

# Jaundice in newborn babies under 28 days

Quality standard

Published: 6 March 2014

[www.nice.org.uk/guidance/qs57](https://www.nice.org.uk/guidance/qs57)

# Contents

Quality statements .....	4
Quality statement 1: Information for parents or carers .....	5
Quality statement .....	5
Rationale .....	5
Quality measures .....	5
What the quality statement means for different audiences .....	6
Source guidance .....	7
Definitions of terms used in this quality statement .....	7
Equality and diversity considerations .....	8
Quality statement 2: Measurement of bilirubin level in babies more than 24 hours old .....	9
Quality statement .....	9
Rationale .....	9
Quality measures .....	9
What the quality statement means for different audiences .....	10
Source guidance .....	11
Definitions of terms used in this quality statement .....	11
Equality and diversity considerations .....	12
Quality statement 3: Management of hyperbilirubinaemia: treatment thresholds .....	13
Quality statement .....	13
Rationale .....	13
Quality measures .....	13
What the quality statement means for different audiences .....	14
Source guidance .....	15
Definitions of terms used in this quality statement .....	15
Update information .....	16
About this quality standard .....	17
Resource impact .....	17

Diversity, equality and language..... 18

This standard is based on CG98.

This standard should be read in conjunction with QS37, QS193, QS75 and QS135.

## Quality statements

Statement 1 Parents or carers of newborn babies have a discussion with healthcare professionals and are given written information about neonatal jaundice within 24 hours of the birth, including what to look for and who to contact if they are concerned.

Statement 2 Babies with suspected jaundice who are more than 24 hours old have their bilirubin level measured within 6 hours of a healthcare professional suspecting jaundice or a parent or carer reporting possible jaundice.

Statement 3 Babies with hyperbilirubinaemia are started on treatment in accordance with standardised threshold tables or charts.

Note that there is variability between assays from different manufacturers in reported bilirubin measurement. Healthcare professionals should consult their local pathology laboratory when interpreting threshold tables or charts.

# Quality statement 1: Information for parents or carers

## Quality statement

Parents or carers of newborn babies have a discussion with healthcare professionals and are given written information about neonatal jaundice within 24 hours of the birth, including what to look for and who to contact if they are concerned.

## Rationale

Early identification of neonatal jaundice is essential to ensure that babies receive appropriate treatment for either underlying disease or hyperbilirubinaemia caused by physiological jaundice in order to prevent complications and achieve the best clinical outcomes. Advising parents or carers about what to look for and when to contact a healthcare professional will help to ensure rapid access to treatment if needed. This is particularly important in the context of early discharge from maternity units. Giving parents or carers information about neonatal jaundice will also reassure them that it is common, usually transient and harmless, and that normal feeding and normal care of the baby can usually continue (including extra support with breastfeeding). This will reduce their anxiety if their baby does develop jaundice and needs investigations or treatment. Parents or carers of newborn babies receive a large amount of information, which is why a discussion, in addition to written information, is important.

## Quality measures

### Structure

a) Evidence of local availability of written information about neonatal jaundice for parents or carers of newborn babies.

**Data source:** Local data collection.

b) Evidence of local arrangements to ensure telephone access to a relevant healthcare

professional for parents or carers who are concerned about neonatal jaundice.

**Data source:** Local data collection.

## Process

Proportion of newborn babies whose parents or carers have a discussion with healthcare professionals and receive written information about neonatal jaundice within 24 hours of the birth, including what to look for and who to contact if they are concerned.

Numerator – the number in the denominator whose parents or carers have a discussion with healthcare professionals and receive written information about neonatal jaundice within 24 hours of the birth, including what to look for and who to contact if they are concerned.

Denominator – the number of newborn babies.

**Data source:** Local data collection.

## What the quality statement means for different audiences

**Service providers** ensure the availability of written information about neonatal jaundice (including what to look for and who parents or carers can contact if they are concerned) and that healthcare professionals understand and act on the need to discuss this with parents or carers of newborn babies.

**Healthcare professionals** ensure that they discuss neonatal jaundice with parents or carers of newborn babies and give them written information within 24 hours of the birth, including what to look for and who to contact if they are concerned.

**Commissioners** ensure that they commission services in which written information on neonatal jaundice is available and there is telephone access to relevant healthcare professionals for parents or carers who are concerned about jaundice.

**Parents or carers of newborn babies** have a discussion with healthcare professionals and are given written information about jaundice within 24 hours of the baby being born. This

includes information about how to check whether the baby might have jaundice, as well as who to contact if they are concerned.

## Source guidance

Jaundice in newborn babies under 28 days. NICE guideline CG98 (2010, updated 2016), recommendation 1.1.1

## Definitions of terms used in this quality statement

### Information about neonatal jaundice

Information about neonatal jaundice should be tailored to the needs and expressed concerns of parents or carers of newborn babies. The information should be provided through discussion backed up by written information. Care should be taken to avoid causing unnecessary anxiety to parents or carers. The combination of discussion and written information should cover:

- factors that influence the development of significant hyperbilirubinaemia
- how to check the baby for jaundice (signs and symptoms to look for):
  - check the naked baby in bright and preferably natural light
  - note that examination of the sclerae, gums and blanched skin is useful across all skin tones
- who to contact if they suspect jaundice, jaundice is getting worse, or their baby is passing pale chalky stools or dark urine
- the importance of recognising jaundice in the first 24 hours and of seeking urgent medical advice
- the fact that neonatal jaundice is common, and reassurance that it is usually transient and harmless
- reassurance that support will be provided to continue with normal feeding (including extra advice and support with breastfeeding) and normal care of the baby.

[Adapted from [NICE's guideline on jaundice in newborn babies](#), recommendations 1.1.1 and 1.2.5]

See also [information for the public about NICE's guideline on jaundice in newborn babies](#).

## Equality and diversity considerations

Information about neonatal jaundice should be accessible to parents or carers with additional needs such as physical, sensory or learning disabilities, and to parents or carers who do not speak or read English. Parents or carers of babies with neonatal jaundice in any setting should have access to an interpreter or advocate if needed.

Extra support with visual checks for jaundice in babies and checking nappies for pale stools or dark urine should be provided to parents or carers with sight impairments.

It may be difficult to recognise jaundice in some babies with dark skin tones. The instructions about how to check the baby for jaundice are written to be useful across all skin tones: examination of the sclerae, gums and blanched skin in bright (preferably natural) light.



# Quality statement 2: Measurement of bilirubin level in babies more than 24 hours old

## Quality statement

Babies with suspected jaundice who are more than 24 hours old have their bilirubin level measured within 6 hours of a healthcare professional suspecting jaundice or a parent or carer reporting possible jaundice.

## Rationale

Visual inspection is used to recognise jaundice but is not very good for assessing the clinical severity of the jaundice. Although bilirubin should not be measured routinely in babies who are not visibly jaundiced, measuring bilirubin levels in babies with suspected or obvious visible jaundice assesses the degree of jaundice and determines whether the baby needs further investigations or treatment. Measuring the bilirubin level as soon as possible (within 6 hours) in babies with suspected jaundice will ensure that those with rapidly rising bilirubin levels are identified promptly for treatment. Bilirubin can be measured by taking a blood sample (serum bilirubin) or, within defined circumstances (see the [definitions section](#)), using a transcutaneous bilirubinometer (followed by a blood test if needed). Transcutaneous bilirubinometers, although not as accurate as measuring serum bilirubin, are more accurate than visual inspection alone, are non-invasive, can be used in the community and provide instant results.

## Quality measures

### Structure

Evidence of local protocols and adequate access to bilirubin measurement, to ensure that babies with suspected jaundice who are more than 24 hours old have their bilirubin level measured within 6 hours of a healthcare professional suspecting jaundice or a parent or carer reporting possible jaundice.

**Data source:** Local data collection.

## Process

a) Proportion of babies with suspected jaundice who are more than 24 hours old who have their bilirubin level measured.

Numerator – the number in the denominator having their bilirubin level measured.

Denominator – the number of babies with suspected jaundice who are more than 24 hours old.

**Data source:** Local data collection.

b) Proportion of babies with suspected jaundice who are more than 24 hours old who have their bilirubin level measured within 6 hours of a healthcare professional suspecting jaundice or a parent or carer reporting possible jaundice.

Numerator – the number in the denominator having their bilirubin level measured within 6 hours of a healthcare professional suspecting jaundice or a parent or carer reporting possible jaundice.

Denominator – the number of babies with suspected jaundice who are more than 24 hours old who have had their bilirubin measured.

**Data source:** Local data collection.

## What the quality statement means for different audiences

**Service providers** ensure adequate access to bilirubin measurement and have local education and protocols in place that enable healthcare professionals to measure, within 6 hours, bilirubin levels in babies with suspected jaundice who are more than 24 hours old.

**Healthcare professionals** ensure that they measure, within 6 hours, bilirubin levels in babies with suspected jaundice who are more than 24 hours old.

**Commissioners** ensure that they commission services with adequate access to bilirubin measurement that enable healthcare professionals to measure, within 6 hours, bilirubin levels in babies with suspected jaundice who are more than 24 hours old.

**Babies with suspected jaundice who are more than 24 hours old** have their bilirubin level measured within 6 hours of the possible jaundice being noted (bilirubin is the substance that causes the yellow colour seen in jaundice). This may be done by a healthcare professional at the baby's home, but it may need to be done at a hospital.

## Source guidance

Jaundice in newborn babies under 28 days. NICE guideline CG98 (2010, updated 2016), recommendations 1.2.14 and 1.2.16

## Definitions of terms used in this quality statement

### Measurement of bilirubin level

When measuring the bilirubin level in babies more than 24 hours old:

- use a transcutaneous bilirubinometer in babies with a gestational age of 35 weeks or more (always use serum bilirubin measurement to determine the bilirubin level in babies less than 35 weeks' gestational age)
- if a transcutaneous bilirubinometer is not available, measure the serum bilirubin
- if a transcutaneous bilirubinometer measurement indicates a bilirubin level greater than 250 micromol/litre check the result by measuring the serum bilirubin
- always use serum bilirubin measurement for babies at or above the relevant treatment thresholds for their postnatal age, and for all subsequent measurements
- do not use an icterometer.

Note that there is variability between assays from different manufacturers in reported bilirubin measurement. Healthcare professionals should consult their local pathology laboratory when interpreting threshold tables or charts. [Adapted from NICE's guideline on jaundice in newborn babies, recommendation 1.2.15, 1.2.16 and 1.2.17]

## **Within 6 hours**

The 6-hour timeframe begins when a healthcare professional suspects jaundice or when a parent or carer reports possible jaundice. [Expert opinion]

## **Transcutaneous bilirubinometer**

A device that uses reflected light to measure the yellow colour (bilirubin level) in the skin.

## **Equality and diversity considerations**

Some parents or carers may find it difficult to access postnatal care for their baby after discharge from hospital; for example, they may be unable to afford to travel to their local clinic or hospital. This quality statement focuses on the period after the initial 24 hours after birth (and so in many cases after discharge from hospital). It promotes equitable access to postnatal care by making reference to the use (where clinically indicated) of transcutaneous bilirubinometers, which can be used in the community.

# Quality statement 3: Management of hyperbilirubinaemia: treatment thresholds

## Quality statement

Babies with hyperbilirubinaemia are started on treatment in accordance with standardised threshold tables or charts.

## Rationale

Once jaundice in babies is recognised, it is important to know when and how to treat it. Phototherapy is an effective treatment for significant hyperbilirubinaemia and can reduce the need for exchange transfusion (a procedure involving a complete changeover of blood), which is necessary only in the most severe cases. The consistent use of treatment thresholds, alongside NICE guidance, will help to ensure a balance between the thresholds being low enough to prevent complications (such as kernicterus) but not so low that phototherapy is used unnecessarily.

## Quality measures

### Structure

Evidence of local arrangements to ensure the use of standardised treatment threshold tables or charts when starting treatment for babies with hyperbilirubinaemia.

**Data source:** Local data collection.

### Process

Proportion of babies identified with hyperbilirubinaemia who are started on treatment in accordance with standardised threshold tables or charts.

**Numerator** – the number in the denominator who are started on treatment in accordance with standardised threshold tables or charts.

**Denominator** – the number of babies identified with hyperbilirubinaemia.

**Data source:** Local data collection.

## Outcome

Incidence of kernicterus.

**Data source:** Local data collection. The ICD-10 code for Kernicterus is P57. Data available via [NHS Digital's Hospital Episode Statistics](#) or the [NHS Digital's Neonatal Critical Care Minimum Data Set](#).

## What the quality statement means for different audiences

**Service providers** ensure that healthcare professionals have access to, and are competent to use, standardised threshold tables or charts when deciding whether to start (or not start) treatment for babies with hyperbilirubinaemia.

**Healthcare professionals** ensure that they use standardised threshold tables or charts when deciding whether to start (or not start) treatment for babies with hyperbilirubinaemia.

**Commissioners** ensure that they commission services in which healthcare professionals have access to, and are competent to use, standardised threshold tables or charts when deciding whether to start (or not start) treatment for babies with hyperbilirubinaemia.

**Babies with high levels of bilirubin** receive treatment according to tables or charts that tell the healthcare team whether to start (or not start) treatment. The information used when making decisions about when to start treatment includes how high the baby's bilirubin level is, the age of the baby when the bilirubin was measured, and the baby's maturity at the time of birth (that is, how many weeks of pregnancy they were born after).

## Source guidance

Jaundice in newborn babies under 28 days. NICE guideline CG98 (2010, updated 2016), recommendations 1.3.4 and 1.2.13

## Definitions of terms used in this quality statement

### Standardised threshold tables or charts

These are tables or charts that help healthcare professionals to implement treatment thresholds for phototherapy and exchange transfusion in accordance with NICE's guideline on jaundice in newborn babies. These include treatment threshold graphs for NICE's guideline on jaundice in newborn babies. All tables or charts should take into account serum bilirubin level, gestational age and postnatal age.

Note that there is variability between assays from different manufacturers in reported bilirubin measurement. Healthcare professionals should consult their local pathology laboratory when interpreting threshold tables or charts.

# Update information

## Minor changes since publication

**March 2023:** We added a safety statement about using bilirubin thresholds to the definitions sections for statements 2 and 3, and to the list of quality statements.

**April 2021:** This quality standard was amended to ensure alignment with the updated [NICE guidelines on jaundice in newborn babies under 28 days](#) and [postnatal care](#). The NICE guideline on postnatal care was removed as source guidance for statement 1 because the updated guideline no longer covers jaundice. Recommendations used as source guidance for statement 2 were changed to reflect the updated guideline on jaundice in newborn babies.



## About this quality standard

NICE quality standards describe high-priority areas for quality improvement in a defined care or service area. Each standard consists of a prioritised set of specific, concise and measurable statements. NICE quality standards draw on existing NICE or NICE-accredited guidance that provides an underpinning, comprehensive set of recommendations, and are designed to support the measurement of improvement.

Expected levels of achievement for quality measures are not specified. Quality standards are intended to drive up the quality of care, and so achievement levels of 100% should be aspired to (or 0% if the quality statement states that something should not be done). However, this may not always be appropriate in practice. Taking account of safety, shared decision making, choice and professional judgement, desired levels of achievement should be defined locally.

Information about [how NICE quality standards are developed](#) is available from the NICE website.

See the [webpage for this quality standard](#) for details of specialist committee members who advised on this quality standard.

NICE has produced a [quality standard service improvement template](#) to help providers make an initial assessment of their service compared with a selection of quality statements. This tool is updated monthly to include new quality standards.

NICE guidance and quality standards apply in England and Wales. Decisions on how they apply in Scotland and Northern Ireland are made by the Scottish government and Northern Ireland Executive. NICE quality standards may include references to organisations or people responsible for commissioning or providing care that may be relevant only to England.

## Resource impact

NICE quality standards should be achievable by local services. The potential resource impact is considered by the quality standards advisory committee, drawing on resource impact work for the source guidance.

## Diversity, equality and language

Equality issues were considered during development and [equality assessments for this quality standard](#) are available. Any specific issues identified during development of the quality statements are highlighted in each statement.

Commissioners and providers should aim to achieve the quality standard in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity and foster good relations. Nothing in this quality standard should be interpreted in a way that would be inconsistent with compliance with those duties.

ISBN: 978-1-4731-0502-7

## Endorsing organisation

This quality standard has been endorsed by NHS England, as required by the Health and Social Care Act (2012)

## Supporting organisations

Many organisations share NICE's commitment to quality improvement using evidence-based guidance. The following supporting organisations have recognised the benefit of the quality standard in improving care for patients, carers, service users and members of the public. They have agreed to work with NICE to ensure that those commissioning or providing services are made aware of and encouraged to use the quality standard.

- [Royal College of Midwives](#)
- [Royal College of Obstetricians and Gynaecologists](#)
- [Royal College of General Practitioners \(RCGP\)](#)
- [British Association of Perinatal Medicine \(BAPM\)](#)
- [Bliss](#)
- [Royal College of Paediatrics and Child Health](#)