

Supplementary Table 1: Chest radiographs readers' characteristics

Reader code	Reader specialty	Fellow/Consultant
R0	Radiology	Consultant
R1	Emergency Medicine	Consultant
R2	Intensive care medicine	Consultant
R3	Emergency Medicine	Fellow
R4	Emergency Medicine	Fellow
R5	Emergency Medicine	Consultant
R6	Emergency Medicine	Consultant
R7	Intensive care medicine	Consultant

Hamad General Hospital oxygen therapy guidelines:

Oxygen Therapy – Covid19 Pneumonia

This guideline is to assist clinicians & does not replace clinical judgement
 This is a stepwise guide for oxygen therapy, if targets (box A) not met then move to next step

Targets for oxygenation
 SpO₂ >= 90-94% (unless chronic lung disease then 88-92%)
 RR < 30-35 & patient comfortable
 Observations recorded 2 hourly unless position change then every 15 mins for 30 mins

Initial Assessment:
 Assess – hx, ex, ECG, bloods, POCUS at 30-70 degrees
 If SpO₂ > 80% then suppl O₂ as protocol initial target > 88%
 The immediately prone post assessment
 If < 80% to floor 1, consider CPAP or I&V

Box B - positioning patients on oxygen:
 Mobilise in room
 Rotate position – prone L side/R side/ sit up at least 30 mins each from wake to sleep. If sleeping or comfy allow prone to maximum 3 hours then review
 Bed 30 degrees all times
 Ensure humidified oxygen

Step 1 - Nasal prongs 2-4 L/min, box B
 Step 1, 2 floor 2, 3 TEC
 Step 2 - Hudson mask 5-10 L/min, box B
 Step 3 - NRB 10-15 l/min, box B,
 May use floor 3 for up to 1 hour for proning trial

Step 4, 5 Floor 1
 negative pressure room or HEPA filter

Box C – Proning patients I&V
 Follow MICU protocol

Step 4 – CPAP, box B
 FIO₂ 0.3-0.6
 CPAP 5-10 cm water
 TV 6 ml/kg, if > 8 ml/kg consider I&V
 Leak < 30-35 L/min

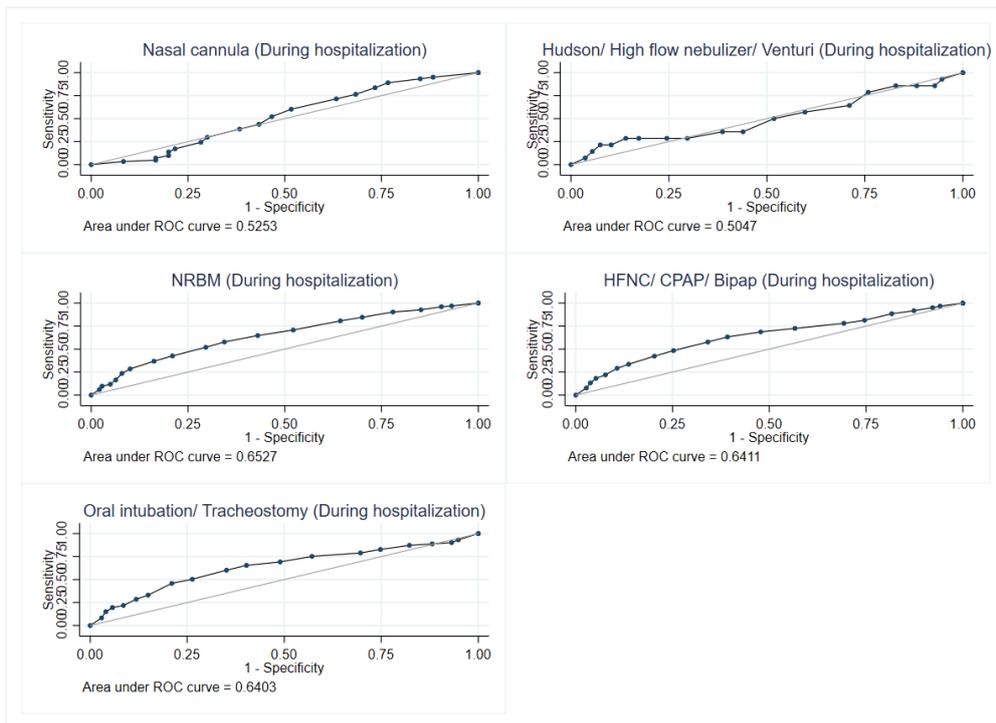
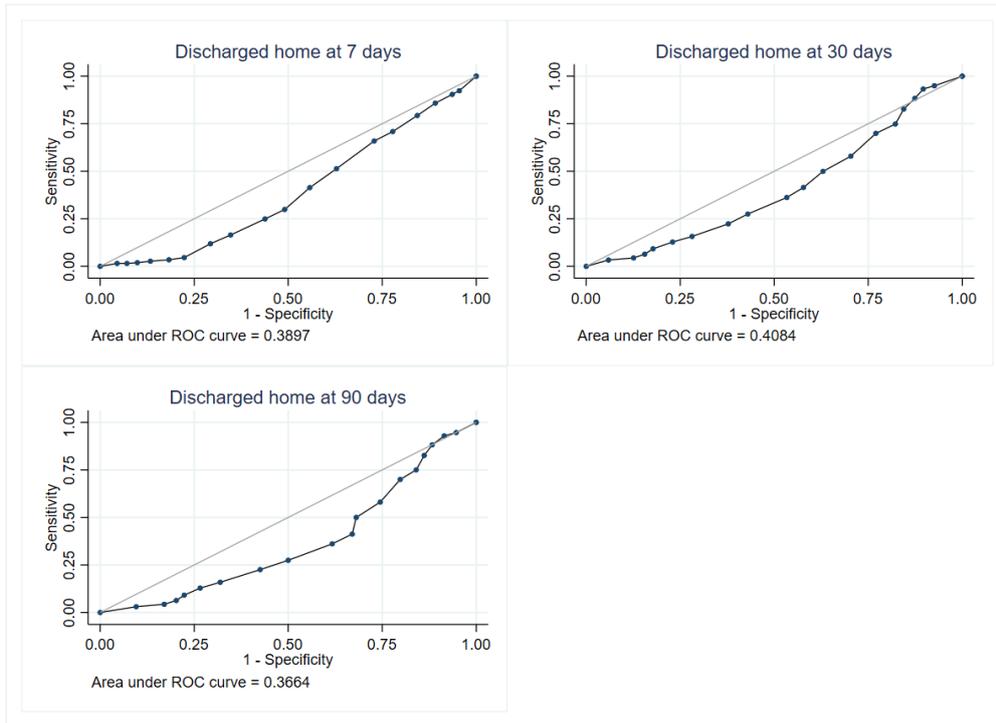
HFNO used if CPAP not tolerated or as bridge to I&V or as rest from NIV
 Flow 30-60 L/min, warm & humidified
 FIO₂ 0.3-0.6. Surgical mask over nasal prongs

Contraindications to proning
 Type II respiratory failure
 Accessory muscle use
 SBP < 90 mmHg
 Agitation / confusion
 Spinal injury, abdominal surgery
 Worsening respiratory distress
 Unable to tolerate

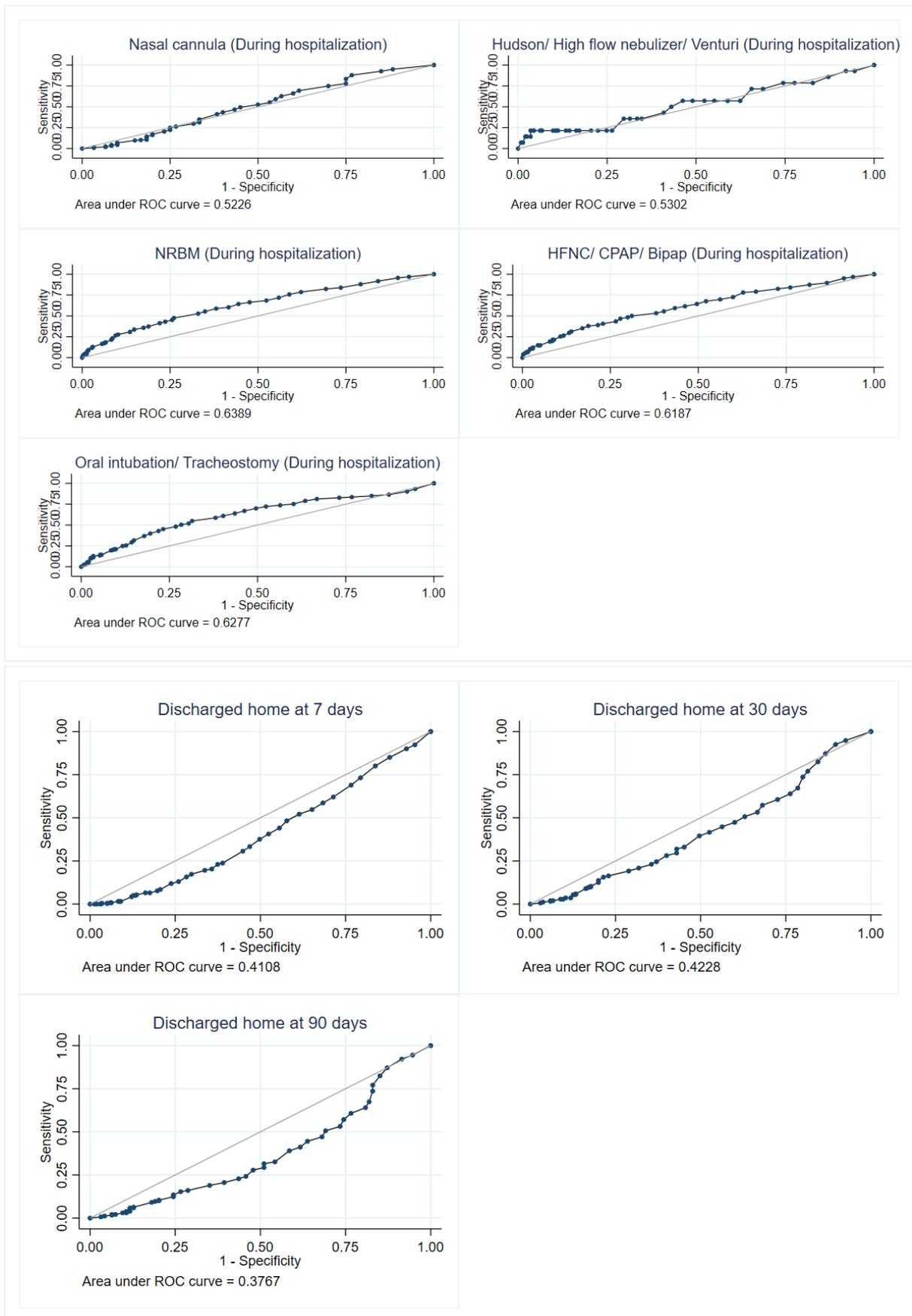
Step 5 - I&V, box C
 RSI using guideline
 Minimum FIO₂ to achieve SpO₂ 90-94% (88-92% chronic lung disease)
 TV 6 ml/kg, RR < 25 (MV 100ml/kg) PaCO₂ 35-40 unless metabolic acidosis
 PEEP 10, then titrate to SpO₂, range 5-14 cm water
 Plateau pressure < 30 & peak pressure < 35 cm water
 Sedation fentanyl & midazolam
 Move out negative pressure once I&V

Box D
Interhospital transfer criteria:
 Box A criteria met for >=2 hours on one of following:
 - Nasal prongs, Hudson mask, NRB
 - CPAP with leak < 30-35 L/min
 - I&V FIO₂ <= 0.6, PEEP < 15 cm water, paralyse for transport
 Noradrenaline < 0.1 mcg/kg/min (via central line, arterial line in place)
 HFNO NOT USED IN TRANSPORT

Supplementary Figure 1: Hamad General Hospital Oxygen therapy guidelines during the COVID-19 pandemic.



Supplementary Figure 2: ROC curves for BRIXIA scores. Oxygen device use during hospitalization, length of hospital stay.



Supplementary Figure 3: ROC curves for RALE scores. Oxygen device use during hospitalization, length of hospital stay.