



Research Questionnaire/ Survey Form I

I am a nursing lecturer from the Department of Nursing Science, Faculty of Medicine, University Malaya. Currently I'm conducting a study on endotracheal cuff pressure management. One of the purposes of this study is to assess the registered nurses' knowledge and practice on endotracheal cuff pressure management. The result of this study can provide valuable feedbacks on improving the ventilated mechanical patient's management and safety. Therefore, I would appreciate if you could spend a few minutes answering the questions enclosed in this survey form.

There are 3 three sections in this survey:

Section A - *consists of a series of demographic questions to gather information about you and your experience as a registered nurse.*

Section B - *consist of items related to knowledge of endotracheal cuff management*

Section C - *consist of items related to current practice of endotracheal cuff management*

***Please answer Section B and C according to instruction given at the section.*

Instruction:

- *Kindly answer all the questions, as these are important, relevant and vital data for the completion of this survey.*
- *Kindly read the instructions before you begin with the new section.*
- *Please think carefully and answer all the items to your best ability.*
- *Do not write your name in the questionnaire and please seal the answered questionnaire in the envelope provided.*

Most of the questions are designed to be answered by tick (✓) in the options provided but I am also interested to further explore your opinions on the matter. Please feel free to expand or elaborate on any of the issues raised in the questionnaire. There are additional spaces on the reserve page. You may write in Bahasa Malaysia.

*All respondent will remain **anonymous** and the information provided will be **confidential**.*

Your kind participation in this study is highly appreciated. Thank you for your kind cooperation.

*Dr. Vimala Ramoo
Senior Lecturer
Department of Nursing Science,
Faculty of Medicine, UM*

Section A: Demographic data

Instruction: Please fill in the blank or tick (✓) in the appropriate box as required.

1. Age in years: _____
2. Years of working experience as a registered nurse: _____ year(s)
3. Years of working experience in the critical care unit: _____ year(s)
4. Please tick (✓) your level of nursing education in the box provided (you may tick more than one box):

Diploma in nursing

Post basic education in nursing

Bachelor degree in nursing

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Please specify the area of specialization: _____

(*Question 5 to 7 is included in the questionnaire for pre-intervention data collection only)**

5. Have you received any form of education or training related to sedation assessment or management prior to this educational session?
Please tick (✓) your answer in one of the one boxes.

Yes

No

6. If **YES**, you have received the education or training by which of the following means?
Please insert a tick (✓) in **ALL** applicable boxes.

Basic nursing education program

Continuous nursing education program – post basic

In-service hospital lectures /training program

Bedside teaching – at unit level

Out of hospital continuing education lectures
(e.g. conferences / seminars / workshop)

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

7. Are you aware of existence of sedation protocol or guidelines for sedation assessment and management of mechanically ventilated ICU patients?
Please tick (✓) your answer in one of the one boxes.

Yes

No

Section B: *Regarding endotracheal cuff management****Instruction:*****Read each item below and place a \surd at the correct answer**

1. What is the correct range for cuff range?
 - Above 30 cm H₂O
 - 20 to 30 cm H₂O cm
 - 10 to 20 cm H₂O
 - I do not know

2. The purpose of cuff is to
 - seal the extraluminal airway.
 - avoid collapse of airway.
 - measure the intratracheal pressure.
 - I do not know

3. Overinflation of the cuff give cause to
 - tracheal injury.
 - thyroiditis.
 - breathing against the ventilator's inspiratory phase.
 - I do not know

4. Underinflation of the endotracheal cuff cause
 - aspiration of secretions into the lower airway.
 - narrowing of the trachea.
 - need of tracheostomy.
 - I do not know

5. If a patient remains in the ventilator more than 14 days, cuff pressure must be increased with 5 cm H₂O.
 - This is not correct.
 - This is correct for all patients.
 - This is only correct for patients ventilated with a peak pressure > 45 cm H₂O.
 - I do not know

6. Cuff pressure is determined most accurately by means of

- a calibrated manometer.
- auditive determination of the minimal occlusive volume (MOV).
- finger palpation of the balloon.
- I do not know

7. Intermittent/partial insufflation of the cuff recommended to avoid tracheal lesions.

- This is not correct.
- This correct for all patient.
- This is only correct for patients who are on the ventilator > 14 days.
- I do not know

8. Cuff #1 is insufflated to 1 cm H₂O and cuff #2 to 1 mmHg.

- Pressure in cuff 1 < than pressure in cuff 2.
- Pressure in cuff 1 > than pressure in cuff 2.
- Pressure in cuff 1 = pressure in cuff 2.
- I do not know

9. Besides with air, it is allowed to fill the cuff with sterile water.

- This is not correct.
- This correct for all patient.
- This is only correct for patients who are on the ventilator > 14 days.
- I do not know

10. How do you ensure that the cuff has an adequate cuff seal?

- Auscultation with manual inspiration
- Ensure pressure is in adequate range only
- Palpation of pilot tube
- Expired tidal volume
- I do not know

Section B: *Regarding endotracheal cuff monitoring*

Instruction:

Read each item below and place a \surd at the correct answer

1. How often do you measure and record endotracheal tube cuff pressure while caring for the mechanically ventilated patient?

- Every 2 hours
- Every 4 hours
- Every 6 hours
- Every 12 hours
- When a leak occurs

2. In your unit, when is cuff pressure measured?

- Before providing oral care
- At the beginning of a shift
- After turning a patient/changing his or her position
- After changing an endotracheal tube from one corner of the mouth to the other
- In case of audible leakage
- In case of leakage detected through the ventilator
- For no special reason/routinely
- Other, please specify

3. How would you position your patient when measuring the endotracheal tube cuff pressure?

- Supine
- Supine to 45 degrees
- 30 to 40 degrees
- 30 to 90 degrees
- Left lateral
- Do not change patient position

4. Indicate the method you use to monitor the endotracheal tube cuff pressure?

- By listening for air leaks
- Use of minimal occlusive volume technique
- Use of the minimal leak technique
- Estimate the cuff pressure by feeling the cuff
- By means of a manometer
- Continuously, by means of a specific device

5. Indicate which endotracheal tube cuff pressure you maintain in the mechanically ventilated patient.
- 18 – 22 mm Hg
 - 23 – 25 mm Hg
 - 26 – 30 mm Hg
 - more than 31 mm Hg
 - I do not know
6. If using **cuff pressure monitoring** as the **preferred** cuff monitoring technique and a cuff leak remains once the cuff is inflated to the recommended maximum pressure, what is the normal procedure?
- Continue to inflate cuff to achieve seal regardless of pressure
 - Accept cuff leak and take no further action
 - Notify medical staff to assess ET tube
 - Other
 -
7. Immediately prior to extubation, is it normal procedure to check cuff pressure or volume?
- Yes
 - No
8. Do you inflate and re-inflate the cuff prior and after performing endotracheal tube suctioning?
- Yes
 - No
9. If an audible leak is notice, indicate how you would manage it?
- Continue cuff inflation to obtain a seal irrespective of volume of air inserted
 - Continue cuff inflation and notify physician
 - Manipulate patient's ETT and position.
 - Assess cuff pressure
 - Monitor ongoing cuff leak
10. If a cuff leak is detected indicate how much air you will use of inflate the cuff.
- 2 mls
 - 5 mls
 - 10 mls
 - 20 mls
 - Continued inflation till audible leak disappears irrespective of amount of air used.

11. Does your unit have an institutional guideline in place on how to monitor and record endotracheal cuff pressures?

- Yes
- No

12. If you answer **Yes** to Question 8, indicate how often do you use the guideline?

- Often
- Seldom
- Never

13. If the answer is **No** to Question 8, indicate on what do you base your decision making in ensuring the correct endotracheal cuff pressure in the mechanically ventilated patient.

- Own expertise
- The most recent literature
- What you have been taught in the unit
- I do not assess cuff pressure

You are welcome to provide any comments or suggestion in regards endotracheal cuff pressure management.

“Thank you for your willingness to participate in the completion of the questionnaire”.