Mortality Review

Badger ID PD	Gestation: 33+2 triplet	Hospital acquired infection
Birth weight: 2066g	Sex: M	No
Child P		
Date of birth: PD June 2016	Time of Birth: 1423	
Date of Admission: PD June 2016	Time of admission: 1445	
Date of death: 24th June 2016	Time of death: 1600	

Cause of death (as noted on death certificate): Awaiting Coroner's PM

1a
1b. 2 **Other**
After 28 days:

Summary: 33+2 triplet 1, generally well and stable on optiflow and enteral feeds until day PD when he suddenly deteriorated with apnoea, bradycardia and abdominal distension. Did not respond to resuscitation.

Antenatal history: Normal triplet pregnancy. AN scans normal, no risk factors for infection. Antenatal steroids given. Regular reviews in pregnancy. Elective CS booked for maternal discomfort. Baby was not breech.

Delivery and Resuscitation: Born in good condition. Cried immediately, HR>100, good respiratory effort, poor tone, good colour. 5 inflation breaths given – sats upto 80% at 6min. Required 40% FiO2 for transfer to NNU.

Initial stabilisation and care: Admission temp 36.7. HR 134, FiO2 21%, sats 98%, Mild recession. One apnoea requiring tactile stimulation to 70s. Fingers on left hand bruised.
Venous gas pH 7.26, pCO2 7.85, BE-2.7
Plan for nCPAP, iv fluids, CRP (1), FBC (normal) and BC, iv antibiotics, caffeine, Vit K,
CXR: NG tube in situ with its tip in satisfactory position in the gastric body. Normal cardiac size and cardiothymic contour, allowing for rotation to the right. The lungs are well inflated with no evidence of a pneumothorax and no current signs of RDS.

Date and time:	Continuing care:
22nd June Day PD	
1145	WR: nCPAP in air, examination normal. Plan for TPN, continue caffeine, U and E, gas and trial of optiflow.
1400	Optiflow started
2000	Swollen left arm. New iv cannula inserted by reg, fluids restarted.
2200	Normal blood gas
23rd June Day PD	
0200	Full feeds, TPN stopped. 2nd CRP <1, antibiotics stopped.
1000	WR: No nursing concerns, SVIA, 75ml/kg/d DEBM, trace aspirates, Bili below treatment line. Plan for NIPE exam, Cranial USS.
1800	Consultant review after death of sibling. Normal observations. Abdomen full and mildly distended, no tenderness, no masses, normal bowel sounds. Mild erythema around umbilicus. Plan for repeat bloods, BC, AXR and start cefotaxime and flucloxacillin. Difficulties with iv cannulation, antibiotics given at 2015. CRP<1 normal FBC AXR: NG tube in satisfactory position with its tip in the gastric body. Gas filled bowel loops throughout the abdomen, through to the lower rectum, with no evidence of obstruction and no plain film signs of perforation. No intramural or portal vein gas demonstrated.
2000	One self-correcting desat and bradycardia. 14ml part digested milk aspirated from NGT.

1515 **1600**	the costophrenic angle. Otherwise no focal pulmonary pathology. Transport team arrive (they had been liaising with Chester team all day) Further collapse requiring CPR, adrenaline (1515, 1520), Bicarb 1517. Sats 50-60% in FiO2 100%. Further doses of adrenaline (0.6ml) at 1524,1530,1535,1540,1554 plus atropine and bicarbonate. Good air entry throughout. Pupils fixed and dilated. Resus stopped and Child P passed to parents.

After death/debrief/counselling/PM/duty of candour etc:

Tick relevant Box		
Grade 0		No suboptimal/substandard care
Grade 1	x	Suboptimal care, but different management would have made no difference to the outcome
Grade 2		Suboptimal care, different care may have made a difference (possible avoidable death)
Grade 3		Suboptimal care, different care would reasonably be expected to have made a difference (probably avoidable death)

Lessons Learnt/Actions

1. No definite indication for commencing iv antibiotics after birth. Reason given was respiratory distress in preterm infant requiring CPAP. Cautious approach to starting antibiotics would not have caused harm.
2. Decision on day PD to start TPN. No indication for this based on criteria of <1200g or <32 weeks but may have fulfilled criteria of unlikely to be on full enteral feeds by 7 days of age. Decision to start TPN should have been followed by decision to insert a peripheral long line or UVC.
3. 24th June at 0000, following aspirates, correct decision to make NBM after informing night shift reg but no record of reg review.
4. Daytime reg on 24th June – no record after WR despite involvement in resus.
5. Nursing notes usually entered at end of shift onto Meditech. Record of care entered in 3 different areas: Meditech, case notes and Badger net. Simplification of note keeping and anything that might help nursing staff enter notes more contemporaneously would be helpful.
6. Email from Coroner's officer regarding parents' concerns was discussed. DEBM that triplets received unlikely to be contributory but batch has been isolated and will be analysed. Alleged consultant cough into hands and examined baby without washing hands first – unlikely to be contributory to outcome but has been discussed with consultant and clinical lead.
7. Areas of good practice included excellent medical and nursing documentation of care around the time of the acute deterioration. Good practice of having parents present during resus and communication with them. Good team working including between transport consultant and Chester team. Hot debrief after event.
8. Awaiting PM report but no clear cause of death identified from review.

Reviewers: S Brearey, E Powell, S Williams, Y Griffiths, Doctor U, Doctor ZA H Cooper

Date: 5th July 2016