Haven Wisdom

Acute Respiratory Distress Syndrome (ARDS)
Part III: Novel Coronavirus Infection (COVID-19)

Introduction
In this unfolding case study that simulates the complexities of clinical practice, you will assume the role of a nurse in the critical care setting. You will use a holistic approach to provide safe care by making correct clinical judgments for a patient with ARDS and septic shock. You will need to apply essential knowledge to notice and interpret the most crucial assessment findings and lab values to properly establish care priorities and recognize a developing complication before it needlessly progresses.

Preparation for Care Activity

Recognizing Clinical Relationships
Review the medical history and home medications of this patient. For each home medication, identify the pharm. classification and expected outcome for this patient its most common side effect (SE). Finally, draw a line to determine which medication treats what condition.

Medical History	Home Medications	Pharm. Classification	Expected Outcome	Common SE
• Diabetes type II • Hypertension • Seasonal allergies	1. Metformin 1000 mg PO BID 2. Glyburide 10 mg PO BID 3. Lisinopril 20 mg PO daily 4. Loratadine 10 mg PO daily	Hypoglycemic ↓ ACE 2nd gen ANTIHISTAMINE	lower BS lower BS ↓ BP allergy s/s relief	Headache N/V/D indigestion ↑ weight cough blurred vision dizzy Headache dry mouth weakness

Part I: Developing Noticing and Interpreting Skills

1. Which findings from the *present problem* are **most important** and noticed by the nurse as clinically significant?

Most Important Findings	Clinical Significance
↓ O2 w/ labored breathing RR 34, pale, diaphoretic,	↑O2 need ↓ O2 SATS

2. Which data from the *social history* is **most important** and noticed by the nurse as clinically significant?

Most Important Findings	Clinical Significance
HOMELESS NO FAMILY RELATIONSHIPS	NO SUPPORT NO HOME

3. Which findings from the *contextual factors* are **most important** and noticed by the nurse as clinically significant?

Most Important Findings	Clinical Significance
NURSE BURNOUT STAFF OVERWORKED	↓ environment with DEATHS BURNOUT = ↓ CARE

Patient Care Begins

Rhythm Interpretation		
Regular or Irregular:	P wave present? yes	Rate: 118 BPM
Interpretation:		
Clinical Significance:		Intervention (if needed)
↓ perfusion STROKE RISK		· ANTIDYSRHTHMIC · cardioversion · O2

4. Which current vital sign findings are **most important** and noticed by the nurse as clinically significant?

Most Important Data	Clinical Significance	TREND: Improved/Declined/No Change
↓O₂ SAT ↓BP ↑HR	NO perfusion COMPENSATION	IMPROVE O₂ Decline HR

5. What assessment data needs to be noticed as most important? Interpret its clinical significance.

| Most Important Data	Clinical Significance	TREND: Improved/Declined/No Change
Cardiac ↓O₂ shallow	Heart Sounds irregular NO perfusion NO gas exchange	DECLINE

Auscultate Anterior Breath Sounds

Place a circle on the chest where the nurse would place the stethoscope to auscultate the left lower lobe.

Click this link to listen. Identify what type of breath sounds are heard, and interpret their clinical significance.

Breath Sounds	Clinical Significance
Crackles	NO gas exchange

Auscultate Heart Sounds
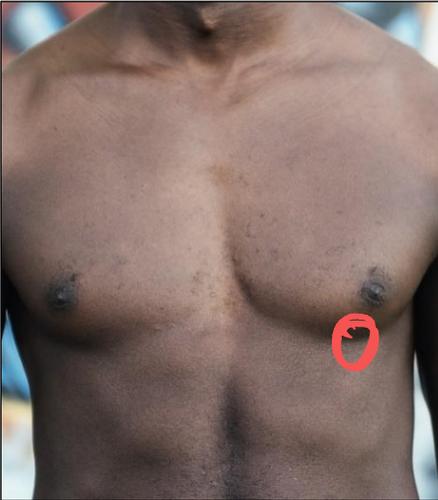
Place a circle on the chest where the nurse would place the stethoscope to auscultate the apical pulse.

Click this link to hear heart tones. Identify what type of heart sounds are heard, and interpret their clinical significance.

Heart Sounds	Clinical Significance
irregular	↓ perfusion of blood and O₂

> As you complete the head-to-toe assessment, you notice this finding in the flowsheet in the medical record:

Intake & Output	0800	1000	1200	
Intake	150 mL	100 mL	60 mL	310
Output	0	0	0	0

6. Which findings from this new information are **most important** and noticed by the nurse as clinically significant?

Most Important Findings	Clinical Significance	Nurse Response
NO OUTPUT	FLUID overload	call Dr FOR DIURETIC

7. After evaluating the patient, identify the current nursing priority and which action(s) the nurse should take. List interventions by priority and the expected outcome.

Nursing Priority	RESPIRATORY STATUS	
Priority Interventions	Rationale	Expected Outcome
↓ DEMAND O₂ ↑ SUPPLY O₂ FIND CAUSE O₂	increase perfusion to organs and extremity until cause	correct ♡ Rhythm ↑ Respiratory STATUS

Misc.						
	Mg	COVID-19	`Ion Ca	Lipase	Lactate (Ven)	Hgb A1C

Which diagnostic findings are **most important** and noticed by the nurse as clinically significant?

Most Important Data	Clinical Significance	TREND Improved/Declined/No Change
COVID +	RDS	NO CHANGE

Arterial Blood Gas (ABG)					
	pH	paCO2	paO2	HCO3	O2 sat
	7.28 ↓	52 ↑	58	20 ↓	82 NRB

Which diagnostic findings are **most important** and noticed by the nurse as clinically significant?

Most Important Data	Clinical Significance
RESP ACIDOSIS PT. COMPENSATED severe	HYPOXIC

Lab Planning Activity

Lab Name	Clinical Significance	Priority Nursing Assessments/Interventions
Lactate Current Value: Critical Value ✓	4.8 ACIDOSIS	ADEQUATE VENTILATION

Part II: Developing Responding Skills

1. Interpreting clinical data collected, list at least **two** problems that are possible for this patient? Which problem is the priority?

Possible Problems	Priority Problem	Pathophysiology of Priority Problem
STROKE DYSRYTHMIA	Respiratory STATUS	Hypoventilation causing increased CO_2 causing acidosis

Omar is successfully intubated and has a 7.0 mm endotracheal tube (ET) that is well secured, 24 cm at the lips.

Current vent settings are:
- CMV/AC rate 12
- TV 550 mL
- PEEP +5
- FiO2 100%.

A central line was placed in the right internal jugular (RIJ) vein. Correct placement of the ETT and central line was confirmed by chest x-ray.

He is sedated and not moving. His breath sounds have coarse crackles scattered bilat and aeration remains diminished. You note the following on the monitor: SINUS TACHY

2. Which current findings are **most important** and noticed by the nurse as clinically significant?

Most Important Data	Clinical Significance	TREND: Improved/Declined/No Change
O_2 SINUS TACHY	increasing O_2 and VENTILATIONAL SITUATIONAL	IMPROVED

Medical Management of Care

3. Identify the rationale for each provider order and its expected outcome.

Care Provider Orders:	Rationale:	Expected Outcome:
Ventilator settings: CMV/AC rate 12, TV 550 mL, PEEP +5, Fi O2 100%.	MIMIC NORMAL	↑O2
Norepinephrine IV infusion (0.5-30 mcg/min) to maintain MAP >65.	↑BP	↑BP
Vasopressin 0.04 IV infusion	↑BP	
0.9% NS IV infusion 100 mL hour	↑BP	
Fentanyl IV infusion 10-125 mcg/hour. RASS goal -3 (Mod. Sedation)	SEDATION	SEDATION
Dexmedetomidine IV infusion 0.2-1 mcg/kg/hour. RASS goal -3 (Mod. Sedation). (Pt weighs 83 kg)	SEDATION	↓INFECTION
Chlorhexidine 15 mL oral/swab every 12 hours	oral care ↓bacteria	↓bacteria
Famotidine 20 mg IV every 12 hours	stress GI ulcers	↓ulcers GI
Heparin 5000 units SQ every 8 hours	BLOOD THINNER	↓DVT
Insert urinary catheter	NO OUTPUT	accurate I&O

Nursing Management of Care

4. After interpreting clinical data collected, identify the nursing priority and three priority interventions. For each intervention write the rationale and expected outcome.

Nursing Priority		
Priority Intervention(s)	**Rationale**	**Expected Outcome**
Oral CARE	↓ infection	NO infection
MONITOR VENT settings	MONITOR RESPIRATORY STATUS	↑ CONDITIONS
RAPPOR	NURSE-pt TRUST	RELATIONSHIP WITH PATIENT

5. Identify the psychosocial/holistic care priority based on the findings you noticed as most important. List appropriate interventions, rationale, and expected outcomes.

Psychosocial/Holistic Care Priority	NURSE – PT RELATIONSHIP	
Priority Interventions	**Rationale**	**Expected Outcome**
EDUCATION CASE MNGMCNT	TRUSTING RELATIONSHIP c PATIENT	improved in patient experience

Education/Discharge Planning

6. Identify three priority educational topics that must be included in a teaching plan to prevent complications.

Teaching About Illness	Treatment Priorities
REASON ALARMS NaVVaraTE CARE	increase RESPIRATORY STATUS reason For alarms & what they mean WHAT you are DOING To PATIENT

Part III: Developing Evaluation Skills

1. For each finding, make a clinical judgment by placing an "x" in the appropriate column if the patient's condition has improved, has not changed, or has declined.

Assessment Finding	Improved	No Change	Declined
T: 101.8 F/39.3 C (oral)	X		
P: 114 (regular)			X
R: 20			X
BP: 92/50 **MAP:** 64			X
O2 sat: 91% vent: FiO2 100%			X
Breath sounds coarse crackles bilaterally		X	
20 mL light yellow urine past 2 hours	X		
Body tense, moving hands toward mouth			X
Eyes are open and follows the nurse's command to squeeze his hand	X		

Write a concise narrative nurse's note to document what was most important in the medical record at the end of your shift.

ADMIT (+) COVID and RDS, NONINVASIVE attemptr to ↑ O₂, INTUBATED & SEDATED, TOlerating vent settings.

Nurse Reflection

To strengthen your clinical judgment skills, reflect on your knowledge and the decisions made caring for this patient by answering the reflection questions below.

Reflection Question	Nurse Reflection
As you worked through this simulation, how did it make you feel?	MORE CONFIDENT WITH S/S OF RESPIRATORY DISTRESS
What did you already know and do well on this simulation?	RESPIRATORY S/S
What areas do you need to develop/improve?	VENT SETTINGS and HOW PATIENT IS TOLERATING
What did you learn? How will you apply what was learned to improve patient care?	PRIORITIZATION IN RESPIRATORY PATIENT