**GUIDELINE FOR THE MANAGEMENT OF PROLONGED JAUNDICE IN BABIES**

<table>
<thead>
<tr>
<th>Reference No:</th>
<th>Prolonged Jaundice</th>
<th>Version No:</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicable to</td>
<td>All babies admitted to hospital with prolonged jaundice</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Classification of document:** Guideline

**Area for Circulation:** Children’s Hospital for Wales

**Author:** Lucy Jones (Medical Student)  
Gillian Body (Paediatric Consultant)

**Group Consulted:** Practitioners within the Children’s Hospital for Wales  
Current literature

**Ratified by:** Child Health Guideline Meeting  
February 2011

**Date Published:** August 2011

<table>
<thead>
<tr>
<th>Version Number</th>
<th>Date of Review</th>
<th>Reviewer Name</th>
<th>Completed Action</th>
<th>Approved By</th>
<th>Date Approved</th>
<th>New Review Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Disclaimer**

These have been ratified at the Child Health Guideline Meeting, however clinical guidelines are guidelines only. The interpretation and application of clinical guidelines will remain the responsibility of the individual clinician. If in doubt contact a senior colleague or expert. Caution is advised when using guidelines after the review date.

*Guideline for the management of Prolonged Jaundice in babies:*
What is prolonged Jaundice?

Jaundice is a yellow discolouration of the sclera and skin caused by a build up of bilirubin in the tissues. In prolonged jaundice, this persists beyond 14 days (term babies) or 21 days (preterm babies). It is a common presentation, and 15-40% of babies who are breast fed remain jaundiced beyond 14 days. For the large majority of these infants the cause is benign physiological or ‘breast milk’ jaundice and parents can be reassured. However, although rare, there are other pathological causes of prolonged jaundice (see table 1) which must be considered and need appropriate assessment. The treatment of some of these, biliary atresia for instance, is time critical.

Table 1: Causes of Prolonged Jaundice

<table>
<thead>
<tr>
<th>Unconjugated</th>
<th>Conjugated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast milk/ physiological jaundice</td>
<td>Galactosaemia</td>
</tr>
<tr>
<td>Haemolysis (Rhesus disease, ABO incompatibility, sphero/elliptocytosis, haemoglobinopathy, G6PD deficiency DIC)</td>
<td>Alpha-1 Antitripsin deficiency</td>
</tr>
<tr>
<td>High GI obstruction (e.g. pyloric stenosis)</td>
<td>CMV</td>
</tr>
<tr>
<td>Gilbert’s syndrome</td>
<td>Hepatitis</td>
</tr>
<tr>
<td>UTI</td>
<td></td>
</tr>
<tr>
<td>Hypothyroidism</td>
<td>Bilary atresia</td>
</tr>
<tr>
<td>Crigler-Najaar disease</td>
<td>Choledochal malformation</td>
</tr>
<tr>
<td></td>
<td>Alagille’s syndrome</td>
</tr>
</tbody>
</table>

Aim of the guideline
The role of this guideline is to aid identification of those infants within a group of seemingly well infants, who may have sinister pathologies. It applies to term babies of 14 days or older, or premature infants of 21 days or older.

History, documentation and investigation
History, examination and plan should be documented on the specific prolonged jaundice proforma. Care should be taken to ensure each of the key features of history and examination are noted.

The investigation process is outlined on the flow chart that follows, and the proforma.

Results of investigations should be documented on the proforma, and plans for follow up made. Initial results should be notified to the GP on the standard discharge letter (TTH form).

Follow up Clinic
Clinic review should specifically document symptoms, feeding and stool colour. The bilirubin should be repeated and all outstanding results chased. Once all results are back, results should be documented and discussed with a consultant or Associate Specialist. A final letter to the GP can then be sent. Once complete the proforma can be filed in the patients notes.

Parent information
All parents should be given an information leaflet, and this should be documented in the notes.
NOTE:

The presence of chalky white stool at any age (including before 14 or 21 days) warrants prompt and immediate investigation

References:


DOCUMENTS TO BE USED WITH THIS GUIDELINE

- Flow chart / guideline summary on next page
- Prolonged jaundice proforma
- Parent information leaflet (to be printed on both sides A4 and folded to A5 size)
Children's Hospital for Wales

**Guideline for the management of Prolonged Jaundice in babies:**

### General Assessment
- Antenatal history (inc. maternal infections and drug use)
- Weight
- Feeding history
- Colour of stools and urine (document if seen)
- General examination

### Well Baby
- **Investigations**
  - Split bilirubin
  - FBC
  - Baby’s blood group
  - Mother’s blood group (if unknown)
  - DAT/Coombs
  - Urine dip (if +ve for M, C and S)
  - G6PD (only in certain ethnic groups)

### Jaundiced Baby
- **(Term >2weeks, Preterm >3weeks)**

- **General Assessment**
  - Antenatal history (inc. maternal infections and drug use)
  - Weight
  - Feeding history
  - Colour of stools and urine (document if seen)
  - General examination

### Unwell Baby
- **URGENT PAEDIATRIC REVIEW**
  (call SpR if needed)

### Well Baby
- **Investigations**
  - Urine -culture (inc CMV)
    - non-glucose reducing substances
    - amino acids
  - LFT (inc GGT)
  - U+E
  - Clotting
  - Blood film
  - Blood culture
  - Vit B12 & folate
  - Gal-1-PUT
  - TORCH Screen
  - Amino acids
  - Lipid profile
  - Alpha-1 antitripsin
  - TFTs
  - G6PD
  - Group and save
  - Chromosomes
  - Abdominal ultrasound scan +/- IDA isotope liver scan
  - X-ray (chest, vertebrae, wrists)
  - Echocardiogram

### Jaundiced Baby (Term >2weeks, Preterm >3weeks)
- **Conjugated Bilirubin ≥20% or ≥25micromol/l**
- **ADMIT UNDER PAEDIATRICS**
  (see guideline on conjugated hyperbilirubinaemia)

- **Other investigations to consider:**
  - Urine -culture (inc CMV)
    - non-glucose reducing substances
    - amino acids
  - LFT (inc GGT)
  - U+E
  - Clotting
  - Blood film
  - Blood culture
  - Vit B12 & folate
  - Gal-1-PUT
  - TORCH Screen
  - Amino acids
  - Lipid profile
  - Alpha-1 antitripsin
  - TFTs
  - G6PD
  - Group and save
  - Chromosomes
  - Abdominal ultrasound scan +/- IDA isotope liver scan
  - X-ray (chest, vertebrae, wrists)
  - Echocardiogram

- **Conjugated Bilirubin <20% or <25micromol/l**
- **Reassure. Give parental leaflet about prolonged jaundice.**
- **Refer to NP clinic in one week for repeat split bilirubin, stool review and final results**

### Thriving, breastfed babies with normal stool colour, who are less than two weeks can be sent home without investigation and reviewed by GP/HV at 14 days of age to decide if further referral needed.

**PALE (CHALKY WHITE) STOOL AT ANY TIME SHOULD BE INVESTIGATED**
Prolonged jaundice in babies 
Parent Information Leaflet

Guideline for the management of Prolonged Jaundice in babies:
What is prolonged jaundice?
Jaundice is when the skin or whites of the eyes become yellow. It is very common in newborn babies and may be noticed from the first few days of life. Prolonged jaundice is when term babies have stayed jaundiced for more than two weeks, or preterm babies are still jaundiced at 3 weeks.

What causes jaundice in babies?
When blood cells are destroyed in the normal life cycle of blood, a substance called ‘bilirubin’ is produced. Jaundice occurs when there is too much bilirubin. Lots of things can cause jaundice in babies:
- Being premature
- Infections
- Being breast fed can cause a harmless jaundice. It should clear up in a few weeks.
- Blood cells may breakdown more quickly, sometimes because of differences in blood groups
- Liver problems. These are rare in babies, and our assessment will help to rule this out.

Will it harm my baby?
Most causes are harmless and do not need treatment

What test will you do?
Some blood tests will measure the level of bilirubin in the blood, the number of blood cells, and check for some rarer causes of jaundice. We will also need a sample of urine to check your baby doesn’t have a urine infection.

My baby is feeding well and appears healthy, so why do they still need to have a blood test?
Although the majority of well, breastfed babies with jaundice have nothing the matter with them, we cannot be sure that they don’t have a problem with their liver. It’s very rare, but it’s important to do a blood test to make sure everything is ok.

What happens next?
Most test results should be ready on the same day. We will contact you with any outstanding results and send a letter to your GP. If the tests are all normal (apart from showing jaundice) and your baby is well, the doctor will ask you to come to clinic to see the nurse in a week’s time.

Is there anything else I can do?
Yes. You can check the colour of your baby’s stool (poo) and urine. The normal colour of a baby’s stool is brown/yellow/green. If you notice your baby’s stool is a chalky-white colour, contact your GP/ midwife/ health visitor.

How long will my baby stay jaundiced for?
We cannot tell when how long your baby will be jaundiced for. However, in most babies it should clear up in a few weeks.

What about breast feeding?
You can keep breast feeding your baby normally. Breast feeding will not cause your baby any harm. Breast feeding is best for your baby

What do I do if I’m still worried?
If you notice that your baby’s stools are white at any time, or if you have any other concerns, you should speak to your GP or health visitor.

Guideline for the management of Prolonged Jaundice in babies :