

Open Book

Learning from close calls and adverse events

Red reflex assessment in newborns

This report alerts providers to key findings and actions following review of delayed recognition of lack of red reflex in a newborn. The findings from this case extend across care settings, specialties and national guidance. The organisation involved in this case has identified actions to reduce the risk of recurrence and elevated its concerns to the relevant professional bodies.

We advise providers to consider this report, and whether recommendations made might apply to their own systems.

This report is relevant to:

- midwives, maternity and paediatric care providers and paediatric staff completing newborn assessments
- primary health care and general practice clinicians
- ophthalmology clinicians
- quality improvement, clinical risk and patient safety managers.

Incident

A newborn baby failed to receive a red reflex assessment. This is part of routine newborn tests following birth and in the early weeks of life. As a result, the child now has vision loss in one eye.

Chronology

- Red reflex was not documented as being completed within 24 hours of birth.
- The mother and her baby were discharged home.
- Red reflex was not assessed at the 1-week check performed at home.
- The 2–4-week check at home was documented as completed and normal for both eyes.
- The 6-week and 3-month checks were performed in general practice. Light reflexes were checked and documented as symmetrical, but the red reflex was not checked.

- The parents presented to general practice when the child was five months of age, with concerns about the child's ability to track, fix and follow. This resulted in an urgent referral to ophthalmology.
- The child was seen in clinic three weeks later. Absence of red reflex was seen and congenital cataract was diagnosed.
- Urgent surgery was performed, but did not prevent loss of vision in the child's affected eye.

Key findings

- There was a lack of systems and processes for national guidance on the timing of red reflex testing.
- A knowledge/skill gap was identified in the clinician's ability to correctly perform testing and confidence in interpreting results.
- There was limited access to ophthalmoscopes in all areas caring for newborns within the facility.

Cont over

- There were problems with the documentation of assessments: various alternative approaches had been developed.

Actions subsequently taken

- Ophthalmoscopes were made available in all clinical areas caring for newborns.
- The Midwifery Council, New Zealand College of Midwives and Ministry of Health were informed of the challenges related to maintaining clinicians' competence in red reflex testing.
- All midwifery educators were retrained as expert red reflex testers. These midwives are now responsible for the progressive training of Women's Health clinical staff.
- Best practice was communicated to primary health organisations to share learnings with primary care providers.
- A sticker was created to go in the Well Child book to accurately record red reflex checks. Red reflex is now written as 'checked' or 'not checked' in the postnatal discharge summary.
- A new standard operating procedure for red reflex testing is to be developed.
- All staff in the organisation involved in newborn checks must now have education and training in red reflex testing.
- The organisation involved made recommendations to the Ministry of Health, based on review findings.

Health Quality & Safety Commission comment

- The Well Child book identifies red reflex checking and documentation requirements several times, for example:
 - on page 13
 - on pages 42–43, with regard to the 24–48-hour assessment
 - on page 64, with regard to the 4–6-week assessment by a Well Child nurse or doctor.
- All clinicians involved with the care of babies and children are responsible for documenting and reading the Well Child book, and for reminding parents to bring the book to appointments so they can check all required items have been completed.
- Assessment of newborns' eyes for red reflex can be variable and hard to elicit. As a result, red reflex tests require follow-up checks. Tests look for a response from the retina indicating to clinicians there are no opacities present, such as a cataract or tumour. The eye examination is performed by different clinicians in various settings, such as in the newborn's home or in general practice. It is rare to see an abnormal response, so clinicians need to maintain confidence in their ability to elicit and diagnose abnormal responses. If there is any doubt regarding interpretation of the examination, clinicians should seek assurance from colleagues or by referral, in the best interests of the newborn.
- The Commission encourages the adoption of a standard operating procedure for improving the reliability and consistency of red reflex testing (correctly done in every baby, every time).

- Newborn examinations should be timely, accurate and followed up. Maternity facilities may wish to review their associated systems and processes. Suggestions include:
 - systems for adequate education, skill assessment and continued competence of clinicians who undertake newborn examinations. Any centralised education should be open to internal and external clinicians
 - an alert system visible to all clinicians caring for newborns, which identifies when testing has not been done
 - clear information for parents about newborn assessments and timeframes.
- Lead maternity carers need to have appropriate equipment for adequately eliciting the red reflex. They may wish to consider refresher education sessions to maintain their competence in:
 - eliciting the red reflex
 - interpreting test results
 - providing timely referrals.
- There is an educational training video on red reflex testing on the National Women's Health website at <http://nationalwomenshealth.adhb.govt.nz/health-professionals/education-training/educational-videos-presentations>.
- Based on the findings from this investigation and review of ideal practice by specialty experts, the Ministry of Health will lead a review of guidance for red reflex assessment at a national level. This is a key issue for all health providers.

