Surgeons working in developing countries are often professionally isolated and may have difficulty in locating reliable suppliers of equipment. In addition, most equipment manufactured in the West is extremely expensive for anyone who does not have access to hard currency. The purpose of this section is to try to provide some details of useful addresses where equipment can be purchased or helpful information can be obtained. The list is unfortunately far from comprehensive or complete. The author has no commercial or personal association with any of the companies mentioned.

Manufacturing companies and suppliers in the developed countries of the Western World produce reliable and sturdy equipment of excellent quality but at high prices. Most equipment can be bought alternatively from manufacturers in developing countries, in particular India and China. Their prices are very much less, sometimes only 25% of Western prices, or even less. In most cases the quality is perfectly acceptable.

A standard list of medicines, equipment etc., which is updated each year, is available from the International Centre for Eye Health (for address see page 324).

SUPPLIERS OF EQUIPMENT

**Surgical Instruments**

**Dixey Instruments Limited**
5 High Street
Brixworth
Northants
NN6 9DD
UK
Tel: 01604 882480
Fax: 01604 882488

Manufactures and supplies a wide range of high quality surgical instruments and equipment.

**Indo-German Surgical Corporation**
123 Kaliandas Udyue Bhavan
Near Century Bazar
Prabhadevi
Post Box No. 19129
Bombay 400 025
India

Indian manufacturer of ophthalmic surgical instruments and appliances. Recommended by experienced ophthalmic consultants.
Operating Microscopes

These must have co-axial illumination and preferably a variable magnification. Microscopes from Western Europe, America or Japan are extremely expensive. Much cheaper microscopes can be obtained from India through the Indo-German Surgical Corporation or from China through Suzhou Medical Instrument Company.

Scan Optics
30/32 Sterling Street
Thebarton
SA5031
Australia
Tel: 6188 234 9120
Fax: 6188 234 9417

Scan Optics manufacture a reasonably priced and reasonably compact portable operating microscope especially designed for rural and outreach work.

Magnifying operating spectacles

These are made by various companies both in the Western and Developing World. Reliable manufacturers from the Western World include:

Keeler
Clewer Hill Road
Windsor
Berkshire
SL4 4AA
UK

Heine
Kientalstrasse
78036 Herrsching
Germany

They are also available through the Indo-German Surgical Corporation and the Suzhou Optical Company (addresses above).

Operating theatre lights

Daray Lighting Limited
7 Commerce Way
Stanbridge Road
Leighton Buzzard
Bedfordshire
LU7 8RW
UK
Tel: 01525 376 766
Fax: 01525 851 626

Daray manufacture a portable and very robust operating light which will run off both a car battery or a mains electrical supply.
Portable cryoprobes

**Restored Sight Projects Limited**
Singleton Court
Monastow Road
Monmouth
NP5 3AH, UK
Tel: 01600 716 911

This company manufactures the small portable cryoprobe described in this book.

**Bright Instrument Company Limited**
St. Margarets Way
Stukeley Meadows
Huntingdon
Cambridgeshire
PE18 6ED
UK
Tel: 01480 454 528

This company manufactures small cylinders of a gas substitute which is ozone-friendly for use with hand held cryoprobes.

**Cheap pocket electrolysis equipment** which will run off torch batteries is also available through various suppliers. One unit is known as the ‘One Touch’ Epilation Unit and is manufactured by:

**Inverness Corporation**
Fairlawn
N.J. 07410
U.S.A.

**Autoclaves**
These are manufactured both in developed and developing countries.

**L.T.E. Scientific Limited**
Greenbridge Lane
Greenfield
Oldham
OL3 7EN
UK
Tel: 01457 876221
Fax: 01457 870131

This company manufactures a wide range of high quality surgical autoclaves

**Hyaluronidase**
This is very useful for improving the quality of local anaesthesia but may be hard to obtain. It can be ordered through:

**C P Pharmaceuticals Ltd**
Ash Road
North Wrexham Industrial Estate
Wrexham
LL13 9UF
UK
Tel: 01978 661 1261
Fax: 01978 660 130

**Rallis India**
Pharmaceutical Division
B–9/2 M.I.D.C. Waluj
431136
India
ORGANISATIONS OFFERING HELP AND INFORMATION

1. **ICEH (International Centre for Eye Health)**
   London School of Hygiene and Tropical Medicine
   Keppel Street
   London
   WC1E 7HT
   Tel: 020 7958 8162
   E Mail: sue.stevens@lshtm.ac.uk

   This is a research, training and information centre concerned with all aspects of ophthalmology in developing countries. It also has a Resource Centre which provides help, information and teaching materials and produces the Journal of Community Eye Health.

   Web: www.iceh.org.uk

2. **The CBMI (Christian Blind Mission International)**
   Nibelungenstrasse 124
   D6140 Bensheim
   Germany

   This is a Christian charitable organisation involved in the treatment and prevention of eye disease and the rehabilitation of blind people.

3. **Sight Savers International**
   (Formerly the Royal Commonwealth Society for the Blind)
   Bolnore Road
   Haywards Heath
   West Sussex
   RH16 4BX
   UK

   This is a secular charitable organisation devoted to treating and preventing blindness in developing countries.

4. **The Fred Hollows Foundation (FHF)**
   Prince of Wales Hospital
   High Street
   Bag 800
   Randwick
   NSW 2031
   Australia

   The Fred Hollows Foundation aims in particular to eradicate cataract blindness, to train surgeons in developing countries in appropriate methods of cataract surgery and provide low cost equipment and intraocular lenses.
Other Non-Government Organisations Involved in Blindness Treatment and Prevention are:

**Carter Centre**  
(formerly River Blindness Foundation)  
One Copenhill  
Atlanta  
Georgia 30307  
USA

**Helen Keller International (HKI)**  
90 Washington Street  
15th Floor  
New York 10006  
USA

**HelpAge International (HAI)**  
PO Box 32832  
London  
N1 9ZN  
UK

**International Eye Foundation (IEF)**  
7801 Norfolk Avenue  
Bethesda  
Maryland 20814  
USA

**NABP**  
BP 5900  
Hedgehavgen 0306  
Oslo 3  
Norway

**Nadi al Bassar**  
9 Boulevard Bab Menara  
1008 Tunis  
Tunisia

**ONCE**  
Ortega y Gasset 18  
28006 Madrid  
Spain

**Operation Eyesight Universal (OEU)**  
4 Parkdale Crescent  
NW Calgary  
Alberta  
Canada TSN 3T8

**ORBIS International**  
330 West 42nd Street  
Suite 1900  
New York  
NY 10036  
USA

**Organisation pour la Prevention de la Cecite (OPC)**  
58 Ave Bosquet  
75007 Paris  
France

**OST**  
Place van Meyel 15A  
B1040 Brussels  
Belgium

**SBO**  
PO Box 555  
2003 RN  
Haarlem  
The Netherlands
ESSENTIAL MEDICATIONS

This section is a list of essential medications required for successful surgery. It is a summary of the various drugs recommended throughout the book.

1. **Disinfectants for chemical sterilisation of instruments and skin preparation.**
   
   Chlorhexidine and Cetrimide (marketed as concentrated solutions called Hibitane and Savlon).
   
   Povidone iodine can be used for both chemical sterilisation and for skin preparation. Chemical sterilisation is most effective with alcoholic solutions but skin preparation must be done with aqueous solutions.

2. **Solutions for irrigating inside the eye**
   
   Hartmann's solution or Ringer's solution are best but isotonic normal saline is acceptable. All solutions for irrigation in the eye must be guaranteed sterile and free of any preservative or contaminant.

3. **Topical preparations**
   
   Drops are preferable to ointments because of the relative ease with which they can be produced locally. However, ointments have a longer shelf life which may be an advantage.

   **Antibiotics**
   
   Chloramphenicol 0.5%
   
   Gentamicin 0.3%

   **Mydriatics**
   
   Cyclopentolate 1%
   
   Atropine 1%
   
   Tropicamide 1%
   
   Phenylephrine 2.5–10%

   **Steroids**
   
   Prednisolone 0.5% or Betamethasone 0.1% or Declamethasone 0.1%.
   
   Other anti-inflammatory drops are ketorolac (Acular) 0.5%

   **Topical anaesthetic drops**
   
   Tetracaine 0.5%–1% or oxybuprocaine 0.4% or lignocaine 4%

4. **Drugs to lower intraocular pressure**
   
   i. **Miotics**
      
      Pilocarpine 1%–4%
   
   ii. **Topical betablockers**
      
      Timolol, Levobunolol or Carteolol
iii. Carbonic acid anhydrase inhibitors
   Acetozolamide 250 mgm tablets or 500 mgm by intravenous injection or Dorzolamide drops 2%.

5. **Local anaesthetic for nerve blocks**
   Lignocaine 1%–2% with hyaluronidase and adrenaline as additives to improve the quality of certain nerve blocks.

6. **Antibiotics and steroids for subconjunctival injection**
   See page 167.
   Cefuroxime, gentamicin, and dexamethasone or betamethasone or prednisolone or hydrocortisone.

7. **Antibiotics for intravitreal use**
   Vancomycin
   Ceftazidime
   Amikacin
   (Gentamicin if others not available)

8. **Other medications**
   i. Visco-elastic fluids for injection into the anterior chamber
      — HPMC (highly purified methyl cellulose) for intraocular use
      — Sodium hyaluronate.
   ii. Adrenaline injection 1/1000 for adding to infusion bottles and local anaesthetic solutions.