

Appendicitis/Appendectomy

UNFOLDING Reasoning



John Washington, 14 years old

Primary Concept		
Inflammation		
Interrelated Concepts (In order of emphasis)		
<ul style="list-style-type: none"> • Pain • Stress • Clinical Judgment • Patient Education • Communication 		
NCLEX Client Need Categories	Percentage of Items from Each Category/Subcategory	Covered in Case Study
Safe and Effective Care Environment		
✓ Management of Care	17-23%	✓
✓ Safety and Infection Control	9-15%	
Health Promotion and Maintenance	6-12%	✓
Psychosocial Integrity	6-12%	✓
Physiological Integrity		
✓ Basic Care and Comfort	6-12%	✓
✓ Pharmacological and Parenteral Therapies	12-18%	✓
✓ Reduction of Risk Potential	9-15%	✓
✓ Physiological Adaptation	11-17%	✓

History of Present Problem:

John Washington is a healthy 14-year-old African American male who weighs 150 lbs. (68.2 kg). He came to the emergency department because he woke up this morning at about 2 am with "excruciating" generalized abdominal pain around his belly button that has been progressively getting worse over the past several hours. It is now 2 pm. He took ibuprofen 400 mg PO this morning, which decreased the pain some but is now more painful and uncomfortable. The pain is now localized to his RLQ. The pain increases with walking and movement but he feels better when he lies down in a fetal position. He vomited three times after he drank some orange juice for breakfast this morning and has had nothing to drink since. He continues to feel nauseated but has not had an emesis since this morning.

Personal/Social History:

John lives with his mother and three younger brothers. He is active in athletics and has a strong social network of friends and family in the inner-city neighborhood where he lives.

*What data from the histories are RELEVANT and must be interpreted as clinically significant by the nurse?
(Reduction of Risk Potential)*

RELEVANT Data from Present Problem:	Clinical Significance:
Generalized abdominal pain that is described as "excruciating"	This can indicate gastrointestinal issues
The pain is located around his belly button	can indicate a hernia or could indicate appendicitis
Pain in RLQ	Can indicate appendicitis.
RELEVANT Data from Social History:	Clinical Significance:
he is active in athletics	Can indicate that there is some sort of muscle issue.
he is social	Social people have better mental health
inner-city neighborhood	Can indicate the patient is exposed to poor air quality

Patient Care Begins:

Current VS:	P-Q-R-S-T Pain Assessment:	
T: 100.5 F/38.1 C (oral)	Provoking/Palliative:	Movement, palpation
P: 106 (regular)	Quality:	Sharp, cramping
R: 20 (regular)	Region/Radiation:	Mid abdomen, RLQ
BP: 142/76	Severity:	8/10
O2 sat: 99% RA	Timing:	Continuous

*What VS data are RELEVANT and must be interpreted as clinically significant by the nurse?
(Reduction of Risk Potential/Health Promotion and Maintenance)*

RELEVANT VS Data:	Clinical Significance:
100.5 F oral	indicates an infection may be present
106 HR	tachycardia indicates increased cardiac output
BP 142/76	hypertensive from stress on the body
cramping pain	cramping pain can be visceral
RLQ location	can indicate appendicitis
severity 8/10	This shows that the patient is in severe pain
continious pain	

Initial Assessment by Primary Nurse

What body system(s) will the nurse most thoroughly assess based on the problem and the clinical data collected to this point? (Reduction of Risk Potential/Physiologic Adaptation)

PRIORITY Body System(s):	PRIORITY Nursing Assessments:
Gastrointestinal	pain assessment CBC to check white blood cell elevation McBurney's test to test for appendicitis

Current Assessment:	
GENERAL SURVEY:	Alert, oriented, pleasant, appears tense, uncomfortable, dress appropriate for the season, hygiene and grooming normal for age and gender.
NEUROLOGICAL:	Alert & oriented to person, place, time, and situation (x4)
HEENT:	Head normocephalic with symmetry of all facial features. PERRLA, sclera white bilaterally, conjunctival sac pink bilaterally. Lips, tongue, and oral mucosa pink and moist.
RESPIRATORY:	Breath sounds clear with equal aeration on inspiration and expiration in all lobes anteriorly, posteriorly, and laterally, nonlabored respiratory effort on room air.
CARDIAC:	Pink, warm & dry, 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.
ABDOMEN:	Abdomen round, rebound tenderness in RLQ to gentle palpation. Rebound tenderness present in RLQ, BS + in all four quadrants, bowel sounds diminished/hypoactive
GU:	Voiding without difficulty, urine clear/dark amber
INTEGUMENTARY:	Skin warm, dry, intact, normal color for ethnicity. Cap refill <3 seconds. Hair soft-distribution normal for age and gender. Skin integrity intact, skin turgor elastic, no tenting present.

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

(Reduction of Risk Potential/Health Promotion & Maintenance)

RELEVANT Assessment Data:	Clinical Significance:
rebound tenderness in RLQ bowl sounds in all four quadrants bowel sounds hyperactive/diminished	can indicate appendicitis indicates obstruction unlikely indicates that there is gastrointestinal issues

Radiology Reports:

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

(Reduction of Risk Potential/Physiologic Adaptation)

Ultrasound: Abdomen	
Results:	Clinical Significance:
Enlarged, non-compressible appendix	This shows that there is inflammation of the appencitis most likely from infection

Lab Results:

Complete Blood Count (CBC)					
	WBC	HGB	PLTs	% Neuts	Bands
Current:	14.5	15.2	245	88	0

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

(Reduction of Risk Potential/Physiologic Adaptation)

RELEVANT Lab(s):	Clinical Significance:
14.5 WBC 15.2 HGB Neutrophils 88%	His is high and indicates an infection is most likely present This is elevated for the patient's age. this is elevated most likely due to infection

Basic Metabolic Panel (BMP)					
	Na	K	Gluc.	Creat.	
Current:	133	3.5	95	0.9	

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

(Reduction of Risk Potential/Physiologic Adaptation)

RELEVANT Lab(s):	Clinical Significance:
Sodium lv 133 (low)	increase of water from inflammation can lead to hypernatremia

Misc.					
	Lactate	CRP			
Current:	4.1	55			

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

(Reduction of Risk Potential/Physiologic Adaptation)

RELEVANT Lab(s):	Clinical Significance:
lactate 4.1 (High) CRP 55 (high)	can be from an infection indicates infection

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

(Reduction of Risk Potential/Physiologic Adaptation)

Lab:	Normal Value:	Clinical Significance:	Nursing Assessments/Interventions Required:
WBC Value: 14.5	Critical Value: >30,000 <2.0	This shows that body is not able to fight infections like it should or that the infection is severe.	assess for source of infectin follow hand hygiene precautions

Clinical Reasoning Begins...

1. *Interpreting relevant clinical data, what is the primary problem? What primary health-related concepts does this primary problem represent? (Management of Care/Physiologic Adaptation)*

Problem:	Pathophysiology of Problem in OWN Words:	Primary Concept:
appendicitis	mucous membranes of the appendix experience enlargement and cause the lumen of the appendix to be obstructed causing inflammation and infection	inflammation of the appendix resulting in pain

Collaborative Care: Medical Management *(Pharmacologic and Parenteral Therapies)*

Care Provider Orders:	Rationale:	Expected Outcome:
Establish peripheral IV	to access vein to administer medications via IV push	easy access
0.9% NS 1000 mL IV bolus	to increase fluids	renal function
Morphine 2 mg IV every 2 hours PRN	to decrease pain	decreased pain
Ondansetron 4 mg IV every 4 hours PRN nausea	to relieve nausea from pain	less nausea
Ceftriaxone 1 g IVPB x1 now	treat infection	WBC decrease, fever decreases, HR returns to stable level BP returns to stable level
Metronidazole 500 mg IVPB every 12 hours	treat infection	WBC decrease, fever decreases, HR returns to stable level BP returns to stable level
General surgeon consult	inform client and get informed consent	WBC decrease, fever decreases, HR returns to stable level BP returns to stable level
Strict NPO	to prevent aspiration during surgery	patient doesn't aspirate on fluids during surgery

PRIORITY Setting: Which Orders Do You Implement First and Why? *(Management of Care)*

Care Provider Orders:	Order of Priority:	Rationale:
<ul style="list-style-type: none"> • Establish peripheral IV • 0.9% NS 1000 mL IV bolus • Morphine 2 mg IV every 2 hours PRN • Ondansetron 4 mg IV every 4 hours PRN nausea • Ceftriaxone 1 g IVPB x1 now • Metronidazole 500 mg IVPB every 12 hours 	IV normal saline morphine ondansetron ceftriaxone metroiazone	to establish vein acces to provide fluids offer pain relief offer relief from nausea to treat infection to treat infection

Collaborative Care: Nursing

2. What nursing priority (ies) will guide your plan of care? *(Management of Care)*

Nursing PRIORITY:		
PRIORITY Nursing Interventions:	Rationale:	Expected Outcome:
IV infusion as ordered administer antibiotic therapy as ordered	replace fluid loss treat infection	adequate functioning of organs treat underlying cause of infection

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

(Reduction of Risk Potential/Physiologic Adaptation)

PRIORITY Body System:	PRIORITY Nursing Assessments:
Gastrointestinal	assess for pain and the possibility of a burst appendix
Respiratory	monitor breathing rate and breath sounds
Cardiac	monitor heart rate and rhythm

4. *What is the worst possible/most likely complication(s) to anticipate based on the primary problem of this patient?*
(Reduction of Risk Potential/Physiologic Adaptation)

Most Likely PRE-OP Complication:

Worst Possible/Most Likely Complication to Anticipate:	acute pain	
Nursing Interventions to PREVENT this Complication:	Assessments to Identify Problem EARLY:	Nursing Interventions to Rescue:
administer pain medications as ordered	pain scale	morphine administration

Most Likely POST-OP Complication:

Worst Possible/Most Likely Complication to Anticipate:	infection	
Nursing Interventions to PREVENT this Complication:	Assessments to Identify Problem EARLY:	Nursing Interventions to Rescue:
administer antibiotics as ordered	temperature, CBC	administer ceftriaxone and metroiazone
practice infection control techniques	monitor for possible infections	handwashing techniques proper cleaning techniques

5. *What psychosocial/holistic care PRIORITIES need to be addressed for this patient?*
(Psychosocial Integrity/Basic Care and Comfort)

Psychosocial PRIORITIES:	discuss anxieties discuss social aspects related to recovering (discussing when sports can be continued)	
PRIORITY Nursing Interventions:	Rationale:	Expected Outcome:
CARE/COMFORT: <i>Caring/compassion as a nurse</i> <i>Physical comfort measures</i>	Showing caring compassion can relieve anxiety. music therapy	the patient will experience less anxiety
EMOTIONAL (How to develop a therapeutic relationship): <i>Discuss the following principles needed as conditions essential for a therapeutic relationship:</i> <ul style="list-style-type: none"> • Rapport • Trust • Respect • Genuineness • Empathy 	rapport = builds trust with the patient so they are able to vocalize and inform the nurse about their health history Trust allows the patient and nurse to build rapport respect helps to establish trust by both having a common goal of health. genuineness alleviates anxieties and helps the patient open up. empathy allows nurses to understand	They patient builds a good interpersonal relationship with the nurse built on trust and genuineness so that the patient can be honest about health and have a
SPIRITUAL:	assess patient spirituality	patient may benefit from meeting with a
CULTURAL Considerations (IF APPLICABLE)	African american culture	assess for culture differences and

Evaluation: Four Hours Later...

John had a laparoscopic appendectomy without apparent complications. He is currently in PACU and has just returned to the med/surg floor.

Current VS:	Most Recent (from PACU):	Current PQRST:	
T: 100.4 F/38.0 C (o)	T: 99.8 F/37.7 C (o)	Provoking/Palliative:	Movement worsens
P: 92 (reg)	P: 84 (reg)	Quality:	Dull ache
R: 20 (reg)	R: 18 (reg)	Region/Radiation:	RLQ
BP: 136/86	BP: 124/80	Severity:	5/10
O2 sat: 97% room air	O2 sat: 99% room air	Timing:	Continuous

Initial Postop Assessment by Primary Nurse

What body system(s) will the nurse most thoroughly assess based on the problem and the clinical data collected to this point? (Reduction of Risk Potential/Physiologic Adaptation)

PRIORITY Body System(s):	PRIORITY Nursing Assessments:
provoking pain worse when moving dull ache pain timing	can be pain from surgery monitor and assess monitor and assess **For pain administer medications as ordered and assess for pain levels. Try to have patient find comfortable positioning to ease pain

Current Assessment:	
GENERAL SURVEY:	Appears to be in no acute distress, the body appears tense. Occasional moans; moves as little as possible and grimaces with movement.
NEUROLOGICAL:	Drowsy, but arousable, alert & oriented to person, place, time, and situation (x4)
HEENT:	Head normocephalic with the symmetry of all facial features. PERRLA, sclera white bilaterally, conjunctival sac pink bilaterally. Lips, tongue, and oral mucosa pink and moist.
RESPIRATORY:	Respirations shallow, breath sounds clear but diminished with equal aeration on inspiration and expiration in all lobes anteriorly, posteriorly, and laterally, nonlabored respiratory effort on room air.
CARDIAC:	Pink, warm & dry, 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.
ABDOMEN:	Abdomen flat and tender to gentle palpation. No BS auscultated in all four quadrants. Three small dressings on the abdomen with no drainage present
GU:	Has not voided since surgery
INTEGUMENTARY:	Skin warm, dry, intact, normal color for ethnicity. Cap refill <3 seconds, Hair soft-distribution normal for age and gender. Skin integrity intact, skin turgor elastic, no tenting present.

1. What data is *RELEVANT* and must be interpreted as clinically significant by the nurse?

(Reduction of Risk Potential/Health Promotion and Maintenance)

RELEVANT VS Data:	Clinical Significance:	TREND: Improve/Worsening/Stable:
No BS in all four quadrants	intestinal activity slowed	worsening
RELEVANT Assessment Data:	Clinical Significance:	TREND: Improve/Worsening/Stable:
anuresis	can indicate fluid loss	worsening

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

(Management of Care)

CURRENT Nursing PRIORITY:	pain relief	
PRIORITY Nursing Interventions:	Rationale:	Expected Outcome:
assess for pain administer pain on a schedule based on patient assessment	can help recovery and helps prevent complications such as blood clots (from lack of movement from pain) and pneumonia	patient can eventually get up and moving and have an easier time recovering from surgery.

Collaborative Care: Postop Medical Management *(Pharmacologic and Parenteral Therapies)*

Care Provider Orders:	Rationale:	Expected Outcome:
Morphine 2-4 mg IV every 4 hours PRN pain	to reduce pain	reduced pain which means more movement and less complications
Ondansetron 4 mg ODT every 8 hours PRN nausea	to reduce nausea from pain	
Ceftriaxone 1 g IVPB every 12 hours	treat infection	easier time ingesting nutrition and fluids
Metronidazole 500 mg IVPB every 12 hours	treat infection	
D5 ½ NS w/20 mEq KCl 75 mL/hour until tolerating PO fluids	provide fluid replenishment	treating infection and infection prevention
		increased bowel movement/urine output

It is now the end of your shift. 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 who is now four postop: *(Management of Care)*

S ituation:
<p>Name/age: John Washington</p> <p>Summary of the primary problem: Appendicitis</p> <p>Day of admission/post-op #: 2</p>
B ackground:
<p>Primary problem/diagnosis: patient came in with lower right quadrant pain and pain around belly button. Positive Mcburney's sign.</p> <p>RELEVANT past medical history: healthy and active</p>
A ssessment:
<p>Most recent vital signs: T: 99.8 F/37.7 C (o) Provoking/Palliative: Movement worsens P: 92 (reg) P: 84 (reg) Quality: Dull ache</p> <p>RELEVANT body system nursing assessment data: gastrointestinal</p> <p>RELEVANT lab values: 14.5 WBC 15.2 HGB</p> <p>TREND of any abnormal clinical data (stable-increasing/decreasing): How have you advanced the plan of care? decreasing body fluid monitor</p> <p>Patient response: monitor for fluid deficit.</p> <p>INTERPRETATION of current clinical status (stable/unstable worsening): worsening respiratorys. Can possibly be related to pain from surgery. Make sure pain meds are administered and pain is assessed frequently. <i>This can help prevent atelectasis and other respiratory issues</i></p>
R ecommendation:
<p>Suggestions to advance the plan of care: Implement usage of an incentive spirometer.</p>

Education Priorities/Discharge Planning

*What educational/discharge priorities will be needed to develop a teaching plan for this patient and/or family?
(Health Promotion and Maintenance)*

Education PRIORITY:	Let the individual know about signs of an infection so he can report it to his physician or to the nurse
PRIORITY Topics to Teach:	Rationale:
signs of infection	can help with early detection and prevention
proper wound care	can help reduce infection
antibiotic useage information	prevents super infections

What additional considerations need to be made when teaching the parents of a pediatric patient?

proper hygiene to also prevent infections

Use Reflection to THINK Like a Nurse

What did you learn that you can apply to future patients you care for? Reflect on your current strengths and weaknesses of this case study identified. What is your plan to make any weakness a future strength?

What Did You Learn?	What did you do well in this case study?
How important it is to prvent infections from occuring post surgery and to not only assess for infection but educate the patient on how to assess for it as well.	I thought i did a good job with labs
What could have been done better?	What is your plan to make any weakness a future strength?
I had a hard time with the priority nursing intervention	more confidence.