

Popular Mechanics

TODAY'S ANSWERS FOR CURIOUS MINDS

TOP 4 NEW BREAKTHROUGH MEDICAL DEVICES: LIVE @ DARPATECH

We've already seen a breathalyser that can detect breast cancer and found out how the Iraq war necessitated funding for all those new battlefield 'bots. Now we determine how the first portable robot doc stacks up against more military health tech at the Pentagon's annual R&D fest. By Erik Sofge — Published on: August 10, 2007

Simplified Automated Ventilator (SAVe)

This slimmed-down, straightforward ventilator is smaller and lighter than a standard automated model, weighing just 3.1 pounds (compared to 13 to 14 pounds). It's operated with a single knob, which turns the SAVe on, and allows you to mutes the low-battery alert, turn off the LED lights, or shut both functions off (presumably for stealth operations). The device runs for 3.5 to 6 hours per charge, or it can be plugged in.



The point of this thing is to free up a medic's hands in "far-forward theatre" situations. That's jargon for the frontlines, essentially, where combat medics would never be able to haul

around a massive, complex auto-ventilator. The current solution is to use an Ambu-bag, a big plastic bulb connected to a breathing mask, which the medic or patient manually pumps. It's a relatively imprecise tool, especially when bullets are cracking overhead, and suddenly you're squeezing irregularly or simply way too fast. SAVe provides even, measured breaths through a mask, ET tube or other patient connection. SAVe's makers aren't sure whether it will be stored in far-forward vehicles or in a medic's kit, or a combination of both, but here's the good news: It's ready right now.

SAVe is in the final stages of FDA approval for military use. Once its cleared, production will begin immediately, and its makers will move on to a larger, more complex version, designed for both military and civilian use. A prototype for that model should be ready in September, with a run at FDA approval happening next year. The point of the follow-up model is to allow for more ventilation options, such as adjusting pressures, volume and rate. It will have preset modes that first responders can use, such as Small, Medium and Large (for the patient's size), and a manual mode to let skilled personnel fine-tune its operation.

Short-Term Impact: It remains to be seen whether the larger version will make it through testing and approval, especially considering its potential civilian use. But the kit-portable SAVe could be in the field in a matter of months.

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