



Blindness
VISION LOSS METHODS
 WORLD HEALTH ORGANIZATION
Eye - Refraction
 ORGANISATION MONDIALE DE LA SANTE



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WHO PROGRAMME FOR THE PREVENTION OF BLINDNESS

INDEXED

CODING INSTRUCTIONS FOR THE EYE EXAMINATION RECORD FORM

The Eye Examination Record has been developed by the WHO Programme for the Prevention of Blindness to facilitate the recording of data in field surveys on blindness. The present form has been elaborated in accordance with the general guidelines given in the WHO Offset Publication No. 54 "Methods of Assessment of Avoidable Blindness", Geneva 1980.

The Eye Examination Record is meant for general prevalence surveys on blindness and major causes of visual loss. More detailed examination forms may be required for specific surveys on a particular disorder. Certain such forms are available, e.g. for onchocerciasis and xerophthalmia. The present Eye Examination Record, however, includes the essential elements for assessment of trachoma, in accordance with the previous WHO forms for that purpose.

The Eye Examination Record comprises five different sections, as follows :

- A Census
- B Basic Examination
- C Supplementary Information
- D Special Examinations (overleaf)
- E Cause and Etiology of Visual Loss (overleaf)

The front page, i.e. Sections A to C, can be filled in by any personnel adequately trained for this purpose. The Sections D and E should normally be completed only by personnel with special training, and these sections may be utilized only in cases of visual loss, i.e. visual acuity less than 0.3 (6/18) in either or both eyes. However, in areas of known or suspected endemicity of trachoma, it is desirable that the corresponding item (positions 38-47) be filled in systematically in a defined sample or sub-sample.

The Eye Examination Record does not include coding of medical treatment given or social ethnographic information, which can, however, to a certain extent, be registered under "Remarks", positions numbers 37 and 66, together with any other specification of findings, as necessary.

SECTION A (CENSUS)

It is strongly recommended that an updated separate census per household or family included in the sample be prepared, in order to assess absenteeism and possible bias in sample composition. Such a local census can be quite simple, identifying each family by its head, and each individual through his/her affiliation in the family. Name, age, sex and presence/absence can be registered in simple notebooks, numbering the families within each cluster.

<u>Position Number</u>	<u>Item</u>	<u>Instructions</u>
1 - 3	Study Number	A reference number to be given to each specific study or sub-study.
4 - 6	Country	The UN 3-figure code should be used. Part of this coding list is given in the attached Annex, as per WHO region. Further coding instructions on this matter may be given on request.
7 - 11	Card Serial Number	A serial number to identify each patient and examination to be inserted.

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<u>Position Number</u>	<u>Item</u>	<u>Instructions</u>
Administrative Division		
12	Primary	A defined geographical and administrative area, such as a province, which can be further subdivided into administrative units.
13 - 14	Secondary	Number within primary unit.
15 - 16	Household cluster	This may be a village or part of a village or town. Number to be given within secondary unit.
17 - 19	Household number	Number to identify each household within the cluster.
	Name	To be written in full, family name first.
20 - 21	Age	In years; estimated if no official certificate available; assessment of dental age can be used for children up to 12 years of age. Birth to under 6 months = 00 6 months to under 12 months = 0X Unknown = 99
22	Sex	1 = male; 2 = female.
23	Years of school	0 = no school; 1-7 = years of school attendance; 9 = unknown.

SECTION B BASIC EXAMINATION

(Only one box to be coded for each item and each eye. Blank = not examined.)

24 - 25	Visual acuity	<p>Vision to be tested separately for each eye with best possible correction in daylight. Test system and distance should be uniform in each study, otherwise specify under Remarks [37]. Finger counting at 3 metres equals 0.05 (3/60). If possible, a visual impairment should be verified by means of pinhole testing, which should be noted under Remarks [37].</p> <p>If the extent of the visual fields is taken into account, the following codes should be used : code 4 : visual field restricted to less than 10° but more than 5° remaining around central fixation; code 5 : visual field restricted to 5° or less around central fixation. These codes apply even if central visual acuity is not impaired.</p>
26 - 27	Lids	If deformity present, SECTION C to be completed.

<u>Position Number</u>	<u>Item</u>	<u>Instructions</u>
28 - 29	Corneal opacity	Examination with loupe. If opacity present, SECTION C to be completed. The coding of findings under this item should be based mainly on the <u>objective</u> assessment by the observer, i.e. whether the opacity in question is likely to affect vision or not. Code 1 "Minimal" therefore implies mainly a peripheral opacity, not affecting vision, whereas code 2 "Moderate" implies an opacity obligatorily involving the visual axis.
30	Bitot's spots/xerosis	If present, SECTION C to be completed, if possible.
31 - 32	Lens opacity	If gross opacity and visual loss, SECTION C to be completed. No view = assessment not possible because pupil not visible.

SECTION C SUPPLEMENTARY INFORMATION

(This section should be filled in when appropriate, in connection with the examination carried out under SECTION B. When left blank, this signifies not investigated or not possible to determine.)

33	Night blindness	A locally well recognized term should be used in enquiry with parents or patient. Enquiry about patient's behaviour at dusk.
34 - 35	Age of onset of abnormality	Estimate of the age of onset in years to be given after careful enquiry.
36	Concurrent disease at onset	Other signs and symptoms at onset of abnormality; to be investigated through enquiry and examination when relevant. Details may be noted under Remarks [37].
		If positions 34-36 are completed and two or more disorders coexist, the information given should refer to the main cause of visual loss, or additional specifications may be given under Remarks [37].
37	Remarks	This space may be used for additional notes; the box in position 37 should be crossed for later retrieval of data.

SECTION D SPECIAL EXAMINATIONS

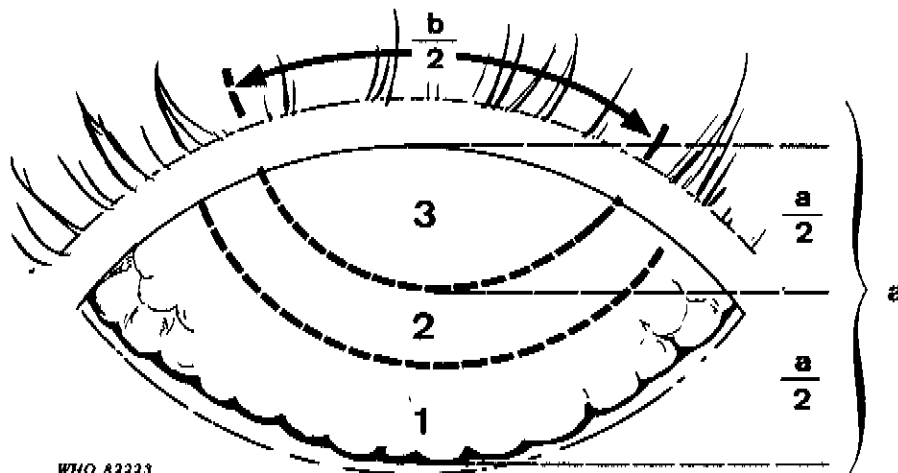
(Only one box to be coded for each item and each eye. Blank = not examined or not possible to examine i.e. no view.)

Trachoma

38 - 39	T/E (Trichiasis and/or Entropion)	T/E 0 : no trichiasis or entropion.
		T/E 1 : lashes deviated towards the eye but not touching the globe.
		T/E 2 : lashes touching the globe but not rubbing on the cornea.
		T/E 3 : lashes constantly rubbing on the cornea.

For scoring follicles, the upper tarsal conjunctival surface is divided into three approximately equal zones. These zones are defined by two imaginary lines which, as viewed on the everted tarsal surface, are approximately parallel with the upper tarsal border and curve upward towards their lateral extremities (see Figure I). Zone 1 includes the entire upper tarsal border and adjacent tarsal surface; zone 2 occupies the area between zones 1 and 3 and extends to the lateral quarters of the lid margin; zone 3 includes the tarsal conjunctiva adjacent to the central half of the lid margin and, at its centre, covers just less than half the vertical extent of the tarsal surface.

Figure I.



WHO 82223

a = vertical extent of tarsal surface

b = lid margin

<u>Position Number</u>	<u>Item</u>	<u>Instructions</u>
40 - 41	F (Upper Tarsal Follicles)	<p>F 0 : no follicles present.</p> <p>F 1 : follicles present, but no more than 5 follicles in zones 2 or 3 together.</p> <p>F 2 : more than 5 follicles in zones 2 and 3 together, but less than 5 follicles in zone 3.</p> <p>F 3 : 5 or more follicles in each of the 3 zones.</p>
42 - 43	P (Upper Tarsal Papillary Hypertrophy and Diffuse Infiltration)	<p>P 0 : absent; normal appearance.</p> <p>P 1 : minimal; normal deep subconjunctival vessels on the tarsus not obscured.</p> <p>P 2 : moderate; normal vessels appear hazy (even when seen by the naked eye).</p> <p>P 3 : pronounced; conjunctiva thickened and opaque; normal vessels on the tarsus are hidden.</p>
44 - 45	C (Conjunctival Scarring)	<p>C 0 : no scarring on the conjunctiva.</p> <p>C 1 : mild; fine scattered scars on the upper tarsal conjunctiva, or scars on other parts of the conjunctiva.</p> <p>C 2 : moderate; more severe scarring, but without shortening or distortion of the upper tarsus.</p> <p>C 3 : severe; scarring with distortion of the upper tarsus.</p>
46 - 47	CC (Corneal Scarring)	<p>CC 0 : absent.</p> <p>CC 1 : minimal scarring or opacity but not involving the visual axis, and with clear central cornea.</p> <p>CC 2 : moderate scarring or opacity involving the visual axis, with the pupillary margin visible through the opacity.</p> <p>CC 3 : severe central scarring or opacity with the pupillary margin not visible through the opacity.</p>
48 - 49	Lens status	<p>Requires examination with slit-lamp or reflected light and, if possible, dilated pupil.</p> <p>Immature cataract : most fundus details visible.</p> <p>Mature cataract : no red reflex from fundus on retroillumination.</p>

<u>Position Number</u>	<u>Item</u>	<u>Instructions</u>
48 - 49	Lens status (cont'd)	Aphakia : includes dislocated lens. After-cataract : remaining lens capsule and/or fibrotic membrane. Other opacities* : includes gross vitreous opacities and may be specified under Remarks [66].
50 - 51	Optic nerve	Optic atrophy may be further specified under Remarks [66], as well as other changes. Glaucomatous cupping : horizontal cup/disc ratio of more than 0.3.
52 - 53	Retina	Mark only the main retinal disorder of importance for visual loss. Minor or other changes may be noted under Remarks [66].
R = 54 - 55 L = 56 - 57	Intra-ocular pressure	Ocular tension in mm mercury to be filled in when appropriate. If more than one measuring technique is used, this can be specified under Remarks [66].

SECTION E CAUSE OF VISUAL LOSS

(To be completed only in the case of visual loss.)

58 - 59	Cause of visual loss	The <u>main</u> cause to be registered. Refractive error/amplyopia, glaucoma and other* may be specified under Remarks [66].
Etiology		
60 - 61	Infectious	The probable and most important etiology to be registered. Other* may be specified under Remarks [66].
62 - 63	Non-infectious	
64 - 65	Undetermined	
	Date	To be filled in by the last observer on the occasion of examination of the patient.
	Examiner	Initials of examiner to be filled in.
66	Remarks	This space may be used to give further details and specify findings noted above; if used, the box in position 66 should be crossed to facilitate later retrieval of data.

UN 3-FIGURE CODES AS PER WHO REGIONAFRICAN REGION

Angola	024	Guinea-Bissau	624	Senegal	686
Benin	204	Ivory Coast	384	Seychelles	690
Botswana	072	Kenya	404	Sierra Leone	694
Burundi	108	Lesotho	426	South Africa	710
Cape Verde	132	Liberia	430	Swaziland	748
Central African Republic	140	Madagascar	450	Togo	768
Chad	148	Malawi	454	Uganda	800
Comoros	174	Mali	466	United Republic of Cameroon	120
Congo	178	Mauritania	478	United Republic of Tanzania	834
Equatorial Guinea	226	Mauritius	480	Upper Volta	854
Ethiopia	230	Mozambique	508	Zaire	180
Gabon	266	Niger	562	Zambia	894
Gambia	270	Nigeria	566	Zimbabwe	716
Ghana	288	Rwanda	646	Namibia	516
Guinea	324	Sao Tome and Principe	678		

REGION OF THE AMERICAS

Argentina	032	Dominican Republic	214	Panama	590
Bahamas	044	Ecuador	218	Paraguay	600
Barbados	052	El Salvador	222	Peru	604
Bolivia	068	Grenada	308	Saint Lucia	662
Brazil	076	Guatemala	320	Suriname	740
Canada	124	Guyana	328	Trinidad and Tobago	780
Chile	152	Haiti	332	United States of America	840
Colombia	170	Honduras	340	Uruguay	858
Costa Rica	188	Jamaica	388	Venezuela	862
Cuba	192	Mexico	484		
Dominica	212	Nicaragua	558		

EASTERN MEDITERRANEAN REGION

Afghanistan	004	Israel	376	Qatar	634
Bahrain	048	Jordan	400	Saudi Arabia	682
Cyprus	196	Kuwait	414	Somalia	706
Democratic Yemen	720	Lebanon	422	Sudan	736
Djibouti	262	Libyan Arab Jamahiriya	434	Syrian Arab Republic	760
Egypt	818	Oman	512	Tunisia	788
Iran	364	Pakistan	586	United Arab Emirates	784
Iraq	368			Yemen	886

EUROPEAN REGION

Albania	008	Hungary	348	Spain	724
Algeria	012	Iceland	352	Sweden	752
Austria	040	Ireland	372	Switzerland	756
Belgium	056	Italy	380	Turkey	792
Bulgaria	100	Luxembourg	442	Ukrainian SSR	804
Byelorussian SSR	112	Malta	470	USSR	810
Czechoslovakia	200	Monaco	492	United Kingdom of Great Britain and Northern Ireland	826
Denmark	208	Morocco	504	Yugoslavia	890
Finland	246	Netherlands	528		
France	250	Norway	578		
Germany, Democratic Republic of	278	Poland	616		
Germany, Federal Republic of	280	Portugal	620	<u>Non Member States</u>	
Greece	300	Romania	642	Holy See	336
		San Marino	674	Liechtenstein	438

SOUTH-EAST ASIA REGION

Bangladesh	050	India	356	Nepal	524
Burma	104	Indonesia	360	Sri Lanka	144
Democratic People's Republic of Korea	408	Maldives	462	Thailand	764
		Mongolia	496		

WESTERN PACIFIC REGION

Australia	036	Lao People's Democratic Republic	418	Philippines	608
China	156	Malaysia	458	Republic of Korea	410
Democratic Kampuchea	116	New Zealand	554	Samoa	016
Fiji	242	Papua New Guinea	598	Singapore	702
Japan	392			Tonga	776
				Viet Nam	866

= = =

EYE EXAMINATION RECORD

A

Study No.

 1-3

Country

 4-6

Card Sr. No.

 7-11

ADMINISTRATIVE DIVISION

Primary

 12

Secondary

 13-14

Household cluster

 15-16

Household No.

 17-19

Name

Age, years

 20-21

Sex

M = 1
F = 2 22

Years of school

 23

B BASIC EXAMINATION

Visual acuity

Vision equal to or better than 0.3 (6/18)

R 24 1 25 L

0.1 (6/60)

 2

0.05 (3/60)

 3

0.02 (1/60)

 4

Light perception

 5

No light perception

 6

Fix and follow a target

 7

Undetermined or unspecified

 8

Bitot's spots / xerosis

No 0 Yes 1 30

C

SUPPLEMENTARY INFORMATION

Night blindness

No 0 Yes 1 33

If abnormality:

Age of onset
(years) 34-35 Concurrent disease
at onsetNo 0 Yes 1 36

37

 Remarks:

Lids

No deformity

R 26 0 27 L

Notching or similar deformities

 1

Inturned lashes and/or margins

 2

Corneal opacity

R 28 29 L

Absent

 0

Minimal: no visual loss

 1

Moderate: vision affected

 2

Severe: pupil not visible

 3

Staphyloma / atrophy of the globe

 4

Lens opacity

R 31 32 L

Absent

 0

Present

 1

No view

 2

D SPECIAL EXAMINATIONS
Trachoma
Lens status

T/E		F		P		C		CC	
R	L	R	L	R	L	R	L	R	L
38	39	40	41	42	43	44	45	46	47
<input type="checkbox"/> 0	<input type="checkbox"/> 3	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> 1
<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/>
<input type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/> 2	<input type="checkbox"/>
<input type="checkbox"/> 3	<input type="checkbox"/>	<input type="checkbox"/> 3	<input type="checkbox"/>	<input type="checkbox"/> 3	<input type="checkbox"/>	<input type="checkbox"/> 3	<input type="checkbox"/>	<input type="checkbox"/> 3	<input type="checkbox"/>

	R	48	49	L
No lens opacity	<input type="checkbox"/>	0	<input type="checkbox"/>	
Immature cataract	<input type="checkbox"/>	1	<input type="checkbox"/>	
Mature cataract	<input type="checkbox"/>	2	<input type="checkbox"/>	
Aphakia	<input type="checkbox"/>	3	<input type="checkbox"/>	
After-cataract	<input type="checkbox"/>	4	<input type="checkbox"/>	
Other opacities*	<input type="checkbox"/>	5	<input type="checkbox"/>	

Optic nerve

	R	50	51	L
Normal	<input type="checkbox"/>	0	<input type="checkbox"/>	
Neuritis or swelling	<input type="checkbox"/>	1	<input type="checkbox"/>	
Optic atrophy	<input type="checkbox"/>	2	<input type="checkbox"/>	
Glaucomatous cupping	<input type="checkbox"/>	3	<input type="checkbox"/>	
Other changes*	<input type="checkbox"/>	4	<input type="checkbox"/>	

Retina

	R	52	53	L
Normal	<input type="checkbox"/>	0	<input type="checkbox"/>	
Degenerative changes	<input type="checkbox"/>	1	<input type="checkbox"/>	
Retinochoroiditis	<input type="checkbox"/>	2	<input type="checkbox"/>	
Vascular retinopathy	<input type="checkbox"/>	3	<input type="checkbox"/>	
Retinal detachment	<input type="checkbox"/>	4	<input type="checkbox"/>	
Neoplasm	<input type="checkbox"/>	5	<input type="checkbox"/>	
Other or multiple changes*	<input type="checkbox"/>	6	<input type="checkbox"/>	

I.O.P. (mm mercury)	R	54-55	56-57	L
	<input type="checkbox"/>		<input type="checkbox"/>	

E CAUSE OF VISUAL LOSS

	R	58	59	L
Refractive error/amblyopia	<input type="checkbox"/>	1	<input type="checkbox"/>	
Corneal opacity	<input type="checkbox"/>	2	<input type="checkbox"/>	
Cataract	<input type="checkbox"/>	3	<input type="checkbox"/>	
Retinochoroiditis	<input type="checkbox"/>	4	<input type="checkbox"/>	
Optic atrophy	<input type="checkbox"/>	5	<input type="checkbox"/>	
Glaucoma*	<input type="checkbox"/>	6	<input type="checkbox"/>	
Atrophy/absence of globe	<input type="checkbox"/>	7	<input type="checkbox"/>	
Other*	<input type="checkbox"/>	8	<input type="checkbox"/>	
Undetermined/unspecified	<input type="checkbox"/>	9	<input type="checkbox"/>	

ETIOLOGY

INFECTIOUS		R	60	61	L	NON-INFECTIOUS		R	62	63	L
Ophthalmia neonatorum	<input type="checkbox"/>	1	<input type="checkbox"/>			Hereditary / Congenital	<input type="checkbox"/>	1	<input type="checkbox"/>		
Trachoma/associated infections	<input type="checkbox"/>	2	<input type="checkbox"/>			Nutritional	<input type="checkbox"/>	2	<input type="checkbox"/>		
Onchocerciasis	<input type="checkbox"/>	3	<input type="checkbox"/>			Traumatic	<input type="checkbox"/>	3	<input type="checkbox"/>		
Measles	<input type="checkbox"/>	4	<input type="checkbox"/>			Degenerative	<input type="checkbox"/>	4	<input type="checkbox"/>		
Smallpox	<input type="checkbox"/>	5	<input type="checkbox"/>			Iatrogenic	<input type="checkbox"/>	5	<input type="checkbox"/>		
Other infections*	<input type="checkbox"/>	6	<input type="checkbox"/>			Other*	<input type="checkbox"/>	6	<input type="checkbox"/>		
Undetermined etiology											

Date:

Examiner:

 Remarks*: