

# RETINOPATHY OF PREMATURITY (ROP)

## INDICATIONS FOR SCREENING

- All babies either <1501 g birth weight or  $\leq 31^{+6}$  weeks' gestation

## PROCEDURE

### When to screen

Table 1

Indication	When to start screen
Born <31 <sup>+0</sup> weeks' gestation	31 <sup>+0</sup> –31 <sup>+6</sup> weeks' postmenstrual age <b>OR</b> at 4 completed weeks postnatal age (28–34 days), whichever is later
Born 31 <sup>+0</sup> –31 <sup>+6</sup> weeks' gestation irrespective of birth weight, or $\geq 32^{+0}$ weeks' gestation but weight <1501 g	36 weeks' postmenstrual age <b>OR</b> at 4 completed weeks postnatal age (28–34 days) whichever is sooner

- If baby to be discharged before first screening due, bring eye examination forward to be seen before discharge

Table 2: Timing of first screening according to gestational age

Gestational age	Age at first screen (weeks*)	
	Postmenstrual age	Postnatal age
22	31	9
23	31	8
24	31	7
25	31	6
26	31	5
27	31	4
28	32	4
29	33	4
30	34	4
31	35	4
32 (<1501 g)	36	4
33 (<1501 g)	36	3
34 (<1501 g)	36	2
35 (<1501 g)	36	1

\*completed weeks (i.e. 22 = 22<sup>+0</sup>–22<sup>+6</sup>)

### How to screen

- Arrange screening with ophthalmologist as per local agreement

### Preparation for screening

- Prescribe eye drops night before screening on drug chart
- Phenylephrine 2.5% and cyclopentolate 0.5%
- instil 1 drop of each drug. Give 2 doses, 5 min apart, 1 hr before examination. Timings may vary according to Trust practice – check local guidance
- if in any doubt whether drop has gone into eye, give another drop immediately (pupil must be fully dilated)
- close eyelids after instillation of eye drops, wipe off any excess

### Care during procedure

- A competent doctor/ANNP available during eye examinations
- Use comfort care techniques (nesting, swaddling +/- dummy). Parents to be offered opportunity to provide this

- Consider giving oral expressed breast milk or oral sucrose 0.1–0.5 mL just before examination (maximum 3 doses)
- Proxymetacaine 0.5% or oxybuprocaine 0.4% as topical anaesthesia just before examination when an eyelid speculum is to be used
- Avoid bright light and cover incubator/cot for 4–6 hr after examination

#### How often to screen

- If treatment not required after first ROP screen, screen **weekly** if any of the following are present:
  - vessels ending in zone I or posterior zone II with or without any stage of ROP
  - any plus or pre-plus disease
  - any stage 3 ROP in zone II or III
- Continue with weekly screening until criteria for 2-weekly screening or discontinuing screening are met

#### 2-weekly screening criteria

- Vessels end in mid or anterior zone II or in zone III; **AND**
- No plus or pre-plus disease; **AND**
- No ROP, or stage 1 or 2 ROP
- Continue 2-weekly screening until criteria for treatment, weekly screening or stopping screening are met

#### When to stop screening

- If no ROP, continue until vascularisation has extended into zone III
- if uncertainty about the zone, consider a further confirmatory examination 2 weeks later
- If any stage of ROP, continue until any characteristics of regression seen on  $\geq 2$  consecutive examinations:
  - partial resolution progressing towards complete resolution
  - change in colour of the ridge from salmon pink to white
  - growth of vessels through the demarcation line

## TREATMENT CRITERIA

- Zone I with plus disease and with any stage of ROP
- Zone I without plus disease but with stage 3 ROP
- Zone II with plus disease and with stage 3 ROP
- zone II stage 2 with plus disease is borderline for treatment and may be treated or re-examined in 1 week or sooner
- Plus disease should be present in  $\geq 2$  quadrants
- Aggressive ROP (A-ROP)

**Discuss with treating ophthalmologist when referral warranted ROP is present** ([see https://www.rcpch.ac.uk/sites/default/files/2024-10/rop-screening-guideline-full-2022\\_updated-2024.pdf](https://www.rcpch.ac.uk/sites/default/files/2024-10/rop-screening-guideline-full-2022_updated-2024.pdf) 'Appendix E: Algorithm for Ophthalmic Observations')

- Any pre-plus or plus disease in  $\geq 2$  quadrants in any zone
- Any zone I or posterior zone II disease
- Any stage 3 disease in any zone

## AFTERCARE

- Complete ad hoc ROP form in **BadgerNet** documentation
- Eye examination results and recommendations for further screening must be included in transfer letter, together with ophthalmological status, future recommendations for screening intervals and outpatient follow-up arrangements
- Subsequent examinations must be documented by ophthalmologist in baby's medical notes

## **PARENT INFORMATION**

Offer parents information on ROP, available from

<https://www.rcpch.ac.uk/sites/default/files/2022-03/UK-screening-retinopathy-prematurity-information-parents-carers.pdf>