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SELECTION OF BASIC LABORATORY EQUIPMENT FOR LABORATORIES WITH LIMITED RESOURCES - A REVIEW

Reviewer: Monica Cheesbrough

W L Johns and M M El-Nageh, World Health Organization, WHO Regional Publications, Eastern Mediterranean Series 17, ISBN 92-9021-245-4 Price US$ 9.50

Available from WHO EMRO, WHO Post Office, Abdul Razzak Al Sanhouri Street, Nasr City, Cairo 11371, Egypt and other institutions of WHO publications.

When laboratory equipment is purchased inappropriately, not only are the scarce resources wasted but also laboratory services to patients are often affected adversely. The purpose of this unique publication is to help laboratory staff and those responsible for procuring laboratory equipment for intermediate and peripheral laboratories in developing countries, to select and purchase equipment wisely. The book “Selection of basic laboratory equipment for laboratories with limited resources” addresses those issues which are important in achieving this objective.

The first part of the book provides readers with an excellent overview of the selection and purchasing process and how to define the equipments needs of a laboratory. This is followed by the important Buyer's Guide Pages (coloured yellow and quick access) which provide information on how to select and order major items of equipment, including an autoclave, balance, centrifuge, colorimeter and spectrophotometer, dry heat block, electrolyte analyzer and flame photometer, electrophoresis equipment, incubators, microscope, hot air oven, pH meter, laboratory refrigerator and freezer, water bath, water still, and a portable kit for bacteriological testing. Using clear, easy to follow formats, essential points to consider are discussed for each item of equipment, for example use of the equipment, power requirements, technical data, location and installation, safety considerations, performance characteristics and capacity of different models, accessories, recommended spares to purchase, essential consumables, training aspects, care and preventative maintenance, quality control, and cost considerations. Advice is also offered on how to request and access a quotation from the suppliers.

Also included are descriptions and ordering information for consumables and more than 30 items of minor equipment, including safety equipment, first aid kit and essential tools. Issues that need to be considered when purchasing second-hand equipment are also well covered. There is a particularly comprehensive chapter on energy requirements for laboratory equipment, which includes the use of solar energy, use and care of batteries and inverters, and how to safeguard equipment from damage caused by power surges and power cuts.

The text covering common consumer problems is particularly useful, providing readers with tips on how to complain effectively about faulty goods and what to do when things go wrong. For future editions the authors may like to consider including more information on how to overcome some of the problems which purchasers may face when needing to import equipment from an overseas suppliers, such as the need to obtain the correct documentation to present to customs authorities and the importance of obtaining adequate information regarding import duties which may need to be paid on particular items of equipment.

The final part of the publication contains Equipment Data Sheets and checklists to ensure sufficient and accurate information is provided to a manufacturer or supplier when ordering major items of equipment. Once again the formats are clear and consistent with questions to be completed on how the equipment is to be used, what power resources are available, anticipated location of the equipment, workload of the laboratory, and other local factors which need to be considered. Throughout the publication, the authors emphasize the importance of purchasers needing to be adequately informed to select equipment appropriately, and equally important, the need for purchasers to provide suppliers with sufficient information when ordering equipment.

The publication concludes with several most useful appendices including a list of manufacturers of major items of equipment with their contact details (perhaps websites and e-mail addresses could be included in future editions), sources of publications, helpful organizations, equipment donation guidelines, ordering and transporting chemicals, reagents, stains and dehydrated culture media.

The authors, contributors and WHO are to be congratulated on producing such an informative and clearly presented publication. It provides laboratory workers and those with the responsibility for procuring laboratory supplies, such as hospital administrators, central stores officers, and laboratory supplies officers, with the information needed to buy equipment correctly and ensure money is well spent.

A copy of this book should also be with the manufactures of laboratory equipment, to increase awareness of the equipment needs and working environment of laboratories in developing countries. While this publication offers excellent guidelines on equipment selection and procurement, manufacturers have the responsibility for producing equipment suitable for use in these countries.

The challenge of this publication is to keep it in print and up to date. Never before has a publication been produced that offers such practical help to laboratory personnel and those with responsibility for procuring laboratory equipment. Added to this, it also has the potential to prevent frustration among health care workers and money from being wasted on inappropriate equipment purchases. With the rising cost of equipment and continuing introduction of new technologies, this publication has never been more needed.