SECOURISTE MAGAZINE Article published in Secouriste Magazine, 2nd Issue, May/June 2011, France.*

# On the way to automated ventilation with CPR?


*Could an automated ventilator take its place tomorrow next to a defibrillator in the standard equipment of emergency medical services? Weinmann took up this challenge and produced an innovative product called MEDUMAT Easy CPR.*

## Weinmann in Figures

- Founded: 1874
- Personnel: 520 employees worldwide
- Revenue 2010: 90 million €
- R&D: 12% of revenue
- Represented in 50 countries

A recent scientific study that compared holding a ventilation mask with one hand or two hands showed that three-quarters of emergency medical service personnel do not administer ventilation properly (see below). Among the many reasons suggested for faulty ventilation was the positioning of the hands. This finding gave rise to the idea for automated ventilation. "MEDUMAT Easy CPR eliminates all the problems related to manual ventilation – excessive frequency, pressing too hard or irregular frequency – and reduces the risk of harming the patient," explained First Sergeant Pascal Cocault of the Paris Fire Department, which tested the device. "By using this machine, the risks of aspiration of vomit, volutrauma and barotrauma are considerably reduced." The innovation lies in the slow pressure rise, the level of safety, and the perfect fit of the mask. Because the device replaces the manual bag-valve mask resuscitator, the rescuer can use both hands to hold the ventilation mask firmly in place. Then pre-selected ventilation is administered. The pressure sensor and software ensure that this intelligent ventilator never exceeds the ideal ventilation pressure and thereby protects the patient's lungs.

### ▶ Human error eliminated

Simplified methods help to relieve the professional rescuer's stress level, allowing him to concentrate on chest compressions. Furthermore, less oxygen is required because consumption is based on the patient's current needs. Additional functions such as voice prompts, visual support, metronome and alarms have proven their worth. "The device does not replace EMS personnel," said Hervé Delehelle, marketing manager at Weinmann France, "but it does eliminate the fear of doing something wrong and that helps to prevent mistakes. It is a revolutionary procedure and so we expect the same reactions and fears associated with using AED (Automated External Defibrillator) some 10 years ago. This is the beginning of a new era."

Author: Aurélie Renne

## "Only automation guarantees volume and pressure constancy"

**"Our research lab conducted an in-depth study of the use of MEDUMAT Easy CPR by emergency medical services personnel (nurses specialized in anesthesiology, doctors, professional fire rescuers). They first simulated manual CPR on a mannequin and then repeated the process with an automated ventilator, while the mannequins lung characteristics were varied from restructive to healthy and then to obstructive.**

**The figures speak for themselves. In our study, the specialized nurses with the best CPR training level administered a harmful ventilated breath with a bag-valve mask resuscitator in 20% of the cases as compared to only 10.5% with MEDUMAT. Results for internists were 66.6% and 35.6% and for fire department members 35% and 20%.**

**Ideally, 500 milliliters of oxygen should be administered with every breath. Only automation can provide a consistent and regular volume. The same applies to ventilation pressure, which is often too high. This technology makes the CPR procedure extremely safe."**

Professor Erwan L'Her
University Hospital Brest, France

* English Translation, Courtesy of Secouriste Magazine.