

Home Phototherapy



Contents

1. Introduction and Who Guideline applies to	1
Home Phototherapy	1
2. Criteria for Home Phototherapy	2
2.1 Home Phototherapy Basic diagnostic work up.....	3
2.2 Preconditions for Home Phototherapy	3
2.3 Daily responsibilities for Homecare Nursing Team	4
2.4 Parental Requirements for Safe Home Phototherapy Conduct	4
2.5 Governance	5
2.6 Babies referred in from the community via Jaundice clinic	5
2.7 Inpatient referrals from NNU, PNW /TC.....	6
2.8 Documentation.....	6
2.9 Parent information	7
Management flow chart <14 days old	8
Management flow chart >35+0, >2.5kg, >48 hours old.....	9
Escalation plan	10
Example of NICE jaundice threshold chart	11
Checklist for the Home Phototherapy Service	12
Home Phototherapy Referral Form.....	13
ANNP Clinic Attendance form.....	15
Phototherapy at Home Service	16
Agreement Form.....	16
Parent satisfaction Survey	17
Parents time Log of Phototherapy Unit Usage.....	20
Appendix: - Bilicocoon support info.....	22

1. Introduction and Who Guideline applies to

Babies who require phototherapy treatment for jaundice have traditionally remained in hospital for treatment and monitoring. In circumstances where babies fit the set criteria highlighted in this guidance, phototherapy treatment can be administered in the home setting under the supervision of the neonatal homecare team.

This guideline applies to the neonatal and community midwifery teams caring for babies who are deemed suitable for home phototherapy.

Related documents

[Jaundice - Neonatal UHL Childrens Hospital Guideline UHL Trust C32/2019](#)

[Jaundice in Newborn Babies UHL Obstetric Guideline UHL Trust C47/2019](#)

[Jaundice - Prolonged UHL Childrens Hospital Guideline UHL Trust C17/2017](#)

Home Phototherapy



Contact Numbers: - Homecare Team 0116 258 7706

Neonatal Unit Out of Hours: - 07950 882 788 (equipment failure only)

2. Criteria for Home Phototherapy

- Infants of >35 weeks gestation and over 48 hours old with a birthweight >2.5 kg
- Infant otherwise medically fit for discharge home
- Maintaining temperature
- Feeding well, passing urine and stool (if day 5 or more has not lost more than 10% of birth weight)
- The Serum bilirubin concentration levels should be within the threshold level for phototherapy, but < 50 $\mu\text{mol/l}$ above the phototherapy level for the infant's chronological age (based on the infant's gestation- appropriate monogram).
- The serum bilirubin concentration is not rising too sharply (>6 $\mu\text{mol/l/hour}$)

(This will be assessed by calculating the discharge Lab sample SBR with the first sample taken at home)

- Infant's diagnostic work up reveals no abnormal findings
- No safeguarding concerns. Parents capable of following instructions and understands the requirement for continuous treatment
- Parents available to receive a daily morning home visit for blood sampling, and receive daily telephone call to discuss blood result and plan of care. Parents should be able to communicate with the Homecare team either directly, or via a suitable interpreter.
- No on-going risk factors for significant jaundice and no elevated conjugated bilirubin concentration.

2.1 Home Phototherapy Basic diagnostic work up

History and clinical examination suggestive of a well-baby – assessed by ANNP or tier 2 doctor.

Baby has no known family history or risk factors which might indicate a rapid rate of rise of bilirubin e.g. maternal antibodies/ proven blood group incompatibility (DAT positive), G6PD deficiency, or significant bruising

Examination finds no indication of organomegaly (spleen and liver) to exclude active haemolysis. No haemolysis on blood film from initial FBC

Decision to commence Phototherapy will be based on initial gas SBR

Then the following bloods to be taken before discharge home on treatment

- Maternal and infant blood typing and Coomb's test

Full blood count and laboratory total serum bilirubin

- The results of ALL initial bloods as above will be reviewed alongside the first Lab sample collected by the homecare team on the first day at home. The rate of rise will also be assessed.

2.2 Preconditions for Home Phototherapy

- Neonatal Homecare staff available to monitor the infant's progress and measure serum bilirubin levels every 24 hours.
- Equipment (Bilicocoon) is available for home phototherapy
- (Note: one Bilicocoon unit must remain on NNU at all times in case of equipment failure)

- Neonatal Home care team should be in daily contact with the family during the period of treatment.
- All babies undergoing home phototherapy should be referred to ANNP jaundice clinic to ensure that there are no gaps in service for chasing up of daily blood results.
- The serum bilirubin should be re-measured (in the laboratory) some 12-24 hours after discontinuation of phototherapy to look for a rebound in bilirubin levels.
- The infant should be re-hospitalised if he/she shows signs of illness or serum bilirubin continues to rise despite phototherapy or non-parental compliance with instructions.

2.3 Daily responsibilities for Homecare Nursing Team

- Ensure equipment and eye protection is being used optimally
- Daily record of hours spent on phototherapy
- Perform SBR
- Review feeding, urine and stools and ensure adequacy
- Check temperature
- Address any parent concerns or needs
- Liaise with Jaundice clinic ANNP team regards to results and treatment plan escalating to SCBU service consultant if required
- Document assessment, SBR and plan in electronic Designated Home Phototherapy folders on CITO (as per jaundice clinic) Paper copy records initially until system in place in order to trial information required after appropriate training to the staff.

2.4 Parental Requirements for Safe Home Phototherapy Conduct

- Parents (or caregivers) should be motivated and capable of following instructions
- Parents should be taught how to use the phototherapy equipment and how to apply the eye patches correctly and to report problems promptly.
- Parents should be instructed to provide adequate hydration during phototherapy with instructions to sustain phototherapy for as long as possible each day (ideally ≥ 18 hours per day).
- Parents to be shown the following You Tube demonstration for correct techniques of set up and operation of equipment

- <https://www.youtube.com/watch?v=hMaKro2KxR8>
- Infants may be removed from phototherapy during feeding and nappy changes, but be mindful of the total time actually receiving phototherapy.
- Parents should be advised to change baby on a changing mat , not on the phototherapy equipment
- Contact numbers for the NNU should be given to parents to use only in the event of equipment failure so a replacement can be provided.
- Parent information leaflet will be provided with contact telephone numbers for the Home care team or out of hours
- As parental assent for Home Phototherapy is a prerequisite, parents should sign an agreement form that explains the risks and benefits of Home Phototherapy and their agreement to follow all written instructions.

2.5 Governance

Safety assessment will be made by Homecare Nursing Team +/- ANNP Jaundice clinic and if needed can take help from SCBU Consultant .

2.6 Babies referred in from the community via Jaundice clinic

Most babies will not have had a previous DCT and FBC; this will be checked in hospital if the Gas bilirubin suggestive of baby needs home phototherapy treatment. Once decision made for home phototherapy, parents will receive training on how to use the equipment by Duty Band 6 Homecare nurse or ANNP (jaundice clinic) and competency documented.

Baby will require a further SBR repeated next day in the morning by the Home care team to assess the response to phototherapy.

If blood results require reviewing outside of Homecare or Jaundice clinic hours, this will be listed on PANDO and handed over to the evening SHO/ ANNP to complete. The decision based on the results will be documented on PANDO and parents informed to complete the loop.

Initially, this service will only accept referrals during Homecare and ANNP clinic hours.

We will audit babies who fit criteria but were unable to access service due to outside of service hours.

Referral documentation with blood results to be completed for the attention of the Neonatal Homecare team and a message left on ext 17706 with patient's details, to ensure SBR is completed at a Home visit the following morning.

ANNP to obtain consent for sucrose

Sucrose will be administered with blood sampling (food product therefore does not require prescribing).

2.7 Inpatient referrals from NNU, PNW /TC

If the DCT is already known, and all diagnostic work up is complete, this training and competency assessment will take place by the Neonatal Homecare Team.

All babies considered for Home phototherapy will be assessed by the ANNP on for jaundice clinic (NNU, PNW /TC)

All babies undergoing home phototherapy should be referred to the ANNP Jaundice clinic team who will be responsible for reviewing results.

In instances where for any reason the Neonatal Home care Team cannot obtain the daily SBR sample, the parents should be asked to bring baby to jaundice clinic for blood testing.

Babies receiving home phototherapy or reaching home phototherapy criteria will be included in the SCBU handover and ward round.

All babies receiving this service need to be seen daily until the rebound bilirubin is deemed to be satisfactory.

Phototherapy treatment can normally be stopped once the level is 5 boxes (50) below treatment line

ALL Parents should be advised to stop treatment at a set time of 9pm, to reduce time off phototherapy before rebound results available.

A database of all babies undergoing home phototherapy will be maintained by the Neonatal Homecare Team so that audit of the service can be undertaken.

The phototherapy unit must be returned after use to the neonatal unit where it will be cleaned appropriately and according to unit protocol.

2.8 Documentation

To be recorded in Cito. Paper copies will be held in a Home phototherapy file initially in the Home care office.

- Safety assessment for eligibility- tier 2 doctor , ANNP and Neonatal Homecare Nursing Team
- Referral form – ANNP
- Parent training/checklist (see document Page -12 Homecare Nurse or ANNP)
- All visits, results and interventions- Homecare Nurse and ANNP

2.9 Parent information

The parent information leaflet will be given to all parents undertaking home phototherapy which details how to use the phototherapy equipment.

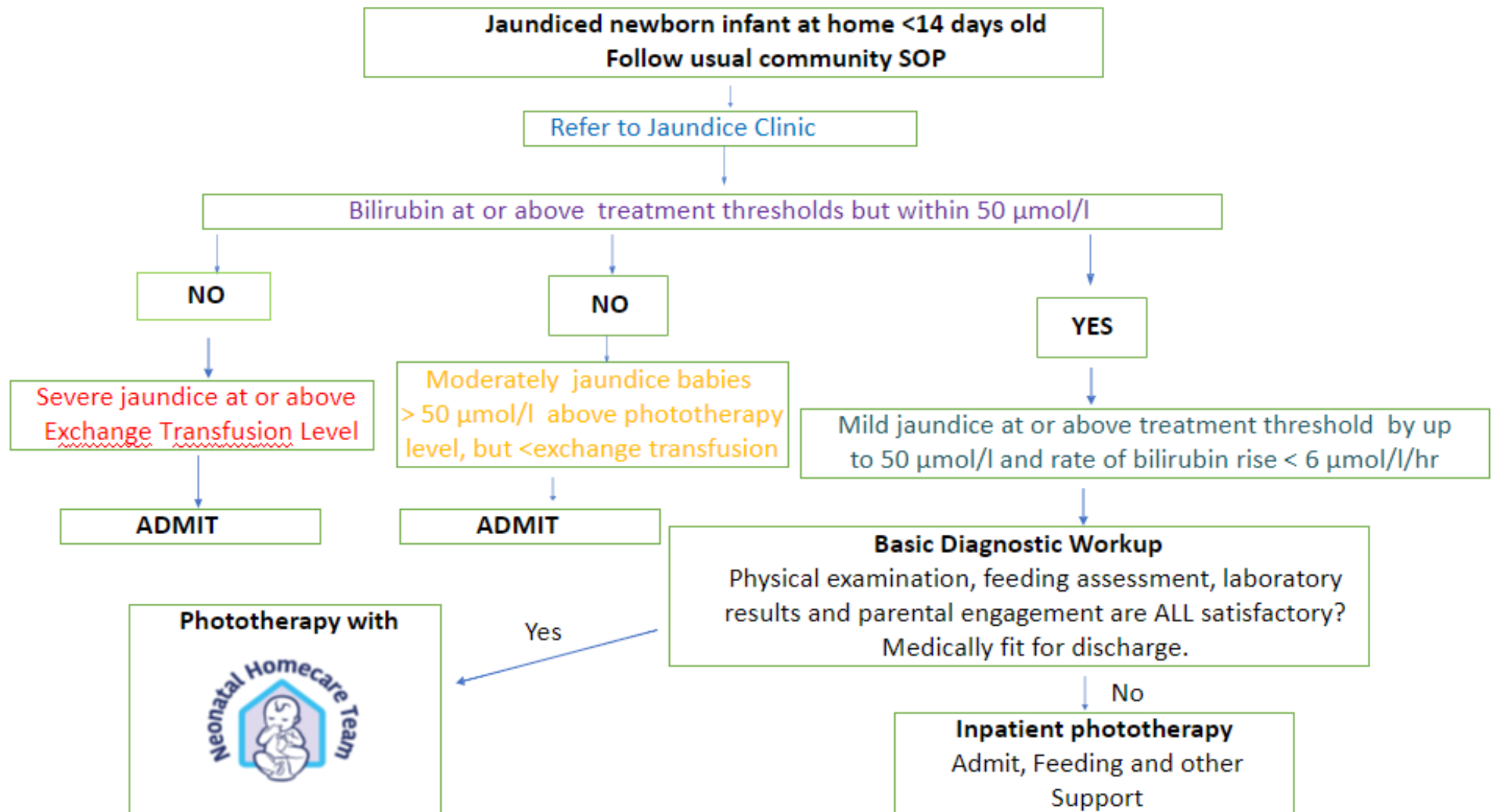
Parents will be trained in the use of all equipment and in ensuring eye protection.

Parents will be provided with verbal information on temperature monitoring and management; adequacy of feeding and hydration; signs of increasing jaundice and other illness; possible unwanted effects of phototherapy including loose or frequent stools and skin rash; and safe sleeping.

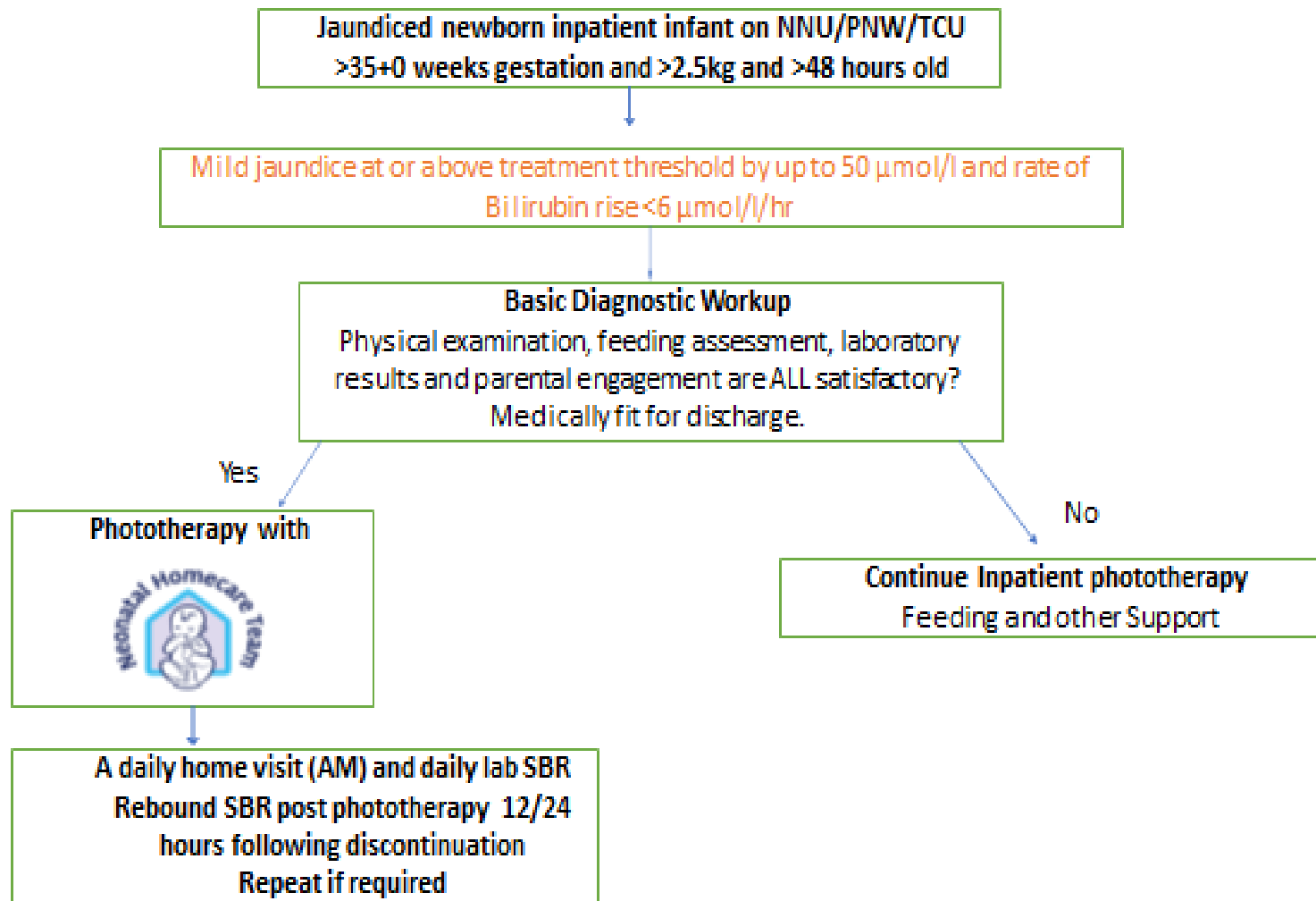
Parents will be encouraged to document all feeds and outputs.

Parents will be given contact information should they have concerns about their baby or equipment.

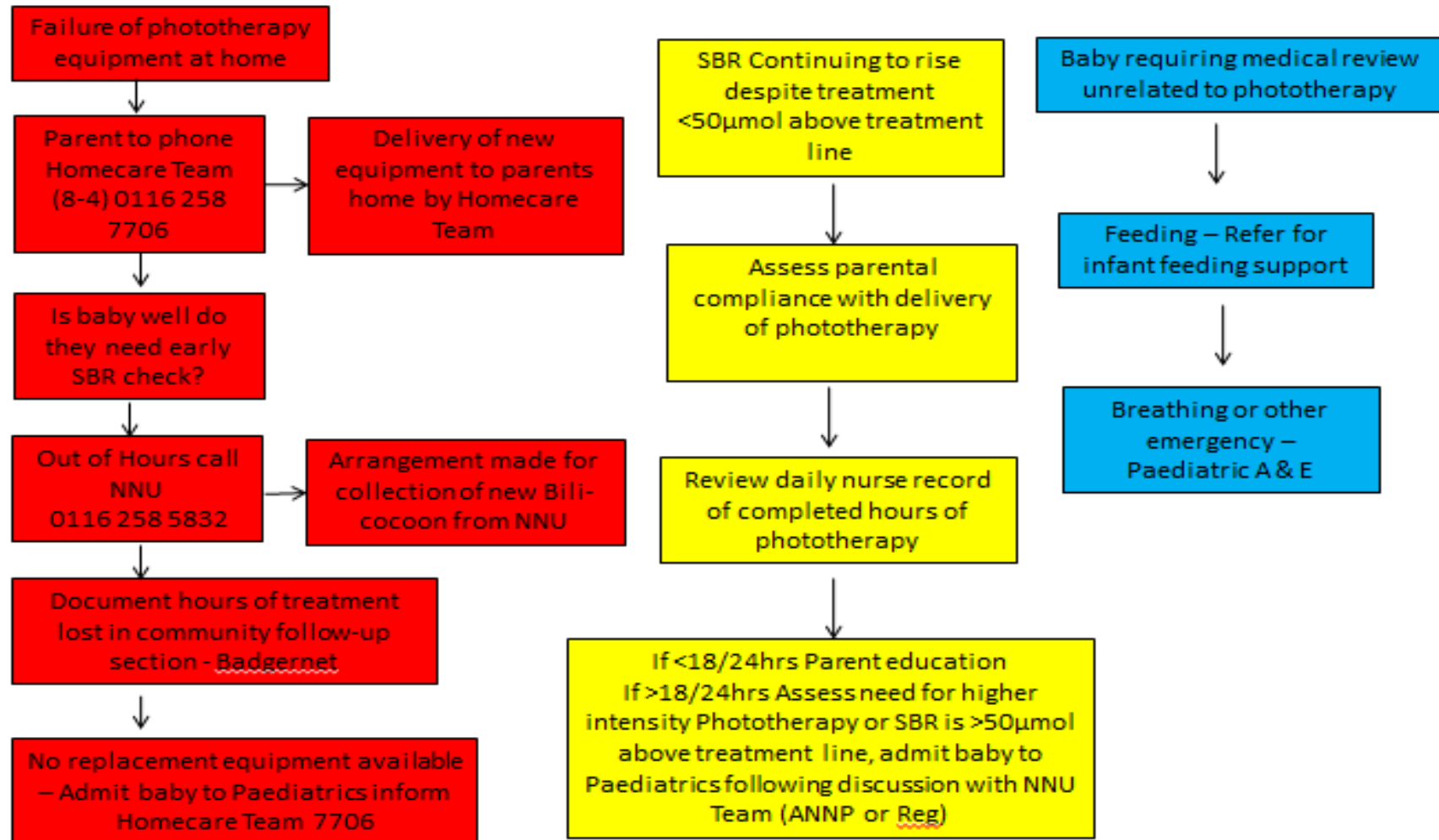
Management flow chart <14 days old



Management flow chart >35+0, >2.5kg, >48 hours old



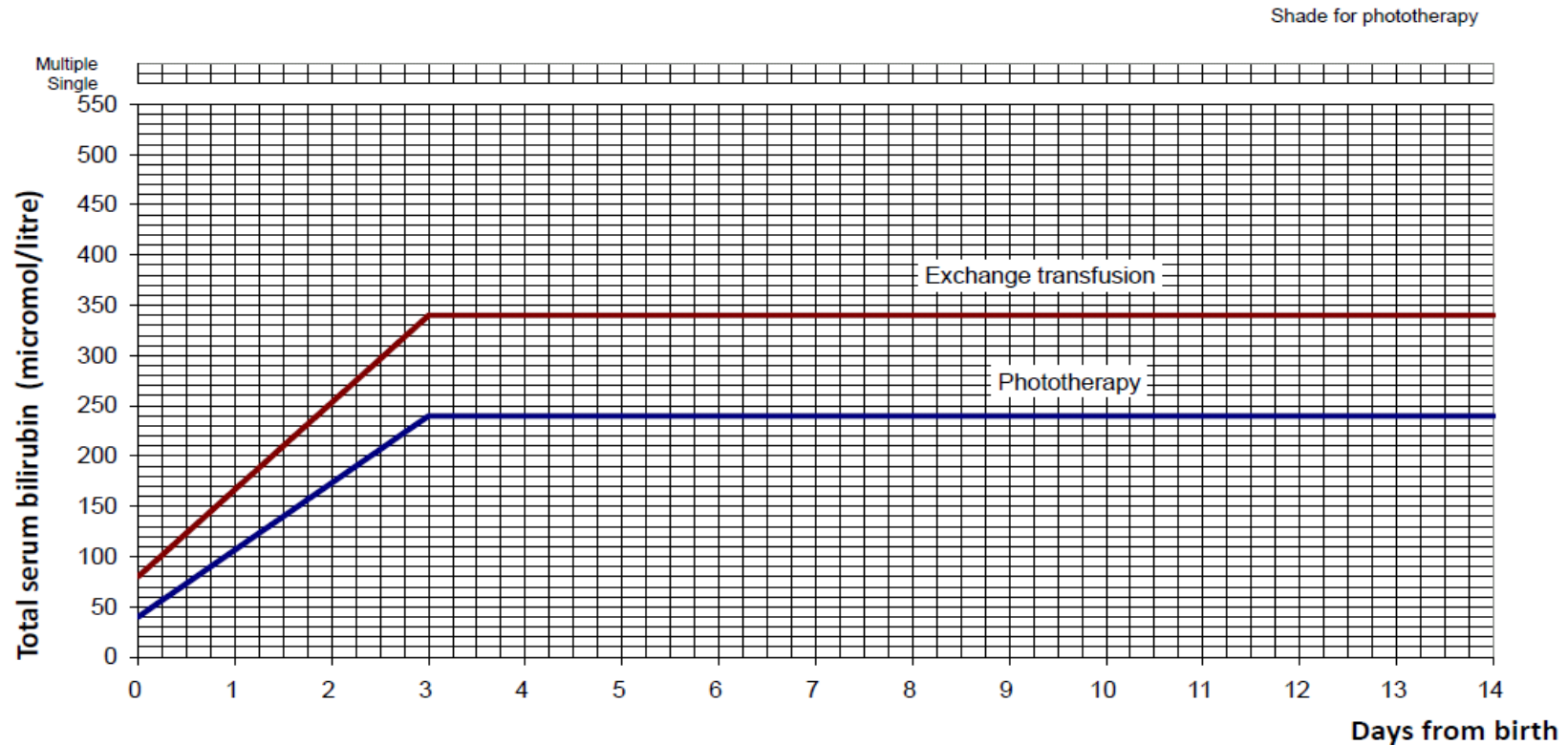
Escalation Plan



Example of NICE jaundice threshold chart

Please note this chart is an example only. DO NOT USE! Please ensure you use the correct chart for individual baby's gestation.

Baby's name _____ Date of birth _____
 Hospital number _____ Time of birth _____ Direct Antiglobulin Test _____ weeks gestation



Baby's blood group _____ Mother's blood group _____

Checklist for the Home Phototherapy Service

The Infants diagnostic work-up was reassuring (see page 7)

Equipment checked – Irradiance measure obtained

Treatment time set up for parents to 99hrs 50 mins (maximum time) Parents to press black power switch to restart once home

Parents or home care givers have been shown how to operate the phototherapy unit and are clear as to how to operate the equipment safely.

Parents have been shown the following:

<https://www.youtube.com/watch?v=hMaKro2KxR8>

Parents or home care givers are undertake to apply eye patches whenever the infant is receiving phototherapy

Feeding and nappy changing advice discussed including optimising feeding and phototherapy time

Parents or home care givers have signed agreement form. Assent obtained to the provision of home phototherapy

Parents or home care givers are aware of the contact details for the Neonatal homecare team and the 24hour emergency contact numbers i.e. NNU.

Home care have been informed of and accepted the referral and have confirmed that there is adequate staffing to ensure the patient will be visited at home within 24 hours of discharge for on-site monitoring and obtaining a blood sample for bilirubin measurement and on-going daily reviews until treatment has been completed

Home care nurse name of acceptance

Homecare to notify midwife and GP for information only

Completed by:

Name:

Signature:

Date:

Home Phototherapy Referral Form

Name:		DOB:	
Gestation:		Current Age:	
S No:		NHS Number:	
Address:			
Postcode:		Telephone Number:	
Mothers Name:		DOB:	
S No:		NHS Number:	
GP Name:			
Address:			
Postcode:		Telephone Number:	
Jaundice Diagnostic Work Up:			
Mothers Blood Group:			
Baby's Blood Group:			
FBC and Film:			
Total Bilirubin:		Conjugated Bilirubin	
Other:			
Recent Serum Bilirubin Values			
Date & Time	Serum Bilirubin	Date & Time	Serum Bilirubin
Infants background details (birth details, any complications, postnatal care and feedings, weight loss, jaundice, phototherapy)			

Comments/Updates:

Leicester Neonatal Service



ANNP Clinic Attendance form

Date	Time	Name :	
First Attendance	Yes / No	S Number/NHS Number :	
Repeat or Review	Yes / No	DOB :	
		Self-Referral (Follow up)	Yes / No
Family Contact	Name :	Referring Professional	
	Phone :	Job	
	Relationship to baby :	Contact Number	
GP Details	Name :	Address :	

Current Age and gestation at birth		Investigations
		SBR:
		Clinical Indication for full gas
Key Presenting Problem		Results
History		
Examination		Observations Temp - HR - Resp - Urine BO -
Impression		
Discussion with family		

Plan		Discussed with Consultant / Registrar Yes / No Name : Conclusion :
ANNP On Duty (Print)	Signature	

Phototherapy at Home Service Agreement Form

- I have been given enough information for me to choose the Phototherapy at Home Service for my new-born baby . The correct use of the equipment has been shown to me and I with

be able to follow the guidance given to me for using the phototherapy equipment in our home

- I will make sure that eye patches are worn whenever my baby is receiving phototherapy.
- I understand that it is important that my baby is fed regularly around every 3 hours to make sure they have enough milk feeds during phototherapy treatment.
- I will remove him/her from the phototherapy unit only during feeds and nappy changes. I understand phototherapy treatment needs to be for at least 18 hours per day.
- An adult parent/carer will always be available to monitor the baby while receiving phototherapy.
- I am happy for the homecare team to visit my home each day to take a blood sample until treatment is no longer needed.
- If my baby's jaundice blood levels do not improve during treatment at home, I am aware that my baby will need to be admitted to hospital
- If I am at all concerned about my baby I will contact the Neonatal home care team promptly or urgent care where necessary, or contact the Neonatal Unit via the contact telephone number in the event of equipment failure between 5pm- 8am
- I agree to return the phototherapy equipment to the Neonatal Home care team once phototherapy treatment has stopped.

Baby's Name:

Date of Birth:

Hospital PID:

Parent/Caregivers Name:

Signature:

Date:

Phototherapy at Home

Parent satisfaction Survey

Now that your baby has completed their period of phototherapy at home, we would be grateful if you would give us your feedback or your experience so we can improve the service we provide.

Do you think the staff explained clearly how the equipment was to be used at the home while you were still in hospital?

YES

NO

Or please give us your thoughts on this:-

When you eventually got home did you find the equipment easy to use?

YES

NO

Alternatively, please give us your thoughts:-

Did you encounter any difficulties with the phototherapy at home service?

YES

NO

Or please provide a full response:-

Did your baby settle on the phototherapy unit well enough not to require you to pick him/her up frequently to settle him/her?

YES

NO

Or please provide a full written response:-

Did the Homecare Team contact you, or visit you each day your baby was receiving phototherapy at home and the day after phototherapy was stopped?

YES

NO

Or please provide a full written response:-

What was your overall experience of having phototherapy at home?

After your recent experience, if you had the time all over again, would you still choose to let your baby have phototherapy at home rather than in hospital?

What would you say were the main advantages of letting your baby have phototherapy at home?

Were there any disadvantages to having phototherapy at home?

Do you have any comments to make about the Neonatal Homecare Team?

Do you have any other comments you wish to make about any other aspects of the care you or your baby received?

Please give an overall rating for you experience of the Home Phototherapy Service on a scale of 1-5. Please circle one of the following options:

Poor	Fair	Above Average	Good	Excellent
1	2	3	4	5

We thank you for your comments and really appreciate the time you have taken to give us your feedback on the service we are offering.

Home Phototherapy Service

Parents time Log of Phototherapy Unit Usage

Phototherapy Unit Timer at Start: -

At End: -

Date	Time	Phototherapy unit Turned ON/OFF	Comments
		ON	

		OFF		
		ON		
		OFF		
		ON		
		OFF		
		ON		
		OFF		
		ON		
		OFF		
		ON		
		OFF		
		ON		
		OFF		
		ON		
		OFF		
		ON		
		OFF		
		ON		
		OFF		
		ON		
		OFF		
		ON		

3. Education and Training

None

4. Monitoring Compliance

Parent satisfaction surveys and compliance record to be assessed

5. Supporting References

Jaundice - Neonatal UHL Childrens Hospital Guideline UHL Trust C32/2019

6. Key Words

Bilirubin, Jaundice

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs. As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

CONTACT AND REVIEW DETAILS			
Guideline Lead (Name and Title) C Inglis – Lead Nurse Neonatal Homecare		Executive Lead Chief Nurse	
Details of Changes made during review:			
Date	Issue Number	Reviewed By	Description Of Changes (If Any)
January 2023	1		New document

Appendix: - Bilicocoon support info



Bilicocoon Bag
Presentation - training



Bilicocoon Quick
reference guide.pptx