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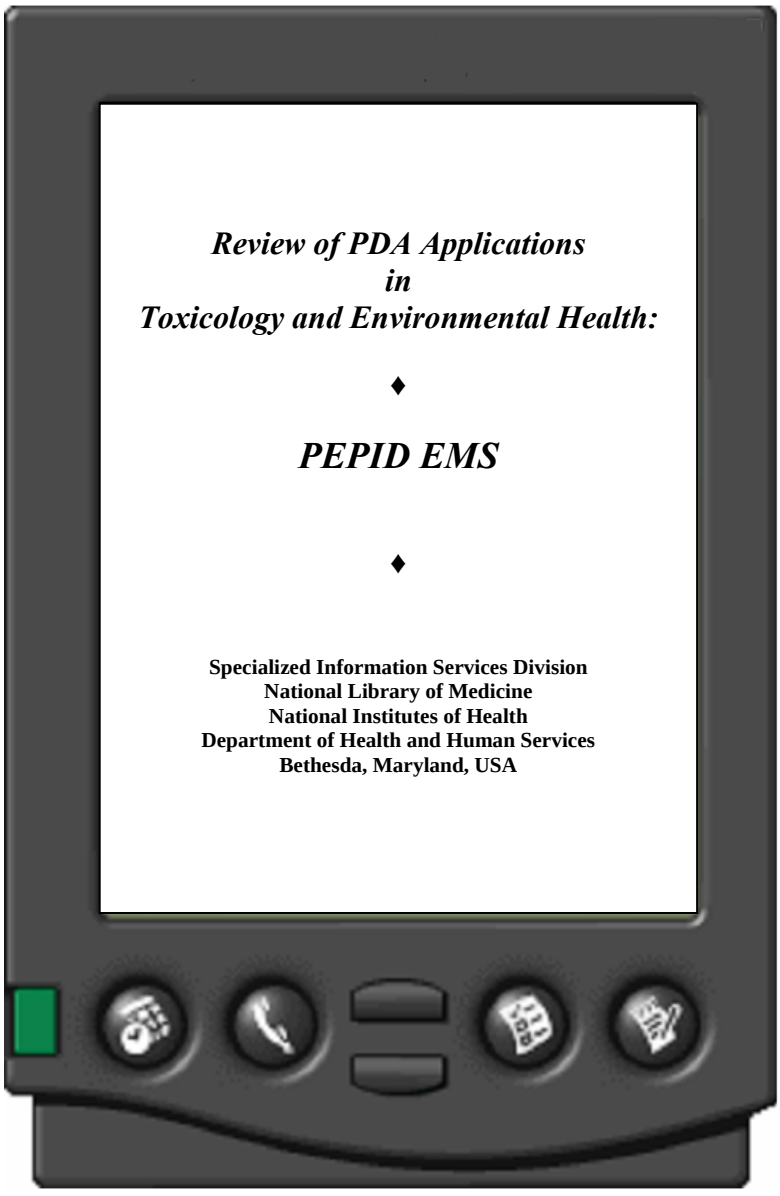

Review of PDA Applications in Toxicology and Environmental Health:

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PEPID EMS

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Specialized Information Services Division
National Library of Medicine
National Institutes of Health
Department of Health and Human Services
Bethesda, Maryland, USA

PEPID EMS

(Reviewed 07/2004)

General Information

For general comments regarding the *Review of PDA Applications in Toxicology and Environmental Health*, please see the ***Overview***. Here we review the main technical and content features of *PEPID EMS (5.1)* based upon the downloadable demo version. *PEPID EMS* is a Palm OS- and Pocket PC-compatible, multi-component database that covers prehospital emergency care. The application comprises the following main sections: Emergency Medical Services (includes general EMS, management of acute signs and symptoms, a quick drug reference, HazMats and weapons of mass destruction, and toxicology), Medical Reference, Drugs (a drug database), Interactions Generator (provides information on drug interactions), and (Medical) Calculators. *PEPID EMS* is targeted specifically to the needs of emergency care personnel.

Intended Users

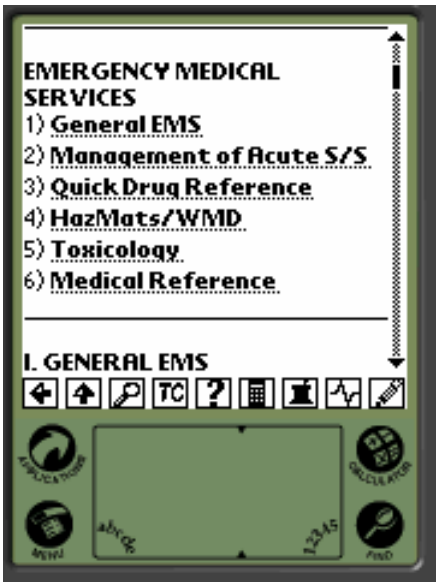
- Emergency Care Physicians
- Emergency Care Nurses
- Emergency Medical Technicians
- Paramedics

Authorship/Data Source

PEPID is an acronym that stands for Portable Emergency and Primary Care Information Database. The *PEPID EMS* database application for hand-held devices is produced by PEPID, LLC and is authored and edited by EMS professionals. The *PEPID* application was first developed by Dr. Mark Rosenbloom in 1994.

Contents

The *PEPID EMS* handheld application is intended to support emergency medical care personnel with information throughout an emergency situation. It should be noted that, while the database comprises multiple components and subcomponents, this review will focus primarily on those that are of toxicological and/or environmental health interest.



◄ ***The Emergency Medical Services (EMS) component of the PEPID EMS application comprises several subcomponents: General EMS, Management of Acute S/S (signs and symptoms), Quick Drug Reference, HazMats/WMD (weapons of mass destruction), and Toxicology.***

► ***The General EMS subcomponent provides information considered crucial in controlling an accident or disaster scene. It includes topics such as Field Triage, Scene Safety, Initial Assessment, Extrication, Transport, Infection Control, and Special Populations, with detailed guidelines and protocols.***

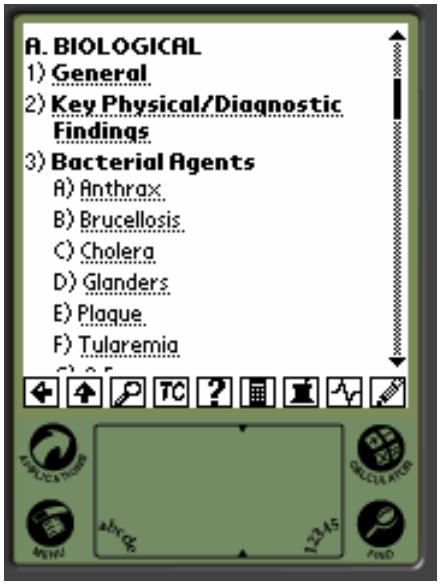
◄ *The Management of Acute S/S subcomponent provides life-saving protocols and interventions based on signs and symptoms. For each of the topics included (e.g., Airway/Breathing, Pediatrics, Obstetrics), the application provides En Route, Assessment, Interventions, Actions During Transport, and Debriefing information to allow proper assessment of any critical situation at each stage of an emergency.*

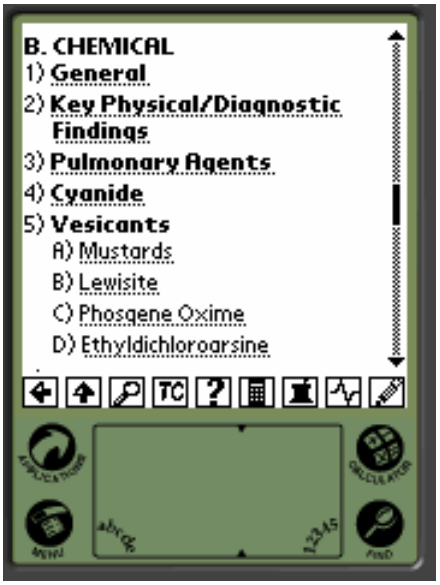
► *To illustrate one of the Management of Acute S/S topics, the screen shot to the right shows a portion of the Environment section (not shown in the screen shot above) with its list of subtopics (e.g., Spider Bite, Snake Bite, Scorpion Sting).*

◄ *The Quick Drug Reference subcomponent provides information on drugs commonly used in the field, from the perspective of EMS professionals.*

◄ *The HazMat/WMD subcomponent is shown in the screen shot to the left. The HazMat/WMD topics include: Biological, Chemical, Radiation Exposure, Primary Blast Injury, and Emergency Contacts.*

► *The screen shot to the right and the two that follow reveal in greater detail three of the HazMat/WMD topics. A portion of the table of contents of the Biological section, which covers bacterial agents, viruses, and biological toxins, is shown to the right.*

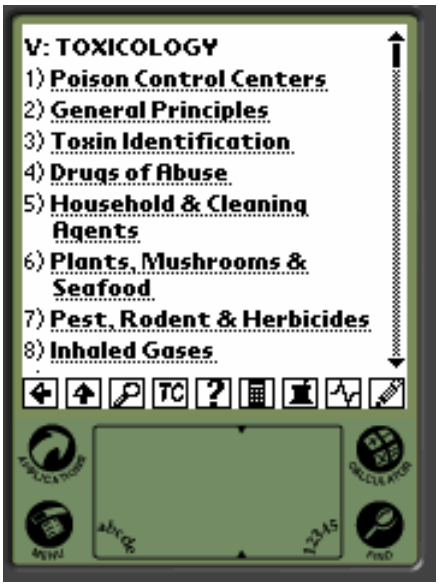


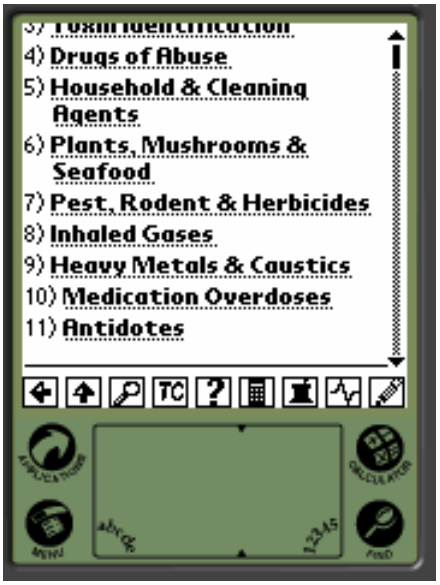


◄ *A portion of the table of contents of the Chemical section is displayed in the screen shot to the left. Chemical agents covered by this section include pulmonary agents, cyanide, vesicants, nerve agents, incapacitating agents, riot control agents, ammonia, and chlorine.*

◄ *The Radiation Exposure section's table of contents is shown in the screen shot to the left. Topics covered by this section include exposure levels and risks, management, specimen collection, decontamination, internal contamination treatment, and a radiation injury treatment scheme.*

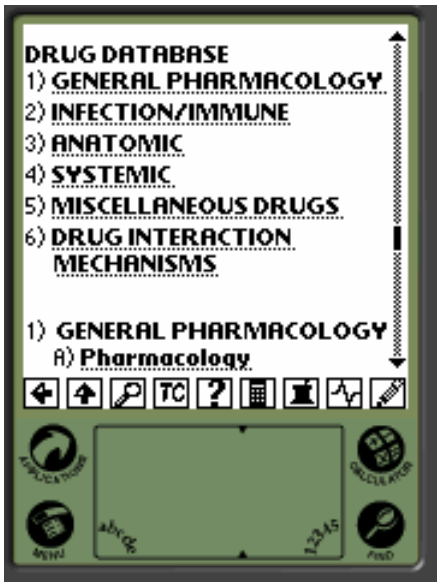
► *The screen shot to the right and the one below show all the topics covered by the Toxicology subcomponent: Poison Control Centers; General Principles; Toxin Identification; Drugs of Abuse; Household & Cleaning Agents; Plants, Mushrooms & Seafood; Pesticides, Rodenticides & Herbicides; Inhaled Gases; Heavy Metals & Caustics; Medication Overdoses; and Antidotes.*





◄ *The Medical Reference component of the PEPID EMS application provides information about 1500+ pathological conditions by organ system, thus allowing the application user to gain a better understanding of a patient's status. A portion of the Medical Reference table of contents is shown in the screen shot to the left.*

► *The Drug Database (Reference) component of the PEPID EMS application provides information on 5000 drugs (including U.S. and Canadian trade names), herbals, and OTC medications. Topics covered are: adult and pediatric dosing; indications, contraindications, and cautions; mechanism of action; adverse drug reactions; kinetics/dynamics; drug overdose management; trade/cost information; and miscellaneous information.*



◄ *The screen shot to the left displays the opening screen of the Drug Interactions Generator, also part of the PEPID EMS application suite. This tool allows checking interactions for up to 40 drugs and herbal remedies at once.*

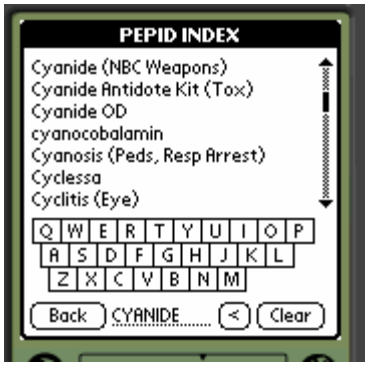
◄ ***The PEPID EMS application suite also includes medical calculators, such as metabolic, critical care, electrolyte, acid-base, and drug-dosing calculators, as well as metric and SI unit converters and an equianalgesic calculator. The Calculators table of contents is shown in the screen shot to the left.***

Navigation

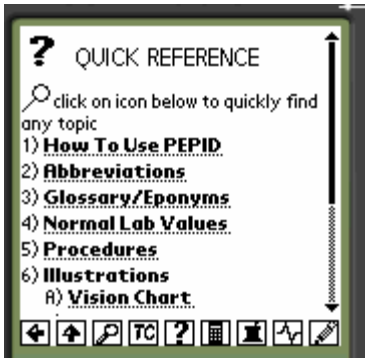
This application functions in an offline mode and requires no mobile connectivity.

The partial screen shot above shows the task bar (enlarged) that appears at the bottom of the PDA screen. From left to right, the following options are available:

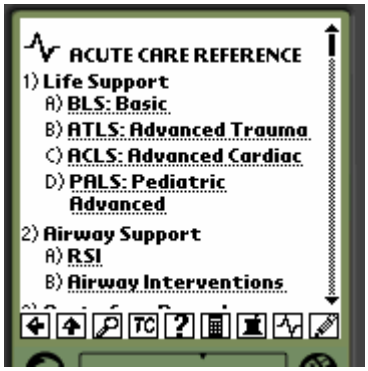
- Back button – returns user to previous screen
- Top of Screen button – takes user to top of current page
- Index button – allows user to access the PEPID Index search screen (shown below), where he/she may search for and find any PEPID EMS topic (e.g., cyanide)



- Table of Contents button – returns user to main menu on opening screen
- Quick Reference button – allows user to access the Quick Reference screen, a portion of which is shown below



- Medical Calculators button – allows user to access the Calculators component of the PEPID EMS suite (see screen shot above Navigation section)
- Drug Interactions button – allows user to access the Drug Interactions Generator of the PEPID EMS suite (see screen shot above Navigation section)
- Critical Care Reference button – allows user to access acute care information (see screen shot below)



- Notes button – allows user to add personal notes for each topic

The vertical scroll bar along the right margin of the screen allows scrolling through pages that extend beyond the PDA screen. Scrolling may be accomplished by tapping the up or down arrow, by repeatedly tapping the scroll bar, or by tapping and dragging the scroll button.

Requirements

- Palm OS (3.5 or higher) or Pocket PC (2002/2003)
- 6.8 MB of RAM (Palm OS)
- 13.3 MB of RAM (Pocket PC)

Application Type/Price

- Commercial
- $69.95 (6-month subscription)
- $119.95 (12-month subscription)
- $169.95 (24-month subscription, installment payment plan available)

Availability

The *PEPID EMS* application may be purchased directly from PEPID, LLC or from other commercial PDA software distributors.

Useful Web Links

For information about PEPID, LLC or its products, please visit www.pepid.com.

Review of PDA Applications in Toxicology and Environmental Health

Overview

Handheld computer devices known as Personal Digital Assistants (PDAs) are increasingly being used in the fields of toxicology and environmental health. Moreover, software applications covering specialized subject matter in these fields are increasingly being made available to PDA users.

In an effort to provide information on the main technical and content features of selected applications, the National Library of Medicine's Division of Specialized Information Services (SIS) has undertaken an ongoing review of them. Typically, individual reports in the review series are based on free, downloadable demos.

Each report typically covers the following topics: General Information, Intended Users, Authorship/Data Source, Contents, Navigation, Requirements, Application Type/Price, Availability, Useful Web Links, and Updates.

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Note: The *Review of PDA Applications in Toxicology and Environmental Health* is not intended to be all comprehensive, but rather a review of selected applications. SIS staff welcomes any comments on completed reviews or suggestions for additional reviews of applications not currently included, as long as they fall within the scope of toxicology and environmental health. You may contact us via email at tehip@teh.nlm.nih.gov with any comments, questions, or suggestions.

It is not the intention of SIS staff to recommend, or not recommend, any particular PDA device(s) or software application(s), but rather to provide an objective and descriptive review of the main technical and content features of selected applications based on their downloadable demo versions.

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