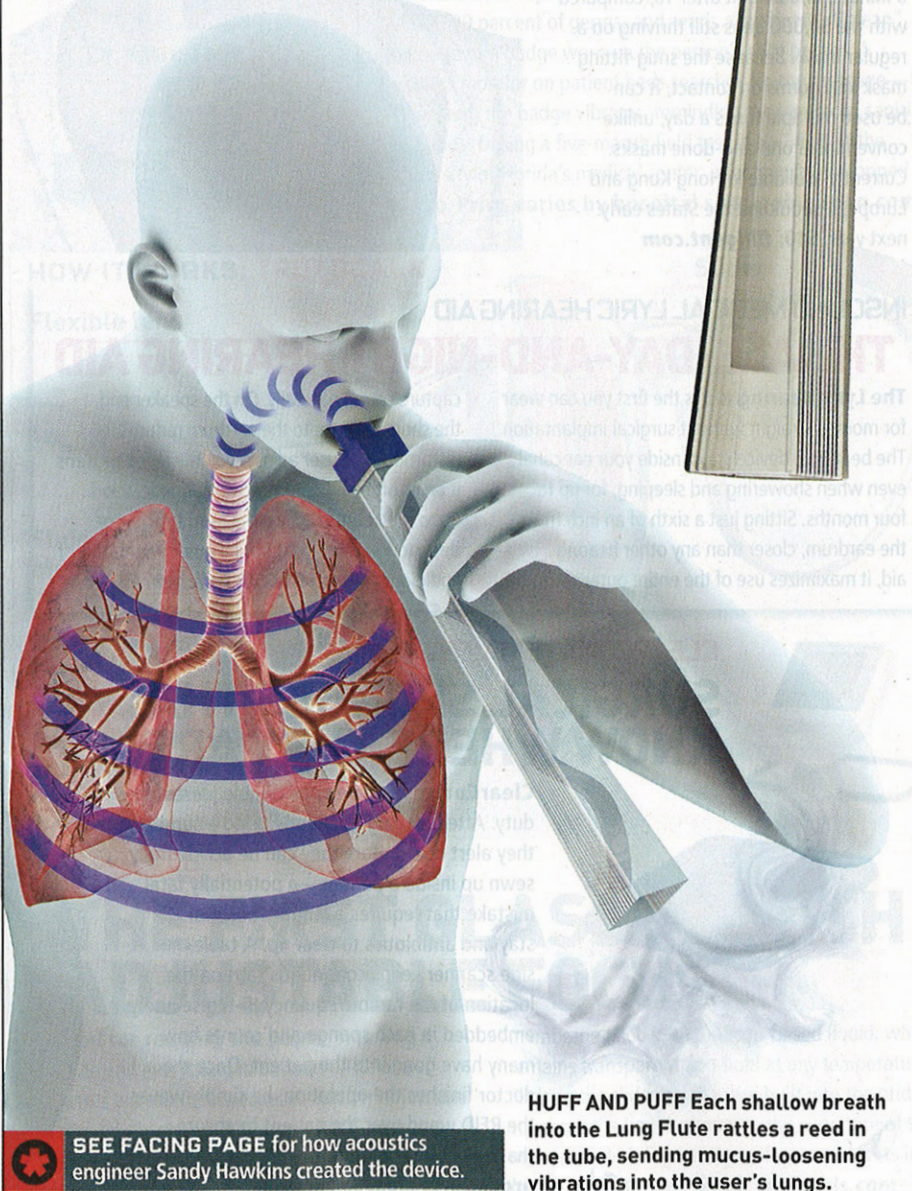
### A BANDAGE FOR BLOOD AND BURNS

When an emergency medical technician is treating a victim, time spent searching for the right gear could be the difference between life and death. Celox trauma gauze is the only two-in-one gauze that can both seal gashes and cool burns. Woven from chitosan fibers, a blood-clotting agent derived from shrimp shells, it absorbs 16 times its weight in blood. For burn victims, medics can wrap the wound and then soak it with water to turn the bandage into a gel that evaporates to cool burns by 10°F for 20 hours. Military medics looking to lighten their load have already placed orders for the multitasking gauze. **\$40; [sammedical.com](http://sammedical.com)**

**MEDICAL ACOUSTICS LUNG FLUTE**

## MUSIC TO YOUR LUNGS

The nearly 10 million Americans who suffer from chronic obstructive pulmonary disease rely on medications and strenuous coughing to help break up the thick gobs of mucus clogging their lungs. The Lung Flute does the job with just 15 to 20 puffs of air. Blowing into the reed instrument sends a steady 16-hertz vibration into a user's chest, dislodging mucus in the lungs so that it's easier to cough up. Scheduled to receive FDA approval this fall, the flute also serves as an easy method for collecting deep-lung sputum for tuberculosis tests—especially useful in developing countries where TB is prevalent. **\$40; [medicalacoustics.com](http://medicalacoustics.com)**



**HUFF AND PUFF** Each shallow breath into the Lung Flute rattles a reed in the tube, sending mucus-loosening vibrations into the user's lungs.



**SEE FACING PAGE** for how acoustics engineer Sandy Hawkins created the device.

ILLUSTRATION: MEDI-MATION; PHOTOGRAPH: DAN SAELINGER