

**Investigation Report of the Incident with  
Misidentification of Two Babies in Queen Elizabeth Hospital**

**1. BACKGROUND**

Keys:

- Mother X*           ➤ *assigned to Bed 25*  
                          ➤ *given birth to a baby girl (Baby X) at 01:49 on 7 August 2009*
- Mother Y*           ➤ *assigned to Bed 10*  
                          ➤ *given birth to a baby girl (Baby Y) at 02:24 on 7 August 2009*
- Wrist Band*       ➤ *hand written baby identification bracelet affixed in the Labour Ward in front of the mother*
- Ankle Bracelet*   ➤ *2-D barcode baby identification bracelet affixed in the Postnatal Ward*

On 8 August 2009 at about 13:00, Mother Y at Bed 10 in the Postnatal Ward of Queen Elizabeth Hospital (QEH) informed a nurse that the Wrist Band of her baby girl was found missing. Mother Y also found a Wrist Band bearing the name of another mother (Mother X at Bed 25) in the baby cot.

The nurse checked the baby girl in Cot 25 who was nursed by Mother X. She found that the baby was wearing a Wrist Band which bore the name of Mother Y, but the name of Mother X was on her Ankle Bracelet. Mixing up of identity of the two babies was suspected.

The body weight, foot prints, birth mark and other features of both babies documented at birth were reviewed to help confirm the identity but nothing remarkable could be found. The incident was reported to the Ward Manager. Subsequently the Department Operations Manager, Chief of Service of the Department and Hospital Chief Executive were informed. Blood group of the two babies was checked and both babies had Group O.

On 9 August 2009, the HAHO and the Bureau were notified. Testing of blood groups other than ABO showed mismatch between the babies and the respective parents taking care of them. The suspicion of mixing up of babies was disclosed to Mother Y and Mother X (and families) respectively. The families agreed to perform DNA analysis for further confirmation.

On 10 August 2009, DNA analysis was performed by an independent private laboratory and the QEH Department of Pathology. Both families expressed their wish not to disclose the incident to the public.

On 11 August 2009, the laboratory analysis performed by the QEH Department of Pathology

indicated mismatch between the babies and the respective parents taking care of them. However, the results matched with those of the parents of the opposite family.

On 12 August 2009, Verbal report of the DNA analysis from the private laboratory confirmed the identity mix-up and findings were disclosed to the two families. The identity of the two babies was rectified in front of the parents in the Postnatal Ward.

On 13 August 2009, the babies were discharged and the parents requested clinical psychology service which was provided on 17 August 2009 after the weekend.

On 16 August 2009, media launched enquiry. The Investigation Panel was announced on 17 August 2009.

## **2. INVESTIGATION**

### **2.1 Investigation Panel**

Membership of the investigation panel:

Dr. CHEUNG Kai-bun	Chairman of HA COC O&G / NTWC COS (O&G)	Chairperson
Ms. Sylvia FUNG	HOCS Chief Manager (Nursing) / CNE	
Mr. John WU	QEH HGC Member	
Dr. WONG Kit-fai	KCC CCOS(Path) / QEH COS (Path)	
Ms. Eva LIU	KCC CC (Risk Management) / SPSM (till 31 <sup>st</sup> August 09) KCC CGM(N) / QEH GM(N) (from 1 <sup>st</sup> September 2009)	
Ms. Grace CHENG	KCC CC(Q&St) / QEH SNM (Q&S)	Secretary

Terms of reference of the panel:

1. To confirm the factual account of the misidentification of babies incident in QEH on 7 August 2009 and to investigate into its possible causes.
2. To recommend improvement measures to prevent baby misidentification during and after delivery of a baby.

### **2.2 Method of Investigation**

The investigation methods included document review, site visit and staff interview. (Appendix 1: List of Interviewees).

### **3. FINDINGS**

#### **3.1 Current Procedures for Identification of Newborn**

- 3.1.1 The Labour Ward in QEH where mothers give birth to their babies is a single-room setting, i.e. one room for one mother. To ensure correct identification of a baby, the midwife will immediately after birth, check with the mother the handwritten details (mother's name in the form of B.O. XXX or in Chinese as 某某某 之女/子 and the hospital number of the mother) on the baby's wrist bracelet (Wrist Band) and put it onto the baby's left wrist in front of the mother.
- 3.1.2 The mother and her baby will then be transferred to the Postnatal Ward. The Nurse from the Postnatal Ward will receive the baby in the Labour Ward and cross check the identification data on the Wrist Band of the baby and the baby chart with the nurse in the Labour Ward at the time of transfer out.
- 3.1.3 After transferring into the Postnatal Ward, admission procedure for the baby will be performed. The admission procedure includes assigning a hospital number and an identification number to the baby; and printing a 2-D barcode identification bracelet which contains the ward location, mother's name, as well as the date of birth, sex, the hospital number and the identification number of the baby. The bracelet will be affixed to the baby's left ankle (Ankle Bracelet). Ward staff will verify baby's identity against the Wrist Band when affixing the Ankle Bracelet.
- 3.1.4 In the Postnatal Ward, there is a nursery with 2 incubators in which newborn will be kept for warming. Newborns will be transferred from incubator to baby cot for nursing when the body temperature has come back to normal. A name card written with baby's identification details (name and hospital number of mother, ward and bed number, date and time of birth, sex and birth weight of the baby) will be placed at the head end of the cot.
- 3.1.5 Ward staff verifies baby's identity with the mother by checking the Wrist Band against the identification bracelet of the mother when returning baby to the mother for the first time, such as first feeding.
- 3.1.6 Since rooming-in is practiced in the Postnatal Ward, the babies stay at the bedside of the mothers all the time after the first feed except for clinical procedures.
- 3.1.7 The Ankle Bracelet is more frequently used for baby identification as it contains the hospital

number and identification number of the baby. When performing clinical procedures, ward staff confirms correct baby identity for the treatment and care prescribed through verifying two identifiers of the baby (the name of mother and the hospital number of baby) on the Ankle Bracelet with that of the baby's medical record. In collecting laboratory specimens, 2-D barcode scanner is used to scan the barcode on the Ankle Bracelet, and the barcode in the medical record for verification.

3.1.8 The Wrist Band will be checked against the identification bracelet of the mother upon discharge from the hospital.

### 3.2 Sequence of Events and Analysis

7 August 2009

Remarks:

Nurse A, CSA-B and Nurse C were ward staff having night shift in the Postnatal Ward on 7 August 2009 (from 20:45 on 6 August 2009 to 06:45 on 7 August 2009).

03:00

Nurse A received the baby of Mother X (Baby X) from the Labour Ward. Nurse A had cross checked the identification data on the Wrist Band of the baby and the baby chart with the nurse in the Labour Ward. She then escorted both the mother and baby to the Postnatal Ward.

In the Nursery of Postnatal Ward, Nurse A transcribed Baby X's identification details from the baby chart onto the baby name card which was then fixed at the head end of Cot 25 corresponding to the bed number of Mother X.

After bathing Baby X, Nurse A put the baby into the incubator (Incubator R in Appendix 2) next to the working bench inside the Nursery. This was more convenient as this incubator was closer to the working bench.

The empty Cot 25 was placed by the wall opposite to the working bench and in front of the other incubator (Incubator L in Appendix 2).

04:00

Nurse A received the baby of Mother Y (Baby Y) from the Labour Ward. Nurse A had cross checked the identity of the baby with the nurse in the Labour Ward. She then escorted both the mother and baby to the Postnatal Ward.

In the Nursery of the Postnatal Ward, Nurse A transcribed Baby Y's identification details onto the baby name card which was then fixed at the head end of Cot 10 corresponding to the bed number of Mother Y.

After bathing Baby Y, Nurse A put the baby into the remaining incubator (Incubator L) inside the Nursery.

At this time, Baby X was inside Incubator R and Baby Y in Incubator L. The empty Cot 10 was placed outside the Nursery because the Nursery was full.

Analysis:

It was unlikely that the mixing up of identity occurred in the Labour Ward with respect to:

- the single-room setting in the Labour Ward
- the time difference between the birth of Baby X and Baby Y
- the double checking of baby's identity by two nurses (one from Labour Ward and one from Postnatal Ward) at the time of transfer out.

04:15 to 04:30

Baby X was due for the first feeding. Since Nurse A and CSA-B were busy with other duties, Nurse C brought the baby to Mother X at Bed 25 for breast-feeding.

At the material time, there were five babies in the Nursery, two in incubators and three in cots. The empty Cot 25 prepared for Baby X was inside the Nursery in front of incubator L (Appendix 2).

Nurse C took a baby from one of the incubators after checking for normal temperature and put the baby into Cot 25. Nurse C was not certain whether she had verified the identification data on the Wrist Band of the baby against the name card on the cot. She indicated that she had taken the baby out from the incubator near the bench (Incubator R), but she was not entirely sure about that upon further request for clarification on the processes.

Nurse C then transferred the baby in Cot 25 to Mother X at Bed 25 for breast-feeding. She had not performed baby identification with Mother X.

Nurse C did not recall whether she had returned the baby in Cot 25 back to the Nursery after breast-feeding.

Analysis:

The panel considered it highly likely that Nurse C had not verified the baby's identification properly before transferring her to Cot 25 which was prepared for Baby X. The baby transferred was in fact Baby Y.

About 04:50

Nurse C generated the 2-D barcode identification bracelets for both Baby X and Baby Y. Nurse C claimed that she had printed the 2-D barcode bracelet for baby at Cot 25 soon after the baby was admitted and before the baby of Bed 10 was transferred to the Postnatal Ward.

Nurse C clipped the two Ankle Bracelets on the temperature chart board and instructed CSA-B to apply these two bracelets onto the babies.

Remarks :

According to the Integrated Patient Administration System (IPAS) log, both bracelets were generated at 04:49.

About 05:30

CSA-B carried the chart board together with the Ankle Bracelets to the Nursery.

In the Nursery, CSA-B found a baby in Incubator R while Incubator L was empty. Cot 25 was occupied and located in front of the empty Incubator L. Cot 10 was empty and located outside the Nursery.

CSA-B wheeled the unoccupied Cot 10 into the Nursery and placed it in front of Incubator R in which a baby was kept.

CSA-B first approached the baby in Cot 25. She checked the Ankle Bracelet for Baby X against the name card on the cot and then affixed the Ankle Bracelet onto the ankle of the baby in the cot. CSA-B did not verify the identification details on the Ankle Bracelet against the information on the Wrist Band of the baby.

CSA-B then affixed the Ankle Bracelet onto the baby in Incubator R. She verified the information on the Ankle Bracelet for Baby Y against the name card at the empty Cot 10. She took the temperature of the baby in Incubator R, which was normal. CSA-B affixed the Ankle Bracelet onto the ankle of the

baby in Incubator R. CSA-B did not place the Ankle Bracelet against the Wrist Band to check the identity. She claimed that she might have “checked” only by memorizing the name. CSA-B then transferred the baby out of Incubator R into Cot 10.

Analysis:

When CSA-B affixed the Ankle Bracelets to the babies, she did not verify baby’s identity by checking the Wrist Band properly and failed to rectify the situation. Neither did she verify the identity of the baby in Incubator R before affixing the Ankle Bracelet.

About 05:50

Nurse C found that the baby of the mother at Bed 10 had a normal temperature and was suitable for Hepatitis B vaccination (HBV) as prescribed. After obtaining verbal consent from Mother Y at Bed 10, Nurse C administered HBV to the baby in Cot 10. She performed patient identification by checking the information on the baby’s Ankle Bracelet against that on the medical record and immunization card.

About 06:00

CSA-B transferred the baby to Mother Y for the first breast-feeding. CSA-B did not verify the identity of the baby with Mother Y.

Since rooming-in was practiced in the Postnatal Ward, the babies had stayed at the bedside of the mothers from then onwards except for clinical procedures.

Analysis:

CSA-B did not verify the identity of the baby with Mother Y by checking against the Wrist Band of the baby and failed to rectify the situation.

06:00, 7 August  
to  
13:00, 8 August  
2009

The incident could not be discovered during this period because ward staff when performing treatment or procedures only performed baby identification by verifying the name of the mother and the hospital number of the baby on the Ankle Bracelet against the information on the baby’s medical record.

### **3.3 Guidelines, Training and Audit**

3.3.1 Guidelines on baby identification including the preparation of bracelet were available. Routine practices and instructions were communicated through shift-to-shift hand-over and recorded in the ward communication book. The latest reinforcement on proper patient identification was recorded on 4 August 2009.

3.3.2 Orientation program for nurses, procedure guidelines for supporting staff on checking of Wrist Band and name card after bathing were available in the Postnatal Ward.

3.3.3 A hospital-wide nursing audit on patient identification involving the Department of Obstetric and Gynaecology was conducted in 2006 and showed a good compliance.

## **4. FACTORS CAUSING THE INCIDENT**

### **Main Factors:**

4.1 The practice of verifying baby's identity with the mother by checking the Wrist Band against the identification bracelet of the mother when bringing the baby to the mother for first feeding was not carried out.

4.2 The practice of verifying the Ankle Bracelet against the Wrist Band when affixing the Ankle Bracelet to the baby was not carried out.

4.3 The principle of handling one patient at a time was not adhered to as two Ankle Bracelets of different babies were printed out at the same time and affixed to two babies at one go.

### **Contributory Factors:**

4.4 The 2-D barcode bracelet (Ankle Bracelet) contained important patient identifiers (mother's name, baby's identification number and hospital number) and it was used as the primary site for baby identification rather than the hand-written Wrist Band.

4.5 Detailed written instructions for supporting staff on checking of identity other than after bathing were not available. With changes in the corporate and departmental practices, the procedures of baby identification had been revised for several times. The procedural changes might not be adequately communicated to all levels of staff and the compliance was not well

monitored.

- 4.6 Given the size and layout of the nursery, the cot prepared for baby in Incubator R would have to be placed on the other side next to Incubator L. This might contribute to the misplacement of the baby.

## **5. CONCLUSION**

The incident is a result of multiple human errors with underlying system defects. Mixing up of babies should be preventable if:

- 5.1 the nurse has checked the Wrist Band against the name card on the cot when transferring the baby from the incubator to the cot at the first instance,
- 5.2 the Ankle Bracelet is checked against the Wrist Band when being affixed to the baby,
- 5.3 the principle of “handling one patient at one time” is strictly followed.

Although the mixing up might have been discovered eventually at the time of discharge of the babies, the mother’s alertness and prompt reporting of the incident has much to commend.

## **6. RECOMMENDATIONS**

The Hospital shall undertake to implement the following recommendations to prevent baby misidentification during and after delivery of a baby.

### **6.1 To reinforce training and guidance**

For the procedure guidelines, it is recommended that:

- 6.1.1 The current practice of baby identification during transfer of babies between the Labour Room and postnatal wards should be maintained.
- 6.1.2 The critical steps in identity verification and application of identification bracelet should be clearly described.

6.1.3 The working instructions should be updated, clearly communicated and accessible to all levels of staff.

6.1.4 The application of identification bracelet should be performed by trained and competent staff.

6.1.5 Appropriate training should be provided to staff. Training should be documented and instructions (including the updates) to staff should be read and signed.

## **6.2 To strengthen supervision and monitoring**

The panel recommended that a control system should be in place to monitor compliance to standards and guidelines. Critical control points in baby identification should be identified and full compliance should be monitored. The principle of handling one patient at a time for high risk procedures should be reinforced.

## **6.3 To provide a safe environment**

It is recommended that the size and layout of the Nursery should be reviewed and revised to ensure a safe practice.

## **6.4 To engage mothers in baby identification**

In this situation when direct verification of identity with baby is not applicable, it is recommended to verify identification data with the mother at the time the Ankle Bracelet is placed on the baby.

## **6.5 To streamline baby identification process**

The policy and practice of baby identification should be reviewed across all HA hospitals. It is recommended to align identification information on the Wrist Band and Ankle Bracelet, in order to maintain association with the mother and allow for unique identification of the baby at the same time.

**List of Interviewees:**

1. Staff who were on night shift on 7 August 2009 (from 20:45 on 6 August 2009 to 06:45 on 7 August 2009) in the Postnatal Ward:

Nurse A The nurse who received Mother X and Mother Y and their babies from the Labour Room.

CSA-B The Clinical Service Assistant (CSA) who affixed the 2-D barcode identification bracelets onto the ankles of babies of Mother X and Y.

Nurse C The nurse in-charge of the night shift on 7 August 2009, who put the baby in Cot 25 and brought the baby to Mother X at Bed 25 for breast-feeding.

2. Staff who were invited to provide information on current practice:

Nurse D The nurse who was informed by Mother Y at Bed 10 at around 12:45 on 8 August 2009 about the loss of the Wrist Band of baby in Cot 10 and the discovery of a Wrist Band with the name of Mother X (Bed 25).

Nurse E The nurse assisted Nurse D in reviewing the characteristics of both babies documented at birth at around 13:00 on 8 August 2009.

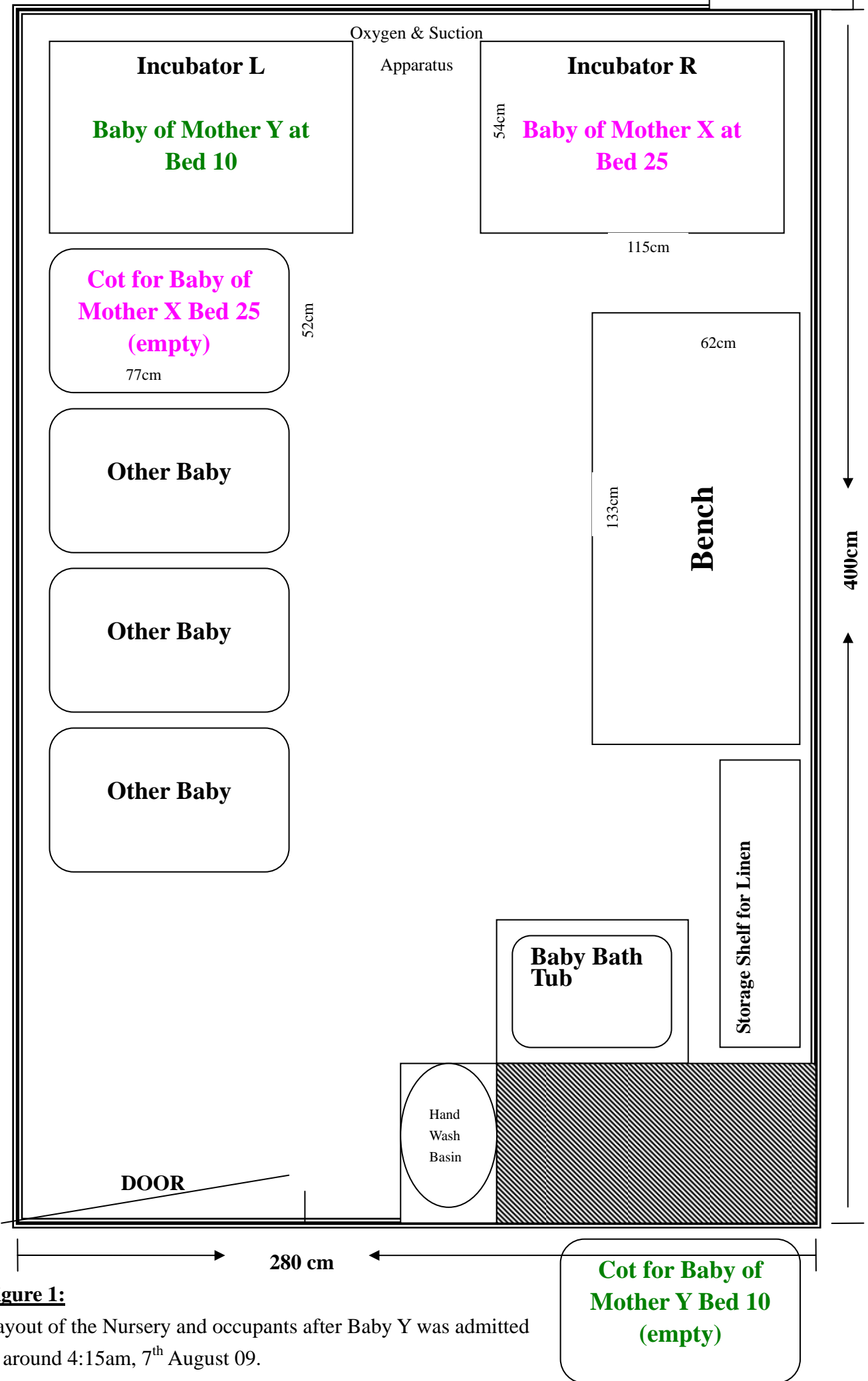
Nurse F The Ward Manager of the Labour Room.

Nurse G The Ward Manager of the Postnatal Ward.

Nurse H The Department Operations Manager of the Department of Obstetrics & Gynaecology.

Doctor J The Chief of Service of the Department of Obstetrics & Gynaecology.

3. The parents involved in the incident were invited for interview and they had declined the invitation.



**Figure 1:**

Layout of the Nursery and occupants after Baby Y was admitted at around 4:15am, 7<sup>th</sup> August 09.

## **Standard 7.4**

### **Identification Of Newborn**

#### **STANDARD STATEMENT**

The newborn is identified correctly at the time of birth in the Delivery Suite and throughout hospitalization in post-natal ward.

#### **STRUCTURE / PROCESS CRITERIA**

1. Explain the identification procedure to the mother.
2. Label the baby's identification bracelets correctly and legibly with mother's identification particulars and baby's sex. Blue bracelets are used for male and pink for female.
3. Apply two identification bracelets securely and correctly to the baby's left hand and foot with the witness of the mother or another registered nurse.
4. Print the RIGHT thumbprint of the mother and the LEFT foot print of the baby on the labour record. For mother under general anaesthesia for Cesarean delivery, the mother's thumbprint is taken after she has regained full consciousness.
5. In labour ward, check baby's identification bracelets and delivery records with the nurse from post-natal ward or NICU/SCBU on transfer.
6. In post-natal ward, nurse the baby in a cot or incubator labeled with mother's name for identification.
7. On return of the baby to the mother, check with the mother the identification bracelets and the sex of the baby.
8. Check the identification bracelets of the baby once every shift throughout hospitalization. Immediately replace any lost one(s) after verifying with the mother.
9. On discharge, check the baby's bracelets against the mother's bracelet for final verification.

#### **OUTCOME CRITERIA**

1. The mother identifies her baby.
2. The mother expresses satisfaction with the identification procedure.