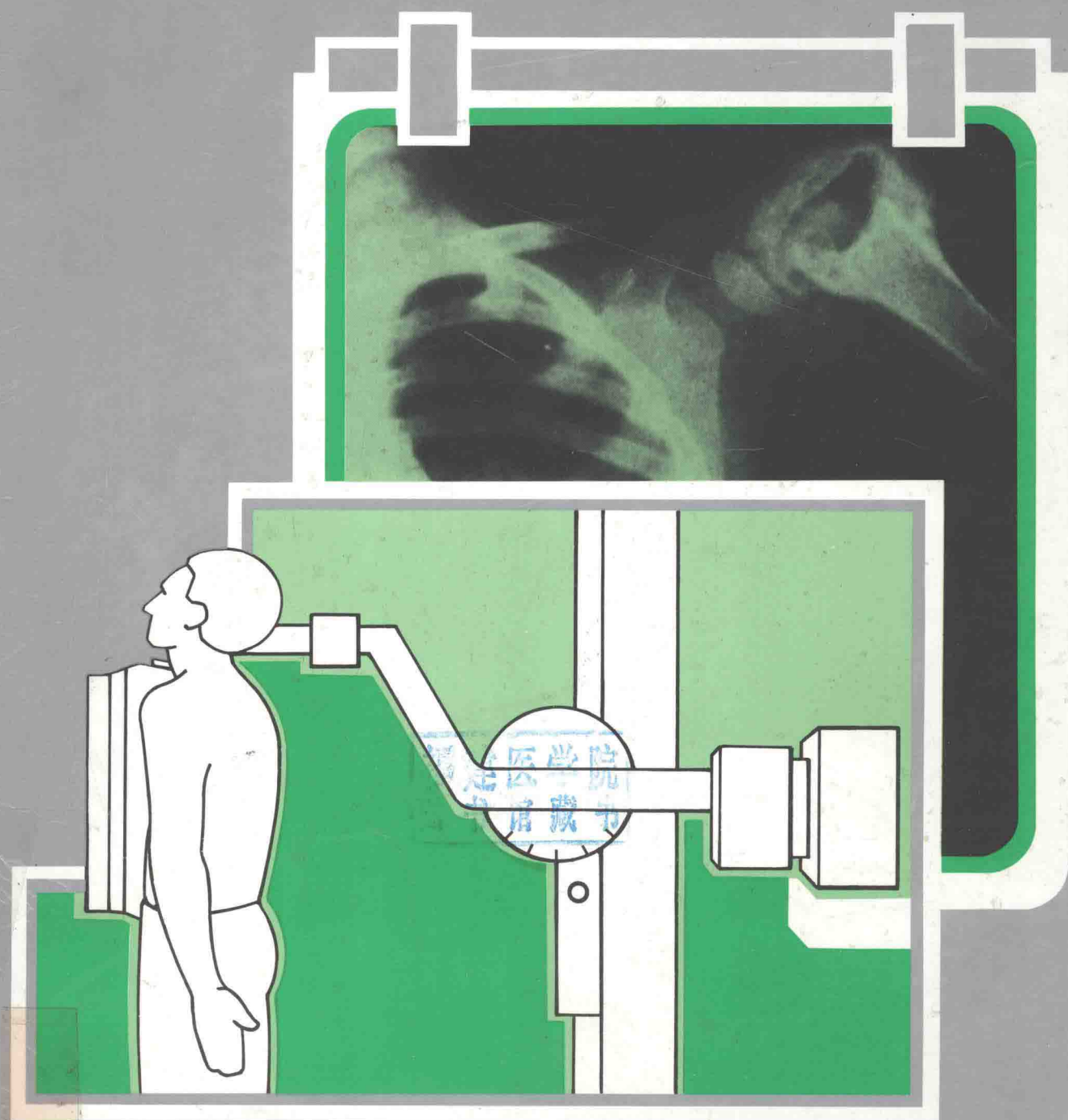


WHO Basic Radiological System

Manual of Radiographic Interpretation for General Practitioners



WORLD HEALTH ORGANIZATION



World Health Organization Basic Radiological System

Manual of Radiographic Interpretation for General Practitioners

by

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INTRODUCTION

The World Health Organization Basic Radiological System—BRS

The concept of primary health care cannot be successfully implemented without the support of diagnostic services. Such services must include facilities for diagnostic radiology. Accordingly, a few years ago WHO initiated the development of a "Basic Radiological System" (BRS) to provide better radiological coverage for populations at present underserved.

Apart from their general inadequacy, the existing radiodiagnostic facilities in developing countries seldom meet the real needs of the majority of the population. Eighty per cent of all X-ray examinations are essentially simple procedures: in the developing world the percentage is nearer ninety, given the lack of sophisticated equipment and the paucity of highly specialized personnel. Thus, a well-structured radiological network should operate at three levels. Health centres and rural hospitals should be equipped to manage only basic radiological examinations, such as those of the chest, abdomen, and skeleton, and simple (nonfluoroscopic) contrast examinations. Radiologists and radiographers would not be required, except for referral, to solve difficult problems. The general hospital—the next level—should provide general-purpose radiological examinations, adding a fluoroscopy unit as well as the unmodified BRS equipment: a radiologist and several radiographers would be required. Finally, a specialized and comprehensive radiological service should be available at specialized centres and university hospitals.

Thus, the Basic Radiological System has been devised for primary health care units, located at peripheral hospitals, small polyclinics, health centres, etc., to look after a population of 25 000–200 000. Such a system needs not only a suitable X-ray installation (now available as the WHO-BRS unit) but training for the operators and general medical practitioners who will have recourse to equipment.

Because all of the most common conditions in which there are radiographic abnormalities can be demonstrated by the WHO-BRS, the selection of material for inclusion in the present manual proved to be a formidable task. The WHO-BRS Advisory Group—all radiologists with wide experience both in the industrialized and in the developing world—was responsible for preparing this diagnostic manual.¹ In so doing, it has tried to produce a book that will help the doctor who does not have ready access to a radiologist, and who must make the right decisions without delay.

Primary decision-making does not always include an immediate X-ray examination: in many cases treatment must immediately follow clinical assessment. The X-ray examination may come much later, or not at all. But the diagnostic X-ray film may help to decide whether the patient can continue treatment at the primary centre or whether he² must be referred to a larger hospital—and when the transfer should take place.

¹ The members of the WHO-BRS Advisory Group are as follows: Mr E. Borg, Sana'a, Yemen; Professor W. P. Cockshott, McMaster University, Hamilton, Ontario, Canada; Dr V. Hegedüs, University of Copenhagen, Glostrup, Denmark; Dr T. Holm, University Hospital, Lund, Sweden; Dr J. J. Lyimo, Kilimanjaro Christian Medical Centre, Moshi, United Republic of Tanzania; Professor P. E. S. Palmer, University of California, Davis, CA, United States of America; and Professor E. Samuel, Edinburgh, Scotland.

The Group was also responsible for compiling the technical specifications of the BRS, as well as a *Manual of Radiographic Technique* and a *Manual of Darkroom Technique*, both to be published by WHO.

² For the sake of convenience, throughout this manual the masculine gender has been used for pronouns referring to "the patient".

Not every disease or injury can be described in such a small manual; moreover, conditions of frequent occurrence in one geographical area may be rare in another. The manual concentrates on diagnostic problems that are common universally; many of these can be successfully managed at the primary care level.

Ideally, special courses in diagnostic radiology, lasting a few weeks and linked to this manual, should be part of the training of all general practitioners. The need for consultation would have to be stressed, and in this connexion a regional network linking general practitioners, radiologists and other specialists would have to be built up. The isolated doctor with a BRS unit will face many difficult diagnostic problems and must recognize the need for help as an essential part of patient care.

The BRS Advisory Group would greatly welcome any comments or suggestions regarding this manual from the general practitioners who use it and the specialists to whom problem cases are referred. Such advice and guidance would be of considerable value in the revision of any subsequent edition. The more comments that are received, the more the manual—and, ultimately, patient care—can be improved. Such observations should be sent to: Chief Medical Officer, Radiation Medicine, World Health Organization, 1211 Geneva 27, Switzerland.

Finally, it may be noted that the WHO-BRS unit produces such high-quality radiographs that its use should not be limited to the developing world. It may well provide a very important solution to the escalating cost of health care in even the most advanced countries.

ALTHOUGH THIS MANUAL IS ADDRESSED TO PHYSICIANS, IT PRESENTS IN THE FOLLOWING SECTION (YELLOW PAGES) INSTRUCTIONS PRIMARILY INTENDED FOR BRS OPERATORS. THIS MATERIAL HAS BEEN INCLUDED BECAUSE **IT IS THE MEDICAL PRACTITIONER'S RESPONSIBILITY TO TRAIN THE BRS OPERATOR TO DEAL WITH ANY EMERGENCY IN THE X-RAY DEPARTMENT.**

PLEASE READ THESE YELLOW PAGES AS SOON AS YOU CAN
AND
BEFORE YOU REQUEST ANY X-RAY EXAMINATION NEEDING
AN INJECTION OF A RADIOLOGICAL CONTRAST DRUG

- The yellow pages contain EMERGENCY instructions.
- They tell you how to treat any drug reactions that may occur.
- It is the duty of every health care practitioner to train all BRS operators to recognize and manage any patient who has an adverse reaction to a drug.

(The same pages are included in the *BRS Manual of Radiographic Technique*.)

