



NATIONAL NURSING AUDIT MINISTRY OF HEALTH MALAYSIA

**ELEMENT 5: CONTINUUM OF CARE**

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**5.4 BLOOD/BLOOD COMPONENT TRANSFUSION****1. INTRODUCTION**

Blood transfusion, save life and improve health. However, there are risks associated with blood transfusion due to human error. These errors can lead to complications, which can be serious and life threatening.

Nurses need to be competent in administering the blood/blood component to an individual and their responsibility is to comply to the safety standards and practices in order to prevent occurrence of adverse transfusion errors. This involves confirming pre-transfusion checks to ensure the correct patient receives the correct blood. It also involves supporting and monitoring the patient throughout the transfusion procedure, identifying and responding promptly to indications of adverse reactions, completing relevant documents and proper handling of used blood bags and other used equipment on completion of infusion.

Nurses must also know the possible adverse events, which include febrile non-haemolytic transfusion reaction, acute haemolytic transfusion reaction, anaphylactic reaction, transfusion-associated graft-vs-host disease (GVHD) and infection.

**2. STANDARD**

Patient receive blood/blood components as prescribed.

### 3. OBJECTIVES

- 3.1 Blood / blood components is safely administered to patient.
- 3.2 Reactions related to blood / blood component transfusion are detected, reported and action taken immediately.
- 3.3. Nurses exhibit the caring component when administering blood / blood components to patients.
- 3.4 Accurate and complete documentation.

### 4. CRITERIA

#### Structure

1. Each patient has written prescription for blood/blood component transfusion.
2. There is a Standard Operating Procedure (SOP) for blood/blood component transfusion.
3. The nurse has knowledge and competent in administrating blood / blood component.
4. The nurse has knowledge of transfusion reaction and its measures.
5. Consent for blood transfusion.
6. GXM request form.
7. Transfusion practice guidelines for clinical and laboratory personnel, 4th. Edition J June 2016.
8. Blood transfusion set.
9. Blood card.
10. Patient progress notes/ observation chart.
11. Intake / output chart.
12. Pre transfusion checklist.

**Process**

1. Greet patient
2. Confirm patient identification.
3. Confirm prescription.
4. Verify right patient and blood/blood components together with the doctor.
5. Complete pre-transfusion check list:
  - 5.1 Verify screening.
  - 5.2 Verify expiry date.
6. Verify consent taken.
7. Perform baseline monitoring.
8. Prime line with intravenous solution 0.9 % Normal Saline.
9. Titrate flow rate.
10. Observe for reactions and take appropriate measures.
11. Listen, respond to patient/carer promptly and politely.
12. Perform accurate documentation.

**Outcome**

1. Patient is informed and aware of possible risk of blood/ blood components transfusion.
2. Patient received blood/blood component as prescribed.
3. Blood reactions are detected early and measures taken appropriately.
4. Accurate and complete documentation.

## 5. METHODOLOGY

- 5.1 Design : Direct observation of blood / blood component transfusion and also gathering information from documents.
- 5.2 Setting : Inpatient and Daycare area.
- 5.3 Population : Registered Nurses
- 5.4 Inclusion criteria : All patients in the ward who is receiving blood / blood components transfusion.
- 5.5 Sample Design : Convenient sampling
- 5.6 Sample size : 30 transfusions of blood/blood component from Major Specialist Hospital, 20 for Minor Specialist Hospital and 10 for non-specialist hospital.
- 5.7 Time frame : 2 months
- 5.8 Instrument : Audit Form (E5 AF 5.4) -- one audit form for one observation

## 6. DEFINITION OF OPERATIONAL TERMS

### 6.1. CONFIRM PATIENT'S IDENTIFICATION

- 6.1.1 Confirm patient's identity by 2 identifier:
  - 6.1.1.1 patient's full name
  - 6.1.1.2 registration or identification number
- 6.1.2 Ask patient to verbalize his/her name and cross check
  - 6.1.2.1 With patient's wrist band for name and registration number or identification number.
- 6.1.3 Verify accuracy of identifier with patient's medical record.

**6.2 WRITTEN PRESCRIPTION :**

Prescription of blood / blood components transfusion as endorsed in the patient's medical records.

**6.3. WRITTEN CONSENT**

The nurse need to verify consent is already taken by the doctor. In the event when consent is not obtained, nurse need to remind the doctor and ensure consent is available before commencing the transfusion.

**6.4. VERIFY RIGHT BLOOD/BLOOD COMPONENT FOR THE RIGHT PATIENT INVOLVE THE FOLLOWING STEPS:**

**STEP 1**

6.4.1 Confirm patient's identity by two identifier:

6.4.1.1 his/ her name

6.4.1.2 registration number

6.4.2 Ask patient to confirm name and cross check with patient's wrist band for name and registration number.

6.4.3 Verify accuracy of identifier with patient's medical record.

**STEP 2.**

Verify accuracy of identifier with patient's medical record and blood request form, this include patient's identity card number.

**STEP 3.**

Confirm the right blood / blood components by verifying the labels on the blood or blood components with patient's blood request form to ensure:

- i) Type of blood / blood component
- ii) ABO grouping & Rhesus factor correspond
- iii) Expiry date

**\*NO. (i) to (iii) : TO BE VERIFIED TOGETHER WITH THE DOCTOR.**

## 6.5 ESSENCE OF CARE

When explaining to patient the nurse shall communicate in a respectful manner and will exhibit caring component.

## 6.6 BASELINE MONITORING

Assessment of patient pre-transfusion (baseline). Nurses need to determine the patient's status prior transfusion by checking:

- 6.6.1 blood pressure,
- 6.6.2 pulse rate
- 6.6.3 temperature.
- 6.6.4 respiration
- 6.6.5 pain assessment

## 6.7 CLOSE MONITORING

Nurse must be at patient bedside for the first 10 minutes of commencement of blood transfusion to monitor and observe for any reaction followed by half hourly and then hourly vital sign observation till completion of blood transfusion. Perform vital sign monitoring every 15 minutes for unconscious patients.

## 6.8 TIME LIMIT FOR TRANSFUSION:

6.8.1 Blood / blood component must be transfused within 30 minutes of removing the pack from the blood refrigerator.

6.8.2 To start transfusion at 20 drops per minute. Nurse is to be at the patient's bedside and to observe the patient for the first 10 minutes.

6.8.3 Appropriate time frame per pack

- i] whole blood : within 4 hours
- ii] packed cells : within 4 hours
- iii] fresh frozen plasma : within 30 minutes
- iv] cryoprecipitate : within 30 minutes
- v] platelet concentrate : within 30 minutes

**6.10 TRANSFUSION REACTIONS INCLUDES:**

Chills, rigors, skin changes (rash), pyrexia, hypo / hypertension, respiratory distress, nausea and vomiting, haematuria, pain at infusion site, chest pain, abdomen and loin pain, renal shutdown (oliguria/anuria), anaphylactic shock.

**6.11 REMEDIAL ACTION /APPROPRIATE MEASURES:**

- 6.11.1 stop transfusion immediately,
- 6.11.2 inform doctor urgently
- 6.11.3 document measures taken

**6.12 ACCURATE AND COMPLETE DOCUMENTATION COMPLIANCE INCLUDES ALL OF THE FOLLOWING:**

- 6.12.1 Check list and blood card must be completed accurately.
- 6.12.2 Date, time, blood type, amount infused and time of completion of blood/ blood components must be indicated in the intake and output chart / patient's progress notes / temperature chart
- 6.11.3 Document vital signs in observation chart.
- 6.11.4 Document any identified adverse reaction to the blood/ blood components transfused and the appropriate measures taken.
- 6.11.4 All entries to be endorsed with full name/stamped with signature and dated.

**7. RATING SYSTEM**

**7.1. TECHNICAL COMPONENT**

Transfusion compliance includes all of the followings:

- 7.1.1 The nurse shall explained to patient the sign and symptom of any possible reaction as a result of transfusion and when to call for assistance.

- 7.1.2 Blood / blood component given according to written prescription
- 7.1.3 Blood pack number / ABO / Rhesus Factor corresponding to GXM request form.
- 7.1.4 Name / registration number / identity card number on GXM request form correspond to patient's case notes.
- 7.1.5 Valid blood transfused.
- 7.1.6 Transfusion time complies to appropriate time frame
- 7.1.7 Appropriate measures taken when reactions / complications arise.
- 7.1.8 Baseline and regular monitoring of vital signs done
- 7.1.9 Verification of blood/blood components is done by Registered Nurse together with a doctor.

**\* IF ANY ONE OF THE ABOVE STEP(S) IS/ ARE OMITTED IT IS CONSIDERED AS NON CONFORMANCE.**

## **7.2 SOFT SKILL COMPONENT**

Conformance is verified by direct observation and listening to the nurse:

- When explaining to patient the nurse shall communicate in a respectful manner and will exhibit caring component.
- Listen, responds promptly and politely to patient's questions.

## **7.3 DOCUMENTATION COMPONENT**

Accurate and complete documentation compliance includes all of the followings:

- 7.3.1 Check list and blood card must be completed accurately
- 7.3.2 Date, time, blood type, amount infused and time of completion of blood/ blood components must be indicated in the intake and output chart/ patient's progress notes / observation chart.



7.3.3 Document any identified adverse reaction to the blood / blood product transfused and the appropriate measures taken.

7.3.4 All entries to be endorsed with full name/ stamp with signature and date.

#### **7.4 SCORE**

7.4.1 Conformance Standard : 100% which include:-

- Technical skill : : 100%
- Documentation : : 100%
- Soft skill : : 100%

\*\* Overall marks (% of Technical skill + % documentation+ % soft skill ÷ 3)

**8. AUDIT FORM**

|   |                            |
|---|----------------------------|
| <b>NATIONAL NURSING AUDIT MINISTRY OF HEALTH MALAYSIA</b> | <b>VERSION 6/2019</b>      |
| <b>ELEMENT 5 : CONTINUUM OF CARE</b>                      |                            |
| <b>TOPIC : 5.4 BLOOD AND BLOOD COMPONENT TRANSFUSION</b>  | <b>DATE: 11 April 2019</b> |
| <b>DOCUMENT NO : E5 AF 5.4</b>                            | <b>PAGE No. 1/4</b>        |

**8.1 STANDARD:**

Patient receive blood/blood components as prescribed.

**8.2 OBJECTIVES**

- 8.2.1 Blood / blood components is safely administered to patient.
- 8.2.2 Reactions related to blood / blood component transfusion are detected, reported and action taken immediately.
- 8.3.3. Nurses exhibit the caring component when administering blood / blood components to patients.
- 8.2.4 Accurate and complete documentation.

**Date of Audit** :.....

**Locality** :.....

**Auditors** : 1. ....

2. ....

**N.B. Instructions For Auditors**

To tick [ ✓ ] at appropriate column.

1. S / T/ D indicate soft skill / technical skill / documentation respectively.
2. Item T14 is rated as not applicable (N/A) if patient did not develop reactions.

| S/N | ITEM   | SOURCE OF INFORMATION                             | YES                                       | NO | N/A |
|-----|--|---|---|----|-----|
| T1  | Confirm patient's identification.  | Observe nurse.                                    |   |    |     |
| T2  | Confirm written prescription.  | Observe nurse                                     |   |    |     |
| T3  | Verify consent.  | Observe nurse and check written evidence          |   |    |     |
| T4  | The nurse explains to the patient/carer prior to procedure:<br>- Possible reactions that may occur<br>- When to call for nurse | Observe and listen explanation given by the nurse |   |    |     |
| S5  | Nurse listen, responds promptly and politely to patient's questions.   | Observe and listen                                |   |    |     |
| T6  | Verify right blood / blood components prior transfusion.   |   |   |    |     |
|     | T6.1   | Perform together with doctor                      | Observe nurse and check written evidence  |    |     |
|     | T6.2   | Verify Right blood/blood component as prescribed  | Observe nurse and check written evidence. |    |     |
|     | T6.3   | ABO grouping & Rhesus factor correspond           | Observe nurse and check written evidence  |    |     |
|     | T6.4   | Verify expiry date                                | Observe nurse and check written evidence  |    |     |

| S/N  | ITEM  | SOURCE OF INFORMATION                                     | YES | NO | N/A |
|------|---|---|-----|----|-----|
| T7   | Perform baseline monitoring.  | Observe nurse.  |     |    |     |
| T.8  | Prime line with saline infusion.  | Observe nurse   |     |    |     |
| T.9  | Titrate flow rate accordingly   | Observe nurse   |     |    |     |
| T.10 | Monitor patient within first 10 minutes of transfusion. Nurse must be at patient bedside. | Observe nurse   |     |    |     |
| T.11 | Check vital sign accordingly till transfusion is complete.                                | Observe nurse   |     |    |     |
| T.12 | Monitor time limit of transfusion.  | Observe nurse / Ask patient / Check written evidence.     |     |    |     |
| T.13 | Identify reactions.   | Observe/ask nurse / Ask patient / Check written evidence. |     |    |     |
| T.14 | Take appropriate measures if required.  | Observe nurse / Ask patient / Check written evidence.     |     |    |     |
| D 15 | Accurate and complete documentation.  | Observe nurse / Ask patient / Check written evidence.     |     |    |     |

(please [√] the appropriate box)

**RATING :**

| Criteria      | Item      | Conformance | Non conformance | N/A |
|---------------|-----------|-------------|-----------------|-----|
| Technical     | 16        |             |                 |     |
| Documentation | 1         |             |                 |     |
| Soft skill    | 1         |             |                 |     |
| <b>Total</b>  | <b>18</b> |             |                 |     |

**Auditor 1[Name and Signature]:** .....

**Auditor 2 [Name and Signature]: .....**

**\*\*Calculation:**            Item conformance     X 100  
    Total item – item N/A

**Example:**

**\*\*Calculation:**            Item conformance     X 100  
    Total item – item N/A

Technical:  $\frac{16}{16} \times 100 = \frac{1600}{16} = 100\%$

Documentation :  $\frac{1}{1-0} \times 100 = \frac{100}{1} = 100\%$

Soft skill:  $\frac{1}{1-0} \times 100 = \frac{100}{1} = 100\%$

| Criteria      | Item      | Conformance                               | Non conformance            | N/A |
|---------------|-----------|---|----------------------------|-----|
| Technical     | 16        | 100%                                      | 0                          |     |
| Documentation | 1         | 100%                                      | 0                          |     |
| Soft skill    | 1         | 100%                                      | 0                          |     |
| <b>Total</b>  | <b>18</b> | <b>(100 + 100 + 100 = 300 ÷ 3) = 100%</b> | <b>(0+0+0= 0 ÷ 3) = 0%</b> |     |