PEDIATRIC PAIN MANAGEMENT

VIDEO FAMILY MEMBER INCLUDED

Estimated Time: 60 minutes • Debriefing Time: 30 minutes

Scan to Begin

Patient Name: Paula C. Adams

SCENARIO OVERVIEW

Paula C. Adams is a 7-year-old female who presented to the ED with severe abdominal pain that worsened over the last 24 hours. Paula's mom stated they were rear-ended by another car yesterday. Paula was seat-belted in the back, but was not in a booster seat. Mom stated Paula had no complaints immediately following the accident, but this morning the pain was worse. An abdominal CT scan revealed a probable perforated bowel. Paula has just arrived to the pediatric med/surg floor following an exploratory laparotomy and small bowel repair with a morphine PCA for pain management. The student(s) will manage the PCA, give the ordered Gentamicin IV and administer Diphenhydramine IV for opioid-induced pruritus. Therapeutic communication with Paula and her mom is also key to this scenario.

This is Level 3B: This simulation includes **QR Code: Mom**. These are videos of the patient's mom that can be used when an actor is not available.

LEARNING OBJECTIVES

1. Perform a focused post-operative assessment on a pediatric patient
2. Perform a focused pain assessment on a pediatric patient
3. Perform focused abdominal assessment
4. Recognize and respond to abnormal findings
5. Safely administer medications to a pediatric patient: IV, PCA
6. Document accurately
7. Demonstrate appropriate therapeutic and interprofessional communication

CURRICULUM MAPPING

WTCS NURSING PROGRAM OUTCOMES

- Implement one's role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving professional identity as a nurse committed to evidence-based practice, caring, advocacy and quality care
- Demonstrate appropriate written, verbal, and nonverbal communication in a variety of clinical contexts
- Integrate social, mathematical, and physical sciences, pharmacology, and pathophysiology in clinical decision making
- Provide patient centered care by utilizing the nursing process across diverse populations and health care settings
- Minimize risk of harm to patients, members of the healthcare team and self through safe individual performance and participation in system effectiveness
- Lead the multidisciplinary health care team to provide effective patient care throughout the lifespan
- Use information and technology to communicate, manage data, mitigate error, and support decision-making

NURSING FUNDAMENTALS

- Maintain a safe, effective care environment

- Use appropriate communication techniques
- Adapt nursing practice to meet the needs of diverse patients in a variety of settings

NURSING HEALTH PROMOTIONS

- Apply principles of family dynamics to nursing care

NURSING HEALTH ALTERATIONS

- Plan nursing care for patients undergoing surgery

COMPLEX HEALTH ALTERATIONS 1

- Evaluate nursing care for patients with pain and alterations in comfort

ADVANCED SKILLS

- Administer IV push medications

SIMULATION LEARNING ENVIRONMENT & SET-UP

ENVIRONMENT

Inside room: Patient lying in bed, a mannequin/picture to simulate the patient's mom in a chair at the patient's bedside with **QR Code: Mom** attached

Inside or outside room: Hand sanitizer and/or sink

Outside room: Computer or form(s) for documentation

PATIENT PROFILE

Name: Paula C. Adams

DOB: 06/17/20XX

Age: 7

MR#: 0104

Gender: Female

Height: 123 cm (48 inches)

Weight: 25 kg (55 lbs)

Admitting Diagnosis: Abdominal pain following car crash (V43.62XA)

Medical History: None

Surgical History: None

Code Status: Full code

Ethnicity: Caucasian

Spiritual Practice: None

Primary Language: English

Allergies: Amoxicillin (hives)

EQUIPMENT/SUPPLIES/SETTINGS

Patient

- Hospital gown
- No moulage
- ID band present with QR code
- Allergy band with Amoxicillin on it
- Oxygen via Nasal Cannula at 2 LPM
- IV in XX hand with NS (20 ml/hr) and Metronidazole IV (10 mg/kg)
    - Student(s) will need to piggy-back Gentamicin IV later in scenario

- Morphine PCA (1 mg/ml) in XX arm and set as follows:
    - PCA dose = 1 mg
    - Lockout = 8 minutes
    - 4 hour limit = 10 mg
    - Continuous infusion = 0.01 mg/hr
- NG tube to low continuous suction

Monitor Settings

- No monitor
- Simulator vitals: BP 106/58, P 102, RR 22, O2 96% on 2 lpm, T 37.5C (99.5), Pain: 2/10

Supplies

- General
    - Pediatric incentive spirometer
    - Pediatric pain scale (**QR Code: Pain Scale** is a pediatric FACES pain scale that is available if your facility does not have one.)
    - Pediatric sedation scale (**QR Code: Sedation Scale** is the pediatric validated COMFORT sedation scale. It can be used if your facility does not have another sedation scale to use.)
    - Optional
        - Teddy bear/doll
- Medications (realistic labels are available by scanning the QR code)
    - Acetaminophen Suppository – 325 mg
    - Diphenhydramine IV – 50 mg/ml (1 ml in 2 ml vial)
    - Gentamicin IV – 2o mg/2 ml (This is a pediatric IM or IV injection that is supplied in a single dose vial that must be diluted for IV use.)
    - Metronidazole IV – 500 mg/100 ml (IV piggyback)
    - Morphine PCA – 1 mg/ml (30 mg Pump-Jet)
    - Naloxone IV – 0.4 mg/ml (1 ml vial)
    - Normal Saline IV Bag

- Ondansetron IV – 4 mg/2 ml (2 ml vial)
- Promethazine IV – 12.5 mg (0.5 mg/ml) in 25 ml bag

QR CODES

START	PATIENT	REPORT	PATIENT ID
ABDOMEN	IV SITE	PAIN SCALE	SEDATION SCALE
ACETAMINOPHEN SUPPOSITORY	MORPHINE PCA	NALOXONE IV	ONDANSETRON IV
GENTAMICIN IV	DIPHENHYDRAMINE IV	PROMETHAZINE IV	METRONIDAZOLE IV
NORMAL SALINE IV BAG	MOM		

TEACHING PLAN

PREBRIEF

The facilitator should lead this portion of the simulation. The following steps will guide you through Prebrief.

- Scan the **QR Code: "Scan to Begin"** while students are in Prebrief.
- "Meet Your Patient" (on iPad) and explain how the iPad works in the simulated learning environment including:
    - Explain how to use the iPad scanner and QR codes. Remind students that there are multiple QR codes in the simulation, but they should only scan them if they think it will provide data necessary for their assessment and evaluation of the patient.
    - For some scenarios, it may be helpful to tell students where the QR Code are located. For others, you may want students to "find" the QR Codes during their assessments. This is your choice.
    - As the facilitator, you should be aware that throughout the simulation some QR codes are necessary to the programming of the iPad content. Directions for which QR codes are required (to be scanned) in each state are listed under each state of the documentation below. The QR codes are also in **BOLD** type.
    - Level Up tab – This tab "tells" the content in the iPad to change to what is needed for the next state of a simulation. It is used a few times in this scenario after the provider is notified to display new orders (those just given over the phone) and lab results, etc...
    - Medication QR Codes – The student(s) must scan **QR Code: Patient ID** prior to scanning any medication. That scan is valid for 2 minutes and then it "times out." The student(s) will need to scan **QR Code: Patient ID** again to give more medications.
    - MAR Hyperlinks – On the MAR all medications are underlined and hyperlinked to DailyMed, which is a medication reference housed by the National Library of Medicine. Students can click on these links during the simulation for up-to-date medication content, labels, and package insert information.

- Discuss the simulation "Learning Objective(s)" (on iPad) as well as any other Prebrief materials
- Get "Report" on iPad
    - Possible Facilitator Questions
        - What is clinically significant in this shift-to-shift report?
        - What focused assessments do you plan to complete based on the report?
        - How will you modify your approach for a post-operative pediatric patient?
        - What are your priorities for this patient?
- View "Patient" video on iPad
    - Possible Facilitator Questions:
        - What verbal and behavioral cues do you notice regarding Paula's pain and coping status?
- Advance to the "Patient Profile" screen (on iPad). This will act as a simulated patient chart.
- Students can view the tabbed content on the iPad (see below) prior to entering the patient's room and throughout the simulation as needed.
    - You should give student some time (5 minutes) to review this content now, prior to entering the patient's room.

H&P

Name: Paula C. Adams

MR#: 0104
DOB: 06/17/20XX
Date: Today

CHIEF COMPLAINT: Abdominal pain

HISTORY OF PRESENT ILLNESS: Car Accident Victim

PAST MEDICAL/SURGICAL HISTORY: Gestational age at birth 40 3/7 weeks following a normal spontaneous delivery. Normal developmental progress. Up to date immunizations.

MEDICATIONS: None

ALLERGIES: Amoxicillin (hives)

SOCIAL HISTORY: Normal

FAMILY MEDICAL HISTORY: Non-contributory

REVIEW OF SYSTEMS:
Obtained from patient and patient's mother.

GENERAL: 48 inches tall. 55 lbs (25 kg). Current state of health described as good. Patient states she feels "achy" everywhere but mostly in her abdomen.

INTEGUMENT: Denies itching, dryness, rashes, pigmentation changes. Describes some minimal chest and abdominal bruising where the seat belt was located.

HEAD: Denies injury, change in level of consciousness, or headaches.

EYES: Denies change in vision. Does not wear glasses.

EARS: Denies hearing loss, tinnitus, vertigo, or ear pain.

NOSE: Denies nasal discharge, or epistaxis.

THROAT: Denies bleeding gums, mouth pain, oral cavity sores or growths, difficulty swallowing, sore throat, or hoarseness.

ENDOCRINE: Normal growth.

RESPIRATORY: Denies hemoptysis, productive cough, shortness of breath or wheezing. Denies history of pulmonary disease or disorders.

CARDIOVASCULAR: Denies chest pain or pressure. Patient states the bruised area hurts when touched. Denies history of cardiac disease or disorders.

GASTROINTESTINAL: Denies nausea or vomiting. Denies changes in stools. Patient complains of abdominal pain which is worse when touched.

GENITOURINARY: Denies changes in urinary habits. Denies hematuria or pain during urination.

MUSCULOSKELETAL: Normal ROM, Denies pain in back, hips legs or arms.

HEMATOPOIETIC: Denies easy bruising or bleeding.

NERVOUS SYSTEM: Denies dizziness, syncope, vertigo, or weakness.

PHYSICAL EXAMINATION:

VITALS: HR 114, RR 26, BP 92/63, Temp 38.6, O2 94% on RA, Pain 6/10

HEENT: Normal

NEURO: Alert and oriented x3, PERRLA

CARDIAC: Normal. Chest has some minimal bruising where the shoulder part of a seat belt would be. Somewhat tender when palpated.

RESPIRATORY: Clear

GI: Abdomen rigid and slightly distended. Bruised and tender when palpated. Bruising is in the pattern of a “seat belt sign.” Hypoactive bowel sounds. FAST is positive for intraperitoneal fluid and free air. LBM 1 day ago.

GU: Last void this morning.

EXTREMITIES: Motor and sensation intact.

LABS: Slightly increased white count otherwise WNL

CT SCAN: Suggestive of perforated bowel

ASSESSMENT:

1. Car accident approximately 24 hours ago
2. Blunt trauma to abdomen with probable perforated bowel – positive “seat belt sign”
3. Minimal chest bruising evident – positive “seat belt sign”

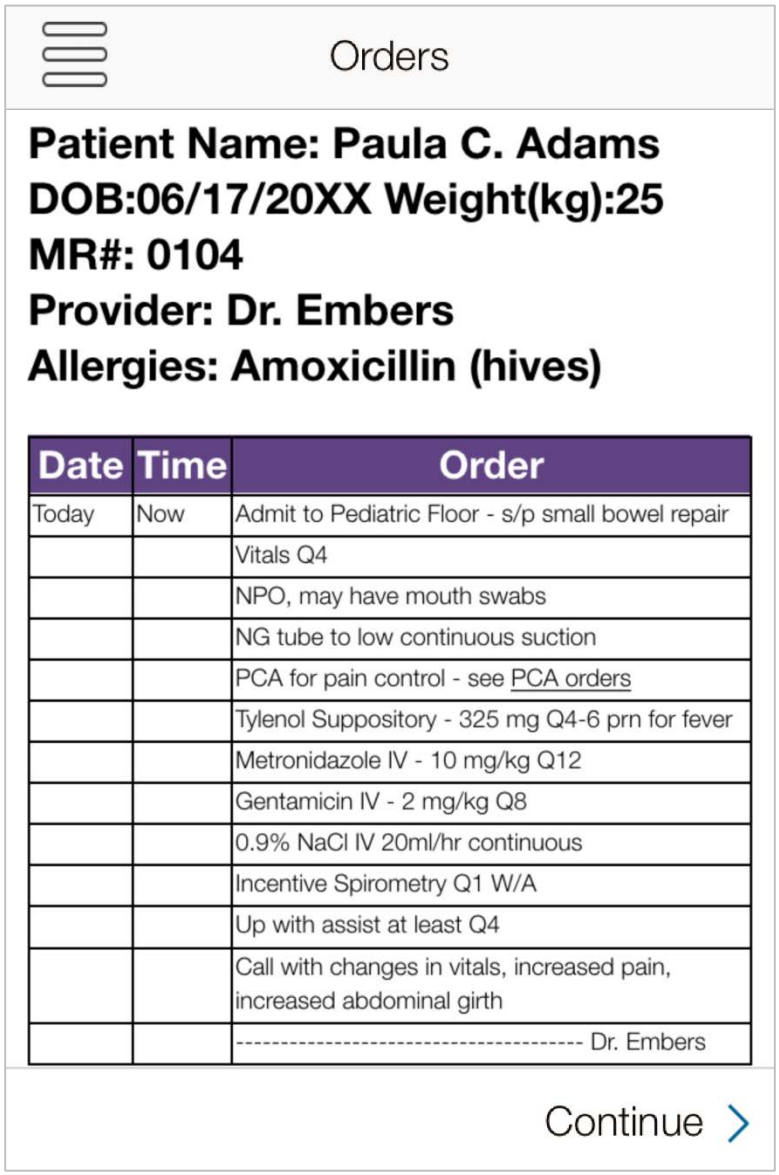
RECOMMENDATIONS/PLAN:

4. Consult general surgery
5. NPO
6. Continue fluid resuscitation with Lactated Ringers
7. IV morphine for pain management
8. VS every 15 minutes

Electronically signed by: Dr. Paulson

ORDERS

Facilitator Note: The iPad displays the orders as shown below. However, the PCA orders are hyperlinked. When students tap on "PCA orders," they are redirected to a zoomable PCA order set as shown below.

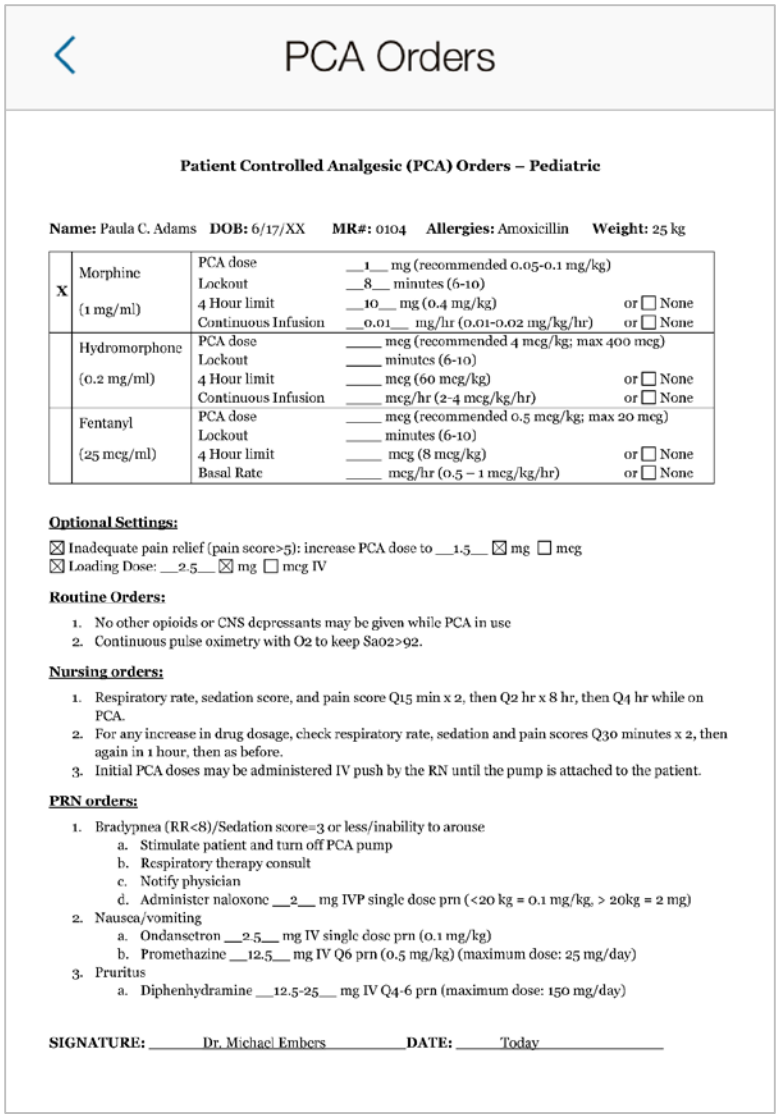


Orders

Patient Name: Paula C. Adams
DOB:06/17/20XX Weight(kg):25
MR#: 0104
Provider: Dr. Embers
Allergies: Amoxicillin (hives)

Date	Time	Order
Today	Now	Admit to Pediatric Floor - s/p small bowel repair
		Vitals Q4
		NPO, may have mouth swabs
		NG tube to low continuous suction
		PCA for pain control - see PCA orders
		Tylenol Suppository - 325 mg Q4-6 prn for fever
		Metronidazole IV - 10 mg/kg Q12
		Gentamicin IV - 2 mg/kg Q8
		0.9% NaCl IV 20ml/hr continuous
		Incentive Spirometry Q1 W/A
		Up with assist at least Q4
		Call with changes in vitals, increased pain, increased abdominal girth
		---------- Dr. Embers

Continue >



PCA Orders

Patient Controlled Analgesic (PCA) Orders – Pediatric

Name: Paula C. Adams **DOB:** 6/17/XX **MR#:** 0104 **Allergies:** Amoxicillin **Weight:** 25 kg

X	Morphine (1 mg/ml)	PCA dose	__1__ mg (recommended 0.05-0.1 mg/kg)	
		Lockout	__8__ minutes (6-10)	
		4 Hour limit	__10__ mg (0.4 mg/kg)	or ☐ None
		Continuous Infusion	__0.01__ mg/hr (0.01-0.02 mg/kg/hr)	or ☐ None
	Hydromorphone (0.2 mg/ml)	PCA dose	____ mcg (recommended 4 mcg/kg; max 400 mcg)	
		Lockout	____ minutes (6-10)	
		4 Hour limit	____ mcg (60 mcg/kg)	or ☐ None
		Continuous Infusion	____ mcg/hr (2-4 mcg/kg/hr)	or ☐ None
	Fentanyl (25 mcg/ml)	PCA dose	____ mcg (recommended 0.5 mcg/kg; max 20 mcg)	
		Lockout	____ minutes (6-10)	
		4 Hour limit	____ mcg (8 mcg/kg)	or ☐ None
		Basal Rate	____ mcg/hr (0.5 – 1 mcg/kg/hr)	or ☐ None

Optional Settings:

☒ Inadequate pain relief (pain score>5): increase PCA dose to __1.5__ ☒ mg ☐ mcg
☒ Loading Dose: __2.5__ ☒ mg ☐ mcg IV

Routine Orders:

1. No other opioids or CNS depressants may be given while PCA in use
2. Continuous pulse oximetry with O2 to keep Sa02>92.

Nursing orders:

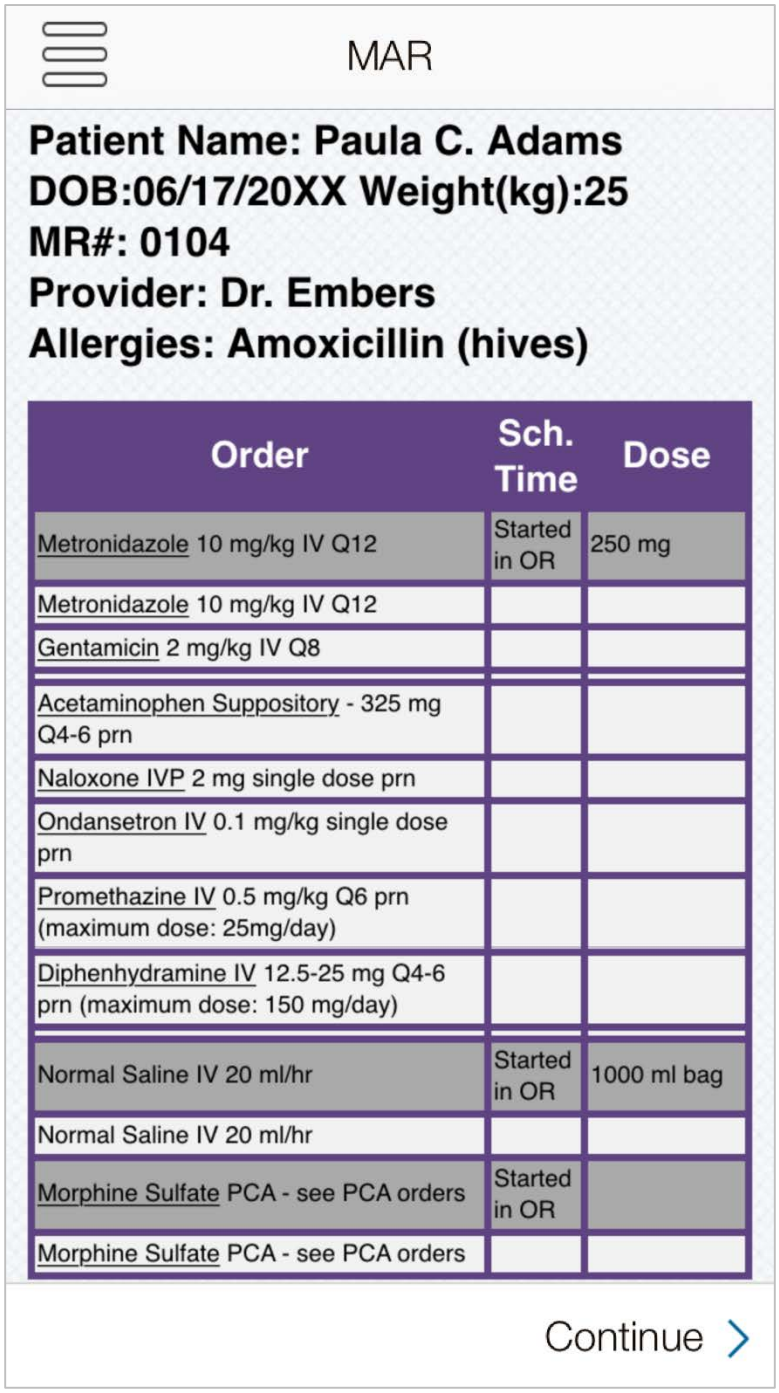
1. Respiratory rate, sedation score, and pain score Q15 min x 2, then Q2 hr x 8 hr, then Q4 hr while on PCA.
2. For any increase in drug dosage, check respiratory rate, sedation and pain scores Q30 minutes x 2, then again in 1 hour, then as before.
3. Initial PCA doses may be administered IV push by the RN until the pump is attached to the patient.

PRN orders:

1. Bradypnea (RR<8)/Sedation score=3 or less/inability to arouse
   a. Stimulate patient and turn off PCA pump
   b. Respiratory therapy consult
   c. Notify physician
   d. Administer naloxone __2__ mg IVP single dose prn (<20 kg = 0.1 mg/kg, > 20kg = 2 mg)
2. Nausea/vomiting
   a. Ondansetron __2.5__ mg IV single dose prn (0.1 mg/kg)
   b. Promethazine __12.5__ mg IV Q6 prn (0.5 mg/kg) (maximum dose: 25 mg/day)
3. Pruritus
   a. Diphenhydramine __12.5-25__ mg IV Q4-6 prn (maximum dose: 150 mg/day)

SIGNATURE: Dr. Michael Embers **DATE:** Today

MAR



MAR

Patient Name: Paula C. Adams
DOB:06/17/20XX Weight(kg):25
MR#: 0104
Provider: Dr. Embers
Allergies: Amoxicillin (hives)

Order	Sch. Time	Dose
Metronidazole 10 mg/kg IV Q12	Started in OR	250 mg
Metronidazole 10 mg/kg IV Q12		
Gentamicin 2 mg/kg IV Q8		
Acetaminophen Suppository - 325 mg Q4-6 prn		
Naloxone IVP 2 mg single dose prn		
Ondansetron IV 0.1 mg/kg single dose prn		
Promethazine IV 0.5 mg/kg Q6 prn (maximum dose: 25mg/day)		
Diphenhydramine IV 12.5-25 mg Q4-6 prn (maximum dose: 150 mg/day)		
Normal Saline IV 20 ml/hr	Started in OR	1000 ml bag
Normal Saline IV 20 ml/hr		
Morphine Sulfate PCA - see PCA orders	Started in OR	
Morphine Sulfate PCA - see PCA orders		

Continue >

DAILY RECORD

Pre-op Vitals

BP: 100/56

P: 112

RR: 26

T: 38.6°C

O2: 94% on 2 lpm

Pain: 6/10

Abdominal girth: 63.5 cm

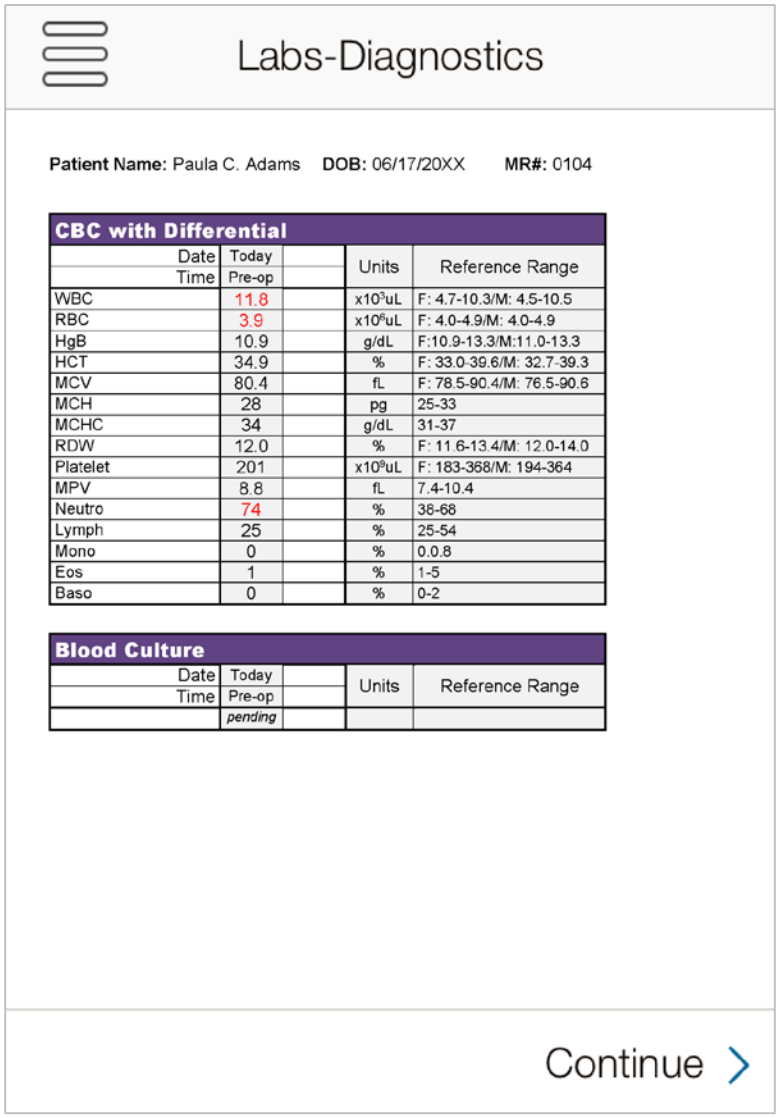
VITALS

The iPad shows the “enterable” vitals screen.

PROGRESS NOTES

No reports available.

LABS-DIAGNOSTICS



Labs-Diagnostics

Patient Name: Paula C. Adams **DOB:** 06/17/20XX **MR#:** 0104

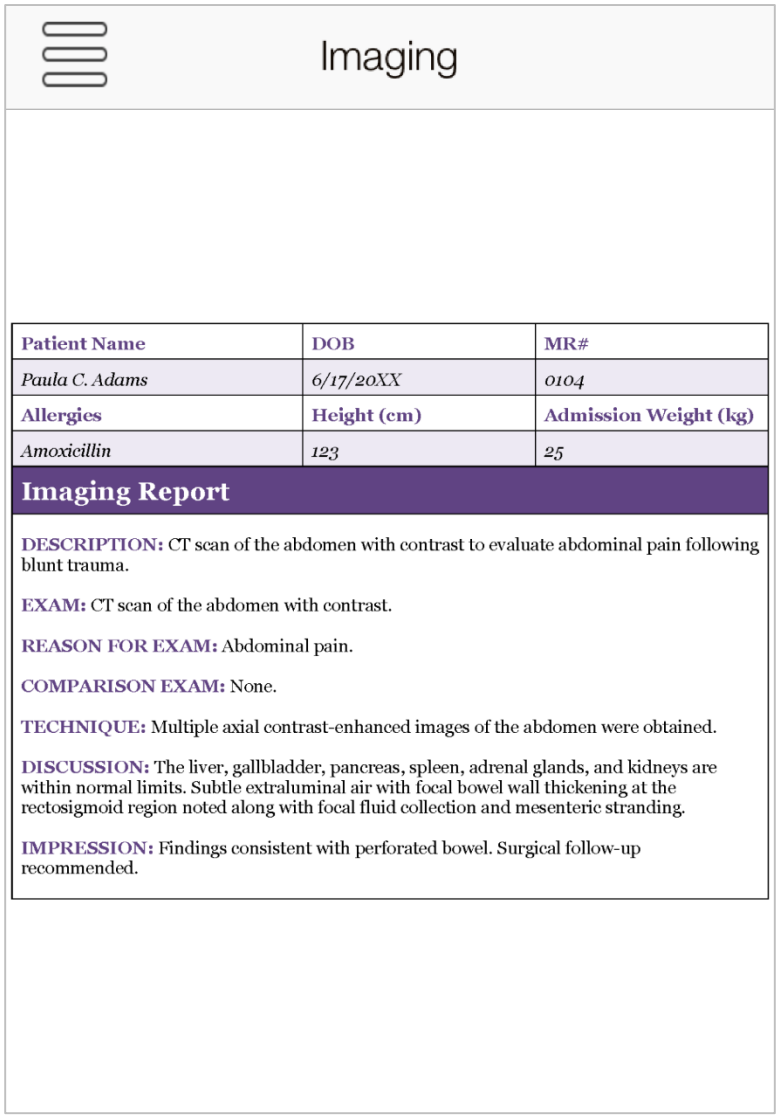
CBC with Differential				
Date / Time	Today / Pre-op		Units	Reference Range
WBC	11.8		$x10^3uL$	F: 4.7-10.3/M: 4.5-10.5
RBC	3.9		$x10^6uL$	F: 4.0-4.9/M: 4.0-4.9
HgB	10.9		g/dL	F:10.9-13.3/M:11.0-13.3
HCT	34.9		%	F: 33.0-39.6/M: 32.7-39.3
MCV	80.4		fL	F: 78.5-90.4/M: 76.5-90.6
MCH	28		pg	25-33
MCHC	34		g/dL	31-37
RDW	12.0		%	F: 11.6-13.4/M: 12.0-14.0
Platelet	201		$x10^9uL$	F: 183-368/M: 194-364
MPV	8.8		fL	7.4-10.4
Neutro	74		%	38-68
Lymph	25		%	25-54
Mono	0		%	0.0.8
Eos	1		%	1-5
Baso	0		%	0-2

Blood Culture				
Date / Time	Today / Pre-op		Units	Reference Range
	pending			

Continue >

NURSING | LEVEL: 3B

IMAGING



Imaging

Patient Name	DOB	MR#
Paula C. Adams	*6/17/20XX*	*0104*
Allergies	**Height (cm)**	**Admission Weight (kg)**
Amoxicillin	*123*	*25*

Imaging Report

DESCRIPTION: CT scan of the abdomen with contrast to evaluate abdominal pain following blunt trauma.

EXAM: CT scan of the abdomen with contrast.

REASON FOR EXAM: Abdominal pain.

COMPARISON EXAM: None.

TECHNIQUE: Multiple axial contrast-enhanced images of the abdomen were obtained.

DISCUSSION: The liver, gallbladder, pancreas, spleen, adrenal glands, and kidneys are within normal limits. Subtle extraluminal air with focal bowel wall thickening at the rectosigmoid region noted along with focal fluid collection and mesenteric stranding.

IMPRESSION: Findings consistent with perforated bowel. Surgical follow-up recommended.

LEVEL 1

The iPad reads, “The iPad is set to Level 1.”

SCANNER

Use this to scan available QR Codes.

EXIT

The iPad reads, “Are you sure you want to exit? All data will be lost.”

- If “No” is selected, the iPad will return to the tabbed content.
- If “Yes” is selected, the iPad will let the student(s) exit and prompt them to complete an embedded 3-5 minute survey.

STATE 1

PATIENT ASSESSMENT

- Patient Overview
    - Patient is whiny and post-operatively confused/sleepy/drowsy. Paula's mom is concerned and a little anxious.
- Expected Student Behaviors
    - Perform appropriate hand hygiene
    - Introduce themselves
    - Verify the patient (can scan **QR Code: Patient ID**)
    - Obtain vitals
        - May enter vitals on the iPad, but they are not tied to any iPad programming
    - Perform a focused pain assessment (Scan **QR Code: Pain Scale**)
        - This QR code displays the pediatric FACES pain scale.
    - Perform a focused abdominal assessment: transverse abdominal dressing (Scan **QR Code: Abdomen**)
    - Assess and verify the PCA settings
        - Facilitator Note: PCA dose = 1 mg, Lockout = 8 minutes, 4 hour limit = 10 mg, Continuous infusion = 0.01 mg/hr
        - Student may try to educate the patient and mom on the use of the PCA, but Paula is very sleepy at this time and doesn't understand or follow directions.
    - Perform an assessment of Paula's level of sedation (Scan **QR Code: Sedation Scale**)
        - This QR code displays a COMFORT scale scoring tool.
    - Recognize and respond to abnormal findings
    - Communicate therapeutically to the patient and her mom
- Technician Prompts

  - Patient is a whiny and confused as to what happened and why she is in the hospital. She is post-operative and drowsy.
  - Patient responses can include:
    - "What happened?"
    - "Why am I here?"
    - "Why can't I go home?"
    - "Can my mom stay with me?"
    - When asked, Paula rates her pain at a 2-3 on the FACES pain scale

- Possible Facilitator Questions
  - Explain how to use the FACES scale.
  - Why is it important to use a valid, reliable, consistent tool in pain assessment?
  - What nonverbal indicators of pain do you notice?
  - What behavioral indicators of pain do you notice?
  - What questions will you ask to assess pain experience history from the parent?
    - "What word does your child use to describe pain?"
    - "Does your child tell you or others when they are in pain?"
    - "How does your child usually react to pain?"
    - "What usually works best to take away your child's pain?"
  - Analyze the findings from your assessment: do you have any concerns?
  - How often should the patient be reassessed/monitored? Why?
- Tabbed iPad Prompts & Content
  - **QR Code: Mom**
    - The first time the mom is scanned in this level, the iPad will display a video of Paula's mom explaining what happened in the car accident.
    - The second time the mom is scanned in this level, the iPad will display a video of Paula's mom stating, "I don't understand your questions. I think I gave you everything you need."

        - Every other time the mom is scanned in this level, the iPad reads, "Mom has stepped out of the room and is not available."
    - If any medications are scanned in this level, the student(s) will see a message on the iPad that reads, "Complete patient assessment prior to medication administration."
    - After **QR Code: Abdomen** is scanned, the Level 1 tab will automatically change to a Level 2 tab (students are not prompted about this).

LEVEL 1/2

- When the Level 1 tab is tapped, the iPad reads, "The iPad is set to Level 1."
- After **QR Code: Abdomen** is scanned, the Level 1 tab will automatically change to a Level 2 tab (students are not prompted about this).
- When the Level 2 tab is tapped, the iPad reads, "The iPad is set to Level 2."

STATE 2

GENTAMICIN ADMINISTRATION

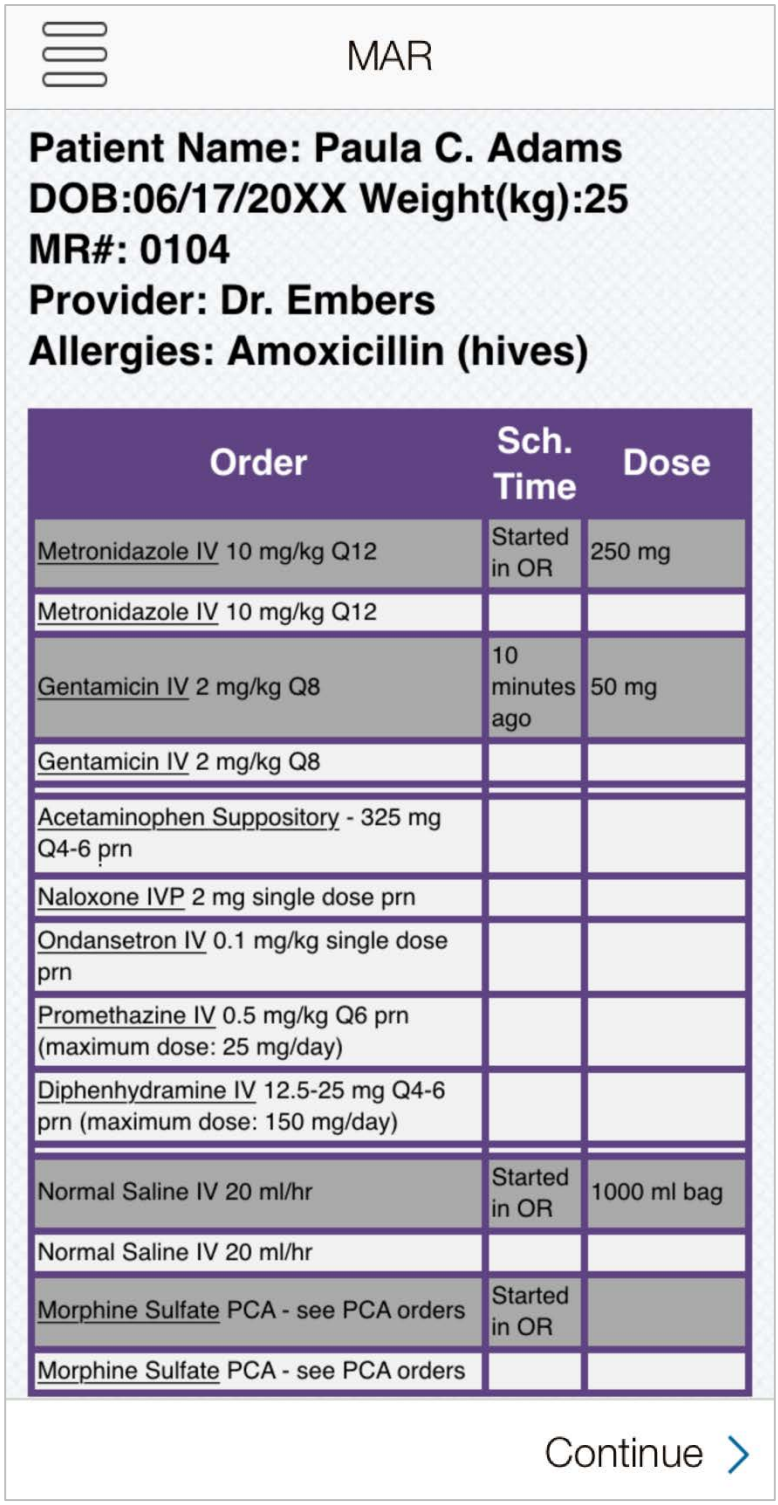
- Patient Overview
    - Patient is waking up and less drowsy, but more whiny and teary. She is asking a lot of questions about the IV in her hand and why she has to have it. Paula's mom is trying to comfort her and often is "in the way" of the student(s). As the student(s) hangs the Gentamicin, Paula starts to complain of some itching and pain incisional "belly" pain.
- Expected Student Behaviors
    - Administer Gentamicin IV
        - Student(s) should assess patients IV site (may scan **QR Code: IV Site**) and recognize Gentamicin is compatible with Metronidazole.
        - Student(s) must scan **QR Code: Patient ID** prior to medication administration. If not scanned, the iPad will read, "ERROR: No patient information identified."
        - When the student(s) scans **QR Code: Gentamicin IV**, they will see a prompt that reads, "Did you check for compatibility?"
            - If "No" is selected, the iPad will read, "You need to check for compatibility."
            - If "Yes" is selected, the iPad will show a realistic medication label.
    - Educate patient and mom on the use of the PCA
    - Recognize and respond to abnormal findings
    - Communicate therapeutically to the patient and her mom
- Technician Prompts
    - Patient is a whiny and confused as to what happened and why she is in the hospital. She is post-operative and drowsy.
    - Patient responses can include:
        - Regarding the IV site and PCA:
            - "Why is this in my hand? I don't like it."

- "What is the medicine for?
- "How long do I have to have it?"
- "Can you explain this button thing again? When do I push it? Should I push it now?"

- As Gentamicin is being hung:
  - "I'm feeling a little itchy."
  - "Why am I itching? I don't like it."
  - "My belly hurts."

- Possible Facilitator Questions
  - How will you manage the mom's concerns therapeutically?
  - What patient and family education needs to be provided about the PCA pump?
  - Do you have any concerns about the compatibility of the IV medications ordered? How should they be administered?
  - What is the likely cause of Paula's pruritus?
- Tabbed iPad Prompts & Content
  - **QR Code: Mom**
    - Every time the mom is scanned is this state, the iPad reads, "Mom has stepped out of the room and is not available."
  - MAR
    - The MAR will change after **QR Code: Gentamicin IV** is scanned to reflect that the gentamicin was just started.
  - After **QR Code: Gentamicin IV** is scanned, the Level 2 tab will automatically change to a Level 3 tab (students are not prompted about this).

MAR



MAR

Patient Name: Paula C. Adams
DOB:06/17/20XX Weight(kg):25
MR#: 0104
Provider: Dr. Embers
Allergies: Amoxicillin (hives)

Order	Sch. Time	Dose
Metronidazole IV 10 mg/kg Q12	Started in OR	250 mg
Metronidazole IV 10 mg/kg Q12		
Gentamicin IV 2 mg/kg Q8	10 minutes ago	50 mg
Gentamicin IV 2 mg/kg Q8		
Acetaminophen Suppository - 325 mg Q4-6 prn		
Naloxone IVP 2 mg single dose prn		
Ondansetron IV 0.1 mg/kg single dose prn		
Promethazine IV 0.5 mg/kg Q6 prn (maximum dose: 25 mg/day)		
Diphenhydramine IV 12.5-25 mg Q4-6 prn (maximum dose: 150 mg/day)		
Normal Saline IV 20 ml/hr	Started in OR	1000 ml bag
Normal Saline IV 20 ml/hr		
Morphine Sulfate PCA - see PCA orders	Started in OR	
Morphine Sulfate PCA - see PCA orders		

Continue >

LEVEL 2/3

- When the Level 2 tab is tapped, the iPad reads, “The iPad is set to Level 2.”
- After **QR Code: Gentamicin IV** is scanned, the Level 2 tab will automatically change to a Level 3 tab (students are not prompted about this).
- When the Level 3 tab is tapped, the iPad reads, “The iPad is set to Level 3.”

STATE 3

INCREASED PAIN & ITCHING

- Patient Overview
    - Paula is having increased incisional pain as well as narcotic-related itching. She is teary and frustrated that this is happening. Paula's mom/dad are trying to comfort her and often are "in the way" of the student(s). The student(s) will need to prioritize increasing the PCA and administering diphenhydramine IV.
- Expected Student Behaviors
    - Perform a focused pain assessment (Scan **QR Code: Pain Scale**)
        - This QR code displays the pediatric FACES pain scale.
    - Perform a focused abdominal assessment: transverse abdominal dressing (Scan **QR Code: Abdomen**)
    - May perform an assessment of Paula's level of sedation (Scan **QR Code: Sedation Scale**)
        - This QR code displays a COMFORT scale scoring tool.
    - Prioritize what to treat first, pain or itching
    - Administer Diphenhydramine IV
        - Student(s) may assess patients IV site (may scan **QR Code: IV Site**) and should check for compatibility.
            - Facilitator note: Metronidazole and Gentamicin are both compatible with Diphenhydramine.
        - Student(s) must scan **QR Code: Patient ID** prior to medication administration.
            - If not scanned, the iPad will read, "ERROR: No patient information identified."
        - When the student(s) scans **QR Code: Diphenhydramine IV**, they will see a realistic medication label.
    - Increase PCA dosage according to orders
    - May check and enter vitals, but they are not tied to any iPad programming

  - Recognize and respond to abnormal findings
  - Communicate therapeutically to the patient and her mom

- Technician Prompts
  - Patient is clearly frustrated with both her increased pain and the itching.
  - Patient responses can include:
    - "My belly really hurts! Should I push the button?"
    - "This button thing isn't helping!"
    - "Why am I all itchy? I don't like it!?
    - "Another needle? Are you going to poke me? What is that for?"
- Possible Facilitator Questions
  - Review the PCA orders (by clicking on the PCA orders hyperlink in the Orders); what orders are available to help the nurse manage the patient's pain and itching?
  - What will you plan to monitor carefully for any patient using a PCA pump?
  - Explain why the patient is experiencing pruritus?
  - Do you have any nursing concerns when administering diphenhydramine and morphine?
  - How will you professionally and therapeutically communicate with family members who are "in the way" when you are trying to care for a patient?
- Tabbed iPad Prompts & Content
  - **QR Code: Mom**
    - Paula's mom has returned to the room in this level, but students are not prompted about this.
    - Every time the mom is scanned in this level, the iPad displays a video of Paula's mom stating, "Aren't you going to do anything for her?"

LEVEL 3

The Level 3 tab automatically disappears after **QR Code: Diphenhydramine IV** is scanned (students are not prompted about this).

EXIT

After **QR Code: Diphenhydramine IV** is scanned, the exit tab changes and the iPad reads, "Scenario objectives have been met. Are you sure you want to exit the game?"

- If "No" is selected, the iPad will return to the tabbed content.
- If "Yes" is selected, the iPad will let the student(s) exit and prompt them to complete an embedded 3-5 minute survey.

DEBRIEF

Nothing needed from the iPad.

QUESTIONS

1. How did you feel this scenario went?
2. What were the main issues you had to deal with when caring for Paula?
3. Review understanding of learning objective: perform a focused post-operative assessment on a pediatric patient.
    a. What are your priorities of nursing care when caring for a pediatric patient who is admitted to your care after having an exploratory laparotomy and small bowel repair?
    b. What are common complications following this surgical procedure that you will monitor for?
4. Review understanding of learning objective: perform a focused pain assessment on a pediatric patient.
    a. What concerns did you find during your initial assessment and evaluation?
    b. How did those concerns relate to the patient's overall state at the time?
5. Review understanding of learning objective: perform a focused abdominal assessment.
    a. What concerns did you find during your initial assessment and evaluation?
    b. How did those concerns relate to the patient's overall state at the time?
6. Review understanding of learning objective: recognize and respond to abnormal findings.
    a. What abnormal findings did you find in the vital signs and/or physical assessment? How did you respond to these findings?
7. Review understanding of learning objective: safely administer medications to a pediatric patient: IV, PCA.
    a. Describe how your explanation of the medication and its administration differs from the pediatric population to the adult population.
    b. Would you change how you explained the medication? What?
8. Review understanding of learning objective: document accurately.

   a. What is important to document about your focused assessments and care?

9. Review understanding of learning objective: demonstrate appropriate therapeutic and interprofessional communication

   a. What "cues" did you notice that indicated therapeutic communication was needed with Paula? How about her mom?

   b. Describe any differences you found between how you communicated with Paula verses how you communicated with her mom.

   c. Were your communication techniques effective?

   d. If you could "do over," how would you change your therapeutic communication with Paula and/or her mom?

   e. If interprofessional communication had been required during this scenario, what techniques would you have used and why?

10. Tie the scenario back to the nursing process in a large group discussion. Concept mapping can be used to facilitate discussion.

   a. List 3 priority nursing problems you identified for Paula.

   b. Create a patient centered goal for each nursing problem you identified.

   c. Discuss focused assessments for each nursing problem.

   d. Discuss nursing interventions for each nursing diagnosis.

   e. Re-evaluate the simulation in terms of the nursing process; what was actually accomplished? What could be improved in the future?

11. Summary/Take away Points

   a. "Today you cared for a post-op pediatric patient with a PCA, increasing pain and opioid-induced pruritus as well as her mom. What is one thing you learned from participating in this scenario that you will take with you into your nursing practice?" (Each student must share something different from what the others' share.)

Note: Debriefing technique is based on INASCL Standard for Debriefing and NLN Theory Based Debriefing by Dreifuerst.

SURVEY

Print this page and provide to students.

Students, please complete a brief (2-3 minute) survey regarding your experience with this ARISE simulation. There are two options:

1. Use QR Code: Survey
    a. Note: You will need to download a QR Code reader/scanner onto your own device (smartphone or tablet). There are multiple free scanner apps available for both Android and Apple devices from the app store.
    b. This QR Code will not work in the ARIS app.

SURVEY

2. Copy and paste the following survey link into your browser.
    a. https://ircvtc.co1.qualtrics.com/SE/?SID=SV_6Mwfv98ShBfRnBX

CREDITS

Medication information from National Library of Medicine: Daily Med at

http://dailymed.nlm.nih.gov/dailymed/

Pictures from Shutterstock.com

Wong-Baker FACES pain scale used with permission from the Wong-Baker FACES Foundation.

STORYLINE REFERENCES

Abbot/American Association of Critical-Care Nurses/Saint Thomas Health System Sedation Expert Panel Members. (2004). Consensus conference on sedation assessment: A collaborative venture by Abbot Laboratories, American Association of Critical-Care Nurses, and Saint Thomas Health System. Critical Care Nursing, 24(2), 33-41. Downloaded from: http://ccn.aacnjournals.org/content/24/2/33.full

Acetaminophen dosing for children. (August 2016). Downloaded from: https://medlineplus.gov/ency/patientinstructions/000783.htm

Agency for Healthcare Research and Quality (2014). Chapter 6. Use of the ESI for Pediatric Triage. Downloaded from: http://www.ahrq.gov/professionals/systems/hospital/esi/esi6.html

Ambuel, B., Hamlett, KW., Marx, CM, & Blumer, JL. (Feb 1992). Assessing distress in pediatric intensive care environments: the COMFORT scale. Journal of Pediatric Psychology, 17(1), 95-109. Downloaded from: https://www.ncbi.nlm.nih.gov/pubmed/1545324

Blount, R. & Loiselle, K. (Jan-Feb 2009). Behavioral assessment of pediatric pain. Pain Research and Management, 14(1), 47-52. Downloaded from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2706564/

Cayo, L. (2013). Compatibility of commonly used intravenous drugs. Pharmacy Practice News Special Edition. Downloaded from: http://www.wolterskluwercdi.com/lexicomp-online/user-guide/tools-iv-compatibility/

Children's Hospitals and Clinics of Minnesota. (March 2013). Pediatric Acute Pain Management Reference Card. Downloaded from: https://www.childrensmn.org/departments/pdf/pediatric-acute-pain-management-reference-card.pdf

CT Abdomen and Pelvis with Contrast. (2015). Downloaded from: http://usarad.com/sample-ct.html

Diphenhydramine. (2016). Downloaded from: https://online.epocrates.com/u/10222/diphenhydramine/Pediatric+Dosing

Elella, R., Adalaty, H., Koay, Y., Mokrusova, P., Theresa, M., Male, B... Wadai, A. (September-December, 2015). The efficacy of the COMFORT score and pain management protocol in ventilated pediatric patients following cardiac surgery. International Journal of Pediatrics and Adolescent Medicine., 2(3-4), 123-127. Downloaded from: http://www.sciencedirect.com/science/article/pii/S235264671500109X

Esau. R. (n.d.). Opioid administration guidelines. Downloaded from: http://www.pedmed.org/DrugApp/suppindex.html

Fentanyl (Rx). (1994-2016). Downloaded from: http://reference.medscape.com/drug/sublimaze-fentanyl-343311

Focused Assessment with Sonography for Trauma (FAST) Examination. (2014). Downloaded from: http://www.aium.org/resources/guidelines/fast.pdf

Hospital Association of San Diego and Imperial Counties. (May 2014). Tool Kit Patient Controlled Analgesia (PCA) Guidelines of Care for the Opioid Naïve Patient. Downloaded from: http://www.hqinstitute.org/post/patient-controlled-analgesia-pca-guidelines-care

Hostetler, M. Gastroenteritis: An evidence-based approach to typical vomiting, diarrhea, and dehydration. (December 2004). Pediatric Emergency Medicine Practice, 1(5). Downloaded from: http://www.ebmedicine.net/topics.php?paction=showTopicSeg&topic_id=174&seg_id=3451

Institute of Medicine (2011). Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. Washington, DC: The National Academies Press. Downloaded from: http://www.ncbi.nlm.nih.gov/books/NBK92517/

Ista, E., Van Dijk, M., Tibboel, D., & De Hoog, M. (January 2006). Assessment of sedation levels in pediatric intensive care patients can be improved by using the COMFORT "behavior" scale. Pediatric Critical Care Medicine, 6(1), 58-63. Downloaded from: http://www.ncbi.nlm.nih.gov/pubmed/15636661

Johnson, P., Miller, J., & Hagemann, T. (2012). Sedation and analgesia in critically ill children. AACN Advanced Critical Care, 22(4), 415-434. Downloaded from: http://www.aacn.org/WD/CETests/Media/ACC2342.pdf

Legome, E., Kerm, S., Salomone, J. (2016). Blunt Abdominal Trauma. Downloaded from http://emedicine.medscape.com/article/1980980-overview

Mayo Clinic: Mayo Medical Laboratories. (1999-2016). CBC with Differential, Blood. Downloaded from: http://www.mayomedicallaboratories.com/test-info/pediatric/refvalues/reference.php?unit_code=9109

McKinney, E., James, S., Murray, S., Nelson, K. and Ashwill, J. (2013). Maternal-Child Nursing. St. Louis, MO: Elsevier.

Mendez, D., (September 2016). An overview of blunt abdominal trauma in children. Downloaded from: https://www.uptodate.com/contents/overview-of-blunt-abdominal-trauma-in-children

Metronidazole 500 mg / 100 ml Intravenous Infusion. (April 2015). Downloaded from: https://www.medicines.org.uk/emc/medicine/30191

Morphine. (2000-2016). Downloaded from: http://www.drugguide.com/ddo/view/Davis-Drug-Guide/51518/all/morphine

National Institutes of Health Warren Grant Magnuson Clinical Center. (July 2003). Pain intensity instruments). Downloaded from: http://webcache.googleusercontent.com/search?q=cache:t30cLKECiAcJ:www.mvltca.net/presentations/mvltca.pdf+&cd=3&hl=en&ct=clnk&gl=us

Ondansetron Dosage. (2000-2016). Downloaded from; https://www.drugs.com/dosage/ondansetron.html#Usual_Pediatric_Dose_for_Nausea_Vomiting___Postoperative

Ondansetron (Rx). (1994-2016). Downloaded from: http://reference.medscape.com/drug/zofran-zuplenz-ondansetron-342052

Oral Ondansetron (Zofran) for Gastroenteritis in Pediatric ED Patients. (n.d.). Downloaded from: http://www.stellarishealth.org/PDFs/OralOndansetronInPediatricAcuteGastroenteritis.pdf

Promethazine Dosage. (2000-2016). Downloaded from: https://www.drugs.com/dosage/promethazine.html

Reich, A., Stander, S., & Szepietowski, J. (January 2009). Drug-induced pruritus: A review. Acta Derm Venereol, 89, 236-244. Downloaded from: http://www.medicaljournals.se/acta/content/?doi=10.2340/00015555-0650&html=1

Soto, J. & Anderson, S. (December 2012). Multidetector CT of blunt abdominal trauma. Radiology, 265(3). Downloaded from: http://pubs.rsna.org/doi/full/10.1148/radiol.12120354

U.S. Department of Health and Human Services: Child Welfare Information Gateway. Mandated Reporting. Downloaded from: https://www.childwelfare.gov/topics/responding/reporting/mandated/

U.S. Department of Health and Human Services: Child Welfare Information Gateway. Responding to Child Abuse and Neglect. Downloaded from: https://www.childwelfare.gov/topics/responding/

Verghese, S. T., & Hannallah, R. S. (2010). Acute pain management in children. Journal of Pain Research, 3, 105–123. Downloaded from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3004641/

Virginia Commonwealth University. (2010). Pediatric Pharmacology Table: Pediatric IV Patient-Controlled Analgesia. Downloaded from: www.paineducation.vcu.edu/documents/pedPharmTable05.pdf

World Health Organization (2013). WHO Guidelines on the pharmacological treatment of persisting pain in children with medical illnesses. Downloaded from: http://apps.who.int/iris/bitstream/10665/44540/1/9789241548120_Guidelines.pdf

Zissin, R., Osadchy, A., & Gayer, G. (2009). Abdominal CT findings in small bowel perforation. The British Journal of Radiology, 82, 162-171. Downloaded from: http://www.ncbi.nlm.nih.gov/pubmed/18852210

Zofran ODT Orally Disintegrating Tablets, Oral Solution, and Tablets (ondansetron); (ondansetron hydrochloride) - Drug Summary. (2016). Downloaded from: http://www.pdr.net/drug-summary/Zofran-ODT-Orally-Disintegrating-Tablets--Oral-Solution--and-Tablets-ondansetron----ondansetron-hydrochloride-244