

Novel Coronavirus Disease (COVID-19)

UNFOLDING Reasoning



John Taylor, 68 years old

Primary Concept			
Immunity			
Interrelated Concepts (In order of emphasis)			
<ul style="list-style-type: none"> • Clinical judgment • Communication 			
NCLEX Client Need Categories	Covered in Case Study	NCSBN Clinical Judgment Model	Covered in Case Study
Safe and Effective Care Environment		Step 1: Recognize Cues	✓
<ul style="list-style-type: none"> • Management of Care 	✓	Step 2: Analyze Cues	✓
<ul style="list-style-type: none"> • Safety and Infection Control 	✓	Step 3: Prioritize Hypotheses	✓
Health Promotion and Maintenance	✓	Step 4: Generate Solutions	✓
Psychosocial Integrity	✓	Step 5: Take Action	✓
Physiological Integrity		Step 6: Evaluate Outcomes	
<ul style="list-style-type: none"> • Basic Care and Comfort 			
<ul style="list-style-type: none"> • Pharmacological and Parenteral 	✓		

Therapies			
• Reduction of Risk Potential	✓		
• Physiological Adaptation	✓		

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Part I: Initial Nursing Assessment

Present Problem:

John Taylor is a 68-year-old African-American male with a history of type II diabetes and hypertension. He came to the emergency department (ED) triage window because he felt crummy, complaining of a headache, runny nose, feeling weaker, “achy all over” and hot to the touch and sweaty the past two days. When he woke up this morning, he no longer felt hot but began to develop a persistent “nagging cough” that continued to get worse throughout the day. John is visibly anxious and asks, “Do I have that killer virus that I hear about on the news?”

Personal/Social History:

John lives in a large inner-city that has had over three thousand confirmed cases of COVID-19. He has been married to Maxine, his wife of 45 years, and is a retired police officer and active in his local church.

1. What data from the histories are RELEVANT and must be NOTICED as clinically significant by the nurse?

(NCSBN: Step 1 Recognize cues/NCLEX: Reduction of Risk Potential)

RELEVANT Data from Present Problem:	Clinical Significance:
68 y/o, visually anxious Type 2 diabetes & hypertension s/s: headache, achey, weak, hot to touch, sweaty, "nagging" cough, difficulty catching breath on ambulation	Older than 65, comorbidities increases risk for COVID
RELEVANT Data from Social History:	Clinical Significance:
-lives in large metro area -married for 45 years -active in church	-increased risk for exposure -has extended support system

2. What additional clarifying questions does the triage nurse need to ask John to determine if his cluster of physical symptoms is consistent with COVID-19?

- Did you take the temperature? What was it?
- does cough produce sputum?
- have you been around anyone known to have COVID19?
- do you have a new loss of taste/smell?
- do you have a sore throat?
- have you had nausea/vomiting?
- diarrhea?
- felt confused?

3. Based on the clinical data collected, identify what measures need to be immediately implemented using the following clinical pathway. -mask patient and family member (staff should already be taking precautions)-minimize exposure (i.e., private exam room, etc.)-administer COVID19 test

4. What type of isolation precautions does the nurse need to implement if COVID-19 is suspected? What specific measures must be implemented to prevent transmission?

Type of Isolation:	Implementation Components:
droplet	Hand hygiene, gloves, mask, goggles

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Part II: Patient Care Begins in the ED:

John is brought back to a room. As the nurse responsible for his care, you collect the following clinical data:

Current VS:	P-Q-R-S-T Pain Assessment:	
T: 100.3 F/38.8 C (oral)	Provoking/Palliative:	“moving makes it worse”
P: 118 (regular)	Quality:	“achy”
R: 22 (regular)	Region/Radiation:	“all over”
BP: 164/88 MAP: 113	Severity:	5/10
O2 sat: 92% room air	Timing:	continuous

1. What VS data are RELEVANT and must be NOTICED as clinically significant by the nurse?

(NCSBN: Step 1 Recognize cues/NCLEX: Reduction of Risk Potential /Health Promotion and Maintenance)

RELEVANT VS Data:	Clinical Significance:	Nursing Intervention (if needed):
Temperature Blood pressure Tachycardia pain	-represents a low grade fever (his feeling hot and sweaty) -could be increased due to illness/stress, and a compensatory measure -due to his HTN, possibly not controlled -lower due to respiratory issues, monitor as could drop suddenly creating perfusion issue -high level and "all over"	Administer pain meds, antipyretic

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2. What body system(s) will you assess most thoroughly performing a FOCUSED assessment based on the primary/priority problem? Identify correlating specific nursing assessments.

(NCLEX: Reduction of Risk Potential/Physiologic Adaptation)

PRIORITY Body System:	PRIORITY Nursing Assessments:
<i>Respiratory</i>	Inspection: breathing effort, use of accessory muscles, flaring of nostrils, rate/depth, relationship of inspiration/expiration, level of anxiety, any secretions, color changes in lips, buccal mucosa, and nail beds Auscultation: breath sounds for wheezing or other adventitious sounds, rales, diminished sounds, etc. Assess: SpO2, conversation dyspnea

Current FOCUSED Nursing Assessment:	
GENERAL SURVEY:	Appears anxious, body tense
NEUROLOGICAL:	Alert & oriented to person, place, time, and situation (x4), generalized weakness
HEENT:	Head normocephalic with symmetry of all facial features. Lips, tongue, and oral mucosa pink and moist.
RESPIRATORY:	Breath sounds fine dry crackles bilat. with diminished aeration on inspiration and expiration in all lobes anteriorly, posteriorly, and laterally, non-labored respiratory effort, episodic non productive cough
CARDIAC:	No edema, heart sounds regular, pulses strong, equal with palpation at radial/pedal/post-tibial landmarks, brisk cap refill. Heart tones audible and regular, S1 and S2 noted over A-P-T-M cardiac landmarks with no abnormal beats or murmurs. No JVD noted at 30-45 degrees.
ABDOMEN:	Deferred
GU:	Deferred
INTEGUMENTARY:	Skin hot, dry, intact, normal color for ethnicity. Skin integrity intact, skin turgor elastic, no tenting present.

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3. What assessment data is RELEVANT and must be NOTICED as clinically significant by the nurse? (NCSEB: Step 1

Recognize cues/NCLEX: Reduction of Risk Potential Reduction of Risk Potential/Health Promotion & Maintenance)

RELEVANT Assessment Data:	Clinical Significance:

-Appears anxious -weakness -oral mucosa pink/moist -fine dry crackles, diminished Lung sounds on inspiration/expiration; non-labored respiratory effort; non-productive cough -brisk cap refill	-could be attributing to the increase in HR, RR, BP -could be fall risk -still getting oxygenation -injury to lung tissue; non-productive (dry) cough is s/s of COVID19 -not in respiratory distress (yet) -still good perfusion
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4. Interpreting clinical data collected, what problems are possible? Which problem is the PRIORITY? Why?

(NCSBN: Step 2: Analyze cues/Step 3: Prioritize hypotheses/NCLEX: Management of Care)

Problems:	Priority Problem:	Rationale:
Anxiety Crackles Diminished lung sounds	Anxiety	If the patient's anxiety is worsening it could have an effect on their respiratory status, thus increasing dyspnea.

1. What nursing priority(ies) and goal will guide how the nurse RESPONDS to formulate a plan of care? (NCSBN:

Step 4 Generate solutions/Step 5: Take action/NCLEX: Management of Care)

Nursing PRIORITY:	Prevent Spread of Infection; Restore Breathing Pattern	
GOAL of Care:	prevent spread, reduce s/s, restore normal respiratory patterns, ease anxiety	
Nursing Interventions:	Rationale:	Expected Outcome:
-monitor respiratory: breathing sounds, RR, SpO2 -position for enhancement of breathing -monitor VS -fluids -provide comfort -enforce strict hand hygiene/use of PPE -maintain isolation	-respiratory compromise could result in hypoxia; SOB is another common symptom -decrease breathing effort -especially temp - infection usu begins w/a high temp -can assist with temperature, perfusion -pt. is already anxious and can increase VS -reduce transmission of disease -reduce transmission of disease	-SpO2 does not drop -increase in SpO2 level, less use of accessory muscles -decrease in temp, VS WNL -remains hydrated -VS decrease, rests -no transmission to other patients/staff

Caring and the “Art” of Nursing

6. What is the patient likely experiencing/feeling right now in this situation? What can you do to engage yourself with this patient's experience, and show that they matter to you as a person? (NCLEX: Psychosocial Integrity)

What Patient is Experiencing:	How to Engage:
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anxiety fear loneliness	active listening -ensure pt. has access to phone, tablet, etc. - some way to communicate with wife, congregation -educate the wife regarding isolation, use of PPE, etc. -watch body language - don't appear afraid or disinterested or that he is just a number
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The ED physician assesses John and orders the following:

Collaborative Care: Medical Management

7. State the rationale and expected outcomes for the medical plan of care. (NCLEX: Pharm. and Parenteral Therapies)

Care Provider Orders:	Rationale:	Expected Outcome:
Contact-Airborne-Droplet precautions Influenza swab COVID-19 swab (only if influenza neg) Chest x-ray Complete blood count (CBC) Metabolic panel (BMP) Lactate Nasal cannula titrate to keep O2 sat >90% ^[KR3]	-prevent the spread of the disease to others; breaks the mode of transmission -rule out Influenza -confirm COVID19 -not diagnostic; however, can evaluate effect of the lungs, severity of disease -determine presence of infection -fluid balance, levels of electrolytes (Na, K), how kidneys/liver are working, glucose -used to diagnose lactic acidosis - abnormal results mean a decrease in perfusion/not enough O2 -maintain SpO2; increase perfusion, decrease respiratory effort	-disease doesn't spread beyond pt. -negative for influenza -positive if present -lung changes present if positive -WNL unless infection present -WNL, unless dehydrated or other COVID complications -WNL; if + could result in abnormal results -SpO2 stays above 92%

8. Which orders do you implement first? Why? (NCLEX: Management of Care)

Care Provider Orders:	Order of Priority:	Rationale:
<ul style="list-style-type: none"> • Contact-Airborne-Droplet precautions • COVID-19 swab • Nasal cannula titrate to keep O2 sat >95% 	<ol style="list-style-type: none"> 1. Contact-Airborne-Droplet precaution 2. Nasal cannula titrate to keep O2 sat >92% 3. COVID-19 swab 	<ul style="list-style-type: none"> -precaution must be taken to prevent disease even if only suspected (error on the side of caution); time where possible trumps actual in prioritization -next priority is ABCs - O2 needs to be in place to ensure SpO2 >92% -COVID test to confirm diagnosis

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Part III: Interpreting Diagnostic Data

The following diagnostic results just posted in the electronic health record:

Radiology Reports:

What diagnostic results are RELEVANT and must be NOTICED as clinically significant by the nurse?

(NCSBN: Step 1 Recognize cues/NCLEX: Reduction of Risk Potential/Reduction of Risk Potential/Physiologic Adaptation)

Radiology: Chest X-Ray	
Results:	Clinical Significance:
Diffuse bilateral pulmonary infiltrates	These changes are consistent with a viral pneumonia that is a common complication Of COVID-19.

Lab Results:

Hematology (CBC)								
	WBC	HGB	PLTS	% Neuts	% Lymphs	% Monos	% Eosin	Bands
Norms:	(4.5-11.0 mm ³)	(12-16 g/dL)	(150-450x 10 ³ /μl)	(55-70)	(20-40)	(2-8)	(1-4)	(3-5%)
Current:	3.5	12.8	224	92	8	0	0	0

Metabolic Panel (BMP)										
	Na	K	Cl	CO2	AG	Gluc	Ca	BUN	Creat	GFR
	135-145 mEq/L	3.5-5.0 mEq/L	101-111 mmol/L	20-29 mmol/L	(7-16 mEq/L)	64-110 mg/dL	8.5-10.2 mg/dL	10-20 mg/dL	0.8-1.2 mg/dL	>60 mL/min
Current:	141	3.9	105	16		178		18	1.10	>60

Misc.					
	Influenza	COVID-19	Lactate (Ven)		
	Neg	Neg	(0.5-2.2 mmol/L)		
Current:	Neg	Pos	1.9		

[KR4]

What lab results are RELEVANT and must be NOTICED as clinically significant by the nurse? (NCSBN:

Step 1 Recognize cues/NCLEX: Reduction of Risk Potential Reduction of Risk Potential/Physiologic Adaptation)

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
WBC (low) Neutrophils (high) Lymphs (low) Monos (low) CO2 (low) Glucose (high) Influenza (neg) COVID19 (pos)	-all of the other results are WNL -low WBC coupled with high % of neutrophils indicates an infection -low CO2 could be start of acidosis, DKA, shock, kidney issues -high glucose - need to treat as he is a type 2 diabetic -neg influenza/pos COVID19: rules out the flu and confirms COVID	

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There has been no change in John's status in the ED and is currently stable. He is being admitted to the general med/surg floor for observation.

To ensure a hand-off that will promote safe patient care to the next nurse, communicate a concise SBAR that captures the essence of John's status and summarizes the excellent care you have provided!

<p>Situation:</p>
<p>Name/age: John Taylor, 68 yo. African-American male</p>
<p>BRIEF summary of primary problem: Presented to ED indicating that for the last 2 days he has had a headache, runny nose, felt weak and "achy all over", and was hot to the touch and sweaty. He indicated he no longer felt hot this morning; however, has developed a persistent nagging cough that has progressively gotten worse and has SOB upon ambulation. He tested negative for</p>

influenza and positive for COVID-19.

Day of admission/post-op #:

Background:

Primary problem/diagnosis: COVID19

RELEVANT past medical history: hx of type 2 diabetes and hypertension

Assessment:

Most recent vital signs: T: 100.6 (oral)

P: 112 (regular)

RR: 18 (regular)

BP: 142/84 MAP: 103

O2 sat: 93% 2 liters n/c

RELEVANT body system nursing assessment data: weakness (fall risk), oral mucosa

pink/moist (hydrated), fine dry crackles,

diminished aeration on

inspiration/expiration; non-labored

respiratory effort; non-productive cough,

brisk cap refill

RELEVANT lab values: CO2 was elevated along with neutrophils, high glucose should be treated promptly because of history of diabetes

Isolated patient, began O2, provided

education

-BP decreased, SpO2 slight

increase/maintained, anxiety decreased

-patient is stable at this time; however,

temp is increasing and infection is present

INTERPRETATION of current clinical status (stable/unstable/worsening): temperature was worsening o2 was maintaining

R**ecommendation:** recommend maintaining respiratory isolation including use of pt. specific equipment.

Continue to monitor VS, respiratory effort, and lab results, encourage oral fluids, and reassess every 30 minutes. If O2 drops below 92% increase flow rate or change to simple mask. Administer medications as ordered for infection. Manage hyperthermia associated with elevated temperature.

Suggestions to advance the plan of care: ensure appropriate precautions are in place and address all patient needs/worries