

# **IAPB Standard Equipment List**

## **Supplement for DIABETIC RETINOPATHY (DR)**

March 2014

# DR Essential Equipment List

- This list identifies equipment and consumables considered important for *quality* management of DR under conditions found in many developing countries
- They reflect the procedures and requirements outlined in the ICO Guidelines for Diabetic Eye Care  
[www.icoph.org/downloads/ICOGuidelinesforDiabeticEyeCare.pdf](http://www.icoph.org/downloads/ICOGuidelinesforDiabeticEyeCare.pdf)
- The list provides some very basic guidelines to facilitate planning / budgeting.
- **Please visit the IAPB Standard List at <http://iapb.standardlist.org> for latest pricing and special rates for IAPB members and their partners.**

## Reminders

- Optimal control of **blood glucose, blood pressure, and blood lipids** can reduce the risk of developing DR and slow its progression. Primary Health Care
- **Regular (annual) screening/monitoring** of people with diabetes is essential to enable early intervention. Eye and Diabetes Units **collaboration essential**
- 2 most sensitive methods for detecting DR are retinal photography and slit-lamp biomicroscopy through dilated pupils
- Vision loss preventable by **timely treatment with laser photocoagulation** and where affordable and appropriate, the use of **intraocular vascular endothelial growth factor inhibitors (anti-VEGF)**

# Examples

Description	Standard List Section or locally purchased (L)	Essential (E) or if Funds Available (IFA).	Quantity Required
<b>SCREENING / MONITORING FOR DR</b>			
for remote screening/mobile screening/screening at eye health and diabetes centres			
<b>Equipment</b>			
Non-Mydriatic Fundus Camera	<a href="#">5.14</a>	E	1
Software & Laptop to use with Fundus Camera	<a href="#">12.0</a>	(IFA) for image storage, preferably also for patient records and recall system	1
Slitlamp with 90D lens (e.g. 90D Superfield or Digital Wide Field Lens) and 78D lens	<a href="#">5.7 (Slit Lamp)</a> <a href="#">5.12.1.2 (lenses)</a> <a href="#">(5.12.1.3)</a>	E As an alternative/ adjunct/ back-up to a non-mydriatic camera 90D for screening, 78D for more magnification	1
Digital camera with slit lamp adapter	L	IFA As an alternative/ adjunct/ back-up to a non-mydriatic camera	1
Indirect Ophthalmoscope with 20D or 28D lens	<a href="#">5.2</a> <a href="#">5.12.1 (lenses)</a>	E Dilated exam as an alternative/ adjunct/ back-up to a non-mydriatic camera or slitlamp	1
Direct ophthalmoscope	<a href="#">5.1</a>	E Dilated exam as an alternative/ adjunct/ back-up if a non-mydriatic camera, slitlamp or indirect ophthalmoscope are not available	1
Vision charts (distance and near)	<a href="#">5.5</a>	E	1

**MONITORING FOR DR at Secondary/Tertiary level**

<b>Equipment</b>			
Non-Mydriatic Fundus Camera	<a href="#">5.14</a>	E	1
Software & Laptop to use with Fundus Camera	<a href="#">12.0</a>	(IFA) for image storage, preferably also for patient records and recall system	1
Slitlamp with 78D or 90D lens (e.g. 90D Superfield or Digital Wide Field Lens)	<a href="#">5.7 (Slit Lamp)</a> <a href="#">5.12.1.2 (lenses)</a> <a href="#">(5.12.1.3)</a>	E 90D for screening, 78D for more magnification	1
Three-mirror contact lens used with slit lamp	<a href="#">5.12.2</a>	(IFA) Stereoscopic and high-resolution images of the macula (evaluation of macular oedema).	1
Optical Coherence Tomography (OCT)	N/A	(IFA) OCT is the most sensitive method to identify sites and severity of retinal oedema	1
Vision charts (distance and near)	<a href="#">5.5</a>	E	
Pinhole Occluder	<a href="#">5.5</a>	E	
Glucometer with test strips or test for HbA1C	N/A	IFA If DR screening and monitoring not integrated with general diabetes services	1
<b>Supplies/Consumables</b>			
Phenyleprine hcl 2.5% or 5% (Mydriatic) Eye Drops	<a href="#">1.4</a>	E	
Tropicamide 1% 5ml /eye Drops or CyclopentilateHcl 1% 5ml Eye Drops (Mydriatic)	<a href="#">1.4</a>	E	
Methylcellulose drops e.g. Viscotears	L	E as a coupling agent if three mirror contact lens is used	

LASER TREATMENT FOR DR (Panretinal photocoagulation/Focal/Grid)

Description	Standard List Section or locally purchased (L)	Essential (E) or if Funds Available (IFA).	Quantity Required
Frequency doubled yag laser with endolaser probe/indirect ophthalmoscope & slit lamp delivery with all accessories (Endo probe only needed for surgery)	<a href="#">5.11</a>	E  The most used lasers are (1) The green laser: a.- 532 nm, frequency-doubled Nd:YAG. b.- 514 nm argon laser. (2) The 810 nm infrared laser, or diode laser; causes deeper burns with a higher rate of patient discomfort, it thus makes it very difficult to give adequate treatment and patients don't want to come back for more. It may be cheaper and require less maintenance. (3) Pattern-laser method, with a predetermined multispot treatment cascade and 577 nm yellow laser can be used in selected cases	1
Monitor to view retinal images during laser treatment	N/A	(IFA)	1
Slitlamp with 78D or 90D lens (90D Superfield or Digital Wide Field Lens)	<a href="#">5.7 (Slit Lamp)</a> <a href="#">5.12.1.2 (lenses)</a> <a href="#">(5.12.1.3)</a>	E  For panretinal photocoagulation	1
Goldmann 3- mirror lens	<a href="#">5.12.3</a>	E  for focal/grid laser or panretinal photocoagulation	
VOLK Area Centralis Lens	<a href="#">5.12.2</a>	IFA  good for treating at the posterior pole, giving a clear magnified image  Used for focal/grid laser	1

# Sub-Tenons Local Anaesthesia

Equipment			
Lid speculum (eg Kratz Barraquer)	<a href="#">4.5</a>	E	
Small forceps (eg Hoskins-style notched tip)	<a href="#">4.5</a>	E	
Curved blunt-tipped spring scissors (eg blunt Westcott)	<a href="#">4.5</a>	E	
Sub-Tenon's Anesthesia Cannula 19g, curved, flattened and blunt tipped	<a href="#">3.3</a>	Alternative curved blunt-tipped cannula (eg. Stevens) Kumar-Dodds plastic cannula, Greenbaum or "ultrashort" cannula	
<b>Supplies/Consumables</b>			
Povidone Iodine 4%	<a href="#">1.1</a>	E	
local anesthetic drops proxymetacaine 0.5% or oxybuprocaine 0.4%	<a href="#">1.8</a>	E	
Lignocaine hydrochloride 2%	<a href="#">1.8</a>	E	4mls of 2% Lignocaine (no Adrenaline)
		Patients on Warfarin	
Hyalase (Hyaluroneidase) 1500IU vial	<a href="#">1.13</a>	Alternative to Lignocaine – Mixed in with the anaesthetic. It allows the local anaesthetic to penetrate through the tissue planes more extensively. <ul style="list-style-type: none"> <li>• 2% lignocaine+150 iu hyauronidase: ±45 minutes of surgical anesthesia.</li> <li>• 2% plain lignocaine, 0.5% plain bupivacaine, and 150 iu hyaluronidase: ±60–90 minutes of surgical anesthesia</li> </ul>	
0.5% or 1% Ropivacaine (Naroprin)	N/A	<ul style="list-style-type: none"> <li>• If a longer procedure is expected mix 0.5% Ropivacaine in a 50:50 with the 2% Lignocaine.</li> <li>• 1% ropivacaine+150 iu hyaluronidase :±90–120 minutes of surgical anesthesia</li> </ul>	
5ml / 10ml Syringe	<a href="#">3.3</a>	E	
25g / 27g Needles	<a href="#">3.3</a>	E	
Eye pads and tape			

# PHARMACEUTICAL (Anti-VEGF) TREATMENT FOR DR

Lid Speculum	<a href="#">4.5</a>	E	
Calipers	N/A	IFA	To mark 3.5mm behind limbus for pseudophakes and 4mm for phakic individuals (can use cotton tip as a guide – it's about 4mm in width)
<b>Pharmaceuticals</b>			
Avastin 1.25mg	N/A	E	0.05ml Injected into vitreous cavity. Injection site typically supero-temporal or infero-temporal. NEEDS REFRIGERATION
Topical Anaesthetic	<a href="#">1.8</a>	E	
Antibiotic drops			For 3 days after OR stat dose after
Diamox 250mg tables and iopidine drops			To reduce a sudden rise in pressure
<b>Supplies/Consumables</b>			
1ml (Tuberculin) syringe	<a href="#">3.3</a>	E	If not already preloaded syringe then a drawing up needle is required
27g or 30g needle	<a href="#">3.3</a>	E	
Sterile Masks	<a href="#">3.14.1</a>	E	<b>Vital</b> – post-injection endophthalmitis typically has a different bacterial profile vs post-cataract endophthalmitis, most notably being more respiratory pathogens involved. Doctor should be prevented from breathing on patient and patient should not talk during injection
Povidone iodine 5% or 10% solution 200 ml or alternative cleaning agent if allergic	<a href="#">1.1</a>	E	In conjunctival sac for minimum of 3 minutes prior to procedure
A sterile dressing kit with sterile gauze and a tray for the iodine.	N/A		
Iodine surgical scrub, hand towels	L		



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