Kylie Bennett

Post-op Pain Management: Cardiac Arrest *(2/2)

Sheila Dalton, 52 years old

Primary Concept
Perfusion
Interrelated Concepts (In order of emphasis)
1. Gas Exchange 2. Acid-Base Balance 3. Fluid and Electrolyte Balance 4. Clinical Judgment 5. Patient Education 6. Communication 7. Collaboration

UNFOLDING Reasoning Case Study: STUDENT

Post-op Pain Management 2/2: Cardiac Arrest

History of Present Problem:

Sheila Dalton is a 52-year-old woman who has a history of chronic low back pain and COPD. She had a posterior spinal fusion of L4-S1 earlier today. Her pain is currently controlled at 2/10 and increases with movement. She was started on a hydromorphone patient-controlled analgesia (PCA) with IV bolus dose that is 0.2 mg and continuous rate of 0.2 mg/hour.

The nurse reported that her nausea has improved after receiving ondansetron IV four hours ago. She was having increased pain despite using the PCA every 10 minutes. Her pain has decreased from 6/10 to 2/10 since the PCA bolus was increased from 0.1 mg to 0.2 mg of hydromorphone IV one hour ago.

Current VS:
T: 99.8 F/37.7 C (oral)
P: 78
R: 12
BP: 92/48
O2 sat: 89% room air 4 liters n/c

What data from the history is RELEVANT and has clinical significance to the nurse?

RELEVANT Data from History:	Clinical Significance:
COPD	[redacted] morphine causes respiratory depres.
chronic low back pain —	reason for surgery
spinal fusion L4-S1 —	reason at hospital

Your shift continues…

Thirty minutes later she is feeling more nauseated, and you administer ondansetron 4 mg IV push prn. Five minutes later she puts the call light on again. You are not able to respond immediately because you are helping your other patient get on the commode. Little do you know that Sheila is going to depend on your ability to THINK LIKE A NURSE and clinically reason to save her life. When you arrive in her room you observe the following…

Patient Care Begins:

Current Assessment:	
GENERAL APPEARANCE:	Lethargic, unresponsive, ashen pale in color
RESP:	Minimal spontaneous respiratory effort present. When you arrive at the bedside you observe that her mouth is full of liquid emesis with chunks of undigested food that is drooling out the side of her mouth
CARDIAC:	Unable to palpate radial pulse, you go straight to the carotid pulse on the neck and note a weak pulse with 2 palpable beats in 5 seconds. Calculate pulse rate:_____/minute
NEURO:	Unresponsive, does not arouse or awaken to vigorous physical stimuli
GI:	Not assessed
GU:	Not assessed
SKIN:	Not assessed

What assessment data is RELEVANT and must be recognized as clinically significant by the nurse?

RELEVANT Assessment Data:	Clinical Significance:
lethargic and pale	something is not right w/ pt
mouth full of liquid	risk of aspiration
weak pulses	not getting good circulation
nonpalpable radial pulse	not getting circulation

Current VS:
T: not assessed
P: 24
R: 4
BP: 72/40
O2 sat: 76% 4 liters n/c

What VS data is RELEVANT and must be recognized as clinically significant by the nurse?

RELEVANT VS Data:	Clinical Significance:
BP P R O_2	all of these vitals are horrible the pt is about to die

Clinical Reasoning Begins…

1. *What is the primary problem that your patient is most likely presenting with?*

   respiratory arrest... possible opioid overdose

2. *What is the underlying cause/pathophysiology of the primary problem?*

   pt already has COPD so already a weak respiratory drive and with the amount of opioids being used puts pt in even more risk for respiratory distress

3. *What nursing priority(ies) will guide your plan of care? (if more than one-list in order of PRIORITY)*

   stabilize vitals
   closely monitor pt vitals
   ask provider about maybe going on scheduled meds and getting pt off the pump

4. *What interventions will you initiate based on this priority?*

Nursing Interventions:	Rationale:	Expected Outcome:
call healthcare provider immediately after stabilizing pt about d/c pump	prevents pt from administering even more opioids so if not full blown overdose it won't become one	pt gets healthy and begins to get better
possibly keep narcan handy	if overdose can treat it with this	keep them alive
respiratory assessment frequently	keep an eye to prevent more resp. distress	

5. *What body system(s) will you most thoroughly assess based on the primary/priority concern?*

respiratory and cardiac because most essential and most effected

6. *What is the worst possible/most likely complication to anticipate?*

death

7. *What nursing assessments will identify this complication **EARLY** if it develops?*

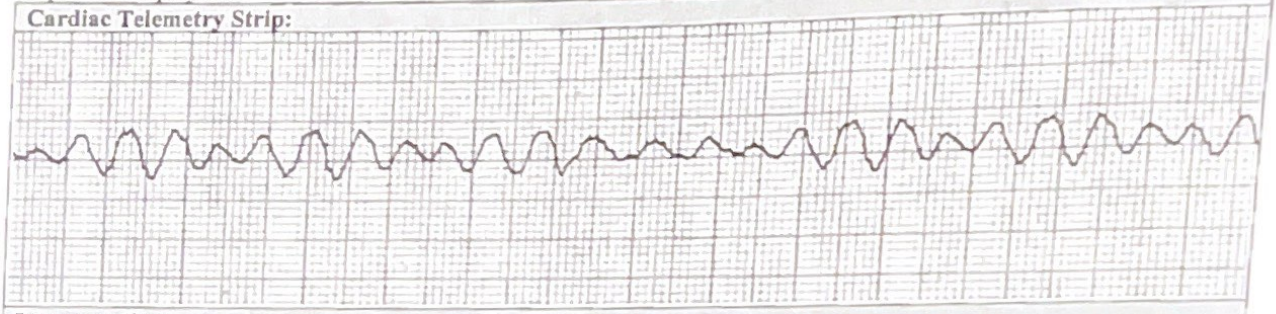
worsening of vitals and change of LOC

8. *What nursing interventions will you initiate if this complication develops?*

talk to provider about a different route of opioids

A crash cart is brought into the room, and the patient is placed on the cardiac monitor/defibrillator. The following rhythm is displayed:

Cardiac Telemetry Strip:



Interpretation:

V fib

Clinical Significance:

fatal heart rhythym

Medical Management: Rationale for Treatment & Expected Outcomes

I recognize that most students/new nurses have not had ACLS training or exposure to this certification in nursing school. It is important for the new nurse to understand the most common ACLS algorithms as it is relevant to clinical practice. If and when ACLS certification as a registered nurse is taken, this case study will have provided practice of this essential skill! Please recognize that doing this case study does not qualify for ACLS interventions in practice! You must be officially certified to actually intervene with these measures in a code.

Nurses who are BLS certified can have an active part in the code such as chest compressions; pulse check; bag ventilation; and vital sign checks. Nurses should feel that they can work within their scope and certification. So many times, nurses who are not ACLS certified will not even do those things that are taught in the BLS certification course.

*But there is a place for a nurse who is not ACLS certified during a code that is an important role...the RECORDER. Every crash cart has a simple 1-2 page form that documents the code and is self-explanatory. Though this role should ultimately be done by a certified ACLS nurse when one arrives, until then begin documentation and remain present in the room so that you as the primary nurse can communicate to the code team and physician the patient's story and what led up to the code. **Once the code team arrives, the role of the primary nurse is to contact physician, family, and pastoral care to update on patient status and assist with care.***

Care Provider Orders:	Rationale:	Expected Outcome:
ACLS Priorities: airway breathing circulation	had throw up in mouth puts pt atrisk of aspiration RR is horrendous and pt has hx of COPD HR is fetally slow blood not getting pumped out like it should	If we fix all of these pt may begin to get better

Medication Dosage Calculation:

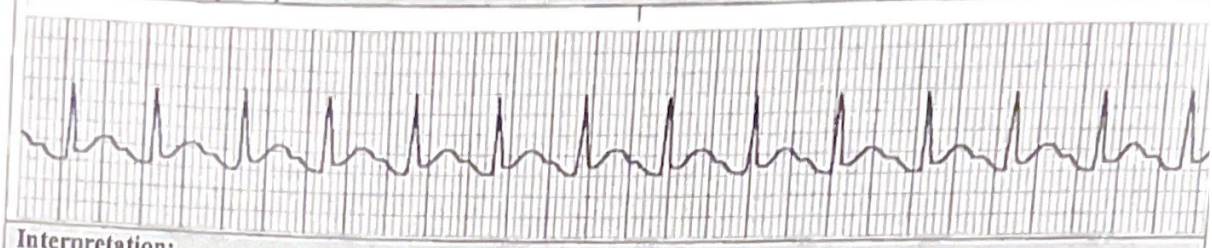
Medication/Dose:	Mechanism of Action:	Volume/time frame to Safely Administer:	Nursing Assessment/Considerations:
Epinephrine 1:10,000 1 mg/10 mL IV/IO every 3-5" push	jump start the body	10 mL syringe IV Push: Volume every 15 sec? 2.5mL	continuous monitoring monitor IV site

Medication/Dose:	Mechanism of Action:	Volume/time frame to Safely Administer:	Nursing Assessment/Considerations:
Amiodarone 300 mg IV push 150 mg/3 mL vial	helps with the V fib help the heart	IV Push: Volume every 15 sec?	continuous monitoring monitor IV site monitor HR

TEN minutes post-arrest:

After two doses of epinephrine and amiodarone bolus and the third defibrillatory unsynchronized shock a
360 joules, the following rhythm is present on the monitor:

Cardiac Telemetry Strip:



Interpretation:

sinus tachycardia

Clinical Significance:

HR too fast... need too slow it down

Nursing Priority Intervention:

continuous telemetry

The in-house physician running the code orders a stat ABG right after she is successfully resuscitated and is now intubated. You obtain the following results:

Arterial Blood Gases:	Current:	High/Low/WNL?
pH (7.35–7.45)	7.15	low
pO2 (80–100)	64	low
pCO2 (35–45)	78	high
HCO3 (18–26)	22	wnl
O2 sats (>92%)	90%	low
Oxygen delivery	100%	wnl

What lab results are RELEVANT and must be recognized as clinically significant by the nurse?

RELEVANT Lab(s):	Clinical Significance:
pH	body acidotic
pCO_2	hypoxia
O_2 sats	low resp. causing hypercapnia
pCO_2	pt not oxygenating well

Lab Planning: Creating a Plan of Care with a PRIORITY Lab:

Lab:	Normal Value:	Why Relevant?	Nursing Assessments/Interventions Required:
pH Value: 7.15	7.35-7.45 Critical Value:	helps homostasis in the body	1. monitor vitals administer O_2

Evaluation: ONE minute post-resuscitation:

After determining that her current rhythm also has a pulse, you collect the following assessment data:

Current VS:
T: 99.1 F/37.3 C (oral)
P: 128 (regular)
R: ambu bag rate of 20/minute (physician ordered increased rate)
BP: 128/88
O2 sat: 92% 100% O2

Current Assessment:	
GENERAL APPEARANCE:	Resting comfortably, appears in no acute distress
RESP:	Color slightly improved. Is pale/pink, coarse crackles/rhonchi scattered in both lung fields even after suctioning. No spontaneous resp. effort. Requires ambu bagging
CARDIAC:	Pulses 2+ throughout. Strong femoral pulse. No edema in extremities. Heart rate regular–S1S2.
NEURO:	Remains unresponsive. Responds to pain stimuli by bringing both hands toward the source of pain
GI:	Abdomen soft, non-tender with active bowel sounds
GU:	Foley placed, 30 mL clear, yellow urine present in bag
SKIN:	Surgical incision intact, no redness, drainage, or dehiscence present

1. *What clinical data is RELEVANT that must be recognized as clinically significant?*

RELEVANT VS Data:	Clinical Significance:
Temp pulse Bp O2	all vitals are increasing significantly from when last taken
RELEVANT Assessment Data:	**Clinical Significance:**
resting comfortably improved color unresponsive except painful stimuli no abnormal breathing	overall good improvement

2. *Has the status improved or not as expected to this point?*

   improved

3. *Does your nursing priority or plan of care need to be modified in any way after this evaluation assessment?*

   yes needs to include more focused respiratory assessment

4. *Based on your current evaluation, what are your nursing priorities and plan of care?*

   respiratory assessment

Think ABC's…

A: AIRWAY–Maintain placement and integrity of endotracheal tube

B: BREATHING–Impaired gas exchange

C: CIRCULATION–Maintain adequate blood pressure and stable cardiac rhythm (impaired tissue perfusion)

TEN minutes post-resuscitation:

Medical Management: Rationale for Treatment & Expected Outcomes:

Care Provider Orders: ACLS Priorities:	Rationale:	Expected Outcome:
keep airway clear use suction if need be	Use suction to keep clean to minimize risk of aspiration	
make sure pt breathing well so have good oxygenation	as long as breathing is intact and good rate good oxygenation	pt begins to improve and continues to
heartrate good pump good circulation	pumping efficiently equals good circulation	

Medication/Dose:	Mechanism of Action:	Volume/time frame to Safely Administer:	Nursing Assessment/Considerations:
Nalaxone 0.02 mg IV push every 2 minutes 0.4 mg maximum dose	reverse overdose	**IV Push:** **Volume every 15 sec?**	respiratory

The room is now ready and it is now time to transfer to ICU. Effective and concise handoffs are essential to excellent care and if not done well can adversely impact the care of this patient. You have done an excellent job to this point, now finish strong and give the following SBAR report to the nurse who will be caring for this patient:

Situation:

Name/age: Shiela Patten/52y/o

BRIEF summary of primary problem: admitted w/ posterior spinal fusion pain managed w/ dilaudid and PCA. Pt OD with respiratory depression

Day of admission/post-op #:
Day 1

Background:

RELEVANT past medical history:
COPD chronic low back pain

Assessment:

Most recent vital signs:
T: 99.1 O2: 92% on vent at FiO2 100%
HR: 128
RR: 20
BP: 128/88

RELEVANT body system nursing assessment data:
neuro
skin
cardiac
GI

RELEVANT lab values:
ABG PCO2 78
pH: 7.15 HCO3 22
PO2: 64 O2 90%

INTERPRETATION of current clinical status (stable/unstable/worsening):
stable and improving

Recommendation:

Suggestions to advance plan of care:
continue suctioning ABG
chest xray neuro assess.

TWENTY minutes post-resuscitation:

Radiology Reports: Portable Chest X-ray

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

RELEVANT Results:	Clinical Significance:
Tip of ET tube 1 cm above the carina. Heart size normal.	should be 2-3 cm above carina notify Dr

Arterial Blood Gases:	Current:	High/Low/WNL?	Prior:
pH (7.35–7.45)	7.29		7.15
pO2 (80–100)	102		64
pCO2 (35–45)	48		78
HCO3 (18–26)	23		22
O2 sats (>92%)	100%		90%
Oxygen delivery	100%		100%

What lab results are RELEVANT and must be recognized as clinically significant by the nurse?

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
oxygen delivery PCO2 PO2 pH	all are normal limits	everything slowing improving through

Complete Blood Count (CBC):	Current:	High/Low/WNL?	Prior:
WBC (4.5–11.0 mm 3)	8.9		7.8
Hgb (12–16 g/dL)	10.2		11.8
Platelets (150-450 x10³/µl)	148		155
Neutrophil % (42–72)	85		81

What lab results are RELEVANT and must be recognized as clinically significant by the nurse?

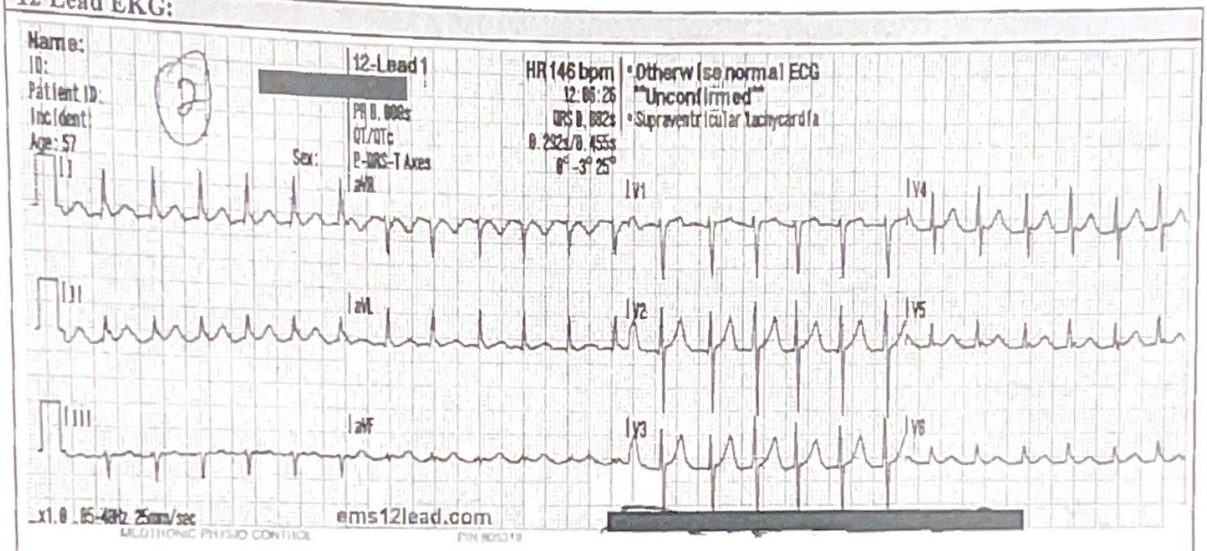
RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
Hgb 10.2 from 11.8 low platelets 148 L neutro 85 from 81 H	anemic clotting issue infection	worsening

Basic Metabolic Panel (BMP):	Current:	High/Low/WNL?	Prior:
Sodium (135–145 mEq/L)	138		140
Potassium (3.5–5.0 mEq/L)	4.1		3.8
CO2 (Bicarb) (21–31 mmol/L)	20		22
Glucose (70–110 mg/dL)	152		122
Creatinine (0.6–1.2 mg/dL)	1.7		1.1
Misc:			
Lactate (<2.6)	4.9		N/a

What lab results are RELEVANT and must be recognized as clinically significant by the nurse?

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
Na	normal electrolyte	stable
K		stable
CO_2	kidney injury	worsening
gluc	because of kidney damage	worsening
creat-	kidney damage	↓

12 Lead EKG:



Interpretation:

V tach

Clinical Significance:

not good

Education Priorities/Discharge Planning

1. *What will be the most important discharge/education priorities you will reinforce with their medical condition to prevent future readmission with the same problem?*

manage COPD well

2. *What are some practical ways you as the nurse can assess the effectiveness of your teaching with this patient?*

observe them

Caring and the "Art" of Nursing

1. *What is the patient and FAMILY likely experiencing/feeling right now in this situation?*

grateful their loved one is alive

2. *What can you do to engage yourself with this patient's experience and show that he/she matters to you as a person?*

take the time to know them

Use Reflection to THINK Like a Nurse

Reflection-IN-action (Tanner, 2006) is the nurse's ability to accurately interpret the patient's response to an intervention in the moment as the events are unfolding to make a correct clinical judgment and transfer what is learned to improve nurse thinking and patient care in the future.

1. *What did I learn from this scenario?*

how quickly things can go wrong

2. *What would I do differently (if applicable) in this situation to prevent this outcome?*

monitor for OD more frequently

3. *How can I use what has been learned from this situation to improve patient care in the future?*

pay attention to PCA pump