NATIONAL NURSING AUDIT MINISTRY OF HEALTH MALAYSIA

ELEMENT 5: CONTINUUM OF CARE

5.2 ADMINISTRATION OF INTRAVENOUS (I.V) INFUSION

1. INTRODUCTION

Intravenous infusion through peripheral venous access is the most common procedure performed on patients. Care of patient with intravenous infusion is now an integral part of the majority of nurses' professional practice. It can range from caring for an individual with a peripheral cannula in situ, to nursing a patient requiring multiple parenteral drugs/infusions in the critical care environment. Whatever the route, peripheral or central, infusion therapy is not without risk.

(Scales 1999).

2. STANDARD

Patient receive safe administration of intravenous infusion and does not develop infusion error during hospital stay.

3. OBJECTIVES

3.1 All intravenous infusions are administered as prescribed.

3.2 Patient receive safe administration of intravenous infusion.

3.3 Accurate and complete documentation.

4. CRITERIA

Structure
1. Each patient has current written prescription 2. There is a Standard Operating Procedure (SOP)/manual procedure for administration of intravenous infusion. 3. The nurse has knowledge on care and maintenance of intravenous infusion.
Process
1. Acknowledge /Greet patient. 2. Identify right patient. 3. Verify prescription. 4. Prepare schedule for regime. 5. Prepare and check intravenous solution. 6. Inform and explain to patient. 7. Listen and responds promptly and politely to patient's questions. 8. Check for patency of line. 9. Assess infusion site for sign of Thrombophlebitis (pain, redness, swelling, palpable venous cord and fever) and dislodgment. 10. Regulate flow rate as prescribed. 11. Monitor patient's response and document. 12.Take appropriate measure if adverse reaction identified 13. Document fluid infused in intake/output chart.
Outcome
1. Patient received safe administration of intravenous infusion during hospital stay. 2. Patient informed and received the intravenous regime as prescribed. 3. Intravenous infusion errors are detected early and appropriate measures taken accordingly. 4. Accurate and complete documentation.

5. METHODOLOGY

5.1 Design : Direct observation of I.V line and gathering of information from documents.

5.2 Setting : All wards

5.3 Population

5.3.1 Inclusion criteria : All patients on intravenous peripheral infusions line including those with infusion devices

5.3.2 Exclusion criteria : Patients

- Receiving blood transfusion
- On controlled analgesia (PCA)
- With central venous lines (CVL)

5.4 Sample Design : Convenient sampling

5.5 Sample size : 200 (IV infusion) for major specialist hospitals, 100 for Minor specialist hospitals and 50 for non specialist Hospitals.

5.6 Time Frame : 6 weeks

5.7 Audit form (E5 AF 5.2) – every intravenous line(IV) must have one audit form.

6. DEFINITION OF OPERATIONAL TERMS

6.1 **CONCURRENT IV REGIME** - A 24-hours plan that informs the fluid type and time frame for prescribed infusion.

6.2 **WRITTEN PRESCRIPTION** – any legal orders of intravenous regime must be endorsed in the patient's case notes/ relevant Hospital/ Unit policy on intravenous infusion.

6.3 **VERIFICATION OF INFUSION IN PROGRESS INCLUDES THE FOLLOWING:**

6.3.1 Right solution.

6.3.2 Intravenous drip bottle in progress must indicate time commence and time completed.

6.3.3 Valid solution (not expired).

6.3.4 No change in color.

6.3.5 Contain no sediments / particles.

6.3.6 Titration of flow rate accordingly. Right flow rate: ± 2 to 5 drops per minute is acceptable (For adult patient only).

6.3.7 Fluid balance – A difference of ± 50 mls remaining in the bottle is acceptable.

6.3.8 Dry infusion – fluid level in intravenous bottle is below spike / less than half in chamber.

6.4 **LINE INSITU AND PATENT** - refers to uninterrupted flow with no signs of tissue infiltration / thrombophlebitis / air bubbles or blood clot along line.

6.5 **ACCURATE AND COMPLETENESS OF DOCUMENTATION INCLUDES** :

6.5.1 Current intravenous regime available.

6.5.2 Accurate and complete recording in the I/O chart.

6.5.3 Name and registration number of the patient written on the I/O Chart.

7 RATING SYSTEM

7.1 TECHNICAL COMPONENT

Infusion compliances for technical component include all of the followings:

7.1.1 Schedule for intravenous regime is concurrent with the latest prescription.

7.1.2 Has indication of time commenced and time completed on bottle in progress.

7.1.3 Solution infused: Correct and valid (not expired).

7.1.4 No sediments/particles and no change in color. Titrated accordingly to the correct flow rate.

7.1.5 Remaining fluid balance correspond to amount infused.

7.1.6 Dry infusion – fluid in the IV bottle is below spike/less than half in chamber.

7.1.7 Line is in situ and patent with no tissue infiltration/thrombophlebitis and dislodgement, air burbles or clot.

7.2 DOCUMENTATION COMPONENT

Accurate and completeness of documentation compliance includes all the followings:

7.2.1 Current intravenous regime available.

7.2.2 Accurate and complete recording in the intake/output chart.

7.2.3 Name and registration number of the patient written in the intake/output chart.

7.3 SCORE

7.3.1 Conformance Standard : > 90% which includes:-

- Technical skill : 100%
- Documentation : 100%

** Overall marks (% of Technical skill + % documentation ÷ 2)

Note : Samples are IV infusions & not Registered nurses.

8. AUDIT FORM

NATIONAL NURSING AUDIT MINISTRY OF HEALTH MALAYSIA	**VERSION 6/2019**
ELEMENT 5 : CONTINUUM OF CARE	
TOPIC : 5.2 ADMINISTRATION OF INTRAVENOUS INFUSION	**DATE : 11 April 2019**
DOCUMENT NO : E5 AF 5.2	**PAGE No. 1/4**

8.1 STANDARD

Patient receives safe administration of intravenous infusion and does not developed intravenous infusion error during hospital stay.

8.2 OBJECTIVES

8.2.1 All intravenous infusions are administered as prescribed.

8.2.2 Patient receive safe administration of intravenous infusion.

8.2.3 Accurate and complete documentation.

Date of Audit :…….

Locality : ……

Auditors 1. …….

2. ……. …….

N.B. Instructions for Auditors

1. Tick [√] at appropriate column
2. T / D indicate technical skill / documentation respectively

S/NO	ITEM		SOURCE OF INFORMATION	YES	NO	N/A
T1.	Infusion in progress :					
	T1.1	Is concurrent with prescribed regime.	Check intravenous bottle to validate correct solution.			
	T1.2	Has indicator of time commence and complete on intravenous bottle.	Check label on intravenous bottle. The time is to be written on the label only.			
	T1.3	Is valid (Not expired)	Check expiry date on intravenous bottle.			
	T1.4	Is clear : 1.4.1 No change in color	Check solution for any change in color.			
		1.4.2 No sediments / particles	Check solution for any sediments / particles.			
	T1.5	Is titrated as scheduled.	Check flow rate.			
	T1.6	Fluid level in intravenous bottle is above spike / more than half in chamber.	Check fluid level in intravenous bottle.			
T2.	Line in-situ and patent.		Inspect line and site of infusion.			
D3.	Accuracy and completeness of documentation.		Check documents.			

AUDIT REPORT

(please [√] the appropriate box)

Rating:

Criteria	Item	Conformance	Non conformance	N/A
Technical	8			
Documentation	1			
Total	9			

NOTE: Samples are IV infusions & not registered nurses

REMARKS

Auditor 1 (name and signature): ……

Auditor 2 (name and signature): ……

**Calculation: $\frac{\text{Item conformance}}{\text{Total item – item N/A}} \times 100$

Example:

**Calculation: $\frac{\text{Item conformance}}{\text{Total item – item N/A}} \times 100$

Technical: $\frac{8}{8} \times 100 = \frac{800}{8} = 100\%$

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

Criteria	Item	Conformance	Non conformance	N/A
Technical	8	100%	0	0
Documentation	1	100%	0	0
Total	**9**	**(100 + 100÷ 2) = 100%**	**0**	**0**

Note: To minimize N/A as much as possible. The nurse can be lead to answer if situation arises.