

Appendix 1:

Sample Pre-briefing Script:

Thank you for joining our simulation training for COVID-19 infection control in the operating theatre. Please check that you have prepared a N95 for this training!

Could we first begin by **self-introduction** of each other?

You will be asked to take part in a simulation concerning infection control during induction of a patient with reportable or confirmed COVID-19 in the next 30-45 minutes. Before that, we will be viewing two videos of a team performing airway management of a COVID-19 – you will be guided through a discussion of their behaviour after the videos.

- To video, and discussion

In the next 30 minutes, you will be managing a patient confirmed with COVID-19.

Please act within your role and perform infection control measures as you would in a real clinical situation, from gown up, intraoperative management and gown down. We also will have tasks for the **observer roles**.

We believe that you are an intelligent, capable, care about doing your best and want to improve.

There will be video recording of your performance, and a feedback rubric will be used to provide feedback for your performance. Please note that these are strictly for your review and your learning, and will not be used outside of simulation or research purposes. In other words, **confidentiality** of your performance is of utmost importance for us. Please sign the consent form as provided.

Please note that during the simulation, we **may stop you and ask you to repeat parts of the procedure to facilitate learning**. You can also repeat the procedure as many times as you wish within the time frame to be more familiar with it.

Moreover, as infection control is one of the primary objectives of this scenario, we will

One important aim is to **conserve PPE** due to concerns about resources. We will take measures to conserve the PPE used in this training.

Do you have any questions?

Appendix 2: Sample Feedback Rubric

Task 1 – Gown Up Procedure	Individual Areas for fine tuning	Satisfactory Performance	Well-conducted	Specific Comments
Correct Sequence and Procedure of Gown Up with hand hygiene (for details refer to NTEC Infection Control Team checklist) <ol style="list-style-type: none"> 1. N95 respirator 2. OT Cap 3. Goggles/face shield 4. Gown 5. Gloves (tuck gown cuffs securely under gloves) 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Put down personal belongings before entering operating theatre	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Entrance through ante room	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Task 2 – Pre-induction Check	Individual Areas for fine tuning	Satisfactory Performance	Well-conducted	Specific Comments
Confirm patient identity, history, infection risk and perform pre-induction safety check	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Preset ventilator settings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Preparation of airway plan and clear communication of plan to assisting staff, including steps to minimize aerosolization of particles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Preparation of drugs for induction and standby hemodynamic drugs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Preparation of airway equipment, including: <ul style="list-style-type: none"> • video laryngoscope and appropriate size blade • closed suctioning system • (depending on airway assessment, may consider early procurement of difficult intubation trolley) 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clear role allocation including: <ul style="list-style-type: none"> • OTA for handing over equipment for intubation and cricoid pressure • Nurse for helping with circuit connection and drug administration, and to help with bag mask ventilation if needed 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Task 3 – Induction of Anaesthesia	Individual Areas for fine tuning	Satisfactory Performance	Well-conducted	Specific Comments
Pre-oxygenation with O2 flows < 6L/min, with correct mask selection and use of two hand technique to ensure good seal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Give appropriate drugs for rapid sequence induction, may need drug administration by nurse or another qualified staff to maintain good seal during induction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby ventilator before removal of face mask for intubation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intubate using video laryngoscopy, only after adequate onset of paralysis, with aim at first pass success without patient coughing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Task 4 – Resumption of Ventilation after first attempt	Individual Areas for fine tuning	Satisfactory Performance	Well-conducted	Specific Comments
Resume bag mask ventilation with two hand technique with tight seal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Turn APL valve to lowest possible pressure, and use lowest possible fresh gas flow to maintain adequate ventilation to avoid excessive aerosolization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If there is any difficulty in ventilation, consider early conversion to LMA (up to clinician preference)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Meanwhile optimize position and instruct assistant to optimize equipment +/- early call for assistance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby ventilator before removal of face mask for second attempt at intubation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Be wary that if muscle relaxant has worn off, patient may gag or cough	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Task 5 – Repositioning of endotracheal tube	Individual Areas for fine tuning	Satisfactory Performance	Well-conducted	Specific Comments
Ensure cuff inflated before positive pressure ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start positive pressure ventilation after connection to circuit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Recognize desaturation and high airway pressure, and proceed to auscultation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Follow high airway pressure algorithm to diagnose cause	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If suctioning required, use close suctioning system, and standby ventilator while suctioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standby ventilator before deflating cuff and repositioning and apply cricoid, and immediately inflate cuff after repositioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clearly communicate the steps of repositioning of endotracheal tube	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Task 6 – Resumption of normal ventilation	Individual Areas for fine tuning	Satisfactory Performance	Well-conducted	Specific Comments

Ensure cuff inflated before positive pressure ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start positive pressure ventilation after connection to circuit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Auscultate again to confirm tube position	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Give long acting muscle relaxant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If check cuff pressure, be aware that sometimes if incorrectly used the ETT cuff will be deflated, thus the ventilator should preferably be placed on standby	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Task 7 – Gown down procedure	Individual Areas for fine tuning	Satisfactory Performance	Well-conducted	Specific Comments
Follow gown down steps correctly and appropriately with hand hygiene between each step (for details refer to NTEC Infection Control Team checklist) <ol style="list-style-type: none"> 1. Remove gloves 2. Perform hand hygiene 3. Remove gown 4. Perform hand hygiene 5. Remove (top) cap and eye protection 6. Perform hand hygiene 7. Remove respirator 8. Perform hand hygiene 9. (+/-Replace with normal surgical mask) 10. Perform hand hygiene 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Overall	Individual Areas for fine tuning	Satisfactory Performance	Well-conducted	Specific Comments
Show vigilance in maintaining strict infection control practice throughout induction, and be aware that every surface that has been touched by the clinician or assistant or the airway equipment is now considered contaminated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clear communication and instructions to assisting staff throughout the intubation process, particularly pertaining to infection control measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Infection Control Training PPE Assessment Checklist

ITEMS	Complied	Remarks
Gown Up		
N95 Respirator		
1. Put upper string to occiput		
2. Put lower string to neck		
3. Adjust metal clip over nose bridge		
4. Fit check		
Cap and Eye Protection		
5. Put on cap to cover hairline		
6. Put on goggles/face shield		
Gown		
7. Put on gown to cover neckline		
8. Tie by side		
9. Back is wrapped over		
Gloves		
10. Put on gloves and tuck gown cuffs under gloves		
Gown Down		
Gloves		
1. Remove gloves and unfold the gloves from inside		
2. Hand hygiene		
Gown		
3. Undo tie at neck first, then tie at waist		
4. Remove gown and fold the gown from inside to minimal dispersing		
5. Hand hygiene		
Cap and Eye Protection		
6. Take off eye shield/face shield		
7. Take off cap from front to back		
8. Hand hygiene		
N95 Respirator		
9. Remove lower string (neck) first, then upper string (occiput)		
10. Hand hygiene		

Appendix 3: Graphical Representation of Results of Evaluation

