Augusta Health
Registered Nurse
Professional Development Program

Supporting Documentation Log

****One Category per Sheet****

Structural Empowermer

Date	***Time (Total Hours)***	***Activity or Event Name***	***Name of student / new team member***	***Activity description / Topics discussed***	***Validation Signature**** *(see pg. 2)*
10/28 to 10/30/2021	20 hours	Exam Construction Committee Meeting		Final review of questions submitted/Spring and Fall certification exams certified	
3/22/2022	2 hours	AH Heart Health Day		Screening lab draws	
4/20/2022	1 hour	AH Food Farmacy Program		Screening lab draws	
4/28/2022	3 hours	AH Recruiting Event			
9/22 to 9/25/2022	20 hours	Item Review Meeting		Review/revise submitted questions and approving them to the bank for December meeting	

Clinician Name: Charlotte Maiden RD Date: 9/30/22

Clinician Signature: Charlotte Maiden Date: 9/30/22

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9/9/22		Identifying/Managing Critical Situations in PACU	Presented as a self study packet emailed out to all staff	From ASPAN conference in relation to critical situations and the legal implications for nurses	
9/27/22		Local anesthetic Systemic Toxicity	Presented at unit staff meeting	Review of LAST for all staff, especially new staff	
9/19 and 9/20/22		Skills Fair Instructor		Mandatory hospital competencies for 2 sessions	
10/2/21	7 contact hours	2021 VSPAN annual state conference		Topics ranging from Facets of anesthesia, compassion fatigue, eras protocol, etc	
4/7 to 4/10/22	21.75 contact hours	ASPAN National conference		Topics included driving a culture of safety, strategies for rightsizing, lead with heart, etc.	

Clinician Name: Charlotte Maiden RN Date: 9/30/22

Clinician Signature: Charlotte Maiden RN Date: 9/30/22

VALIDATION SIGNATURE PAGE

**Validation signatures must be someone in leadership role or in attendance at the activity/event to verify your involvement in the stated hours on the Supporting Documentation Log*

Activity / Event Name: VSPAN CONFERENCE Date: 9/30/22

Validation Signature: [signature] Date: 9/30/22

Activity / Event Name: ASPAN CONFERENCE Date: 9/30/22

Validation Signature: [signature] Date: 9/30/22

Activity / Event Name: EXAM CONSTRUCTION Date: 9/30/22

Validation Signature: [signature] Date: 9/30/22

Activity / Event Name: ITEM WRITING REVIEW Date: 9/30/22

Validation Signature: [signature] Date: 9/30/22

Activity / Event Name: AH RECRUITING EVENT Date: 9/30/22

Validation Signature: [signature] Date: 9/30/22

Activity / Event Name: HEART HEALTH DAY Date: 9/30/22

Validation Signature: [signature] Date: 9/30/22

Activity / Event Name: FOOD PHARMACY PROGRAM Date: 9/30/22

Validation Signature: [signature] Date: 9/30/22

Activity / Event Name: IDENTIFYING/MANAGING CRITICAL SITUATIONS PACU Date: 9/30/22

Validation Signature: [signature] Date: 9/30/22

Activity / Event Name: LAST Date: 9/30/22

Validation Signature: [signature] Date: 9/30/22

Activity / Event Name: SKILLS FAIR INSTRUCTOR Date: 9/30/22

Validation Signature: [signature] Date: 9/30/22

Each activity from log on pg. 1 should have a corresponding signature for validation

Augusta Health
Registered Nurse
Professional Development Program

Roadmap Supporting Documentation Template

****One Category per Sheet****

- ☐ Transformational Leadership
- ☐ **Structural Empowerment**
- ☐ Exemplary Professional Practice
- ☐ New Knowledge, Innovation, & Improvements

Description/Details of Activity:

- ABPANC Exam Construction Committee Meeting
- ABPANC Item Writing Review Meeting
- AH Recruiting Event
- AH Heart Health Day Screening
- AH Food Farmacy Program

Dates of Meetings/Involvement:

- September 28-30, 2021 (ECC meeting)
- September 22-25, 2022 (Item Review)
- April 28, 2022 (recruiting event)
- March 22, 2022 (Health screening lab draws)
- April 20, 2022 (Food program lab draws)

Clinician Signature: Charlotte Nardell Date 9/30/22

Supporting Signature See validation sheet Date 9/30/22

(Must be someone in leadership role or in attendance at the activity/event to verify your involvement)

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Registered Nurse
Professional Development Program

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- ☐ **Structural Empowerment**
- ☐ Exemplary Professional Practice
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Description/Details of Activity:

- Identifying/Managing Critical Situations in PACU
- Local Anesthetic Systemic Toxicity
- Skills Fair Instructor
- Item Writing Workshop Presentation for ABPANC at National Conference
- 2021 Virginia Society of Perianesthesia Nurses Annual Conference
- 2022 American Society of Perianesthesia Nurses National Conference

Dates of Meetings/Involvement:

- September 9, 2022 (self study packet)
- September 27, 2022 (presented at unit staff meeting)
- September 19 and 20, 2022 (skills fair instructor)
- April 7, 2022 (Item writing presentation at National Conference)
- October 2, 2021 VSPAN conference attended virtually
- April 7-10, 2022 ASPAN conference

Clinician Signature: Charlotte Mauldt Date 9/30/22

Supporting Signature: See validation sheet Date 9/30/22

(Must be someone in leadership role or in attendance at the activity/event to verify your involvement)

2021 Virginia Society of PeriAnesthesia Nurses

Annual State Conference–Virtual

October 2, 2021

#2947
Approval Code Number

7.0
Contact Hours Awarded

First Name	Last Name	Street Address		
Charlotte	Maiden	11 Townhouse Lane #101		
City	**State**	**Zip Code**	**Country**	
Waynesboro	Va	22980	USA	

Carolyn Tucker, BSN, RN
Carolyn Tucker, BSN, RN, Nurse Planner

This nursing continuing professional development activity was approved by the American Society of PeriAnesthesia Nurses (ASPAN), an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

Registered nurse participants may receive 7.0 contact hours for this activity.

Address of Provider:
VSPAN
P.O. Box 396
Gloucester, Virginia 23061

Lecture Title	CH	ABPANC DC/IC
Testimony of a PeriAnesthesia Nurse	0.5	IC
Personal Safety Tips for Nurses	0.5	IC
Compassion Fatigue	1.0	IC
Maternal/Fetal Concerns in the PeriAnesthesia Setting	1.0	DC
A Multidisciplinary Approach to Successful Joint Arthroplasty Surgery	1.0	DC
Colon Cancer and ERAS Protocol Interventions	1.0	DC
Cannabis 101	1.0	DC
Exploring Facets of Anesthesia: Neuromuscular Blocking Agents, Ketamine, MAC Anesthesia	1.0	DC

CNE Certificate

American Society of PeriAnesthesia Nurses

Provider Directed Continuing Education Certificate

Charlotte Maiden

21.75 Contact Hours

In-Person 41st National Conference

Philadelphia, PA
April 7-10, 2022

American Society of PeriAnesthesia Nurses (ASPAN) is accredited with distinction as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Provider approved by the California Board of Registered Nursing, Provider Number #CEP5197, for **21.75** contact hours. This certificate must be retained by the California licensee for a period of 4 years.

Additional provider numbers: Alabama #ABNP0074

Mary K Baird

Mary Baird, MSN, RN, CPAN
Director for Education

ASPAN • 90 Frontage Road • Cherry Hill • New Jersey 08034

Sessions Listing

Code	*Title*	*DC/IC*	*Contact Hours*
001	ABPANC Learning How to Write CPAN/CAPA Examination Questions	Direct Care	4.00
002	Developing a Philosophical Identity	Indirect Care	1.00
003	CPAN/CAPA Celebration Luncheon	Indirect Care	0.75
006	Rising Management Strategies for Nurse Leaders Tasked with 'Rightsizing'	Indirect Care	1.50
009	Inspiring Nurses to Lead with Heart	Indirect Care	1.50
101	Perianesthesia Nurses Can Drive a Culture of Safety	Direct Care	1.25
402	Bridge the Gap: Retaining the Multigenerational Workforce	Indirect Care	1.25
015	Celebrate Successful Perianesthesia Practices Oral Presentations	Indirect Care	1.50
203	Who's Caring for the Caregiver: The Caring Connection	Indirect Care	1.25
304	Formation of a PACU Fellowship: Growing Our Own Perianesthesia Nurses	Indirect Care	1.25
105	Mentorship in the Perianesthesia Setting	Indirect Care	1.25
106	Dischargng Scoring Tools: What are They All About?	Direct Care	1.25
017	Perianesthesia Research/EBP Oral Presentations	Indirect Care	1.50
107	Identifying and Managing Critical PACU Situations	Direct Care	1.25
208	Management of Emeregnce Delirium Through Simulation Training	Direct Care	1.25
Total Contact Hours			*21.75*

Augusta Health

Care that makes a lifetime.

The employee, **Charlotte Maiden**, participated in the Nursing Division Skills Fair 2022 as a Skills Fair Instructor, including attending a Skills Fair Instructor Class.

Skills Fair Instructor Class:

- 09/09/2022

Skills Fair Instructor Dates/Times:

- 09/19/2022, 6:30am-9:30am
- 09/20/2022, 6:30am-9:30am

Employee Signature: Charlotte Maiden Date: 9/20/22

Clinical Nurse Educator Signature: Meagan K Webb Date: 9/20/2022

Professional Practice & Education

78 Medical Center Drive 800-932-0262
Fishersville, VA 22939 540-332-4000
augustahealth.com

IDENTIFYING AND MANAGING CRITICAL SITUATIONS IN THE PACU

Myrna Mamaril, DNP, RN, 2022 ASPAN Conference
Charlotte Maiden, MSN, RN, CAPA, CPAN, Clin 4

- This presentation covers different situations that can occur and how we as nurses can be held responsible.
- The first 15 minutes during emergence is when surgical patients are the most vulnerable
- The most high risk days are weekends, nights, holidays
- Be prepared for the **UNEXPECTED!**
- Initial or Primary assessment—airway, breathing, circulation, disability (neurologic)

- Critical thinking: expectation is that nurses will assess, identify, problem solve, develop ideas, and acquire knowledge and experience.
- Draws valid conclusions based on presented evidence.

- Older adult for same day surgery/shivering at 0900 in PACU.
- Anesthesiologist order Demerol 25 mg IV.
- T, BP, Pulse and Respirations within normal
- O2 sats 95% with face mask 15 liters
- Patient denies pain
- PACU RN charts "continues to shiver" 0915
- Patient's shivering is more focused and spastic
- Initial concerns?

- Is this due to incomplete reversal?
- Asked to squeeze their hand—could only squeeze a little
- Asked to raise head and hold for 5 seconds—started to and fell back on pillow
- Asked to stick out tongue—unable to hold—if there is residual neuromuscular block they cannot stick out their tongue for a long period of time.
- Asked to take deep breathe—felt like she could not get enough air
- Called Anesthesia—patient not fully reversed

- Critical Thinking:
- Airway patency—anesthesia emergence
- Respiratory distress—risk factors/anesthesia—ventilation agents affect respiratory status
- Circulatory compromise—risk factors/bleeding—hypotension, tachycardia, not waking up
- Cardiac failure—risk factors, current symptoms
- Neuro deficits—risk factors, surgery, anesthesia, opioids, stroke
- Failure to wake—due to opioids, sustain a CVA while under anesthesia, hypoglycemia

- Anesthesia Considerations:

- Type of Anesthesia
- Co-morbidities—what ASA level?
- Intubation—crash, difficult, traumatic
- Length of anesthesia
- EBL
- Fluid volume replacement/resuscitation
- Irrigations during surgery
- Urinary output—very important

- ASA Status Classification System:
- A special committee in 1940-1941 were tasked "to examine, experiment, and devise statistic data...to classify and grade patients".—determined predictors for operative risk
- Members recommended standardization of the system
- ASA I—normal and healthy patients
- ASA II—patients that have mild to moderate systemic disease
- ASA III—patients that have severe systemic disease that limits activity, but not incapacitated
- ASA IV—patents that have severe systemic disease that limits activity and is a constant threat to life
- ASA V—patients that are not expected to survive more than 24 hours with or without surgery
- ASA VI—patients kept alive for organ harvesting

- PACU nurses are at higher risk for malpractice suits—provide specialized care to diverse patient populations in an environment of constant activity, high volume, rapid turnover and intense pressure
- Nursing practice requires quick, effective life-saving interventions when emergencies occur

Mitigating malpractice risk

- Mitigating malpractice risk:
- Knowing and practicing ASPAN's Standards and Recommended Guidelines
- Ensuring effective hand off reports
- Recognition of deteriorating conditions—document factual assessments, interventions, and intervention outcomes
- Adoption of well-designed policies for opioids—know peak action of medications
- Use the chain of command—anesthesia, surgeon, etc
- Objective and comprehensive documentation

Elements of negligence

- Elements of negligence: Duty, Breach of Duty, Causation, Harm
- A child crying in pain. MD orders 0.5 mg of morphine
- Child is better and brings mother in to PACU. Tells her that her child had received morphine for pain.
- Mother becomes agitated and said her child was allergic to morphine—accused nurse of not paying attention
- Duty—nurse had a duty to give correct med
- Breach of Duty—Yes, didn't check allergies
- Causation—Yes
- Harm—Kept extra 30 min/did fine so no harm
- No negligence

- Legal implications:
- Demonstrating competent perianesthesia nursing practice
- Preadmission testing nurses at risk—they establish baseline assessment data and communicate to next level of care
- Preoperative nurses at risk—establishing baseline assessment data as well as communicating to next level of care
- Ambulatory center nurses at risk—discharge patient home—call afterwards to check on them.

- Neurological changes:
- Assessing LOC is imperative
- Most sensitive indicator—compare to baseline
- Assessing pupils—document in preop
- Assessing sensory/motor—document deficits preoperatively
- Neuro specific assessments and timely documentation
- Most subtle change will be neurological
- 10% of population doesn't have DP pulses
- When locating distal pulses, mark with an X

- Pacu Phase 1 assessment criteria:
- Respiratory stability
- Circulatory stability
- Neurological—LOC, Pupils, Sensory/Motor
- Pain and Comfort
- Emotional Comfort
- Surgical/Procedural site
- Documentation of nursing action/intervention with outcome

- Why improve handoffs?
- High risk periods for miscommunication—associated with increased risk for adverse patient events
- A chart review of 36,000 PACU charts in NC showed the first 15 minutes is when risks are highest—17% of significant complications
- What were pulses like, neuro status, etc preoperatively?

Culture of Anesthesia Handoffs:

- Noisy environment
- Overlapping conversations
- Side conversations
- Completely unstructured report from anesthesia provider—patient fine, GA—there are SOC for anesthesia to follow
- Lack of teamwork
- Follow chain of command when needed to receive enough help as warranted

Critical Thinking skills: Perianesthesia core clinical knowledge

- Understanding anesthesia agents, neurophysiology, total surgical procedure, estimated blood loss, especially when irrigating surgical site
- Understand a patient's chief complaints—turn patients to determine any posterior injuries
- After shoulder surgery the patient c/o upper back pain and not relieved with meds.
- Turned and patient had a needle sticking in the skin that was causing the pain

Deteriorating respiratory conditions

- Low oxygenation
- Stridor
- Apnea

Deteriorating cardiac conditions

- Hypotension
- Signs and Symptoms of Shock
- Symptomatic dysrhythmias
- Life threatening emergencies

Deteriorating neurologic conditions

Deteriorating circulatory conditions

- Fast heart rates
- Considerable bleeding
- No palpable pulses
- Obstructive shock
- Hematoma development

Deteriorating neurologic conditions

- Changes in LOC
- Changes in motor or sensory conditions
- Changes in pupil size or responses

- Compare pulses
- Femoral pulses—BP at least 70
- Carotid pulses—BP at least 60
- Radial pulses—BP less than 80
- Look at baseline vitals
- After a bolus and BP increases and pulses decrease follow closely as this may only be a short fix—could be loosing blood and vitals will reflect this
- Look at urine output—at least 30cc/hour or 100cc over 3 hour period—color of urine

Understand importance of documentation:

- Descriptive words
- Objective facts
- Electronic documentation
- Timing of events—late PACU nursing entries—make them as soon as possible and avoid next day documentation
- Experts at the bedside
- Chronologic flow charts
- Chronologic narratives
- Emergency situations—No time to document?
- Reconstructing time intervals
- Be aware of conflicting documentation
- Tell the story

- Failure to rescue: lack of attentiveness or ability to recognize early signs and symptoms of deterioration in patient's condition
- Failure to monitor: walk away from patient and not monitor
- Failure of PACU nurse to do timely assessments/interventions
- Acting too late to prevent harm or injury—respiratory arrest—see next slide

- A 47-year-old female—sinus endoscopy antral window procedure
- Received Fentanyl 50 mcg at the end of the case
- Was given Fentanyl 25 mcg in PACU
- Nurse stepped away from the bedside and patient appeared to be sleeping
- Went back to bedside 10 minutes later—patient was unresponsive. Vital signs were stable, O2 sats 99% on 6 liters face mask
- No response to Narcan x2 so not narcotic related
- Patient posturing—emergent CT—epidural hematoma—back to OR and ended up doing well
- Found that the dura was punctured at the start of the surgery

- On call PACU nurse came in 0300 for a 28 year old obese male s/p lap chole. Report from provider that patient has a low tolerance for pain.
- C/o severe abdominal pain—medicated with Fentanyl 25 mcg q 5 minutes x4…then Dilaudid 2 mg q 5 minutes x5
- Report is called to inpatient nurse at 0335
- Patient transferred at 0349 to floor
- Patient was found unresponsive and not breathing by his floor nurse
- Unable to resuscitate

- Key points:
- Ensure patients meet discharge criteria when transferred to next level of care
- Sedation can occur at any time during administration of opioids—can be more pronounced in the beginning and with each increase in dosing
- Level of opioid induced sedation varies with patients
- It takes less opioid to produce sedation respiratory depression, which explains why increased sedation is commonly seen before development of life threatening respiratory depression

- Pain management is a patient right
- Over the past 10 years opioid only interventions have contributed to increased adverse events, excessive sedation and life threatening respiratory depression
- Emphasis today is on multimodal analgesia
- Individual patient risk factors include ASA status greater than ASA 2, obesity or morbidly obesity, OSA

- General anesthesia increases risk for postoperative pulmonary complications—especially in infants and toddlers
- Fentanyl is 80-100 times more potent than Morphine
- Dilaudid is 7-7 times more potent than Morphine
- Peak effect of medication—during first 24 hours after surgery, after an increase in dose, when moving from 1 opioid to another, during the hours of midnight to 6 am, within 1st 6 hours after anesthesia.

- Do not transfer patients from PACU near the peak effect of an opioid
- Inform receiving nurse of the patient's tolerance of opioid by reporting assessment findings

In summary, practice according to:

- ASPAN Standards/Recommended guidelines
- Hospital/Unit policies/regulatory standards
- Advocate for effective handoff communication
- Documentation should be factual, timely and thorough
- Take Action and be prepared to identify and manage critical events.

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- What were pulses like, neuro status, etc preoperatively?
- Examples of PACU events:
- Isolation status not reported to PACU so other patients and staff were put at risk (multiple incidences)
- Multiple reports of missing information issues prior to patient arrival and after admission to unit
- Missing information issues regarding future care plan

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Maiden, Charlotte

From: Jones, Sue
Sent: Saturday, September 10, 2022 11:53 AM
To: Maiden, Charlotte
Subject: RE: educational opportunity

READ THE POWER POINT.
THANKS, SUE

From: Maiden, Charlotte <CMaiden@AugustaHealth.com>
Sent: Friday, September 9, 2022 1:46 PM
To: OPS/PACU <OPS/PACU@AugustaHealth.com>
Subject: educational opportunity

The attached power point is information presented at the national conference in April. This is aimed primarily at PACU, but sometimes patients go directly to Phase 2 and I feel that we could all benefit from reviewing this information. Please take a few minutes to read and then reply to the email to let me know you have participated. I appreciate in advance your taking the time to review this for me.

Charlotte D. Maiden, MSN, RN, CAPA, CPAN, Clin. 4
Surgical Services

Success is not final, failure is not fatal: it is the courage to continue that counts. Winston Churchill

Maiden, Charlotte

From: Baer, Karen
Sent: Saturday, September 10, 2022 11:42 AM
To: Maiden, Charlotte
Subject: RE: educational opportunity

Thanks for the useful information, Charlotte. I have reviewed the powerpoint.

Karen

From: Maiden, Charlotte <CMaiden@AugustaHealth.com>
Sent: Friday, September 9, 2022 1:46 PM
To: OPS/PACU <OPS/PACU@AugustaHealth.com>
Subject: educational opportunity

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Surgical Services

Success is not final, failure is not fatal: it is the courage to continue that counts. Winston Churchill

Maiden, Charlotte

From: Green, Kelsee
Sent: Friday, September 9, 2022 2:47 PM
To: Maiden, Charlotte
Subject: Re: educational opportunity

This is really good Charlotte!

From: Maiden, Charlotte <CMaiden@AugustaHealth.com>
Date: September 9, 2022 at 1:46:06 PM EDT
To: OPS/PACU <OPS/PACU@AugustaHealth.com>
Subject: educational opportunity

The attached power point is information presented at the national conference in April. This is aimed primarily at PACU, but sometimes patients go directly to Phase 2 and I feel that we could all benefit from reviewing this information. Please take a few minutes to read and then reply to the email to let me know you have participated. I appreciate in advance your taking the time to review this for me.

Charlotte D. Maiden, MSN, RN, CAPA, CPAN, Clin. 4
Surgical Services

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Acting Fast When the Diagnosis is Local Anesthetic Systemic Toxicity (LAST)

Dolly Ireland, MSN, RN, CAPA, CPN, FASPAN
ASPAN National Conference 4/2022
Charlotte Maiden, MSN, RN, CAPA, CPAN, Clinician 4

Historical Background

- The Indians in Peru chewed coca leaves to decrease fatigue and promote feelings of well being.
- Coca leaves arrived in Europe and Cocaine was isolated in Germany in 1860 with reports of seizures and respiratory failure reported as the earliest symptoms.
- Inevitable changes in surgical care brought new anesthetic drugs in the 1900's
- In 1904 committees were formed to study the effects of local anesthetic toxicity—studies that were published reported 43 fatal cases.
- Despite the use of recommended safe doses the potential for severe neurologic and cardiac toxicity still exists
- Toxicity presents significant challenges for nurse—it is imperative to identify this complication early and begin treatment.

Historical Background

- In 1997—Dr. G. Weinberg and associates supported the study of toxicity and its effects
- Reported first case was a 16 yo who received general anesthesia with a local of bupivacaine and epinephrine. Normal sinus rhythm progressed to junctional bradycardia to wide complex ventricular dysrhythmias.
- Literature showed a continued relationship between local anesthetics and occurrence of cardiac and CNS toxicity.
- In 2006—first successful use of a 20% lipid infusion in a patient experiencing cardiac arrest following an interscalene block with bupivacaine/mepivacaine
- After 20 minutes of unsuccessful CPR, lipid emulsion was administered and within 15 seconds returned to NSR.

Local Anesthetics Produce

- Transient and reversible anesthesia
- Loss of sensation or analgesia
- No loss of consciousness

Regional Anesthesia

- Peripheral Nerve Block—anesthesia injected near a specific nerve or bundle of nerves to block sensations of pain
- Epidurals
- Spinals
- Local/Bier Blocks—hand and ankle
- Advantages include postop analgesia at site, safe for patients with systemic disease, fewer side effects (PONV, sedation, respiratory depression)
- Disadvantages include toxicity, allergic reactions, IV injection, inadvertent infiltration

Local Anesthetics

- Sodium channels are proteins that open a cell's plasma membrane to allow Sodium ions to enter
- Local anesthetics are sodium channel blockers inhibiting sodium intake and blocking nerve impulses
- When activated sodium channels are more sensitive and allow local anesthetics to bind more readily—they also gain rapid entry to the brain thus producing CNS symptoms early.

Amides

Amides are hemolyzed by the liver.

Mepivacaine
- Local, block, epidural, not spinals
- Longer actiing than Lidocaine
- Does not cause vasodilation

Bupivacaine
- Local, block, spinal, epidural
- Long duration
- Analgesia after anesthetic effect resolved 4-8 hours

Amides

Ropivacaine
- Epidural
- Safe for OB use
- 12 hours duration

Etidocaine
- Local, block, epidural
- 5-10 hours duration

Lidocaine
- Topical, block, spinal, epidural, Bier block
- Rapid onset
- Depresses reflexes in trachea and larynx
- Duration 1.5- 2 hours

Amides

- Prilocaine
- Local, block, IV, epidural
- When metabolized releases ortho-toluidine

Converts hemoglobin to methemoblobin
- Darkened urine and blood
- Tachypnea
- Metabolic acidosis
- Hypoxia
- Treated with Methylene blue—1-2 mg/kg and can repeat

Incidence

- Occurs in 1:1000 peripheral nerve blocks
- Atypical presentations in about 40% of cases
- At risk:
- Women
- The young—16%youngr than 16
- The elderly—30% over age of 60
- Low body mass index
- Heart failure, ischemic heart disease, conduction abnormalities, rhythm disorders
- Metabolic disease

Esters

Esters are metabolized by plasma cholinesterase

Cocaine
- Topical only
- ENT cases—vasoconstriction
- CNS Stimulant
- Toxicity—increases BP, HR, temperature, CVA, coronary artery vasoconstriction

Esters

Procaine
- Local, block, spinal

Chloroprocaine
- Stronger, but shorter duration than Procaine
- Local, block, epidural
- Duration 30-60 minutes

Tetracaine
- Local, block
- Slow onset, long duration
- Eyes, tracheal topical

Allergic Reactions

Signs and Symptoms:

- Rash
- Pruritus
- Laryngeal edema
- Hypotension
- Bronchospasm
- Treatment
- Oxygen
- Airway management
- Fluid support for hypotension
- **THESE ARE SYMPTOMS OF TRUE ALLERGIC REACTION—ACT NOW**

- Occurs in 1:1000 peripheral nerve blocks
- Atypical presentations in about 40% of cases
- At risk:
- Women
- The young—16%youngr than 16
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- Low body mass index
- Heart failure, ischemic heart disease, conduction abnormalities, rhythm disorders
- Metabolic disease

Toxicity (Depression)

Cardiovascular: **symptoms typically first in Bupivicaine toxicity**

- The heart is a sodium channel so toxicity blocks the influx of sodium leading to hypertension, chest pain, tachycardia (early symptoms)
- Diaphoresis, hypotension, lightheadedness, SOB, chest pain, hypotension, bradycardia
- AV blocks, conduction defects (prolonged PR/QRS, BBB, long QT syndrome), ventricular dysrhythmias (Vfib, Vtach, PVC's, Long QT sydrome), Torsades, asystole

Toxicity

Central Nervous system: **symptoms typically precede CV symptoms Lidocaine toxicity**

- Mild progressing to severe
- Tingling around the mouth, dizziness, drowsiness, confusion, tinnitus
- Tremors of face, extremities, seizures
- Unconsciousness, respiratory depression/arrest, coma
- Symptoms within 1 minute of injection suggests direct intravascular injection
- Delayed symptoms indicates injection intermittently in intravascular

What goes wrong??

- Injected intravascular
- Absorbed from tissue depot
- Repeated doses given without balanced elimination
- Can also occur during retro bulbar blocks for eye surgeries and nerve blocks for dental procedures

Implications for Nurses

- Assessment should be guided by clinical presentation
- Remain current with EBP recommendations
- Variability of symptoms presentation makes it more challenging
- To improve patient outcomes need to have multidisciplinary collaboration
- **Be vigilant for atypical presentations due to variations in classical presentation**

- **Best treatment is Prevention**
- **Consider LAST in any patient with altered mental status, neurological symptoms, cardiovascular instability after regional anethetic**

Treatment

- Early detection
- Support circulation with fluids, vasopressors antiarrhythmics
- Aggressive airway management
- If seizures occur—should be stopped quickly with Benzodiazepines
- If seizures persist use small doses of Succinylcholine or similar neuromuscular blocker
- BLS/ACLS
- **START LIPID THERAPY IMMEDIATELY**

Treatment

- **BLS/ACLS—Start CPR**
- Avoid large doses of Propofol in hemodynamically unstable patients
- Avoid Vasopressin, Calcium Channel Blockers, Beta Blockers
- Vasopressin is counterproductive
- Calcium Channel Blockers and Beta Blockers depress cardiac contractility
- Ventricular arrhythmias—Use Amiodarone

- LAST is resistant to conventional resuscitation
- Treat with Lipid Emulsion 20%--made up of 20% soybean oil, 1.2% egg yolk phospholipids, 2.25% glycerin, water, sodium hydroxide

Lipid Emulsion Therapy

- Local anesthetics are **lipophilic**—ability of a chemical compound to dissolve in fats, oils, lipids
- Lipid emulsion reverses effects by driving fat loving local anesthetics into a lipid sink or pool of lipids that bind and absorb the LA
- LA is safely carried to the liver where it is metabolized and excreted
- First consideration for treatment when toxicity is recognized
- Dose for weights equal to or greater than 70 kg is 100 ml bolus and infusion of 200-250 ml over 15-20 minutes
- Dose for weights equal to or less than 70 kg is 1.5 ml/kg bolus and infusion at 0.25 ml/kg/minute.
- If remains unstable re-bolus at same dose and double infusion rate
- Do not exceed 12 mg/kg—important in small adults and children

Monitoring post-treatment

- Prolonged monitoring (greater than 12 hours) is recommended after any signs of LAST since cardiovascular depression can persist or recur after treatment.
- 15% of toxicity events involved a continuous infusion with toxicity presenting 1-4 days after initiation
- 20% of events occur outside the traditional hospital setting

Assisting with PNB

- Inject in 3-5 ml doses pausing between stacked doses
- Aspirate before each stacked dose
- Use of ultrasound allows for direct visualization of the injectable spread of drug
- Monitor patient during and after completing injection for at least 45 minutes after block

- **Important to have lipids accessible in the block room**

Case Study
Dr. Weinberg—www.lipidrescue.org

- Healthy 35 yo female, ASA 1, egg allergy, MAC anesthesia for a breast mass.
- Uncomplicated OR case. Patient received 2 mg Versed, 50 mcg Fentanyl, Propofol and Zofran during the case
- 40cc of 1% Lidocaine w/o epi given for local at the beginning of the case (aspiration q 5 cc).
- During transport to PACU patient began having jerking motions of upper and lower extremities lasting 10-20 seconds with 30 second-2 minutes of inactivity.
- Patient awake and apologetic saying "they are out of my control".
- Mental status begins to deteriorate, tachy in the 110's, SAO2 fine on 2l/NC.
- Patient given a bolus of 120cc of 20% intralipid over 15 minutes
- By the end of the bolus, VSS, sleepy, A&Ox3. Neuro consult agreed that was likely CNS toxicity. Symptoms completely resolved, patient monitored in PACU x5 hours and transferred to the floor.

Case Study
Dr. Weinberg—www.lipidrescue.org

- 17 yo male, ASA 1, 6 foot, 197 lb.
- Patient received 2 mg Versed and 50 mcg Fentanyl prior to Fem-Sciatic pain block for an ACL reconstruction under general anesthesia
- Femoral block placed using 0.5% Bupivicaine with epi in 5cc increments with negative blood aspiration
- Patient received 50 mcg Fentanyl to reposition leg and same procedure was followed for the sciatic block using 5cc doses.
- During next 5ml patient states "I can't breathe". Injection stopped immediately (total of 18 ml given).
- Patient exhibited seizure activity, 2 mg Versed given, seizure continued and worsened. Intralipid infusion started wide open. After 75-100 ml, seizure activity stopped and patient responded. After 200 ml patient was sedate but A&O x3. Monitored for 3+ hours prior to discharge

Final Thoughts

- Important to have lipids accessible in the block room

Acting Fast When the Diagnosis is Local Anesthetic Systemic Toxicity (LAST)

ASPAN'S 41ST NATIONAL CONFERENCE
APRIL 7-10, 2022
DOLLY IRELAND, MSN, RN, CAPA, CPN, FASPAN

1

Historical Background

- 1904 development of Procaine did not solve problem
- Committees formed to study effects of local anesthesia toxicity

Studies published reported 43 fatal cases

2

Hisorical Perspective

History characterized by a pattern of:

Discovery

Application

Observation

Innovation

1997-1998 new studies

3

History cont.

1997 – Dr. G. Weinberg and several colleagues championed the study of toxicity and its effects.

- Reported first case of 16 yr. old who received general anesthesia with a local of bupivacaine and epinephrine. Normal EKG (NSR) progressed to junctional bradycardia to wide complex ventricular dysrhythmias.
- Literature showed a continued relationship between local anesthetics and occurrence of cardiac and CNS toxicity.

4

History cont.

- 2006 – first successful use of a 20% lipid infusion in a patient experiencing cardiac arrest following an interscalene block with bupivacaine/mepivacaine.
- After 20 minutes of unsuccessful CPR, lipid emulsion was administered and within 15 sec returned to NSR
- Dr. Weinberg voiced concerns back in 2015 that use of lipid emulsion was dropping, case reports were declining.

5

Resource

Website:
Lipidrescue.org

6

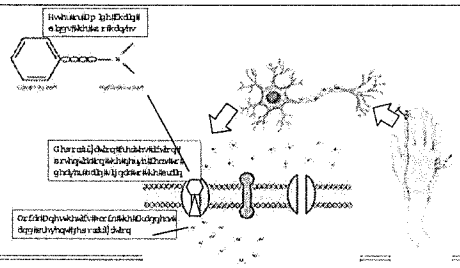
Local Anesthetics

Advantages
- Postop analgesia at site
- Safe for patients with systemic disease
- Fewer S/E (PONV, sedation, resp. depression)

Disadvantages
- Toxicity
- Allergic reactions
- IV injection
- Inadvertent infiltration

7

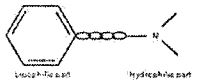
Local Anesthesia



8

Local Anesthesia

Esters-cocaine, procaine, tetracaine
- Metabolized by pseudocholinesterase
  - Process releases para-aminobenzoic acid (PABA)
    - Some people are allergic to that



Amides-bupivicaine, lidocaine, mepivacaine,
- Metabolized in liver

9

Esters

Cocaine
- Topical only
- ENT cases-vasoconstriction
- CNS Stimulant
- Toxicity:
  - Increases BP, HR, temperature
  - CVA, coronary artery vasoconstriction
  - Decreased fetal blood flow

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Bupivacaine
- Local, block, spinal, epidural
- Long duration
- Analgesia after anesthetic effect resolved 4 to 8 hr

Etidocaine
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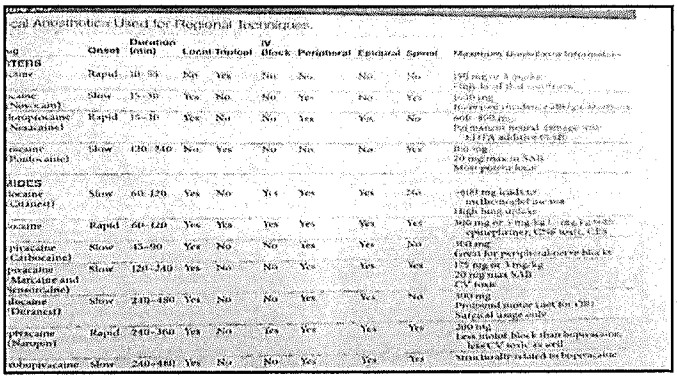
- 5-10 hours duration
- Local

11



12

Amides

Lidocaine
- Topical, block, spinal, epidural, Bier block
- Rapid onset
- Depresses reflexes trachea and larynx
- Duration 1.5-2 hours

Prilocaine
- Local, block, IV, epidural
- Metabolism releases ortho-toluidine

Converts hemoglobin to Methemoglobin
- Methemoglobinemia S/S
  - Darkened urine and blood
  - Tachypnea
  - Metabolic acidosis
  - Hypoxia
- Treatment
  - Methylene blue
    - 1-2 mg/kg
  - Can repeat

13

Allergic Reactions

SIGNS and SYMPTOMS	*TREATMENT*
• rash	• oxygen
• pruritus	• airway management
• laryngeal edema	• fluid support for hypotension
• hypotension	
• bronchospasm	

THESE ARE ALLERGIC REACTIONS – ACT NOW!

14

Toxicity

CV: mild to severe
- HTN, Tachycardia
- Decreased cardiac output, mild hypotension
- peripheral vasodilation, hypotension, bradycardia, circulatory collapse

can occur twenty minutes <u>after</u> injection

15

Local Anesthetic Toxicity

Causes: excessive dose or injection into very vascular area

CNS: mild progressing to severe
- Tingling around the mouth
- Dizziness, drowsiness, confusion, tinnitus
- Tremors of face, extremities, tonic-clonic seizures
- Unconsciousness, respiratory arrest

16

Treatment of Toxicity

TREATMENT
- Early detection
- Support circulation with fluids, vasopressors antiarrythmics
- Oxygen, airway management
- Control of seizure activity
- BLS/ACLS management if necessary
- LIPID INFUSION

17

ASRA

American Society of Regional Anesthesia and Pain Medicine

•Published a treatment checklist in 2012 that includes 4 specific factors to follow:

1. Get Help!
2. Initial focus – (a) airway; (b) seizure suppression
3. Manage cardiac arrhythmia's
4. Lipid Emulsion

(report and publish lipid rescue and use)

18

What Goes Wrong????

LOCAL ANESTHETIC

- injected intravascular
- absorbed from tissue depot
- repeated doses given without balanced elimination

What happens when large amounts of local anesthetic contact nerve and heart cells?

19

Excitation

Central Nervous System
(may be subtle or absent)
- Circumoral Numbness
- Metallic Taste
- Ringing in Ears
- Agitation
- Confusion
- Muscle Twitching
- Seizure

Cardiac System
(may be only manifestation or severe LAST)
- Hypertension
- Tachycardia
- Ventricular Arrhythmias
- Ventricular Tachycardia
- Torsade de Pointes
- Ventricular Fibrillation

20

Depression

Central Nervous System
- Drowsiness
- Obtunded
- Respiratory Depression/Arrest
- Coma

Cardiac System
- Diaphoresis
- Hypotension
- Lightheadedness
- Shortness of Breath
- Chest Pain
- Conduction Block
- Bradycardia
- Ventricular Arrhythmias
- Asystole

21

Local Anesthetic Sytemic Toxicity

Consider *LAST* in any patient with altered mental status, neurological symptoms or cardiovascular instability after regional anesthetic

22

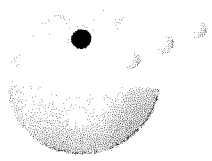
Treatment of LAST

- Aggressive airway management to avoid hypoxia, hypoventilation, and tissue acidosis, which all exacerbate LA induced cardiovascular depression.
- If they occur, seizures should be quickly stopped with benzodiazepines, if they persist consider small doses of succinylcholine or similar neuromuscular blocker.
- **LIPID THERAPY SHOULD BE STARTED IMMEDIATELY**

23

Lipids Mechanism of Action

- Local anesthetics are lipophilic
- Infusing the lipids cause a "lipid sink" where the LA binds to and lipids absorb the LA
- The LA can then be safely carried to the liver where it is metabolized and excreted from the body



24

Monitoring post-treatment

Prolonged monitoring (>12 hours)is recommended after any signs of systemic LA toxicity, since cardiovascular depression due to local anesthetics can persist or recur after treatment.

25

Case Studies

Dr. Weinberg – www.lipidrescue.org

Study #1 –Healthy 35 y female, ASA 1, egg allergy. MAC anesthesia for a breast mass. Uncomplicated OR case. Pt received 2mg Versed, 50mcg Fent, Propofol and Zofran during case. 40cc of 1% Lidocaine w/o epi given for local at the beginning of the case (aspiration q 5cc), Pt transported to PACU. During transport pt began having jerking motions of upper and lower extremities lasting 10-20sec with 30 sec- 2min of inactivity. Pt awake and apologetic – saying "they are out of my control". Mental status begins to deteriorate. Pt tachy in the 110's, saO2 fine on 2l/NC. Pt given bolus of 120cc of 20% intralipid over 15 min. By end of bolus, VSS, sleepy but A&Ox3. Neurololgy consult agreed that this was likely CNS toxicity. Symptoms completely resolved, pt monitored in PACU for 5 hrs and then transferred to floor.

26

Case Studies

Study#2 17yo male, ASA1, 6ft 197#, pt received 2mg Versed and 50mcg Fentanyl, ACL reconstruction under G with a Fem-Sciatic pain block. Standard monitoring and O2 via 2L/NC. Stimuplex needed with stimulation was used. Fem block placed: 0.5% Bupivicaine with Epi in 5cc increments with neg blood aspiration. Pt received 50mcg of Fen to reposition leg, same procedure was used for the sciatic block, same Bupivicaine mix was used and 5ml doses were given up until 15mls. During next 5mls pt states "I can't breathe". Injection stopped immediately (total 18mls given). Pt began exhibiting seizure activity, 2mg versed given, seizure cont and getting worse. Intralipid infusion started (wide open). After 75-100 ml infused seizure activity stopped, pt responding. After 200ml pt was sedate but A&Ox3. Monitored for 3+ hours prior to discharge.

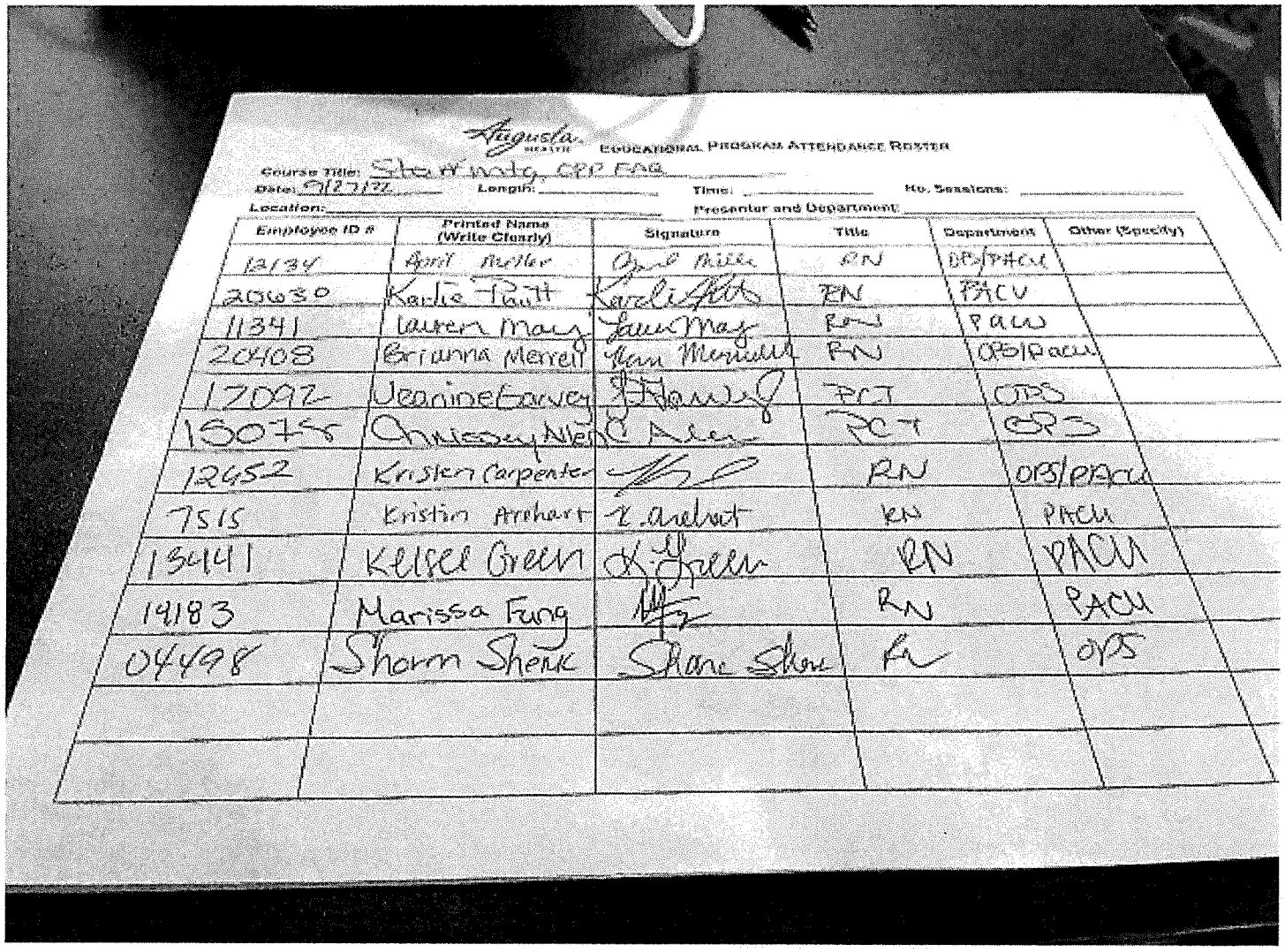
27

FINAL THOUGHTS

- IF YOU ARE FOLLOWING LIPID PROTOCOLS WHEN YOU GIVE LOCAL BLOCKS – KUDOS maybe this served as a good review. Important to have those lipids on your block cart.
- IF YOU ARE NOT -----OR-----THIS IS THE FIRST TIME YOU HAVE HEARD OF THIS... PLEASE THINK ABOUT GENERATING SOME DISCUSSION WITHIN YOUR ANESTHESIA DEPARTMENT.

lipidrescue.org

28



Augusta University

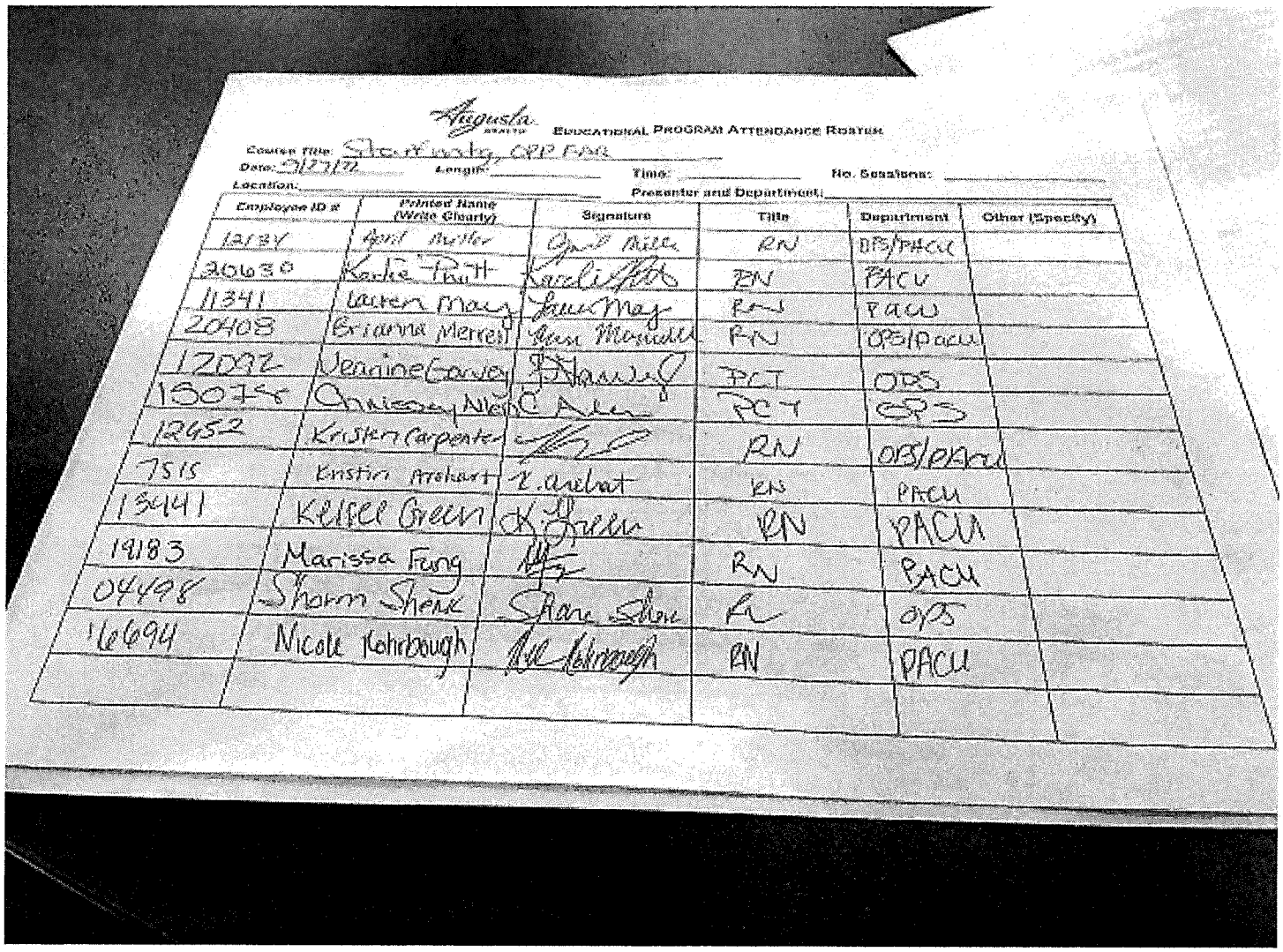
EDUCATIONAL PROGRAM ATTENDANCE ROSTER

Course Title: Stead Mtg CRC PAC

Date: 9/27/22 Length: _____ Time: _____ No. Sessions: _____

Location: _____ Presenter and Department: _____

Employee ID #	Printed Name (Write Clearly)	Signature	Title	Department	Other (Specify)
12134	April Miller	April Miller	RN	OR/PACU	
20030	Karlie Pautt	Karlie Pautt	RN	PACU	
11341	Lauren May	Lauren May	RN	PACU	
20408	Brianna Merrell	Brianna Merrell	RN	OR/PACU	
17092	Jeanine Garvey	Jeanine Garvey	PCT	OR3	
150758	Chrissy Nien	C Nien	PCT	OR3	
12652	Kristen Carpenter	[illegible]	RN	OR/PACU	
7515	Kristin Arehart	K Arehart	RN	PACU	
13411	Kelsel Green	K Green	RN	PACU	
19183	Marissa Fung	[illegible]	RN	PACU	
04498	Shawn Shenk	Shawn Shenk	RN	OR3	



Augusta Health

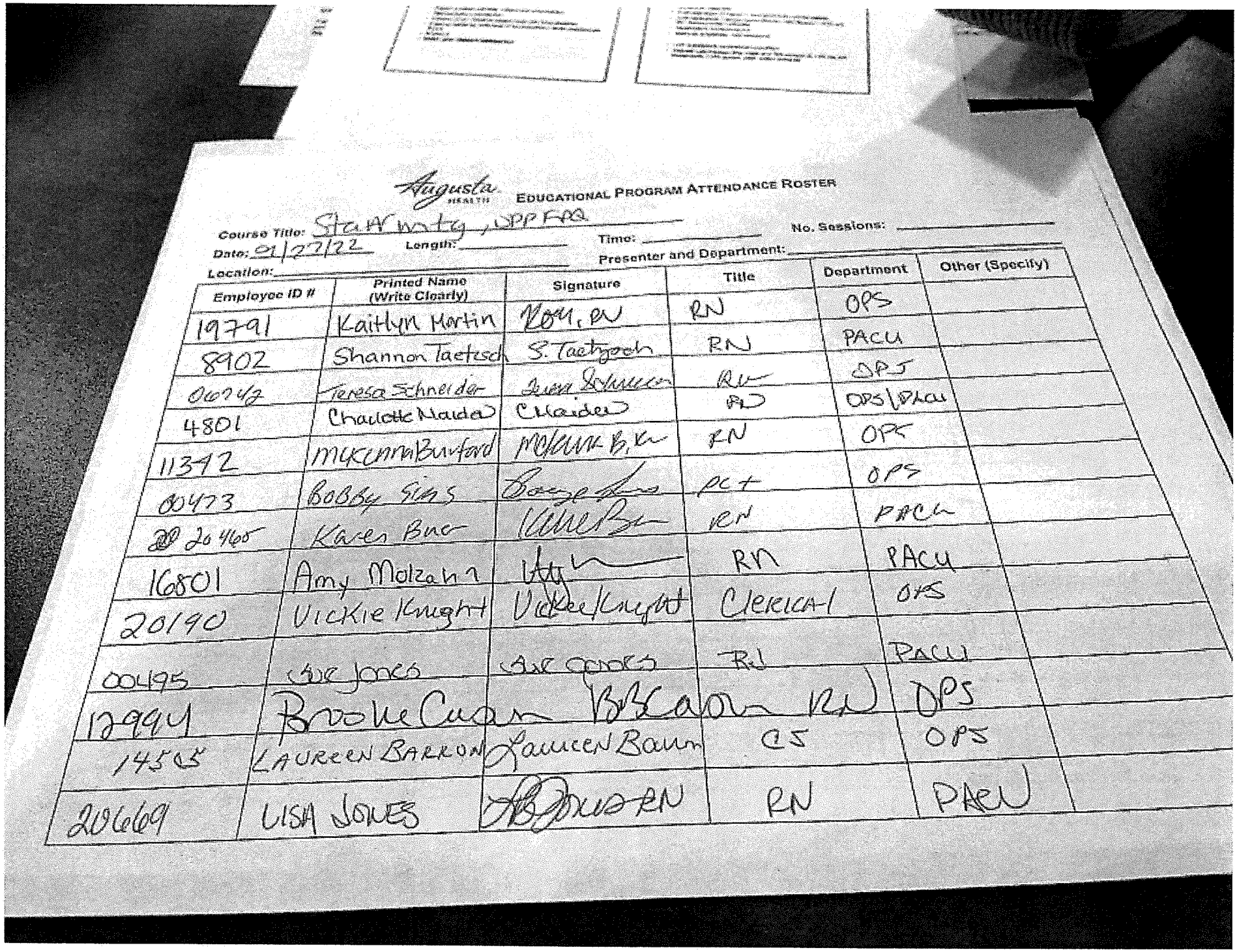
EDUCATIONAL PROGRAM ATTENDANCE ROSTER

Course Title: Staffing, CRP PACU

Date: 3/27/17 Length: _____ Time: _____ No. Sessions: _____

Location: _____ Presenter and Department: _____

Employee ID #	Printed Name (Write Clearly)	Signature	Title	Department	Other (Specify)
12134	April Butler	April Butler	RN	OBS/PACU	
20630	Kacie Pruitt	Kacie Pruitt	RN	PACU	
11341	Lauren May	Lauren May	RN	PACU	
20408	Brianna Merrell	Brianna Merrell	RN	OBS/PACU	
12092	Veronine Covey	Veronine Covey	PCT	OBS	
150756	Chrissy Nicholas	Chrissy Nicholas	PCT	OBS	
12652	Kristen Carpenter	Kristen Carpenter	RN	OBS/PACU	
7515	Kristin Arrohart	K. Arrohart	RN	PACU	
15141	Kelsey Green	K. Green	RN	PACU	
19183	Marissa Fong	Marissa Fong	RN	PACU	
04498	Shawn Shene	Shawn Shene	RN	OBS	
16694	Nicole Rohrbough	Nicole Rohrbough	RN	PACU	



Augusta HEALTH

EDUCATIONAL PROGRAM ATTENDANCE ROSTER

Course Title: Stay Wavy, UPP FAQ

Date: 9/27/22 Length: Time: No. Sessions:

Location: Presenter and Department:

Employee ID #	Printed Name (Write Clearly)	Signature	Title	Department	Other (Specify)
19791	Kaitlyn Martin	Kaitlyn Martin, RN	RN	OPS	
8902	Shannon Taetsch	S. Taetsch	RN	PACU	
00242	Teresa Schneider	Teresa Schneider	RN	OPS	
4801	Charlotte Naida	Charlotte Naida	RN	OPS/PACU	
11342	MKenna Burford	MKenna Burford, RN	RN	OPS	
00473	Bobby Sims	Bobby Sims	PCT	OPS	
20460	Karen Bruce	Karen Bruce	RN	PACU	
16801	Amy Molzahn	Amy Molzahn	RN	PACU	
20190	Vickie Knight	Vickie Knight	Clerical	OPS	
00495	Joe Jones	Joe Jones	RN	PACU	
19941	Brooke Cuan	Brooke Cuan	RN	OPS	
14565	Laureen Barron	Laureen Baum	RN	OPS	
20669	Lisa Jones	Lisa Jones RN	RN	PACU	

To whom it may concern;

I am writing this letter to confirm that Charlotte Maiden is an active member and participant on the Item Review and Exam Construct Committee, committees working on behalf of the American Board of Perianesthesia Nursing Certification, Inc (ABPANC).

ABPANC is a national organization, drawing expertise from across the nation. Charlotte is not only a member of the ECC, but she is the Chair of the CAPA exam construction. Charlotte's role as the Chair of the CAPA exam construction team is critical to the success of the examination development. She is a valued and highly respected member of the team.

Charlotte has attended the Exam Construct Meeting on October 28-30, 2021 and the Item Writing Review Meeting on September 22-26, 2022. She has worked closely to create and validate the CAPA and CPAN certification exams for perianesthesia nursing as well as reviewing questions that are potential submissions for upcoming exams.

Sincerely,

Kathleen Lombardo MS, RN, AOCNS, CAPA
Clinical Nurse Specialist
APBANC Board Liaison

ABPANC
American Board of Perianesthesia Nursing Certification, Inc.
EXCELLENCE. KNOWLEDGE. PATIENT ADVOCACY.

CAPA
Item Review Meeting

Dates September 23 – 25, 2022
Location Embassy Suites Alexandria Old Town
Alexandria, VA
Mason A/B Meeting Rooms
Facilitators Steve VanKrevelen, Psychometrician
Melissa Molina, Senior Test Developer

Meeting Logistics

- Breaks will take place around 10:30 am and 3:00 pm; however, meeting attendees may take short breaks on their own when needed.

Meeting Objectives

- Review and approve 100 items for use as pretest on the upcoming exam forms.
  - Newly written items
  - Items that were flagged for review for statistical or content-related reasons

Anticipated Schedule

Thursday, September 23	Start Time	End Time
Welcome and Introduction	9:00 am	9:30 am
Item Review	9:30 am	12:00 pm
Lunch	12:00 pm	1:00 pm
Item Review	1:00 pm	5:00 pm
Friday, September 24	**Start Time**	**End Time**
Item Review	9:00 am	12:00 pm
Lunch	12:00 pm	1:00 pm
Item Review	1:00 pm	5:00 pm
Saturday, September 25	**Start Time**	**End Time**
Item Review	9:00 am	11:50 am
Closing	11:50 am	12:00 pm

Maiden, Charlotte

From: Hill, Catherine
Sent: Monday, August 29, 2022 8:09 AM
To: Maiden, Charlotte
Subject: FW: Food FARMacy Screenings

From: Hill, Catherine
Sent: Wednesday, June 22, 2022 8:29 AM
To: Maiden, Charlotte <CMaiden@AugustaHealth.com>
Subject: RE: Food FARMacy Screenings

Also I don't think I ever wrote a note about you helping with the previous screenings for your clinical ladder. See below:

This note is to confirm that Charlotte Maiden helped with lab blood draws for the Food FARMacy program on 4/20/22 from 5-6 pm.

Thanks,
Catherine

Catherine Hill, BS, CHES
Health Educator
Community Outreach & Partnerships

Augusta Health

Office: 540-332-4191 | **Mobile:** 540-849-6373

augustahealth.com

Maiden, Charlotte

From: Hill, Catherine
Sent: Monday, August 29, 2022 8:09 AM
To: Maiden, Charlotte
Subject: FW: Clinical Ladder- Heart Health Screenings

From: Hill, Catherine
Sent: Wednesday, March 23, 2022 10:18 AM
To: Maiden, Charlotte <CMaiden@AugustaHealth.com>
Subject: Clinical Ladder- Heart Health Screenings

Good Morning,

Thank you again for helping with the cholesterol screening yesterday! Please see the note below for your clinical ladder points:

This note is to confirm that Charlotte Maiden participated in the Heart Health Day Screening event on March 22, 2022 from 2:40 pm- 4:30 pm in which she did lab blood draws for the cholesterol lipid panel screening.

Thanks,
Catherine

Catherine Hill, BS, CHES
Health Educator
Community Outreach and Community Partnerships

Augusta Health

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ABPANC Item Writing Workshop

AGENDA

April 7, 2022

Philadelphia Marriott Downtown
Room 411-412, Level 4
Franklin Hall

Facilitators:
Marie Graziela F. Bautista, MSN, RN, CPAN, CAPA
Maureen Diver, MSN, RN, CAPA
Kathleen Lombardo, MS, RN, AOCNS, CAPA
Charlotte Maiden, MSN, RN, CAPA, CPAN
Frank Williams, PhD, PSI Services

ABPANC Staff:
Lori Furtado, CAE

I. Introduction

II. Exam Development Overview

III. Anatomy of an Item

IV. Using PSI's *Dimensions*

V. Item Writing Practice

VI. Next Steps

ABPANC

American Board of Perianesthesia Nursing Certification, Inc.

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Learning How to Write CPAN/CAPA Examination Questions

Thursday, April 7, 2022

12:30 PM – 5:00 PM

Franklin Hall, Level 4, 411-412

Presenters

Graze Bautista, MSN RN CPAN CAPA
ABPANC Board Director and Exam Liaison

Maureen Diver, MSN RN CAPA
ABPANC Board Director and Exam Liaison

Kathleen Lombardo, MS RN AOCNS CAPA
ABPANC Board Director and Exam Liaison

Charlotte Maiden, MSN RN CPAN CAPA
CAPA Exam Co-Chair

Frank Williams, Ph.D.
Senior Psychometrician at PSI

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