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Standard Precautions (Electronic Resource Review)

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ELECTRONIC RESOURCES REVIEWS

PEPID RN Clinical Nursing Suite. PEPID, 1840 Oak Avenue, Suite100, Evanston, IL 60201. sales@pepid.com; www.pepid.com; 6 months \$69.95, 12 months \$119.95, 24 months \$189.95; Web and personal digital assistant.

Portable Emergency and Primary Care Information Database (PEPID) has developed a suite of medical personal digital assistant (PDA) software for a wide range of medical professionals. This review covers the RN Clinical Nursing Suite. PEPID was developed in 1994 by Mark Rosenbloom, a faculty member of the Feinberg School of Medicine at Northwestern University in Chicago, Illinois. What began as an emergency and primary care tool has expanded into a suite of thirteen products.

Purpose

The PEPID family of PDA tools are intended for point of care clinical settings, in contrast to reference tools such as Lippincott's Manual of Nursing Practice for the PDA.

General description

PEPID RN is a bundle of nursing tools integrated and hypertexted in one search screen. It was developed by a multi-specialty team of nurses and doctors and includes a drug database, medical calculator, illustrations, abbreviations, nursing procedures, and more. The information is written in a shorthand, bulleted format that is easy to read and does not take up much screen space.

Contents

The content is authored by a team of over twenty nurses and physicians. PEPID RN combines clinical content on diseases and conditions with medical calculators, a complete drug database, and health and wellness teaching guides. Because PEPID started as an emergency medicine tool it has a rich collection of information related to emergency nursing.

Intended audience

The RN Clinical Nursing Suite is for nurses working in a clinical setting.

Major features

PEPID RN contains a table of contents, a section on abbreviations, a glossary, and an eponyms section. Information on nearly 2,000 diseases and trauma topics covers diagnosis, treatment, and disposition. An acute care hotlink (critical care reference) provides links to immediate lifesaving protocols such as basic life support and pediatric life support. Nursing specific procedures detail the role of nurses in real world practice. A large nursing specialty category includes cardiovascular; ear, nose, and throat; pediatrics; and more. The general nursing section includes information on topics such as pain management and electrolyte imbalances. A nice feature is the age-specific considerations targeting the needs of diverse patients. A complete drug database with over 6,000 drugs is included. Over the counter drugs as well as herbal, generic, and trade name drugs are indexed. The drug interaction module allows users to enter up to 40 drugs at once. A new laboratory manual includes information on over 300 common lab tests. Users can take personal notes on any page. A medical calculator is included as well as hyperlinks throughout the RN database that are linked to various calculation functions.

Accessibility

PEPID supports several platforms: Palm OS, Windows mobile, mobile wireless, and the first medical knowledge tool and drug application designed exclusively for use with Blackberry. PEPID RN is also available via the Web at www.pepid.com.

Usability

A few years ago, the reviewer was part of a project that allowed nurse refresher students to use PDAs on their clinical rotations. I downloaded and installed eleven tools such

as a drug database, a nursing procedure book, EKG tool, and a medical calculator on the Palm E PDA. An hour-long instruction class was given to all nurses before their clinical rotations. Each application had a different search screen, a different display of information, and different ways to maneuver around in the application. There has to be a better way to do this. What PEPID RN did is put tools that nurses use every day into a very user-friendly space.

By having faster navigation and fully integrated content, PEPID won the PDA CORTEX Golden Software Award that recognizes mobile programming excellence for health care applications. To be awarded, software must have a high degree of clinical relevance; it must consistently return accurate, relevant results, and/or data; and it must be easy to download and easy to implement. The search index contains keywords and topics that are sorted alphabetically and allow users to find links and open them to more information. The illustrations are hyperlinked, or users may search the image index. Users can also use a quick reference icon to search via a thematic listing of topics such as procedures or lab values.

Advantages over other formats of the same item

The integrated interface is the biggest advantage over other suites of tools that have different functions. Because I am such a visual person, I really appreciated the embedded illustrations that include rhythm strips, anatomy, and the Rule of 9. The information on the lab values has more than just normal ranges. They also include critical values and lists of conditions and medications associated with atypical levels.

Deficiencies and disadvantages

Unlike purchasing a textbook in PDA format that can be kept forever, access to PEPID is denied once the subscription expires. I downloaded a trial version of PEPID RN. I would suggest that PE-

PID better define the icons on their download page for their various products. It was difficult to distinguish between the four RN suites of products. The icons did not have titles; most had symbols such as a nursing cap or initials. For example, CRC, the Clinical Rotation Companion, had a graduation cap on the icon. I downloaded the Oncology nursing suite by mistake the first time I attempted to install the PEPID RN suite.

Technological administration issues

To run PEPID from the SD memory card, users need 4 MB of free memory on a PDA and 8 MB of free memory on a SD memory card. Installation is via a download and hot sync with a PDA. Users may also order a memory card preloaded with the product and exchange the memory card for an updated version when available. After downloading the trial version of PEPID RN, I found that I had to contact support to get an activation code to be able to use the database. However, I did receive an email from the president of the company a week later inquiring if everything went smoothly with my recent download. This personal touch is a refreshing change to other databases I have had experience with.

Timeliness

Upgrades to subscribers occur approximately every eight to ten weeks. On occasion PEPID will send out urgent updates.

Brief comparison to other similar products

PEPID RN compares favorably with other similar products. For example, it has more than 1,900 medical disease presentations, compared to ePocrates Rx Pro's 174 medical presentations.

Conclusion

The subscription to PEPID RN includes access to a Web-based version as well. The integrated interface offers a good solution for the clinical nurse's point of care needs.

Once users start using PEPID RN with its integrated interface to so many tools at once, it may be hard to rely on other resources for information. However, losing access to the database once a subscription expires is something to consider before purchasing PEPID products. Experienced nurses would benefit by using the PEPID RN suite, while nursing students may benefit more by having nursing textbooks on their PDAs.

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Standard Precautions. Ron Tulumieri, Director, Medware, 4314 Hatteras Court, Rohnert Park, CA 94928; medware@yahoo.com; www.medware.org; \$250; some free Web-based continuing medical education programs are available for allied health personnel; see order form for pricing of additional programs; requires Microsoft Windows.

Medware is a small mom-and-pop publisher of multimedia-based nursing and allied health care software intended for clinicians, students, and allied health personnel. The publisher's Website states that Medware developers have over twenty years of experience in nursing and teaching. In addition to Standard Precautions, available self-directed learning modules are: Adult CPR, Infant/Child CPR, Foreign Body Airway Management, Automatic External Defibrillation, Medication Errors—Prediction & Prevention, Cardiac A & P (Anatomy and Physiology), ABG's (Arterial Blood Gases), Telemetry, Pacemakers, Anatomy of a Chest Tube, and ECG Competency Test.

In 1985, the Centers for Disease Control and Prevention (CDC) first implemented guidelines for prevention of HIV and other blood-borne pathogens to health care workers, known as "universal pre-

cautions." Separate guidelines, known as "body substance isolation" (BSI), were later introduced to address patient-to-patient transmission. In 1996, these and other infection control guidelines were superseded by a uniform guideline for all patients and health care workers, known as "standard precautions." The Occupational Safety and Health Administration (OSHA) mandates training for new employees, annual review of the blood-borne pathogens standard, and records of competencies maintained for 3 years (OSHA Occupational Exposure to Bloodborne Pathogens; final rule, 29 CFR prt 1910.1030). OSHA accepts training on the standard precautions as compliance with their blood-borne pathogens standard. How this compliance training is conducted in local institutions varies widely.

Features

The features of the standard precautions program are typical of the other Medware programs. All programs come with a site license that enables unlimited copies to be installed on stand-alone Windows workstations within half mile of each other. For an additional fee, upgrade discs can be purchased that enable applications to run on a network. Free demonstration versions of all programs can be downloaded and installed for further review from the Medware Website.

The Standard Precautions tutorial consists of five sections, featuring two instructional sections, Standard Precautions, and Transmission Based Precautions that consist of text and graphics presented in a slide show format. Students can navigate by clicking on arrows to move forward and backward, and often there is an option of returning to the main menu. An interactive patient simulation section challenges students to practice their new knowledge by clicking and dragging on drawings of transmission barriers such as masks, eye protectors, gloves, and gowns and placing them on a health care worker who is preparing to treat a specific case. Graphics are somewhat rudimentary in de-

sign yet are practical illustrations of instructional material. Another section consisting of a database of CDC precautions for 300 diseases and conditions is available for review.

A fifth section consisting of a quiz of fifteen questions and simulations randomly drawn from a database of fifty items is available to document student achievement of learning objectives. Results are automatically recorded, and printing is optional upon completion of the quiz. All answers are scored, correct or not. A utility program is provided with the license that enables the local institution to customize simulations and quizzes with information about local policies and procedures. Results can be printed for employee files, and a digital file of usage statistics is available for administrator review.

Advantages and disadvantages

Librarians in search of the "holy grail" of a low-cost, computer-based training module for standard precautions need not search any longer. Other products that provide training and record keeping on standard precautions are designed for enterprise-wide local area network (LAN) installation or consist of viewing videotapes and completing an online test, and pricing runs into thousands of dollars, often based upon full-time equivalents (FTEs). Medware's Standard Precautions is an inexpensive solution and spares institutions from local development time and costs of creating and supporting their own computerized tutorials. It would be reasonable to expect that OSHA or CDC would have Web-based, interactive instructional programs on standard precautions, but the materials published online are not in multimedia formats and do not test retention of the studied material.

Administrator documentation and user help is minimal but is unnecessary for administrators with skill in installing computer programs and locating files in Windows directories. Authorization (verifying who may use the program) and authentication (verifying the identity of the user who is au-

thorized to use the program) relies on end-user honesty. Administrators will need to proctor testing of knowledge, if there are problems with authenticity and security.

Although video game players may fail to be impressed with Medware graphics, the programs are engaging and offer an alternative to just reading the material from print sources.

Conclusion

Medware offers a quality, cost-effective program that fills a need in many settings. Medical libraries with computer workstations should consider Medware's Standard Precautions as well as their other products for reasons of regulatory compliance activities, educational use, or fun. Medware's stated goal on their Website, "to create interactive educational software which is fun to use and contains superior content," is accomplished with this product.

Medware also offers online continuing medical education credit with "Code Blue and You," "Cardioversion," and "Epidural Pain Control." As added bonuses, a free game based on *Jeopardy* about the advanced cardiac life support guidelines is available for download; and a blank version is available for purchase that enables users to create their own game show programs.

Librarians, students, clinical professionals, and medical and allied health instructors will be impressed and pleased with Standard Precautions and other Medware products.

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Scopus. Elsevier, Radarweg 29, 1043NX Amsterdam, The Netherlands; usinfo@scopus.com; www.scopus.com; pricing available on request.

Scopus, according to Elsevier, is the "world's largest abstract and indexing database," with content coverage of scientific, technical, medical, and social science literature. Here are the numbers: Scopus provides access to over 15,000 peer-reviewed titles from more than 4,000 publishers including over 12,850 academic journals, 28 million abstract records, 13 million patent records, and 250 million scientific Web pages. Regarding dates of coverage, Scopus's abstract records go as far back as 1966, while references only date back to 1996. For subject coverage, the physical sciences are most heavily covered and represented by 5,500 source titles; health sciences are not far behind with 5,300 titles (including 100% coverage of MEDLINE titles), followed by life sciences at 3,400 titles, and social sciences at 2,850 titles.

The easily navigable Scopus search interface is visually pleasing to the eye, with a clean look, soft colors, and links to search tips and help features. Scopus defaults to the basic search page, where users are presented with two text entry boxes, each with a drop down menu to specify the particular search field. Users can select the appropriate Boolean operator for their search from a drop-down menu to the left of the text boxes. The basic search limiters are few; Scopus allows users to specify the date range, document type, and subject area in which to search. Considering the number of international journal titles indexed in Scopus, it is frustrating that basic searches cannot be easily limited by language. Scopus includes English language abstracts for non-English language articles. The author search option is straightforward: users enter the author's last name and first initial or first name, if available.

Searchers wishing to construct more complex search strategies can use the advanced search option.

This area presents a large text box where users can enter their searches using Boolean operators or codes that Scopus provides to search specific fields. The advanced search feature is not intuitive. The field codes are complicated and cumbersome to use, although they allow the user many more limits than are available for the basic search.

A "Search Tips" link is located directly above the search box on each of the three search pages and takes the user to the specific search tips area in the larger Help menu. The Help menu is quite broad and includes online Scopus video tutorials in addition to the text only links.

In their informational brochure, *For Librarians: The Big Book of Scopus*, Scopus states that their abstracts, references, and bibliographic data are "Indexed by a team of experts, using controlled vocabularies from major databases, including . . . MeSH terms." It says that these controlled vocabularies are used in addition to author keywords. However, in the database, it is extremely difficult to find any mention of or reference to Medical Subject Headings (MeSH) terms. In viewing the complete citation information, only author keywords are provided.

The result of a Scopus search returns a wealth of information. Results are organized by tabs: Scopus, Web (via the Scirus search engine), and Patents, with the Scopus results displayed by default. Directly above the search results is a "Refine Results" area, which gives the searcher a quick overview of the search results. Here, users can easily refine their search by clicking on "limit to" or "exclude" for selected categories such as Source Title, Author Name, and Year. For results, five columns across the page con-

tain the following information for each citation retrieved: Document Title, Author, Date, Source Title, and Cited By. Citations are listed in date order, with the most recent articles listed first, although users can quickly sort results by clicking on one of the column headings. Additionally, above the search results, Scopus provides a text box to "search within these results," allowing users to add another keyword or search for a specific author. Finally, a Search History is listed at the bottom of each of the three search screens (basic, author, and advanced), listing the most recent fifty searches from the current session, with options to edit, save, or set an alert for each search. Overall, Scopus provides users with great flexibility in sorting and displaying search results to meet individual needs.

From the results list, users can access links to article abstracts, references, and the full text, if available. Individual institution database administrators can set up Scopus linking options to connect users from Scopus to full-text articles they are entitled to view as well as their library catalog. Additionally, other resources or services can be linked to this area, such as interlibrary loan or links to the Library of Congress catalog, for example.

At the bottom of the search results page, Scopus provides links to Output, Citation Tracker, and Add to List. The Output link gives users the opportunity to print or email citations, create a bibliography using RefWorks, or export citations in RIS format for other bibliographic management (e.g., EndNote). The Citation Tracker allows users to select citations from their results, and Scopus creates a tabular citation overview of the selected documents. Finally, Add to List lets searchers create a temporary list of

specific citations to display, print, or save. Users can register with Scopus to create a personal account designed to save searches or create search alerts or document citation alerts.

One of the most recognizable features of Scopus is its ability to provide cited information for articles; in other words, Scopus provides a list of articles that cite the article in your search results. Prior to the launch of Scopus in late 2004, ISI's Web of Science was the only multidisciplinary database that provided citation searching and had no significant competition. With Scopus putting itself in the citation searching arena, users now have a choice as to which product they prefer for this type of search. Web of Science and Scopus differ in their dates of coverage, number of indexed journals, and number of international and open access journals. Searchers should keep in mind that citation searching in Web of Science covers a much longer time span. Scopus indexes some journals since 1966, while Web of Science covers as far back as 1900 for citations as well as journals in the sciences.

Scopus offers a user-friendly, easy-to-navigate interface. The database is most useful for researchers interested in literature from the physical and health sciences; Scopus provides the most journal coverage in these areas. Scopus offers a practical alternative to Web of Science and may be more useful for citation searching in recent years, due to its limited citation coverage of references prior to 1996.

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