STANDARD TREATMENT WORKFLOW (STW)

Diabetic Retinopathy (DR)

Radhika Tandon[1], Prashant Garg[2], Haripriya[3], M Vanathi[4], Manisha Acharya Shroff[5], Noopur Gupta[6], Pradeep Venkatesh[7], Sangeeta Abrol[8], Sushmita Kaushik[9]

[1]All India Institute of Medical Sciences, New Delhi; [2]LV Prasad Eye Institute, Hyderabad; [3]Aravind Eye Hospital, Chennai; [4]All India Institute of Medical Sciences, New Delhi; [5]Dr. Shroff's Charity Eye Hospital, New Delhi; [6]All India Institute of Medical Sciences, New Delhi; [7]All India Institute of Medical Sciences, New Delhi; [8]Vardhman Mahavir Medical College, New Delhi; [9]Global Center for Evidence Synthesis, Postgraduate Institute of Medical Education and Research, Chandigarh

CORRESPONDING AUTHOR

Radhika Tandon, Department of Ophthalmology, All India Institute of Medical Sciences, New Delhi

Email: sudeep.gupta@actrec.gov.in

CITATION

Tandon R, Garg P, Haripriya, Vanathi M, Shroff MA, Gupta N, Venkatesh P, Abrol S, Kaushik S. Diabetic Retinopathy (DR). Journal of the Epidemiology Foundation of India. 2024;2(1Suppl):S135-S136. DOI: https://doi.org/10.56450/JEFI.2024.v2i1Suppl.068

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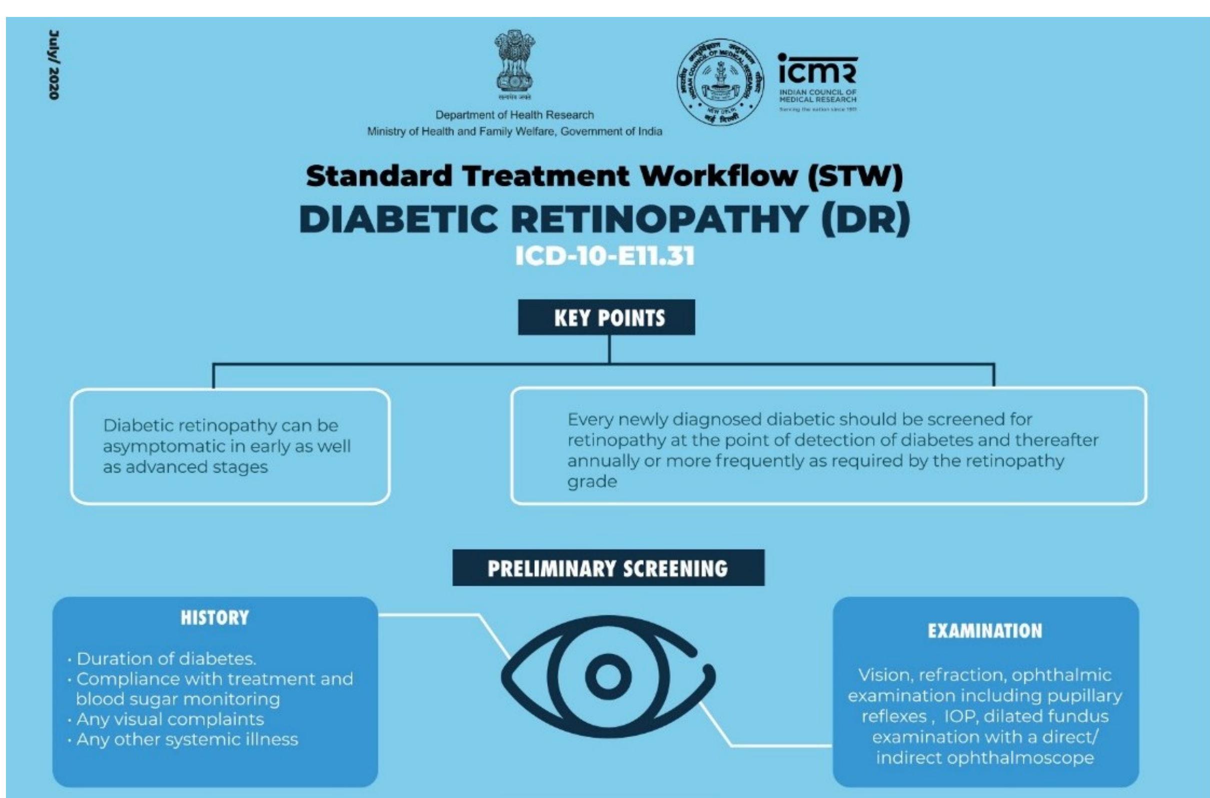

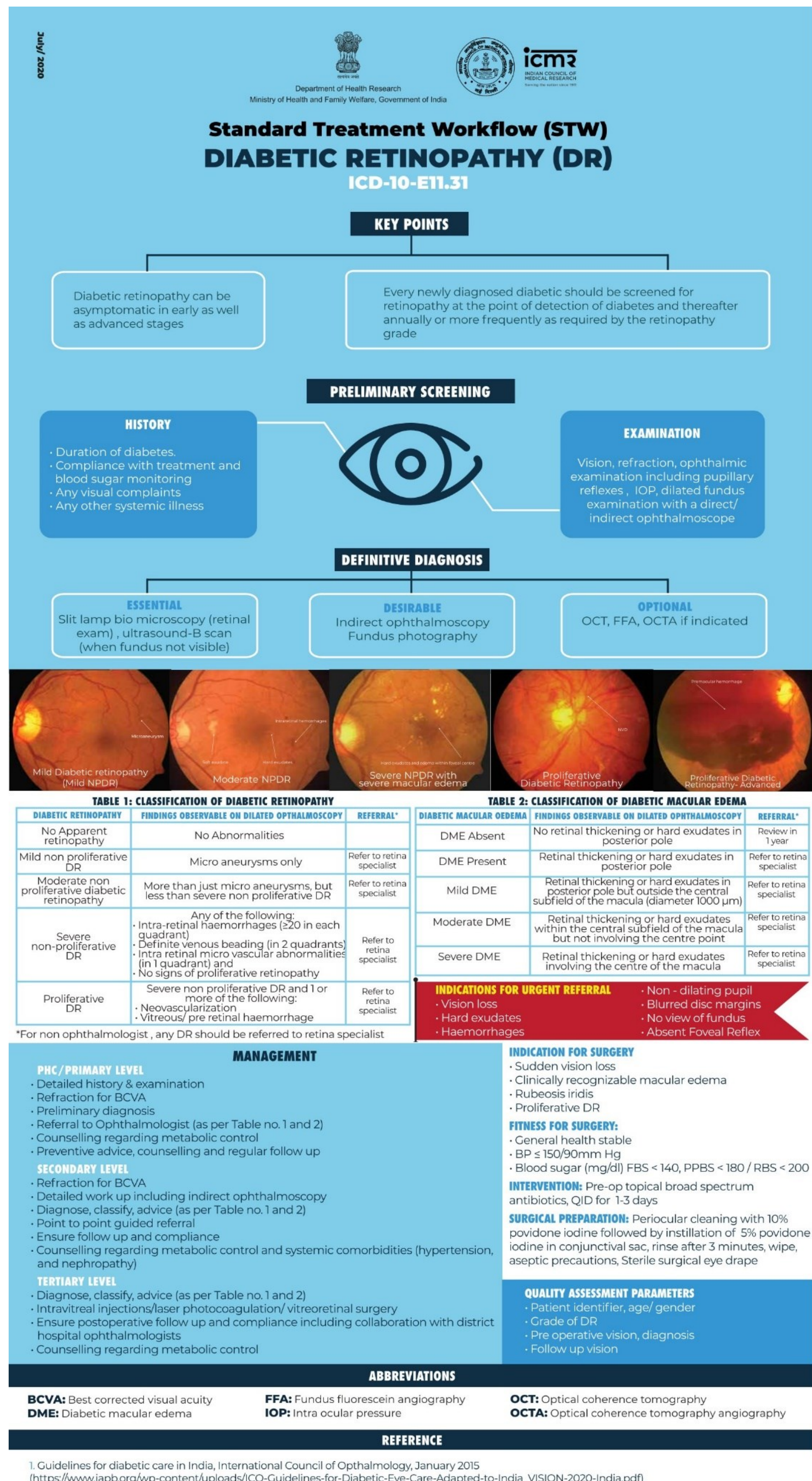

July/ 2020

Department of Health Research
Ministry of Health and Family Welfare, Government of India

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Standard Treatment Workflow (STW)

DIABETIC RETINOPATHY (DR)

ICD-10-E11.31

KEY POINTS

Diabetic retinopathy can be asymptomatic in early as well as advanced stages

Every newly diagnosed diabetic should be screened for retinopathy at the point of detection of diabetes and thereafter annually or more frequently as required by the retinopathy grade

PRELIMINARY SCREENING

HISTORY

- Duration of diabetes.
- Compliance with treatment and blood sugar monitoring
- Any visual complaints
- Any other systemic illness

EXAMINATION

Vision, refraction, ophthalmic examination including pupillary reflexes , IOP, dilated fundus examination with a direct/ indirect ophthalmoscope

DEFINITIVE DIAGNOSIS

ESSENTIAL
Slit lamp bio microscopy (retinal exam) , ultrasound-B scan (when fundus not visible)

DESIRABLE
Indirect ophthalmoscopy
Fundus photography

OPTIONAL
OCT, FFA, OCTA if indicated

TABLE 1: CLASSIFICATION OF DIABETIC RETINOPATHY

DIABETIC RETINOPATHY	FINDINGS OBSERVABLE ON DILATED OPTHALMOSCOPY	REFERRAL*
No Apparent retinopathy	No Abnormalities	
Mild non proliferative DR	Micro aneurysms only	Refer to retina specialist
Moderate non proliferative diabetic retinopathy	More than just micro aneurysms, but less than severe non proliferative DR	Refer to retina specialist
Severe non-proliferative DR	Any of the following: · Intra-retinal haemorrhages (≥20 in each quadrant) · Definite venous beading (in 2 quadrants) · Intra retinal micro vascular abnormalities (in 1 quadrant) and · No signs of proliferative retinopathy	Refer to retina specialist
Proliferative DR	Severe non proliferative DR and 1 or more of the following: · Neovascularization · Vitreous/ pre retinal haemorrhage	Refer to retina specialist

*For non ophthalmologist , any DR should be referred to retina specialist

TABLE 2: CLASSIFICATION OF DIABETIC MACULAR EDEMA

DIABETIC MACULAR OEDEMA	FINDINGS OBSERVABLE ON DILATED OPHTHALMOSCOPY	REFERRAL*
DME Absent	No retinal thickening or hard exudates in posterior pole	Review in 1 year
DME Present	Retinal thickening or hard exudates in posterior pole	Refer to retina specialist
Mild DME	Retinal thickening or hard exudates in posterior pole but outside the central subfield of the macula (diameter 1000 μm)	Refer to retina specialist
Moderate DME	Retinal thickening or hard exudates within the central subfield of the macula but not involving the centre point	Refer to retina specialist
Severe DME	Retinal thickening or hard exudates involving the centre of the macula	Refer to retina specialist

INDICATIONS FOR URGENT REFERRAL

- Vision loss
- Hard exudates
- Haemorrhages
- Non - dilating pupil
- Blurred disc margins
- No view of fundus
- Absent Foveal Reflex

MANAGEMENT

PHC/PRIMARY LEVEL

- Detailed history & examination
- Refraction for BCVA
- Preliminary diagnosis
- Referral to Ophthalmologist (as per Table no. 1 and 2)
- Counselling regarding metabolic control
- Preventive advice, counselling and regular follow up

SECONDARY LEVEL

- Refraction for BCVA
- Detailed work up including indirect ophthalmoscopy
- Diagnose, classify, advice (as per Table no. 1 and 2)
- Point to point guided referral
- Ensure follow up and compliance
- Counselling regarding metabolic control and systemic comorbidities (hypertension, and nephropathy)

TERTIARY LEVEL

- Diagnose, classify, advice (as per Table no. 1 and 2)
- Intravitreal injections/laser photocoagulation/ vitreoretinal surgery
- Ensure postoperative follow up and compliance including collaboration with district hospital ophthalmologists
- Counselling regarding metabolic control

INDICATION FOR SURGERY

- Sudden vision loss
- Clinically recognizable macular edema
- Rubeosis iridis
- Proliferative DR

FITNESS FOR SURGERY:

- General health stable
- BP ≤ 150/90mm Hg
- Blood sugar (mg/dl) FBS < 140, PPBS < 180 / RBS < 200

INTERVENTION: Pre-op topical broad spectrum antibiotics, QID for 1-3 days

SURGICAL PREPARATION: Periocular cleaning with 10% povidone iodine followed by instillation of 5% povidone iodine in conjunctival sac, rinse after 3 minutes, wipe, aseptic precautions, Sterile surgical eye drape

QUALITY ASSESSMENT PARAMETERS

- Patient identifier, age/ gender
- Grade of DR
- Pre operative vision, diagnosis
- Follow up vision

ABBREVIATIONS

BCVA: Best corrected visual acuity
DME: Diabetic macular edema
FFA: Fundus fluorescein angiography
IOP: Intra ocular pressure
OCT: Optical coherence tomography
OCTA: Optical coherence tomography angiography

REFERENCE

1. Guidelines for diabetic care in India, International Council of Opthalmology, January 2015 (https://www.iapb.org/wp-content/uploads/ICO-Guidelines-for-Diabetic-Eye-Care-Adapted-to-India_VISION-2020-India.pdf)

KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit the website of DHR for more information: (**stw.icmr.org.in**) for more information.
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