

## 2. Reference material: books and multimedia packages

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Most medical practices, clinical departments and health organizations maintain a collection of reference materials, whether just a few volumes on a shelf or a carefully managed library or information service. Medical librarians will usually say that, given proper institutional recognition and revenue support, they could greatly improve the content and presentation of their collection. Journals are particularly expensive and need to be carefully selected; they will be discussed in article 5. Here, we consider two other kinds of reference material—books and multimedia, the latter accessed either on compact disk or on the World Wide Web.

### WHAT KIND OF REFERENCE MATERIAL TO BUY OR RECOMMEND

*A local benefactor gives you £50 000 to restock your postgraduate library. Should you invest in books and shelves, or in computers and multimedia packages?*

Table 1 compares the key characteristics of the three kinds of reference material considered in this article. The familiar book format still has some clear advantages—for instance, portability, no need for special equipment, ease of reading and generally high quality content. Drawbacks of bound paper are its bulk, the difficulties of manual searching and of sharing content without additional copies, the inability to update material, and high cost per volume. The ready portability of books is a disadvantage as well as an advantage: they are easily lost or stolen.

Electronic media can be searched more quickly and are easier to share and update; consequently they are more current and cheaper per reader than paper. However, since a computer is needed they are less portable than books and take longer to read—40% longer on screen than on paper<sup>1</sup>. The relative cheapness of CD or Web publishing also means that the quality of electronic material tends to be lower than that of printed material—and some Web material is a triumph of form over content<sup>2</sup>. Also, local technical support is necessary for the different types of material and the computers through which they are accessed, and many readers require training before they can use an electronic resource. Electronic material does offer new possibilities such as interactivity, the inclusion of audio and video clips

and tailoring to an individual reader's needs or preferences. Interactive characteristics such as these are explored in the final section of this article and in the seventh to ninth articles in this series. Printed material still forms the foundation of any core collection.

### HOW TO CHOOSE BOOKS FOR A CORE COLLECTION

*The orthopaedics team requests a multivolume atlas and an operative procedure manual costing £1500. The neurosurgeons, and then the neuroradiologists, respond with similar demands*

Books are expensive and journals even more so. Some libraries use informal criteria to prioritize purchases, such as the opinion of the library committee on whether the work comes within the scope of the collection. Others set explicit criteria for selecting material and stick to these whatever the pressure. One such might be the frequency of use of the previous edition or of similar works in the library, assessed from the lending records or from reshelving studies (in-library readers are asked to leave all material on the desks after consultation, for recording before reshelving<sup>3</sup>). One cannot, however, know the frequency of use of a book not yet bought, and there may be nothing like it in the library. Furthermore, even time-consuming measures such as date-stamping of each in-library use seem to underestimate actual use<sup>3</sup>.

What other criteria might be applied? One is the reputation of the author, editor, series editor or publisher: an informal short cut is to peruse the information on the dust jacket. A more objective approach is to measure the response of other authors or independent critics in terms of citations, but this is slow and reflects only the extent to which the work is cited in published articles<sup>4</sup>. An alternative is to look at independent book reviews; when there is consensus among reviewers, this is helpful. A more indirect measure of the opinions of others is the longevity of the work, measured by the number of editions it has been through. The drawback is that this excludes good new books in an established area and all books in a new area. If local opinion is key, an informal panel of 5–10 target readers can request the local bookshop to send all the books on the shortlist on approval, those not selected to be returned. This method is best reserved for very expensive works or occasions when multiple copies are to be bought,

Table 1 Characteristics of print, compact disk and World Wide Web reference material

	<i>Print format</i>	<i>Compact disk</i>	<i>World Wide Web</i>
Cost per item	£20–£200 once	£50–£250 once or per annum	Nil–£250 per year
Bulk and weight	Medium–high	Low	Not applicable
Portability	Medium	Low (notebook PC needed)	Low (notebook PC needed)
Equipment needed	Nil	Stand-alone PC (± printer)	Networked PC (± printer)
Training needed	No	Yes	Yes
Tailoring to user needs	Slightly: highlight, annotate	Usually—track recent history; bookmark, annotate	Yes— bookmark, recent history
Ease of reading	High	Low	Low
Ease of searching	Low	High	Medium
Ease of sharing	Low; zero if tailored	Medium if networked	High
Interactive	No	Often	Often
Updating method	New book	New CD	Not applicable—users access a central information resource
Currency of content	Low	Medium	Medium–high
Quality of content	Medium–high	Medium–high	Varies: very poor–high
Security	Low—easily removed	Low to medium: CD readily accessed from stand-alone PC; less readily removed from networked PC	High: users access the central information resource

for example by students. Bookshops are increasingly reluctant to provide material on approval.

As well as these indirect criteria, the decision whether or not to purchase a book will be influenced by intrinsic characteristics. Here are some examples:

- Whether it contains information of immediate importance not readily available elsewhere (e.g. poison antidotes for an A&E library)
- Style: narrative textbooks might receive lower priority than reference books (e.g. a pharmacopoeia, *Clinical Evidence*, the *Medical Directory*), methods books (e.g. about the principles of clinical examination, interpreting laboratory results, setting up an audit programme) or books designed to help those revising for specific exams
- Scope: a textbook providing broad coverage may be preferred to one that focuses on a single disease
- Frequency of the disorder addressed: a monograph about diabetes might take priority over one on Pendred's syndrome
- Durability of content: a book with enduring content is worth more than one likely to be outdated soon
- Cost, or cost per page: any continuing commitment, such as time required to file updates in a loose-leaf volume and annual subscription, needs to be taken into account

- Adequacy of the index, figures, tables and overall organization of the work.

A planned approach to development of a collection demands knowledge of the needs of the users and institutions served. What are the areas on which to concentrate resources? Referral to a library committee is usual, but can be slow and inefficient. There is much to be said for using library liaison officers who can offer a quick opinion on the quality of potential purchases and provide greater continuity.

When determining your priorities and collection policy, it is wise to avoid overlap with other local libraries. Sometimes a reciprocal agreement can be made.

**HOW TO CHOOSE A MULTIMEDIA PACKAGE**

*Doctors in training ask for a new range of multimedia packages to be purchased, to complement the book collection. The librarian now regrets the £6000 he spent on multimedia two years ago, already obsolete*

Multimedia packages, with their full-motion video, dramatic music and digitized sounds, can be very seductive. As with computer games, the potential purchaser is commonly offered a 5-minute demonstration carefully crafted to impress, while the accuracy, detail and presentation of the main content may be less inspiring. With a book one turns quickly from the dust jacket to sample the main content by perusing the index, checking

the table of contents and browsing the pages. With software it is hard to sample the main content without first learning how it is organized and how to navigate. Navigation methods differ from package to package or even between versions of the same package. Some multimedia packages get round such difficulties by including a clickable graphic map of the contents. The use of standard Web browser software, even if the content is distributed on a CD-ROM, helps users to navigate in a standard way. This also allows the user to explore associated live material online—for example, updated content, simulations or linked websites.

Many of the criteria for evaluating books apply to multimedia packages but there are some additional issues to consider<sup>5</sup>. Presentation of content is a key element. For example, content needs to be presented in easily digested modules appropriate to the medium, rather than merely as a screen view of a book. Readers with different professional backgrounds should be able to choose different paths through the material and to use the material in different ways—for example, as a dictionary, as a reference or tutorial resource, or to answer self-tests.

Ideally, the content should include non-text material such as moving images, audio, interactive quizzes and simulations of normal or deranged physiology. The content should be up to date and there should be provision for regular revision.

Users differ in their preferences for accessing computer applications and this diversity should be catered for by allowing alternative ways to issue commands—for example, by clicking on buttons or selecting from menus<sup>6</sup>. Personal preferences for screen layout, navigation method and printing can similarly be respected, and the package should be sharable across computer networks, looking the same on different types of computer. A tutorial for users should be included. The cost of a single or institution-wide licence, support and regular updates should be reasonable in relation to the content and function offered. Finally, the package should work on the computers currently available, not force the institution into an expensive upgrade programme.

### HOW TO CATALOGUE, ORGANIZE AND SECURE A LIBRARY

***No one can find the new books you bought only three months ago. Are they just mis-shelved or on loan and, if so, to whom?***

A medical library of only 200 volumes represents an asset of over £5000. To ensure that users can find the material they need, every collection of more than a few dozen volumes needs to be catalogued so that items can be retrieved, classified so that items on similar subjects are physically adjacent, and indexed to enhance subject-based retrieval. To do these effectively requires special skills and know-

ledge. The National Library of Medicine (NLM) classification scheme is widely used by medical libraries, and the NLM works hard to keep the scheme up to date. For subjects related to medicine, such as sociology and education, many medical libraries employ the Library of Congress (LC) scheme, since the NLM classification is a specially developed section of the LC classification.

Subject indexing can present its own set of problems. What words should we use to describe an othopaedic atlas or an audit manual? For consistency you need a controlled vocabulary or thesaurus of terms, and there is much to be said for the Medical Subject Headings (MeSH) used in Medline, revised and reissued annually. Retrieval is enhanced if several subject headings are assigned to each volume to reflect the breadth of coverage. The catalogue can be made available both inside the library and remotely by use of Web technology (see article 8). Additions to the collection can be publicized in a library newsletter or by e-mail to library users.

What about security? This is increasingly troublesome in both small and large libraries. The first step is to clarify who is authorized to use the collection: although a library may be open to all for reference, loans can reasonably be restricted to registered members. The second step is to ensure that all stock is identifiable. All books need to be stamped in at least three places. It is advisable to designate a reference section and to ensure that all reference books are clearly marked on the spine. If the library contains a substantial amount of material that is not for loan, put a photocopier on the premises. This avoids ambiguity if someone is found with reference-only material outside the library. If loans are allowed they need to be tracked, together with book returns. For sizeable collections, the practical way to do this is with library automation software. Access control systems may also be necessary if stock is being lost. Measures such as these will help to slow the depreciation rate of the collection and increase the speed and accuracy of searches for relevant material.

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