Milton Keynes University Hospital NHS Foundation Trust

Standard Operating Procedure (SOP) Number: **Assessment of neonatal jaundice in community setting**	
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	New document			

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SOP Statement and Executive Summary

- Clinical jaundice is very common, particularly physiological jaundice, which occurs after first 24 hours of life to around Day 10-14 of life.
- This guideline covers the investigation and management of physiological and pathological jaundice (early, prolonged and conjugated jaundice). It also covers the process of initiating and caring for babies receiving phototherapy and the process of performing an exchange transfusion.
- Early detection, investigation and treatment of pathological jaundice is vital to ensure good outcomes and minimise complications.

1.0 Roles and Responsibilities

1.1 Chief Executive

The Chief Executive has overall accountability for ensuring that the Trust meets its statutory and non-statutory obligations in respect of maintaining appropriate standards of patient care. The Chief Executive devolves the responsibilities for monitoring and compliance to the medical and executive nursing directors.

1.2 Directors

Directors are responsible for ensuring that the requirements of this guideline are effectively managed within their directorate and that their staff are aware of, and implement those requirements.

1.3 Chief Nurse / Medical Director

The Chief Nurse and Medical Director are responsible for ensuring that Trust staff upholds the principles of this guideline and that procedures are developed, maintained, and communicated throughout the organisation in co-ordination with other relevant organisations and stakeholders.

1.4 CSU Responsibilities

CSU leads are responsible for ensuring that the guideline is communicated and implemented within their areas of responsibility. Any incident arising from the use of this guideline must be documented on an incident form and investigated at a local level and actions taken to prevent reoccurrence and to minimise risk. Documentation should be copied to the Risk Management Department to allow completion and closure of the incident. Any action plans should be shared at the appropriate forum and the Clinical Incidents Group (CIG) meeting. Any on-going risks should be registered on the CSU / Trust Risk register as appropriate.

1.5 NNU Lead Nurse, Senior Sisters/ Senior Midwives / Operational Manager / Matron Responsibilities

It is the NNU Lead Nurse, Senior Sisters/ Senior Midwives / Operational Managers / Matron's responsibility to ensure that staff are made aware of this guideline, and that they attend training and are competent to provide evidence based best practice to their babies. . This guideline should be included in the induction training of all NNU staff who may be involved in the on-going care of a baby within NNU.

1.6 Medical Staff Responsibilities

All medical staff should ensure that they are familiar with the guidelines recommendations.
Medical staff of registrar level or above who are responsible for the supervision and training of junior doctors should ensure that junior medical staff are aware of their role, and that they understand how to use KC to deliver safe and effective care.

1.7 All Staff

It is the responsibility of every registered nurse and Midwife to ensure this guideline is adhered to when caring for babies on NNU, in Community and on Maternity Wards 9 and 10. All staff should report any incidents arising from use of this guideline via the Risk Management route. The Unit Manager should be informed of the incident.

1.8 Risk Management

The Clinical Risk Management Department will record on the Trust database all incidents reported through the risk reporting route. This data will be included in the monthly reports to the Heads of Departments and discussed at the Paediatric CSU Risk Management meetings. All untreated risks will be reported to the Trusts Risk Management Committee which reports to the Trust Clinical Governance Committee.

2.0 Implementation and dissemination of document

The guideline will be accessible from the Trust's intranet. Staff will be made aware of the policy through the Clinical Improvement Group meetings and the Paediatrics & Neonatal Newsletter and the Maternity newsletter.
The staff involved will be trained and competencies will be monitored by the NNU Lead Nurse and senior staff.

3.0 Processes and procedures

When to measure bilirubin levels:
ANY baby >24hrs old who is visibly jaundiced needs a bilirubin level estimated either by a TCB or by an SBR if TCB not available. Therefore, measure and record bilirubin level urgently (within 6 hours) in all babies with suspected / obvious jaundice. (NICE 2016)

If baby is ≥38 weeks gestation, more than 24 hours old and bilirubin is below phototherapy treatment level but within 50 microMol/L of the treatment line, repeat a bilirubin level at 18 hours (if risk factors present) or 24 hours if no risk factors present. If bilirubin level is more than 50 microMol/L below the treatment line, do not repeat the bilirubin level.

Do not measure bilirubin levels routinely in babies who are not visibly jaundiced.
Do not advise families to place their infant in sunlight as this has no benefit to reducing jaundice.

How to measure the bilirubin level:

- Transcutaneous bilirubinometer (TCB) measurement can be used in babies >/= 35 weeks gestation after 24 hours of birth, however after 38/40 if preferable. Only staff trained to do so should use a TCB. See Standard Operating Procedure (SOP) on TCB's for further information.
- If TCB is unavailable, or not suitable, and jaundice is suspected then referral for SBR should be made to Ward 10 if baby was already discharged home.
- TCB measurement should be plotted against the appropriate column in the Threshold Table according to neonatal age. SBR results should be also plotted on the appropriate gestational age treatment threshold graphs (TTC). All actions should be followed according to the charts and accompanying flow charts.
- Always use a serum bilirubin measurement for babies at or above the relevant treatment threshold for their postnatal age and for all subsequent measurements.
- If the threshold for further investigation is met or exceeded, an urgent review by paediatrician is indicated. Refer to Paediatric Section 5.1.2 of this guideline for investigation and management plan.

- Do not start phototherapy on babies whose bilirubin levels are below the phototherapy treatment line / threshold.

Use of Drager Janudice Meter JM-105 (Adapted from Sample Useage Protocol)
Daily Check

1. Remove the Jaundice Meter JM-105 from the docking station
2. Press the power switch on
3. Select CHECKER and touch OK to save selection.
4. Open the checker lid on the charging unit
5. When the green READY light illuminates, place the tip of the jaundice meter perpendicular in the reading checker circle. Press down until you hear a click.
6. The display screen shows the "L" (long), "S" (short) and Delta values. The meter must read within the referenbce values posted under the checker lid. If so the unit is ready to use. If not, clean the tip and repeat. If values are still out of range, so not use the unit (contact EBME)

Taking a Transcutanious Bilirubin (TcB) Measurement

1. Clean the tip of the probe with an alcohol swab
2. Press the power switch on
3. Select MENU and select MEASURE and press OK. The letters AVE with the number of measurements selected will appear in the display.
4. Select measurement site – Mid sternum is preffered
5. Place the TcB probe tip flat against the babys skin, NOT AT AN ANGLE and press lightly until you hear a click. Lift the Jaundice Meter JM-105 from the skin between measurements and pause until the green READY leoght illuminates again. Repeat the testing procedure until the required number of measurements has been taken.

4.0 Statement of evidence/references

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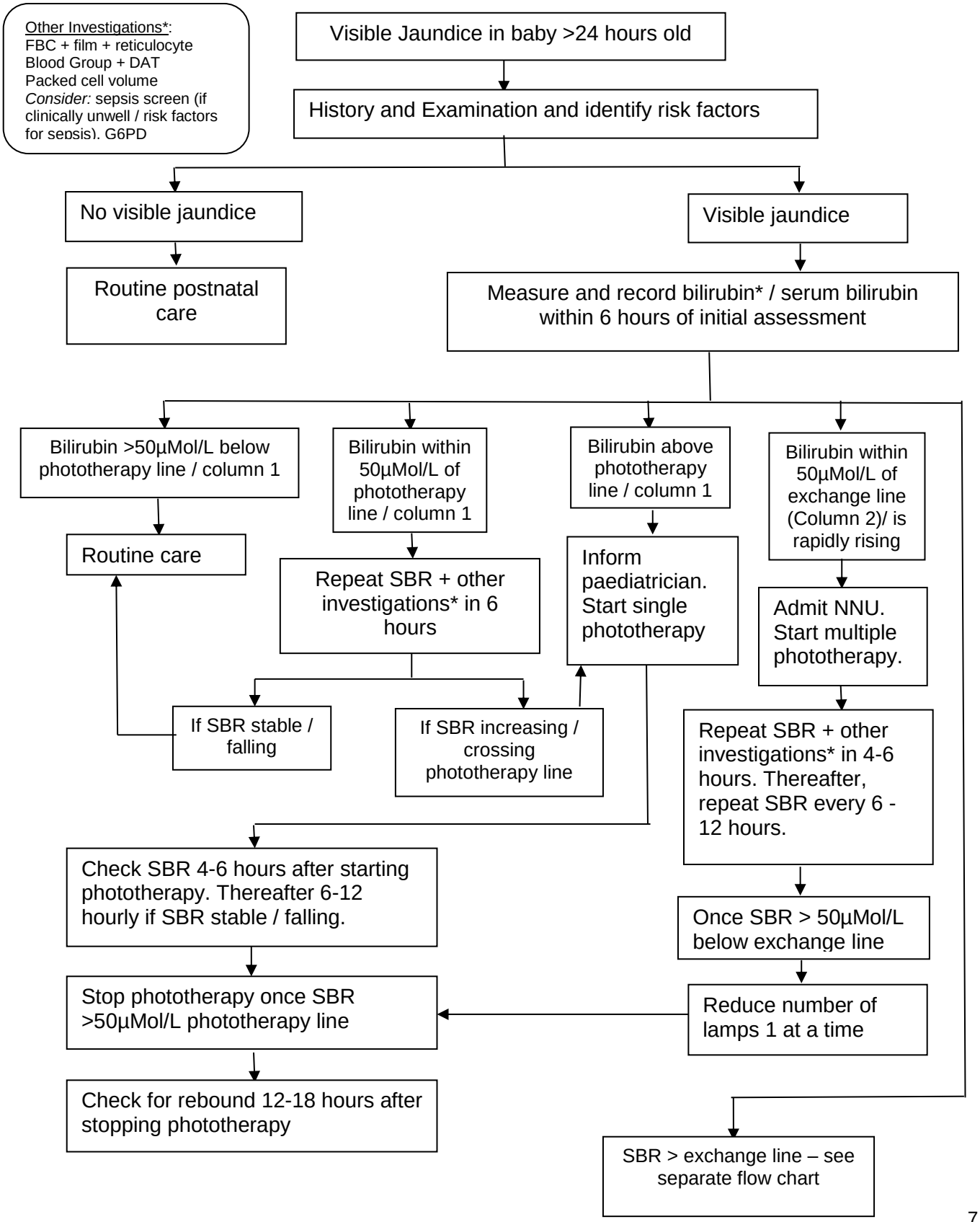
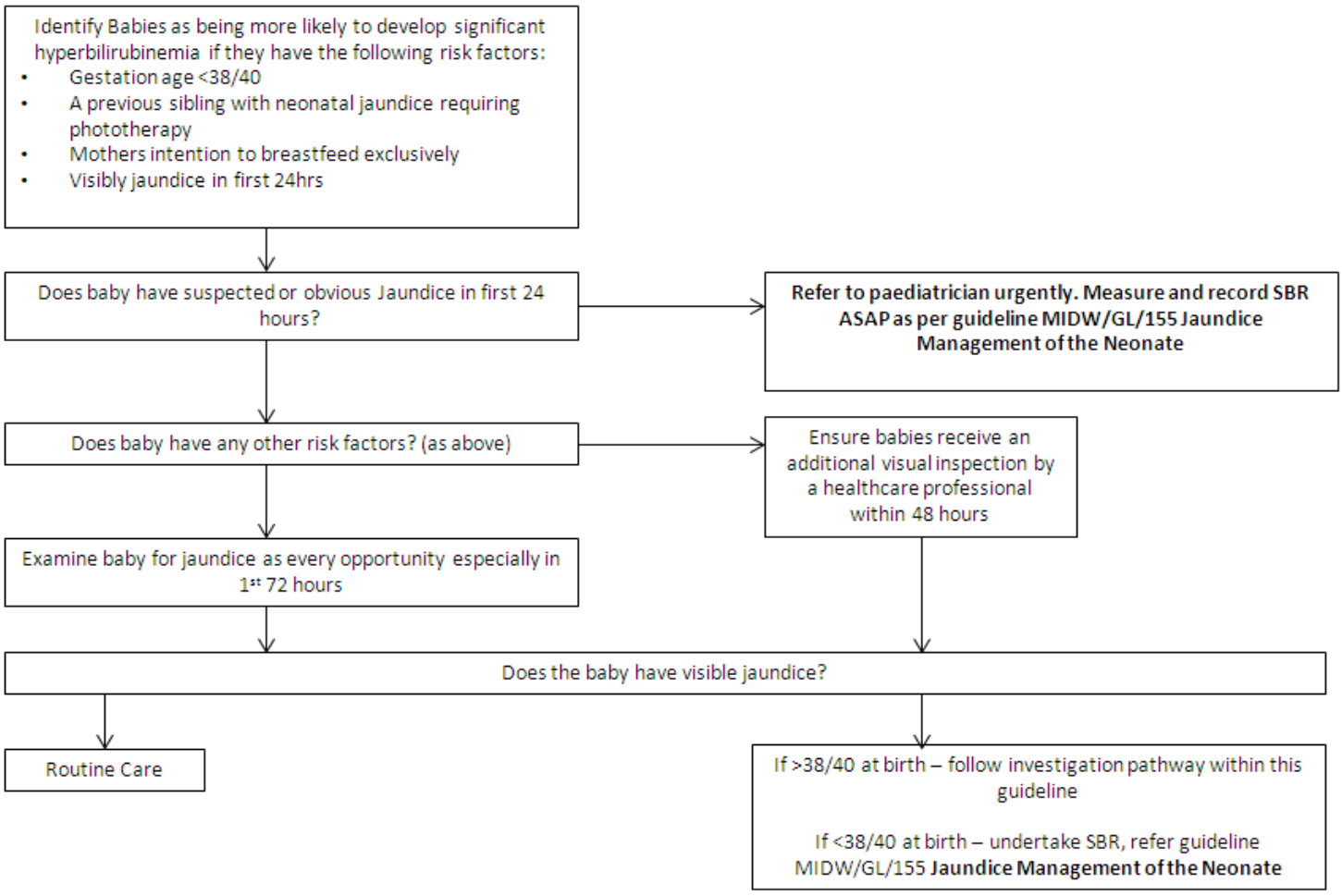
Appendix 1: Flowchart for early onset Jaundice >24 hours of

*Tanscutaneous Bilirubinometer

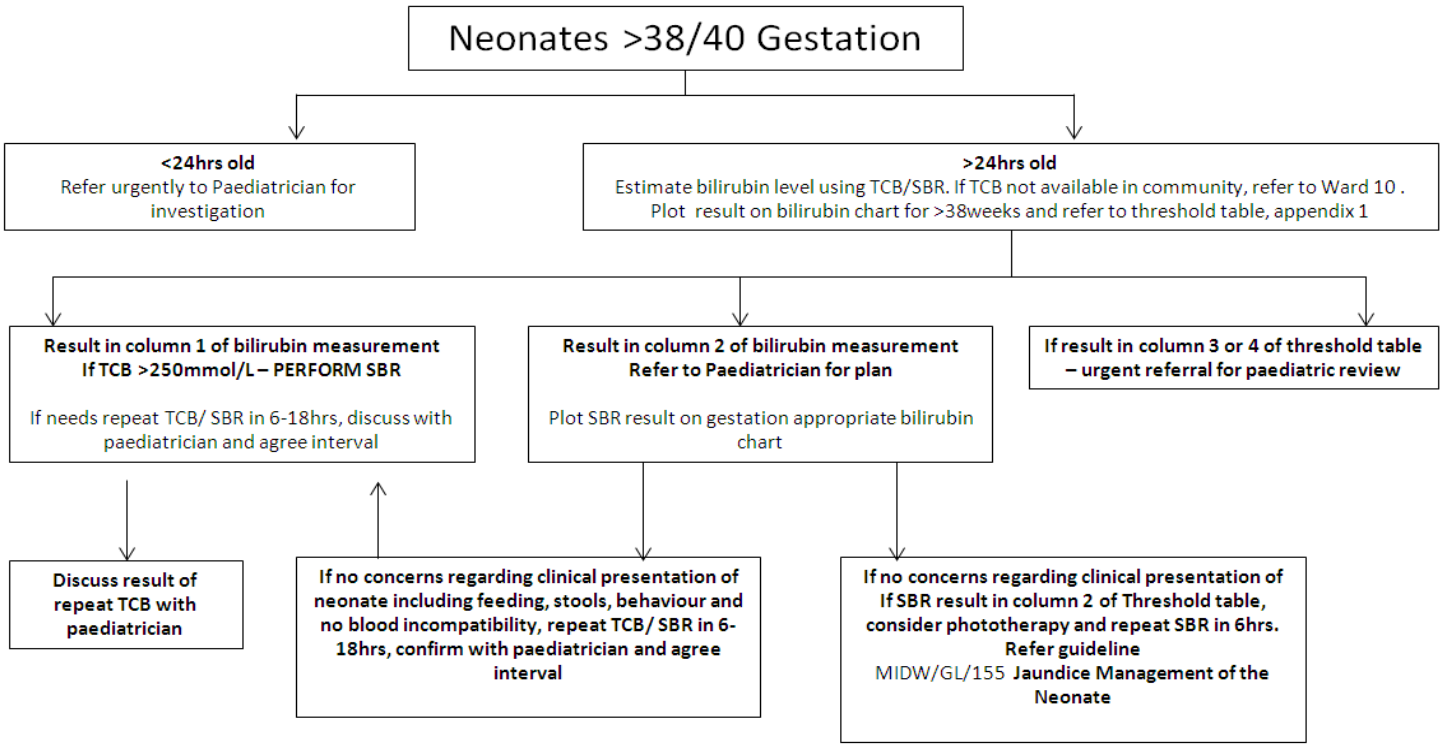




If staff are expected to operate according to specific standards specify these in this section. If there are no standards set then delete this section.

Use headings to break the text up into a logical format for easy use. Number headings, e.g. 4.1, but do not number every paragraph.

Appendix 2: Neonates >38/40 Gestation



Appendix 3: Bilrubin Measurement

Age (hours)	Bilirubin measurement (micromol/litre)			
0	–	–	> 100	> 100
6	> 100	> 112	> 125	> 150
12	> 100	> 125	> 150	> 200
18	> 100	> 137	> 175	> 250
24	> 100	> 150	> 200	> 300
30	> 112	> 162	> 212	> 350
36	> 125	> 175	> 225	> 400
42	> 137	> 187	> 237	> 450
48	> 150	> 200	> 250	> 450
54	> 162	> 212	> 262	> 450
60	> 175	> 225	> 275	> 450
66	> 187	> 237	> 287	> 450
72	> 200	> 250	> 300	> 450
78	–	> 262	> 312	> 450
84	–	> 275	> 325	> 450
90	–	> 287	> 337	> 450
96+	–	> 300	> 350	> 450
Action	↓	↓	↓	↓
	Repeat bilirubin measurement in 6–12 hours	**Consider phototherapy and repeat bilirubin measurement in 6 hours**	**Start phototherapy**	**Perform an exchange transfusion unless the bilirubin level falls below threshold while the treatment is being prepared**