Deterioration of the Newborn

NEWTT2

Dr Wendy Tyler

National Patient Safety Improvement Programmes

Maternity and Neonatal

Newborn Early Warning Track and Trigger (NEWTT 2)

Name: .....
Date of Birth: .....
Time of Birth: .....
Hospital Number: .....
NHS Number: .....

NHS

NEWTT2 score	0	1	2
A score for each vital sign is required at each entry			

ANY critical (PURPLE) observation = immediate escalation, Consider 2222

Reason for observations		Signed	Print name & GMC/NMC number
Frequency & duration			

Date															
Time															
Temperature °C	39.0							2							39.0
	38.0							2							38.0
	37.0							1							37.0
	36.0							0							36.0
								0							
								1							
								2							
								2							
	Temperature alert: Implement thermal control measures and re-check temperature within 1 hour														
Respirations Breaths/min	80							2							80
	70							1							70
	60							1							60
	50							1							50
	40							0							40
	30							0							30
	20							0							20
								0							
								1							
								2							
Grunting present?								1							
Heart rate Beats/min	180							2							180
	170							2							170
	160							1							160
	150							1							150
	140							1							140
	130							0							130
	120							0							120
	110							0							110
	100							0							100
	90							0							90
	80							0							80
	60							0							60
								0							
								0							
								0							
								0							
								0							
								0							
								0							
								0							
								0							
								1							
								1							
								1							
								2							
								2							
Colour	SpO2 <90% (or very pale / Blue)														
	SpO2 90–94%							1							
	SpO2 ≥95% (or Pink / Normal)							0							
Neuro	Unrousable / Floppy / ?Seizure														
	Lethargy / Irritable / Poor tone							1							
	Responsive / Good tone							0							
Feeds	Not feeding							2							
	Feeding reluctantly							1							
	Feeding well							0							
Carer	High parental concern							2							
	Some parental concern							1							
	No parental concern							0							
Glucose	< 1.0 mmol/l														
	1.0 – 1.9 mmol/l							2							
	2.0 - 2.5 mmol/l							1							
	≥ 2.6 mmol/l							0							
Glucose when measured – Should be considered in any baby feeding reluctantly/poorly, or other observations suggest unwell															
NEWTT2 TOTAL															TOTAL
Monitoring frequency															Monitoring
Escalation of care YES/NO															Escalation
Initials															Initials

Refer to back page for thresholds and triggers

BAPM

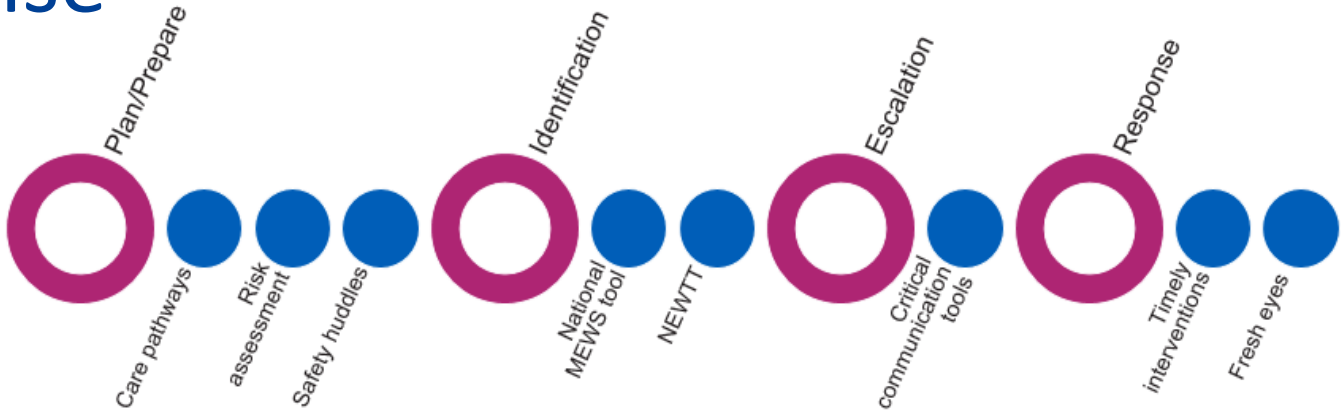
PIER framework

Plan, Prepare, Prevent

Identification

Escalation

Response



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Maternity and Neonatal

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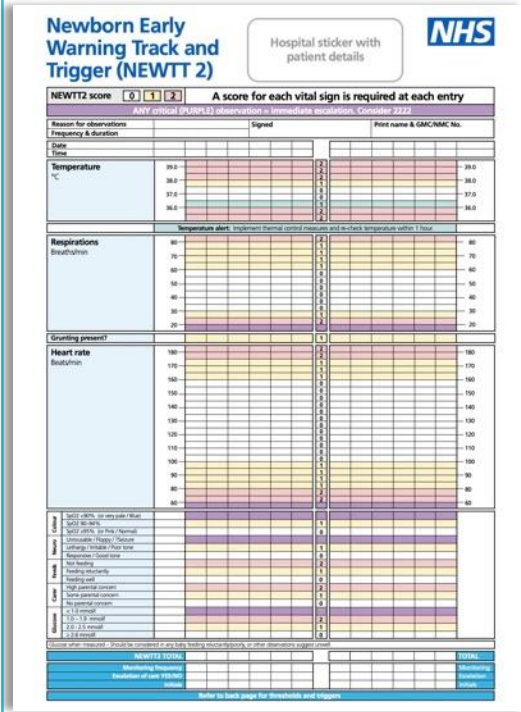
Resources: Deterioration of the Newborn



Newborn Early Warning Track and Trigger (NEWTT 2)

Hospital sticker with patient details

NHS

NEWTT2 score 0 1 2 — A score for for each vital sign is required at each entry

ANY critical (PURPLE) observation = immediate escalation. Consider 2222

Reason for observations / Frequency & duration — Signed — Print name & GMC/NMC No.

Date / Time

Temperature °C

Temperature alert: Implement thermal control measures and re-check temperature within 1 hour

Respirations Breaths/min

Grunting present?

Heart rate Beats/min

Colour: SpO2 <90% (or very pale / Blue); SpO2 90–94%; SpO2 ≥95% (or Pink / Normal)

Neuro: Unresponsive / Floppy / Seizure; Lethargy / Irritable / Poor tone; Responsive / Good tone

Feeds: Not feeding; Feeding reluctantly; Feeding well

Carer: High parental concern; Some parental concern; No parental concern

Glucose: < 1.5 mmol/l; 1.5 – 1.9 mmol/l; 2.0 – 2.5 mmol/l; ≥ 2.6 mmol/l

Glucose when measured - Should be considered in any baby feeding reluctantly/poorly, or other observations suggest unwell

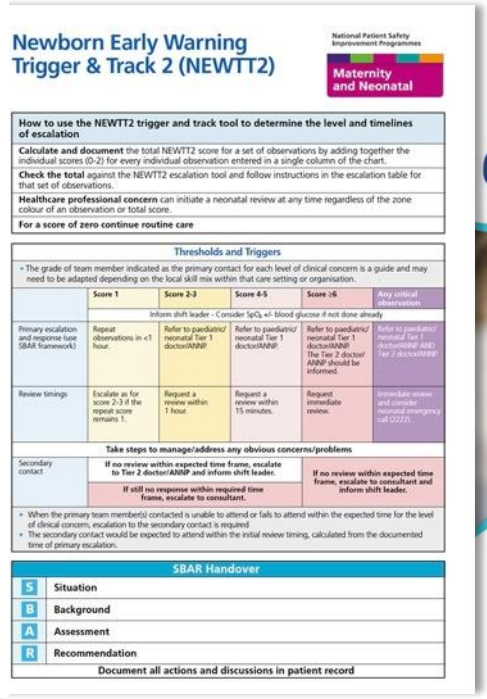
NEWTT2 TOTAL — TOTAL

Monitoring frequency — Monitoring

Escalation of care YES/NO — Escalation

Initials — Initials

Refer to back page for thresholds and triggers



Newborn Early Warning Trigger & Track 2 (NEWTT2)

National Patient Safety Improvement Programmes — Maternity and Neonatal

How to use the NEWTT2 trigger and track tool to determine the level and timelines of escalation

Calculate and document the total NEWTT2 score for a set of observations by adding together the individual scores (0-2) for every individual observation entered in a single column of the chart.

Check the total against the NEWTT2 escalation tool and follow instructions in the escalation table for that set of observations.

Healthcare professional concern can initiate a neonatal review at any time regardless of the zone colour of an observation or total score.

For a score of zero continue routine care

Thresholds and Triggers

- The grade of team member indicated as the primary contact for each level of clinical concern is a guide and may need to be adapted depending on the local skill mix within that care setting or organisation.

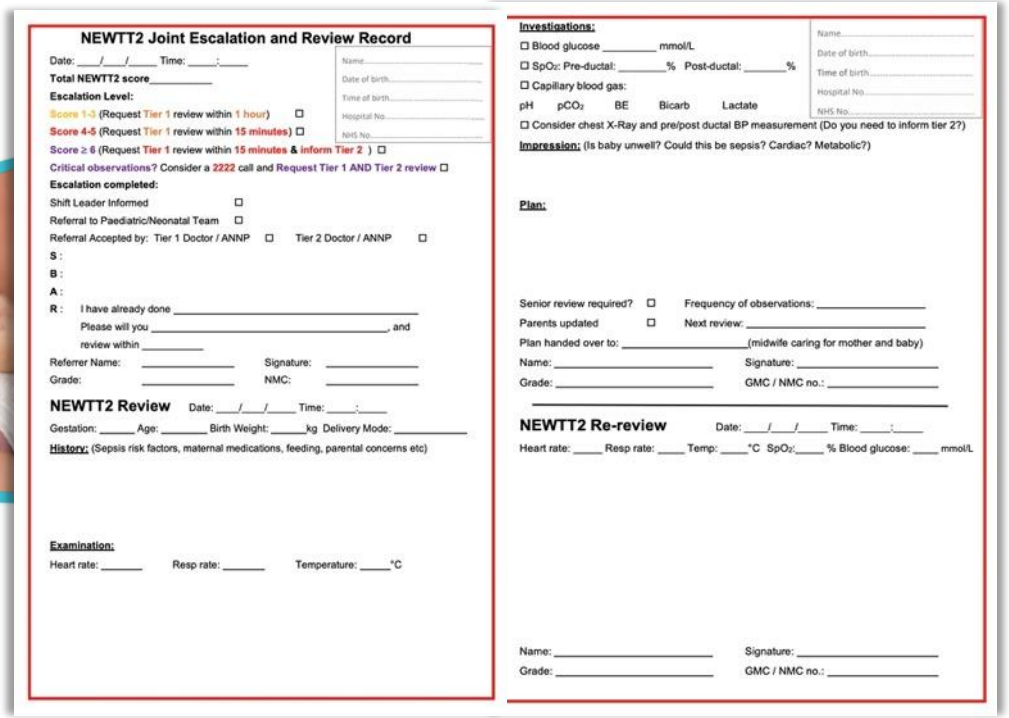
	Score 1	Score 2-3	Score 4-5	Score ≥6	Any critical observation
	Inform shift leader - Consider SpO_2 +/- blood glucose if not done already				
Primary escalation and response (use SBAR framework)	Repeat observations in <1 hour.	Refer to paediatric/ neonatal Tier 1 doctor/ANNP.	Refer to paediatric/ neonatal Tier 1 doctor/ANNP.	Refer to paediatric/ neonatal Tier 1 doctor/ANNP. The Tier 2 doctor/ ANNP should be informed.	Refer to paediatric/ neonatal Tier 1 doctor/ANNP AND Tier 2 doctor/ANNP
Review timings	Escalate as for score 2-3 if the repeat score remains 1.	Request a review within 1 hour.	Request a review within 15 minutes.	Request immediate review.	Immediate review and consider neonatal emergency call (2222).
	Take steps to manage/address any obvious concerns/problems				
Secondary contact	If no review within expected time frame, escalate to Tier 2 doctor/ANNP and inform shift leader.			If no review within expected time frame, escalate to consultant and inform shift leader.	
	If still no response within required time frame, escalate to consultant.				

- When the primary team member(s) contacted is unable to attend or fails to attend within the expected time for the level of clinical concern, escalation to the secondary contact is required
- The secondary contact would be expected to attend within the initial review timing, calculated from the documented time of primary escalation.

SBAR Handover

S	Situation
B	Background
A	Assessment
R	Recommendation

Document all actions and discussions in patient record



NEWTT2 Joint Escalation and Review Record

Date: ___/___/___ Time: ____:____

Total NEWTT2 score_____

Escalation Level:

Score 1-3 (Request Tier 1 review within 1 hour) ☐

Score 4-5 (Request Tier 1 review within 15 minutes) ☐

Score ≥ 6 (Request Tier 1 review within 15 minutes & inform Tier 2) ☐

Critical observations? Consider a 2222 call and Request Tier 1 AND Tier 2 review ☐

Escalation completed:

Shift Leader Informed ☐

Referral to Paediatric/Neonatal Team ☐

Referral Accepted by: Tier 1 Doctor / ANNP ☐ Tier 2 Doctor / ANNP ☐

S :

B :

A :

R : I have already done _____

Please will you _____, and

review within _____

Referrer Name: _____ Signature: _____

Grade: _____ NMC: _____

NEWTT2 Review Date: ___/___/___ Time: ____:____

Gestation: _____ Age: _____ Birth Weight: _____kg Delivery Mode: _____

History: (Sepsis risk factors, maternal medications, feeding, parental concerns etc)

Examination:

Heart rate: _____ Resp rate: _____ Temperature: _____°C

Investigations:

☐ Blood glucose _____ mmol/L

☐ SpO_2: Pre-ductal: _____% Post-ductal: _____%

☐ Capillary blood gas:

pH pCO_2 BE Bicarb Lactate

☐ Consider chest X-Ray and pre/post ductal BP measurement (Do you need to inform tier 2?)

Impression: (Is baby unwell? Could this be sepsis? Cardiac? Metabolic?)

Plan:

Senior review required? ☐ Frequency of observations: _____

Parents updated ☐ Next review: _____

Plan handed over to: _____(midwife caring for mother and baby)

Name: _____ Signature: _____

Grade: _____ GMC / NMC no.: _____

NEWTT2 Re-review Date: ___/___/___ Time: ____:____

Heart rate: _____ Resp rate: _____ Temp: _____°C SpO_2:_____ % Blood glucose: _____ mmol/L

Name: _____ Signature: _____

Grade: _____ GMC / NMC no.: _____

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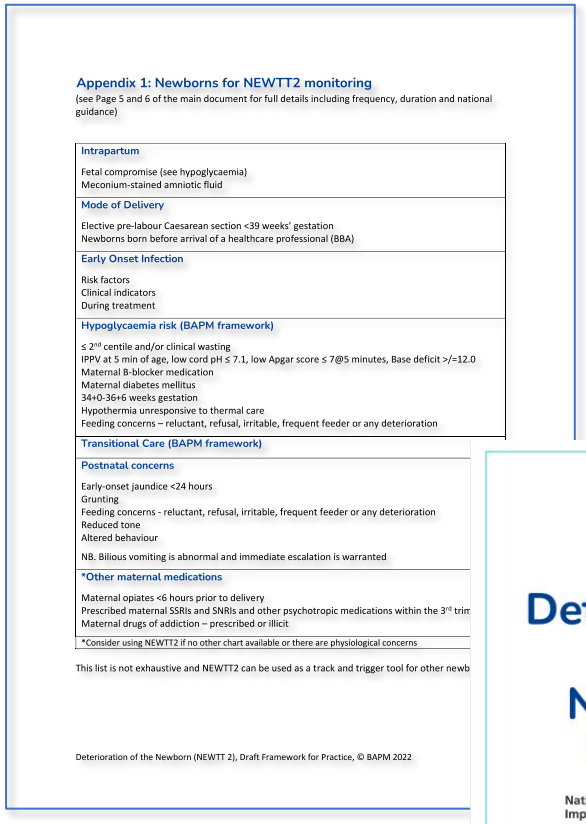


Appendix 1: Newborns for NEWTT2 monitoring

(see Page 5 and 6 of the main document for full details including frequency, duration and national guidance)

Intrapartum

Fetal compromise (see hypoglycaemia)
Meconium-stained amniotic fluid

Mode of Delivery

Elective pre-labour Caesarean section <39 weeks' gestation
Newborns born before arrival of a healthcare professional (BBA)

Early Onset Infection

Risk factors
Clinical indicators
During treatment

Hypoglycaemia risk (BAPM framework)

≤ 2nd centile and/or clinical wasting
IPPV at 5 min of age, low cord pH ≤ 7.1, low Apgar score ≤ 7@5 minutes, Base deficit >/=12.0
Maternal B-blocker medication
Maternal diabetes mellitus
34+0-36+6 weeks gestation
Hypothermia unresponsive to thermal care
Feeding concerns – reluctant, refusal, irritable, frequent feeder or any deterioration

Transitional Care (BAPM framework)

Postnatal concerns

Early-onset jaundice <24 hours
Grunting
Feeding concerns - reluctant, refusal, irritable, frequent feeder or any deterioration
Reduced tone
Altered behaviour

NB. Bilious vomiting is abnormal and immediate escalation is warranted

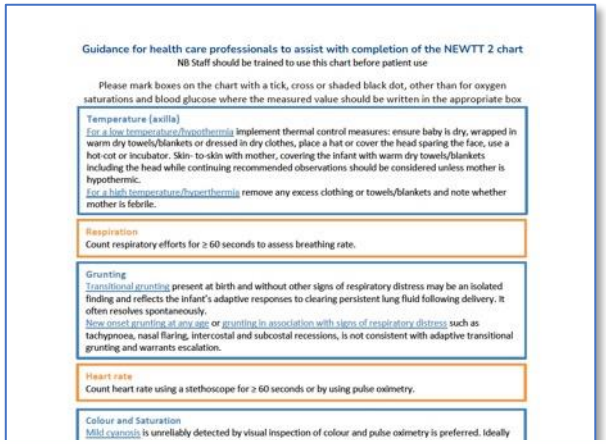
***Other maternal medications**

Maternal opiates <6 hours prior to delivery
Prescribed maternal SSRIs and SNRIs and other psychotropic medications within the 3rd trim
Maternal drugs of addiction – prescribed or illicit

*Consider using NEWTT2 if no other chart available or there are physiological concerns

This list is not exhaustive and NEWTT2 can be used as a track and trigger tool for other newb

Deterioration of the Newborn (NEWTT 2), Draft Framework for Practice, © BAPM 2022



Guidance for health care professionals to assist with completion of the NEWTT 2 chart

NB Staff should be trained to use this chart before patient use

Please mark boxes on the chart with a tick, cross or shaded black dot, other than for oxygen saturations and blood glucose where the measured value should be written in the appropriate box

Temperature (axilla)

For a low temperature/hypothermia implement thermal control measures: ensure baby is dry, wrapped in warm dry towels/blankets or dressed in dry clothes, place a hat or cover the head sparing the face, use a hot-cot or incubator. Skin- to-skin with mother, covering the infant with warm dry towels/blankets including the head while continuing recommended observations should be considered unless mother is hypothermic.

For a high temperature/hyperthermia remove any excess clothing or towels/blankets and note whether mother is febrile.

Respiration

Count respiratory efforts for ≥ 60 seconds to assess breathing rate.

Grunting

Transitional grunting present at birth and without other signs of respiratory distress may be an isolated finding and reflects the infant's adaptive responses to clearing persistent lung fluid following delivery. It often resolves spontaneously.

New onset grunting at any age or grunting in association with signs of respiratory distress such as tachypnoea, nasal flaring, intercostal and subcostal recessions, is not consistent with adaptive transitional grunting and warrants escalation.

Heart rate

Count heart rate using a stethoscope for ≥ 60 seconds or by using pulse oximetry.

Colour and Saturation

Mild cyanosis is unreliably detected by visual inspection of colour and pulse oximetry is preferred. Ideally

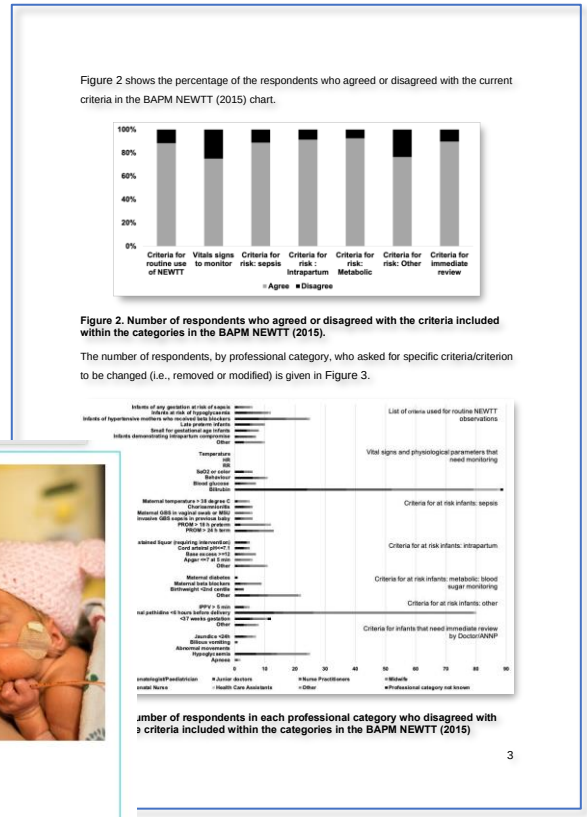


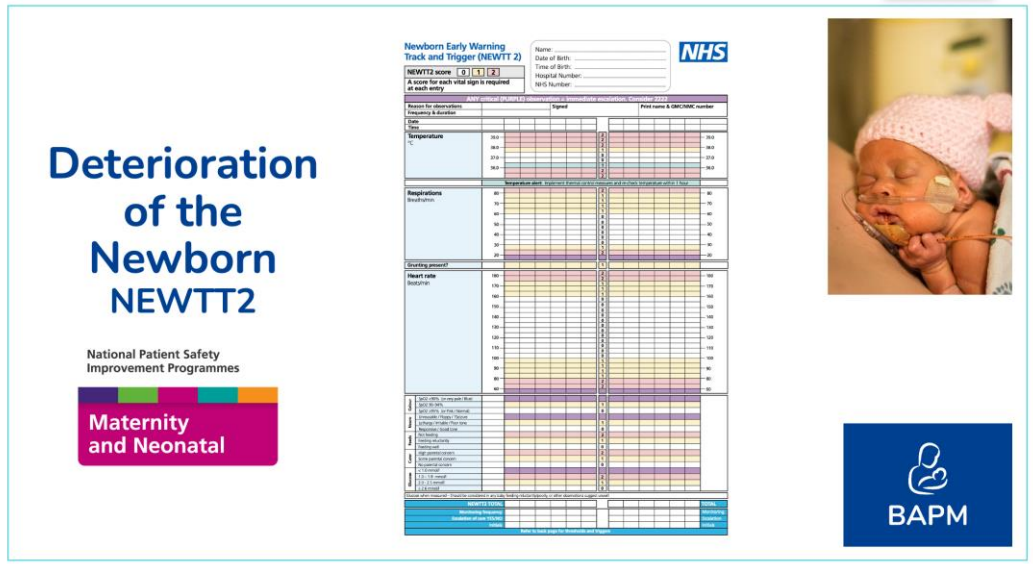
Figure 2 shows the percentage of the respondents who agreed or disagreed with the current criteria in the BAPM NEWTT (2015) chart.

Figure 2. Number of respondents who agreed or disagreed with the criteria included within the categories in the BAPM NEWTT (2015).

The number of respondents, by professional category, who asked for specific criteria/criterion to be changed (i.e., removed or modified) is given in Figure 3.

umber of respondents in each professional category who disagreed with e criteria included within the categories in the BAPM NEWTT (2015)

3



Deterioration of the Newborn NEWTT2

National Patient Safety Improvement Programmes

Maternity and Neonatal

Newborn Early Warning Track and Trigger (NEWTT 2)

NHS

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Working group

(Alphabetical order)

Sara Abdula	Advanced Neonatal Nurse Practitioner, Chelsea & Westminster Hospital
Annette Ballard	Matron, Ipswich Hospital, ESNEFT
Amarpal Bilkhu	Trainee, Neonatal Special Interest SPIN, West of Scotland Deanery
Patrick Blundell	Paediatric Trainee, University Hospital of Wales, Cardiff
Susan Broster	Consultant Neonatologist, Addenbrookes, Cambridge
Elisabeth Corlett	Parent representative, NeoMates and School Nurse
Gemma Finch	Advanced Neonatal Nurse Practitioner, St Peter's Hospital, Chertsey
Tony Kelly	National Clinical Advisor for National Maternity and Neonatal Safety Improvement Programme, NHS England and NHS Improvement
John Madar	Consultant Neonatologist, University Hospitals Plymouth
Kathryn Macallister	Neonatal GRID Trainee, BAPM Trainee EC Representative, Co-Chair NEWTT2 working group
Shalini Ojha	Consultant Neonatologist, University Hospitals of Derby and Burton
Kelly Phizaclea	Parent representative, NeoMates
Oliver Rackham	Consultant Neonatologist, Glan Clwyd Hospital, North Wales
Hannah Rutter	Senior Improvement Manager Maternity and Neonatal Safety Improvement Programme NHS England and NHS Improvement Registered Midwife
Wendy Tyler	Consultant Neonatologist, BAPM Honorary Treasurer, Chair NEWTT2 working group

Webinar programme

Chair – Dr Wendy Tyler, Consultant Neonatologist, Chair Deterioration of the Newborn working group

About the new tools – which babies are they for? Wendy Tyler

Tracking – updates and scores Dr John Madar, Consultant Neonatologist, Plymouth

Triggering – appropriate escalation using real life examples Dr Oliver Rackham, Consultant Neonatologist, Glan Clwyd Hospital, North Wales

- **Response Tools** Dr Kathryn Macallister Neonatal GRID Trainee, Southmead, Co-Chair Deterioration of the Newborn working group
- **Testing – real life feedback** Ms Hannah Rutter, Senior Improvement Manager Maternity and Neonatal Safety Improvement Programme NHS England and NHS Improvement
- **Next Steps – digitisation and evaluating success** Dr Tony Kelly, National Clinical Advisor for National Maternity and Neonatal Safety Improvement Programme, NHS England and NHS Improvement. Wendy Tyler.
- **Q&A** Kathryn & Wendy

About the new tools – which babies are they for?

Postnatal ward settings
Term or late preterm infants

NOT intended for use on paediatric wards or NNU

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Maternity and Neonatal

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Every newborn

National guidance

Identify risk factors

Initial examination

Skin-to-skin

Temperature

Feeding/excretion

Jaundice

Table 1: Assessments and monitoring recommended for every newborn baby

	Recommendation	Frequency
Immediately following birth and within the first hour of life	**Follow recommendations for recording observations** given within national guidance (3, 4, 18) **Identify any risk factors** that require observations or intervention within the first hour of life such as management of early onset bacterial infection **Perform the initial midwifery examination** to detect any major physical abnormality and identify any problems that require referral	**NICE postnatal care, NICE intrapartum care and RC (UK) NLS guidance** **Prior to and following birth to enable timely intervention** **Once**
During skin-to-skin contact *Skin-to-skin contact is recommended for newborn infants within the first hour to promote thermoregulation, colonisation with maternal flora and biological nurturing*	For a significant minority of infants positioning for skin-to-skin contact may have contributed to sudden unexpected postnatal collapse and serious adverse outcome (7). The level of risk for sudden collapse during skin-to-skin contact is influenced by maternal body mass index, antenatal use of opiate medication, sedation and staff focus on other tasks. **Airway and breathing** - check the baby's position is such that a clear airway is maintained – observe respiratory rate and chest movement. Listen for unusual breathing sounds or absence of noise from the baby. **Colour** – the baby should be assessed by looking at the whole of the baby's body as the limbs can often be discoloured first. Subtle changes to colour indicate changes in the baby's condition. **Tone** – the baby should have a good tone and not be limp or unresponsive **Temperature** – ensure the baby is kept warm during skin contact	**Throughout every skin-to-skin contact**
1-2 hour of age	**Record body temperature** soon after the first hour (3). Target the temperature range 36.5-37.5ºC.	**Until target reached**
Feeding and excretion	**Follow UNICEF guidance** providing information to assess infant feeding including frequency of feeds, wet and dirty nappies (19). Newborn infants considered suitable for early discharge should have a risk assessment completed by the maternity team that incorporates feeding establishment (3, 6). If there are any concerns regarding feeding, observations using the NEWTT2 tool are recommended with escalation for review as indicated. Bilious vomiting warrants immediate escalation.	**Continuous assessment with parent**
Jaundice	**Examine* all infants for jaundice** at every opportunity especially within the first 72 hours; if jaundiced monitor bilirubin and use gestational age charts to guide treatment (5). At risk groups include gestation <38 weeks, previous sibling requiring treatment, male, low birth weight, multiple birth and Asian ethnicity (1, 5). *skin, cornea, gums	At every contact

NICE: National Institute Clinical Excellence; RC (UK): Resuscitation Council UK ; HSIB: Healthcare Safety Investigation Branch; UNICEF: United Nations Children's Fund; ATAIN: Avoiding Term Admissions Into Neonatal Units

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AT RISK GROUPS

Intrapartum	Fetal compromise; Meconium-stained amniotic fluid (NICE)
Mode of delivery	Elective pre-labour C section <39 weeks; unplanned out of hospital births
Early onset infection	Risk factors or clinical indicators (NICE); on treatment
Hypoglycaemia risk	BAPM framework including reluctance, refusal and/or any deterioration in feeding
Transitional care	BAPM framework
Postnatal concerns	Early jaundice, persistent or new onset grunting, altered tone, feeding issues or behaviour change
Maternal Medications	Opiates <6h prior to birth, psychotropics (eg SSRIs, SNRIs), consider using with prescribed or illicit maternal drug use

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NHS

Refer to Table 2 for at risk groups & frequency of observations

Summary provided in Appendix 1

National Patient Safety Improvement Programmes

Maternity and Neonatal

Table 2: Monitoring of at risk groups using NEWTT2 observations

At risk groups	Recommendation	Frequency
Risks identified intrapartum	**Fetal compromise** (refer to hypoglycaemia) **Meconium-stained amniotic fluid (MSAF)** Newborns delivered in the presence of thick, particulate meconium should be observed for at least 12 hours as detailed in NICE intrapartum care guidance; such infants should be observed on a site with access to a resident neonatal team (4). For all other newborns where meconium is present observe for 2 hours in all care settings.	**NICE intrapartum care guidance (2017)** **At 1 & 2h, then 2 hourly until 12 hours** **At 1 & 2 hours**
Risks associated with mode of delivery	**Elective pre-labour Caesarean section <39 weeks' gestation** Evidence advises against pre-labour Caesarean section prior to 39 weeks' gestation to avoid adverse outcomes. Admission to a neonatal unit with respiratory distress is more likely (1, 20, 21). **Newborns born before arrival of a healthcare professional (BBA)** Rates of neonatal unit admission are increased in this cohort, with the most likely complications including hypothermia, suspected infection and respiratory distress (22, 23)	**Not set by national guidance***
Infants at risk of early onset infection	Newborn infants with infection can deteriorate rapidly or insidiously and often after a period of apparent health. It is recommended that the following newborn infants are monitored using the NEWTT2 tool: **Infants with risk factors** for early-onset infection (2) **Infants with clinical indicators** for early-onset infection (2) **Infants being treated with antibiotics** for early-onset infection **Other infants being treated with antivirals or alternative intravenous antibiotics** for other indications in the newborn period	**NICE neonatal infection guidance for risk factors and clinical indicators** **Not set by national guidance***
Infants at risk of hypoglycaemia	Significant hypoglycaemia can lead to irreversible brain injury. Monitoring newborn infants at risk of developing hypoglycaemia or those with concerning clinical signs, such as a reluctance to feed or any deterioration in feeding behaviour, has the potential to prevent the life-long impact of brain injury. Recommendations made are in line with national documents (1, 9): **In-utero growth restriction** (≤ 2nd centile plotted on gestational age and sex-specific charts) and/or evidence of clinical wasting in keeping with growth-restriction in utero **The need for resuscitation and/or fetal compromise** (IPPV at 5 min of age, low cord pH ≤ 7.1, low Apgar score ≤ 7@5 minutes, Base deficit >/=12.0) **Maternal B-blocker** medication **Maternal diabetes mellitus** **Late preterm infants** (34+0 – 36+6 weeks gestation) **Hypothermia** not improving with initial steps to provide thermal care (see NEWTT2 chart) **Suspected/confirmed early onset infection** **Abnormal feeding behaviour** including not waking for feeds, an ineffective suck, being unsettled and demanding very frequent feeds or a deterioration in feeding (10)	**BAPM Hypoglycaemia Framework for practice**
Infants requiring transitional care	Consider observing infants using NEWTT2 who have not been described elsewhere and who are admitted to transitional care as described in the BAPM Transitional Care framework for practice (8).	**BAPM Transitional Care Framework**
Infants with early jaundice within 24 hours of birth	Early jaundice in the first 24 hours mandates a bilirubin measurement and a clinical assessment. The use of the transcutaneous bilirubinometer is not recommended within 24 hours of birth (5).	**NICE jaundice guidance**
Infants demonstrating clinical signs that warrant additional monitoring	**Grunting respirations** Newborn infants with transitional grunting commencing at birth without any respiratory distress are usually healthy and do not require escalation in care (1). The NEWTT2 observation chart can support assessment of these infants and guide escalation. *Any new grunting* developing following birth is not consistent with transitional grunting and warrants escalation to the neonatal team (2). **Feeding concerns without other risks** Any newborn infant with concerns regarding feeding should be observed using the NEWTT2 tool. Feed refusal or reluctance to feed are symptoms of concern for sepsis and/or hypoglycaemia and should trigger a neonatal team review (6, 10). Bilious vomiting warrants immediate escalation. **Reduced tone or behaviour** Newborn infants with altered behaviour or tone warrant observations using the NEWTT2 tool with escalation as indicated. Poor tone or inactivity can be signs of sepsis or hypoglycaemia and warrant escalation (1, 10). **Elevated lactate identified on cord or neonate blood gas** This can reflect concerns with fetal or neonatal wellbeing. Umbilical cord blood lactate of 4 mmol/L has been shown to predict adverse outcome (need for intubation, hypoxic-ischaemic encephalopathy, meconium aspiration syndrome) in term infants. Such elevated cord or early neonatal blood lactate levels should prompt a neonatal team assessment. A repeat blood lactate measurement in 4 to 6 hrs may be appropriate to ensure a falling or normal blood lactate (24-28).	**Not set by national guidance*** **NICE early onset infection guidance** **NICE early onset infection guidance** **NICE early onset infection guidance** **Not set by national guidance***
Maternal medications potentially impacting on newborn behaviour	**Maternal opiate pain relief <6 hours prior to delivery** Due to the effect on respiratory drive and establishment of feeding, infants warrant monitoring using the NEWTT2 chart. **Maternal drugs of addiction, prescribed or illicit** Use of a neonatal withdrawal scoring chart is indicated as determined by local or regional guidelines **Prescribed maternal SSRIs and SNRIs and other psychotropic medications within the 3rd trimester** Assessment in the first few hours after birth to ensure effective transition and absence of clinically significant persistent pulmonary hypertension of the newborn, and ongoing assessment of infant behaviour including feeding is advised (29).	**Not set by national guidance***

Monitoring frequency

*For monitoring using NEWTT2 beyond 12 hours of age, or for those at risk groups where clear recommendations are not within national guidance, consider performing NEWTT2 observations at 4-hourly intervals. It is not possible to be prescriptive for each infant's unique situation and observations may need to be more or less frequent in order to ensure safe care and provide an appropriate balance between observations of, and interruptions to, the parent and baby. Please refer to your local guidance where present.

Support for at risk groups

- NICE
- ATAIN
- HSIB
- BAPM frameworks
- Survey

- Consensus opinion

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Survey, Dr Shalini Ojha

https://www.infantjournal.co.uk/journal_article.html?id=7278

https://fn.bmj.com/content/108/1/92

National Patient Safety Improvement Programmes

Maternity and Neonatal

Matthew

Matthew was born at 35+6 weeks gestation, birth weight 2.32kg (TC baby)

He had skin to skin and latched early at the breast

You note Matthew is now quiet and not waking for feeds at 2 hours

Record a set of observations on NEWTT2 and escalate as indicated

National Patient Safety Improvement Programmes

Maternity and Neonatal

Unit data: source BadgerNet

Retrospective data extraction

March 2020-2021, from 4h of age

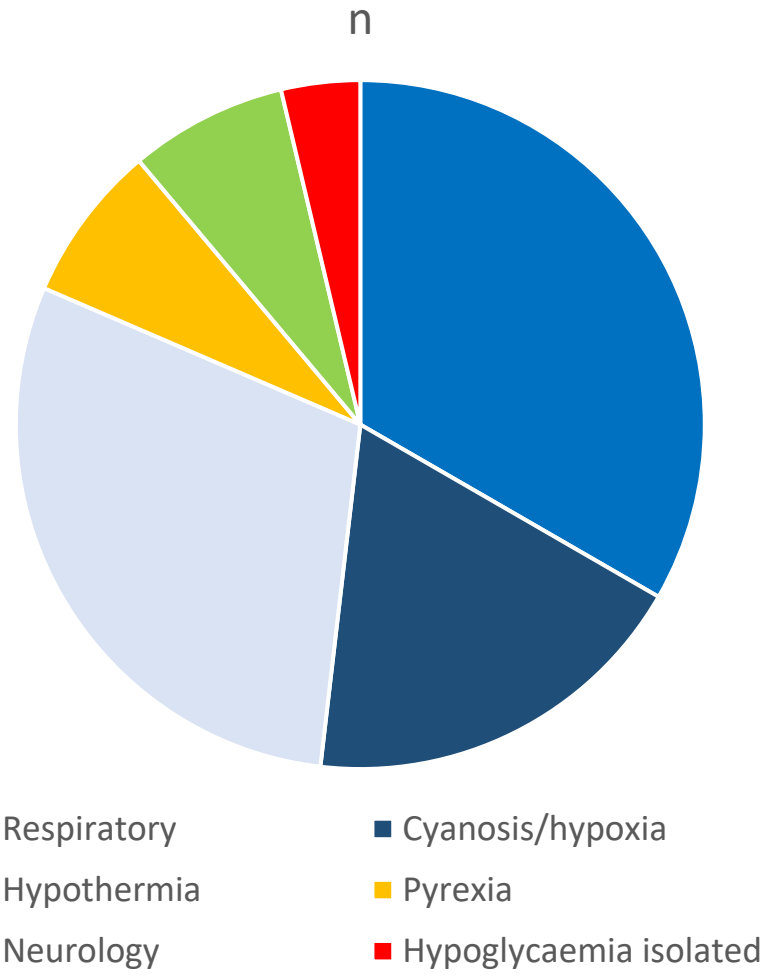
NNU team attendance, NNU admission

Results: n=43,811 data points

139 scores in range 1-5, or purple

NNU team review: all infants score 1+ were seen

NNU admissions (excl short-stay): n=27, 23 >/=37wk, all would have triggered NEWTT2



Prospective study – does the tool work?

Physiological ranges (term, late preterm)

Parental and staff opinion

Sensitivity & Specificity: over or under-triggering

Postnatal ward interventions, NNU admission/avoidance

Timeliness: earlier detection of abnormal transition/illness

Compare outcomes where tools are and are not followed

Working group

(Alphabetical order)

Sara Abdula	Advanced Neonatal Nurse Practitioner, Chelsea & Westminster Hospital
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