

Gas Man® Version 4 – A Work in Progress

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Gas Man® (GM) is a computer simulation of inhalation anesthesia kinetics. The program was conceived and written for the Apple 2+ Computer by James Philip in 1980 under a Grant from the Apple Educational Foundation to Brigham and Women's Hospital (BWH). Gas Man was first shown publicly as a Scientific Exhibit at ASA in 1982. In 1983, BWH transferred copyright and title to the author.

In 1984 GM Ver 1 program and textbook was published by Addison-Wesley Medical/Nursing Division (AWMND); copyright was returned to Dr. Philip in 1986 when AWMND closed. In 1989, the GM Ver 1 program and textbook was tested and shown to be effective in teaching knowledge, skills, behavior, and attitude concerning inhaled anesthetics(1).

In 1989 GM Ver 2 for Macintosh was written by IntelliMetrics Inc of Billerica MA. Dr. Philip first presented GM Ver 2 at the FDA-sponsored Simulator Conference in 1989.

In 1991, H M Franklin Associates (HMFA) of San Ramon CA <www.hmfa.com> wrote GM Ver 3, adding new features and targeting Microsoft and Macintosh OSs via the Microsoft Foundation Class Library (MFC). Emphasis was placed on creating a professional product with device independence, commercial installation features, integrated online help, and modern appearance.

In the mid 1990's, Microsoft ceased to support MFC on non-Microsoft platforms. Since 2000, MFC has been supplanted with newer technology. As a result, there was no progress on the Macintosh platform since 1995 while the more advanced GM Ver 3.1.9 is the current version for evolving Microsoft Windows platforms.

In 2005, HMFA and RIC International of Cambridge MA <www.ricintl.com> translated GM Ver 3.1.9 and its Help System to French. In 2007 this will be provided free throughout France by Abbott.

In 2006, to respond to mounting requests for additional features and a more modern interface and to regain the ability to perform on all major operating systems and hardware including OS X, HMFA and ICS of Bedford MA <www.ics.com> began migrating GM to the implementation-neutral Qt framework by Trolltech of Oslo Norway <www.trolltech.com>. This will allow operation on Windows 2000, XP, and Vista, and Mac OS X. First showing of GM Ver 4 is planned for January 2007.

When complete, Gas Man Ver 4 by Med Man Simulations Inc of Chestnut Hill MA, a nonprofit corporation, <www.gasmanweb.com> will have most of the following new features: Lung Shunt; Alveolar Dead Space; Ether, Cyclopropane, Xenon, He, Ar; BMI (Obesity not just size); Ventilation-CBF interaction; Compartment Sums, Differences, Ratios; Continuous Circuit Infusion of Liquid Inhalants; Achieve any Target in any Compartment; Ramped change in Del (Underwater ascents); External Links; Editable Scripts; same ".gas" file for all platforms; Pictures of Compartments Scale with Volume and Solubility; Cost in Any Currency; Unified Tabbed Dialog Box for Parameters; Combined Picture-Graph Display; All Controls on Active Display; Add Additional Agents while Simulation runs.

Reference:

1) Garfield JM, Paskin S, Philip JH. An evaluation of the effectiveness of a computer simulation of anesthetic uptake and distribution as a teaching tool. Med Educ. 1989;23:457-462.