

ResusSim 98 - A PC-Based Resuscitation Simulator with Intelligent Debriefing.

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Abstract. Advanced life support (ALS) requires several different skills and the recall of complex information. The personal computer is an ideal tool for the teaching of factual information. We have developed a computer programme that simulates a variety of cardiac arrest scenarios. Its aim is to communicate specialist knowledge to junior staff in a challenging and entertaining way. ResusSim 98 is a PC-based simulator of advanced life support (ALS) aimed at doctors, medical students, paramedics and nurses. A realtime ECG is shown on the screen along with pictures of resuscitation situations. ResusSim contains 14 different patients including VF, VT, SVT, asystole, hypothermia, lightning strokes and heart block. Each scenario may develop differently if repeated because of the built-in random variation. The models react to more than 30 different drugs or treatments, fluid therapy, shock, pacing, intubation and chest compressions. The program complies with the 1998 European Resuscitation Council guidelines and the relevant 1998 ERC guidelines are fully included. Intelligent debriefing: We have implemented a new method of intelligent debriefing. The program provides the user with a thorough evaluation of the treatment given along with suggestions of the currently recommended treatment. The debriefing comments are extensively hyperlinked to the comprehensive help file containing algorithms and treatment strategies, drug descriptions/dosages, defibrillator documentation etc. The help file is referenced to relevant scientific publications. Development, tests and translation: The programme was developed by a Danish group of doctors, programmers and an engineer. Members of the European Resuscitation Council generously contributed time and expertise for the final development of the programme. The programme was tested during development by anaesthesiologists, cardiologists, junior doctors, medical students, and nurse anaesthetists. Feedback led to the gradual improvement of the interface, the help file, and the patient scenarios. It is continually being revised in an effort to improve its teaching potential. So far, ResusSim 98 has been translated to Italian, German, Portuguese, Danish and French and a special edition has been developed for Australia/New Zealand. ResusSim 98 is approved and recommended by the European Resuscitation Council and the Italian Resuscitation Council. Technical requirements: ResusSim 98 will run on a 486-DX 50MHz PC with 8 MB RAM and a 256 colour display using Microsoft Windows 3.1, Windows 95/98, and Windows 4.0.