MICHIGAN ENA - TRIAGE NOTES

IN THIS ISSUE

Michigan State Council

NOTES from the PRESIDENT

Welcome to 2023!

Here are a couple quick updates and a chance to win a free conference registration for the Michigan ENA Conference May 2-3, 2023, in Frankenmuth! Be the 5th person to respond to this email and win! Literally, just respond and say "Hello" and you can win!

Updates:

- Our Fall 2022 Free 2023 Frankenmuth Conference winner is Darby Russell! Congrats, Darby!
- Also, a BIG CONGRATS to our 2022 Michigan ENA award winners: Tori Guyton, Sue Beebe, Kim Johnson, Lindsey Sams, and Marilyn Enriquez!
- 2023 MENA Awards Nominations are NOW OPEN. You can find a flyer and information on the following pages, on the nomination form, or on our website.
- We are now accepting applications to attend Day on the Hill in Washington, DC. To be considered for selection, please fill out the attached DOTH form and return to Naomi Ishioka at Naomi.Ishioka@Beaumont.org no later than February 26, 2023.
- If you are interested in being a Michigan Delegate at the EN23 Conference in San Diego, delegate forms are now available and must be turned in by April 15, 2023 for consideration.
- I have attached a 2023 calendar, so you all know what is going on this year. Please, reach out if you have any questions.
- Acknowledgements go to Michigan ENA members working on HQ Committees as chairs, members, and alternates: Aimee Westmore, Lisa Hill, Joan Moccia, Katherine Kruger, Naomi Ishioka, and Rebecca VanStanton.
- Finally, our bylaw update is still underway and will be discussed at our May 2, 2023 meeting in Frankenmuth.

Rebecca

2023 Dates to Remember

State Meeting Dates

January 18 – 2p-5p – hybrid - HFWB
May 2 – 2p-4p - hybrid – Bavarian Inn Frankenmuth
September 9 – 9a-3p (w/ delegate meeting) - hybrid - Corewell Troy
December 9 – 9a-3p (w/ budget meeting) - hybrid – TBD

Other Dates

January 18 – Pediatric Trauma and Implicit Bias CE - HFWB
February 23 - Food for Thought – Magnolia Med – Troy
April 15 - Delegate Tool Due
April 20 - Food for Thought – Magnolia Med – Grand Rapids
May 2-3 - MENA Education Conference – Frankenmuth
May - Membership Discount Month
August – Call for volunteers
August 31 - Award Nominations Due
September 15-30 – Elections
October - Membership Discount Month
October 9-13 - Award Disbursement
October 12 - Food for Thought – BioXcel – Grand Rapids

TNCC/ENPC Meeting Dates

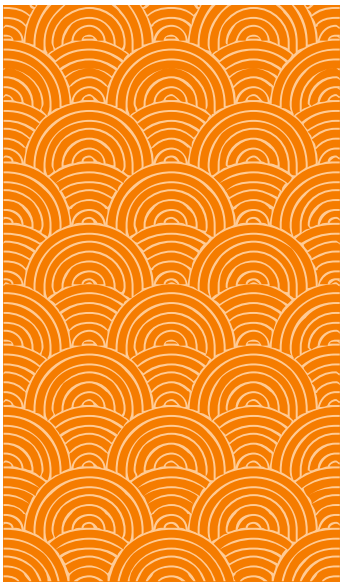
January 13 – 8a - Zoom
March 13 – 8a - Zoom
April 28 – 8a - Zoom
July 17 – 8a - Zoom
September 8 – 8a - Zoom
November 30 - 8a – Zoom

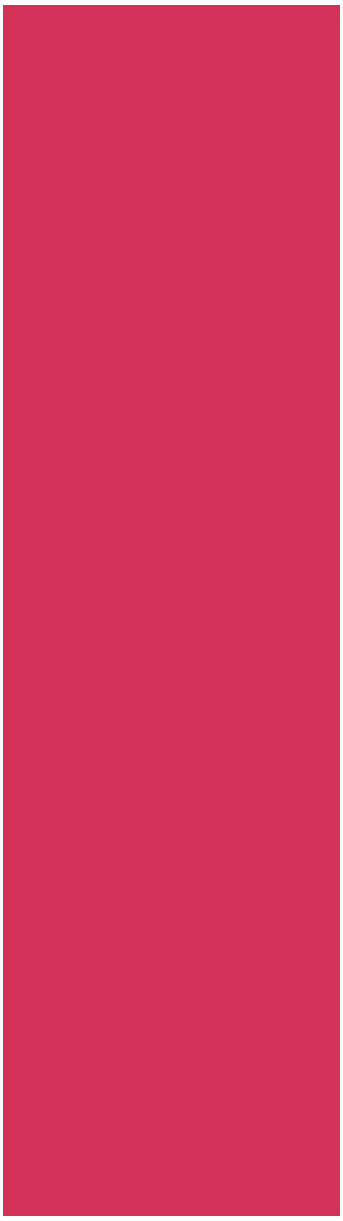
Education Committee Meeting Dates

Jan 17th 6pm - Zoom
Feb 21st 6pm - Zoom
Mar 21st 6pm - Zoom
Apr 18th 6pm - Zoom
Apr 25th 6pm - Zoom
May 16th 6pm - Zoom

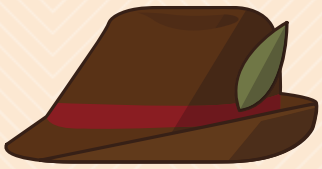
HQ Dates

May 2-3 – DOTH – Washington DC
September 20-21 – General Assembly – San Diego
September 21-24 – EN23 - San Diego
October 9-13 - ENWeek 2023



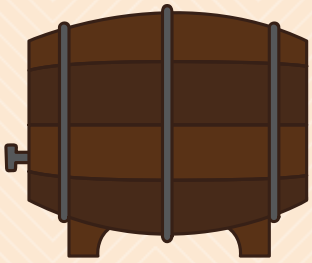


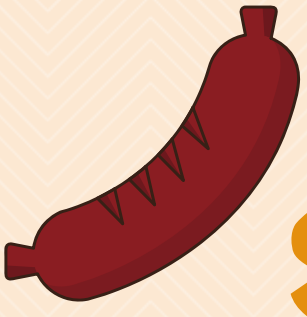
SAVE THE DATE



May 2-3, 2023

2023 MICHIGAN EMERGENCY NURSING STATE CONFERENCE





BAVARIAN INN
FRANKENMUTH, MI

VISIT www.connect.ena.org/mi/home for more info

Please post in your emergency departments and share with your friends and colleagues

FLASH SALE

IN HONOR OF VALENTINES DAY
USE PROMO CODE:
HEART
FOR 14% OFF REGISTRATION

2023 Michigan ENA State Conference
May 2-3, 2023

Bavarian Inn
Frankenmuth, MI

VISIT
www.connect.ena.org/mi/home
for more info

ENA™
Michigan State Council

MI ENA Awards Chair

Aimee Westmore - Awards Chair

It is my honor to announce the recipients of the Michigan Emergency Nurses Association Awards for 2022.

Lifetime Achievement:
Kim Johnson, MSN, RN of Henry Ford West Bloomfield
Lifetime Achievement:
Marilyn Enriquez, BSN, RN of Health Education Strategies
Nurse Leader:
Susan Beebe, BSN, RN, CEN of Henry Ford West Bloomfield
Rising Star:
Lindsey Sams, BSN, RN of Henry Ford West Bloomfield
Rising Star
Victoria Guyton, BSN, RN of Henry Ford West Bloomfield

The recipients this year enjoyed lunch provided by Michigan ENA to celebrate with their coworkers in their home departments during Emergency Nurses Week or at a class being taught in a hospital setting.The recipients will also have their membership or state conference paid for this year, and be announced at the 2023 Michigan ENA conference in Frankenmuth.
Also, I would like to congratulate Alita Pitogo, who won a year's membership for ENA. By nominating someone for an award, her name was picked randomly from those who had nominated someone.This was a new perk to nominations and awards this year.
If you would like to nominate someone for a Michigan ENA for 2023, please see the information on the Michigan ENA Website, read the descriptions of the awards, write a quick letter with a buddy, and send it in for consideration. We all deserve to be recognized for the work we do, and this is a tangible way to show we support each other.

Again, Congratulations to our winners!

SCAN or

CLICK HERE

NOMINATE AN EMERGENCY NURSE FOR AN AWARD NOW!

2023 Michigan Delegate Selection Tool

September 2023 San Diego

Name and ENA Number:

Email Address:

All forms must be received April 15, 2023. No late entries will be accepted. Points are accumulated for activities from April 15, 2022 to April 15, 2023. Please document score in far-right column and a total at the bottom.

ENA Involvement	Possible Points	Points Earned
Attend State Council Meeting (Please list dates attended. Must have attended at least 3 meetings to be eligible)	10 per meeting Max 50	
Attend Local Chapter Meetings (Please list dates attended. Must have attended at least 2 meetings to be eligible)	10 per meeting Max 50	
State ENA Council Officer	30	
Local ENA Chapter Officer	20	
Chair an ENA National Committee	25	
Chair an ENA State Committee	20	
Chair an ENA Local Committee	15	
Serve as a National Committee Member	15	
Serve as a State Committee Member	10	
Serve as a Local Committee Member	5	
Serve as District Champion for Michigan Government Affairs	5	
Lead in Special Projects. Board and Chair Approved. Details must be provided.	20	
General Assembly Delegate 2022	20	
Membership		
New members recruited to ENA in the past year (they must have listed you on their submission form). Please list names to be verified.	10 each Max 50	
Professional Development and Other Considerations		
Current Certification in Emergency Nursing (CEN, CFRN, CPEN, TCRN, CTRN, or CCRN): Must provide a copy of the certification	10 points each Max 30	
Publish Articles in JEN	20 per, Max 40	
Publish articles in other health care related publication (e.g. Triage Notes)	15 per, Max 30	
Provide an educational opportunity for fellow healthcare care providers in an emergency related setting that is above and beyond job requirements such as a simulation or a presentation. Details and dates to be provided.	10 each Max 30	
TNCC: Faculty 20 points, Director 15 points, or Instructor 10 points per ENA	Max 20	
ENPC: Faculty 20 points, Director 15 points, or Instructor 10 points per ENA	Max 20	
Hold full or part-time position at bedside in Emergency Care Setting (must submit letter of verification by supervisor) (30 for full, 20 for part)	20 OR 30	
Attend ENA Leadership Conference	15	
Attend Michigan State Annual Conference	10	
Attend other ENA sponsored program.	5	
Requested time off for Delegacy (must submit letter of verification by supervisor)	5	
Community Involvement		
Present topics of education to the public. Please list name/date.	15 each Max 45	
Total Points		

If I am chosen as a delegate, I agree to reimburse Michigan ENA for any monies spent, if I am then unable to attend.

Signature .

Completed Form must be sent to MENA President, Rebecca VanStanton at Rebecca.Stanton.RN@gmail.com by April 15, 2023

2023 Michigan National Day on the Hill Selection Tool

Name and ENA Number: **Email Address:**

ENA Involvement	Possible Points	Points Earned
Attend State Council Meeting (Please list dates attended. Must have attended at least 3 meetings to be eligible)	10 per meeting Max 50	
Attend Local Chapter Meetings (Please list dates attended. Must have attended at least 2 meetings to be eligible)	10 per meeting Max 50	
State ENA Council Officer	30	
Local ENA Chapter Officer	20	
Chair an ENA National Committee	25	
Chair an ENA State Committee	20	
Chair an ENA Local Committee	15	
Serve as a National Committee Member	15	
Serve as a State Committee Member	10	
Serve as a Local Committee Member	5	
Serve as District Champion for Michigan Government Affairs	5	
Visit your local government officials on the behalf of ENA: Must include date, person, and topics discussed (IE violence in the workplace, etc.) 10 points each	50	
Went to National or state Day on the hill in the past 10 each (for the last 3 years--this is an exception to the rule of points accumulated over last 1 year)	20	
Wrote an article for Triage notes (10 per article)	Max 20	
Hold full or part-time position in Emergency Care Setting (must submit letter of verification by supervisor) (20 for full, 10 for part)	10 or 20	
Attend ENA Leadership Conference	15	
Attend Michigan State Annual Conference	10	
Attend other ENA sponsored program.	5	
Requested time off for day on the hill (must submit letter of verification by supervisor)	5	
Total Points		0

All forms must be received February 26, 2023 . No late entries will be accepted. Points are accumulated for activities from Feburary 26, 2022 to February 26, 2023. Please document score in far-right column and a total at the bottom. EXCEPTION for points earned for past 3 years for Day on the Hill events

Workplace Violence
Jac Getzinger, MSN, RN, TCRN – Web Chair

The ENA believes emergency nurses have the right to education and training related to the recognition, management, and mitigation of workplace violence. The mitigation of workplace violence requires a "zero tolerance" environment instituted and supported by hospital leadership. How do we move our facility towards this kind of "zero-tolerence" was the main topic during the recent "Awareness of ED Workplace Violence with Prosecutors and Police Panel Discussion at the ENA Leadership Conference in Scottsdale, AZ. Here is a summary of questions raised by this panel that we should be asking our Legaland Security Department teams in order to improve our work safety.

1) Does your Legal and or Security Departments have a personal relationship with the city/county attorney who would be bringing charges for anybody who assaults your staff?
2) Has your Legal and or Security Departments ever entertained having a prosecuting attorney do a "ride along" for a few shifts to better understand the current climate your staff is working in/up against?
3) What is your process for patients who assault a staff member, are you calling 911 and getting the police involved early and for everyone/every time? It is grossly underreported.
4) Is somebody from your Legal and or Security Departments circling back with the local police agency to see what the attorney is pursuing on behalf of your staff. Michigan has a crime victim bill of rights that you should read and understand: (https://www.michigan.gov/voices4/legal/rights#:~:text=The%20Michigan%20Constitution%20grants%20crime,prosecuting%20attorney%3B%20and%20make%20a)
5) Do you have a victim representative that is working with the Hospital legal affairs with respect to your hospital violence?

Workplace Violence
Naomi Ishioka

Violence against healthcare workers is an increasingly prevalent problem.

VIOLENCE IS NOT OK--IT IS NOT PART OF THE JOB.

According to the Michigan law a victim of a crime is a person who suffers direct or threatened physical, financial, or emotional harm as a result of the commission of a crime. It does not matter where the crime occurs, these are guaranteed rights. An employer cannot deny you the right to report a crime. One way to think of it is this: If I worked at a retail institution and the same thing just happened and the person who assaulted me was in the same physical/mental/intoxicated state that the assailant was when he assaulted me, would I call the police? If the answer is yes, then you are probably right to report the assault. Being drunk, high or angry in a hospital is no different than being drunk/high/angry in a store. If a person threatens to harm you either at work or outside of work, especially if the act or threat includes the use of a weapon, these should always be taken seriously. Contact your employer and inform them, also it is appropriate to involve the police.

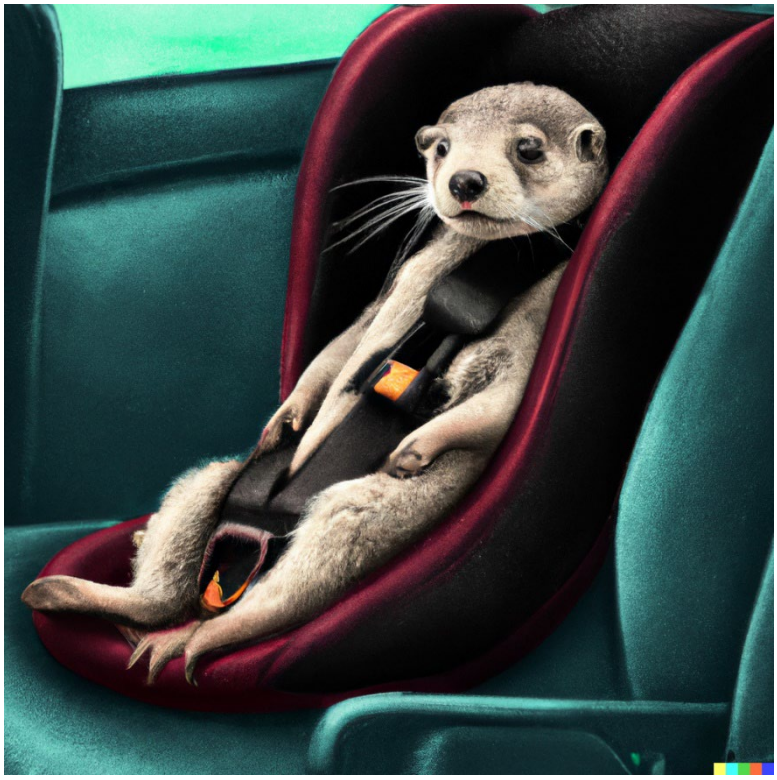
Michigan law does not specifically address threats of force and making a threat may not be illegal, however, if a person threatens force or deadly force, and can carry out that threat, then they may be guilty of assault. In addition, if they are observed to even start to follow through (IE show up later asking for you) this may also be considered a crime. Always document it by making a report. The law specifically includes the use of telecommunications (Phone, text etc.)

Report every instance of violence—YOU have the power to change the way healthcare workers are treated

The Michigan ENA Government affairs committee has developed a brochure specifically designed for managers, charge nurses, security or others to hand out in the case of a violent act of assault towards you or your coworkers. It contains a list of the rights you have as a victim of assault, and how to follow up with the police, etc. If you would like a copy of this brochure, please Email Naomi.Ishioka@Beaumont.org.

MI ENA QSIP

Aimee Westmore - QSIP chair



What is QSIP? It stands for Quality, Safety, and Injury Prevention. If you're like most emergency
nurses, you may want to run when hearing these words. Especially when we are constantly short staffed and working overtime shifts against a packed waiting room of patients; it sounds like extra work.
What if I told you it could actually cause less work in the long run, less tragedy to take home after witnessing the effects of accidents in a trauma bay, or accidents that could have been avoided?
QSIP is as much about education for the community, as it is for staff to recognize and react to what we may find coming into our emergency departments. QSIP about keeping staff safe in the emergency departments while we work, as well as for the patients we serve. QSIP is about supporting the community we serve, and helps to prevent harm to our staff as well. QSIP encourages prevention to ensure less unnecessary visits to the emergency department. QSIP includes programs such as "stop the bleed", checking car seats, and educating new drivers about drunk driving and the importance of seat belts, but can also be about preventing injury to ourselves, whether moral, psychological, or physical.
If you have an ideas about education or a program Michigan emergency nurses or the communities they serve may benefit from, or would like to be involved with Michigan ENA QSIP,
please contact me at awestmore08@gmail.com with the subject line "QSIP". Thank you in advance for the interest and ideas

So Many Things We Can Learn From the Wilderness
By Ashley Kohlbeck BSN, RN, CEN, EMT-B

Fall of 2022, I had the opportunity to attend a two-day Advanced Wilderness Life Support course in Lake Tahoe. It was a small class, approximately 15 students, with 5 instructors. The students and instructors came from a variety of backgrounds, with different levels of experience in medicine and in the wilderness. There were retired physicians, practicing physicians, resident physicians, physician assistants (PA), nurses, a paramedic, and midwife. The two things we all had in common were we loved the outdoors and had some sort of medical background. One of the coolest parts about this course was getting to know everyone and their unique backgrounds. We had a retired OB/GYN physician, an orthopedic resident, a retired emergency medicine physician, an emergency medicine resident as well as a practicing emergency medicine physician. There were also emergency department PA's and nurses, a neurosurgeon, neurology PA's, urology PA, family medicine physicians, a family medicine physician who was in the military, as well as a nurse midwife, and paramedic who had experiences working and teaching in many different settings. Beyond the course curriculum, there were so many things I learned from the other group members. It was so interesting to work through scenarios and group problems with people who had very different medical backgrounds and approached things differently. Everyone had great "tips and tricks" to share from things they had experienced and learned in their designated specialties.

Many might say, "How does taking an Advanced Wilderness Life Support course help you improve your practice as an emergency department (ED) nurse at an inner-city ED?" Despite working in a hospital located in a downtown metropolitan area, I still see many injuries and medical emergencies related to patients spending time outdoors in both urban and rural settings. In Michigan, our patients are exposed to a variety of weather conditions. From summer to winter,

our patients can be immersed in a multitude of climates while participating in recreational activities, living in homeless camps, or working outdoors.
In this state we are surrounded by water and have many bodies of water nearby, including city pools, as well as hiking and recreational areas where people interact regularly with the wilderness. Learning more about the initial treatment of many of these types of injuries and illnesses has helped me become a better emergency nurse and mentor to my colleagues with a broader knowledge base. For example, we had a scenario with a patient who was hypothermic after being exposed to the elements. We learned about stripping them down out of their wet gear and wrapping them in mylar blankets. We also used other equipment we had brought on the trip to treat their hypothermia and frostbite injuries. This course also helped me become more confident when sharing my knowledge about wilderness medicine with other nurses and colleagues. I have been able to apply the skills and knowledge I learned from this course nearly daily with the care of my patients in the emergency department.

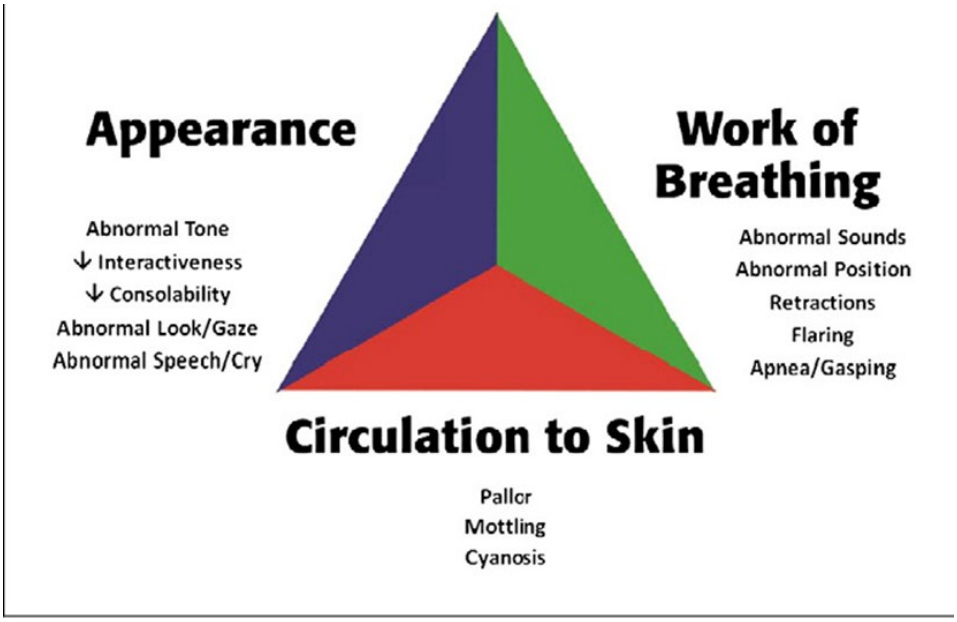
This course was a great refresher for treating many of the illnesses and injuries we see in the emergency department. The first part of the course was online learning modules, completed prior to the in person two-day course, the other part was outdoors in a wooded park in Lake Tahoe. As a group we spent the entire time both days hiking and learning along the way. We would stop frequently to circle up and discuss illnesses and injuries. Similarly, we discussed special considerations to think about when treating patients in the wilderness or in situations with limited resources. I loved the small group scenarios that we frequently practiced. We would split up into groups of three and hike along the trail to find "our patient" covered in moulage acting injured or ill. Along with our medical backgrounds we utilized algorithms that guided our assessments and medical interventions. With our very limited resources we determined the urgency of the patient's condition, agreed upon the best treatment plan, and decided what method would be the best way to get them safely there. One of my favorite scenarios was a mass casualty where we had multiple victims who had been involved in a motor vehicle accident on a remote two-track. As a group we assessed the scene for safety and determined the victims were intoxicated. We also established that their history was unreliable. We treated victims that had a variety of injuries including lacerations and obvious fractures. We also managed patients with impalement injuries, head wounds, and possible internal bleeding. Our instructors did an amazing job playing the role as the victims. They went above and beyond to look and play the part which was beneficial to us while learning. At the end of these exercises, we would collaborate as a group to debrief on what went well and what we could improve on. During these debriefings I was able to establish a new approach to emergency medical care based on the recommendations of my educators and teammates.

It was a blast to work in groups where people had extensive knowledge in a variety of different specialties and see how we would all collaborate to "solve the problem." This course has been invaluable to my growing practice because it has provided me with new abilities to think creatively and improvise. In addition, I acquired new hands-on skills and irreplaceable knowledge from my classmates. The teamwork, students and instructors' enthusiasm, everyone's good sense of humor, and desire to learn made this one of the most enjoyable continuing education courses/conferences I have attended! I would highly recommend this to anyone who enjoys the outdoors and wants to learn about medicine in a unique outdoor environment!

Back to the Basics- PEDIATRIC Version

Holly Polmateer BSN, RN, NREMT-P, CEN

1. When in doubt use the Pediatric Assessment Triangle



2. Normal Pediatric Vital Reference

Heart Rate (beats/min)			Respiratory Rate (breaths/min)	
Age	**Awake**	**Asleep**	**Age**	**Normal**
Neonate (<28 d)	100-205	90-160	Infant (<1 y)	30-53
Infant (1-12 mos)	100-190			
Toddler (1-2 y)	98-140	80-120	Toddler (1-2 y)	22-37
Preschool (3-5 y)	80-120	65-100	Preschool (3-5 y)	20-28
School-age (6-11 y)	75-118	58-90	School-age (6-11 y)	18-25
Adolescent (12-15 y)	60-100	50-90	Adolescent (12-15 y)	12-20
Reference: PALS Guidelines, 2015				

Blood Pressure (mmHg)				
Age		**Systolic**	**Diastolic**	**Systolic Hypotension**
Birth (12 h)	<1 kg	39-59	16-36	<40-50
	3 kg	60-76	31-45	<50
Neonate (96 h)		67-84	35-53	<60
Infant (1-12 mos)		72-104	37-56	<70
Toddler (1-2 y)		86-106	42-63	<70 + (age in years × 2)
Preschool (3-5 y)		89-112	46-72	
School-age (6-9 y)		97-115	57-76	
Preadolescent (10-11 y)		102-120	61-80	<90
Adolescent (12-15 y)		110-131	64-83	
Reference: PALS Guidelines, 2015				

- General rule for determining **minimal systolic BP** in children age 1-10 years: 70+(age in years x 2)
- Accurate weight in kilograms is needed
- During an **emergent situation** use the Broselow Tape.
- Count respirations for a full minute due to the irregular respiratory pattern
- Undress to assess respirations to look for retractions, abdominal muscles being used, and work of breathing.
- Assess fontanels in infants

3. **CALCULATION OF ETT SIZE**

$$\frac{\text{Age in years} + 4}{4}$$

4. **CALCULATION OF SUCTION CATHETER SIZE** (Also can find on Broselow Tape)

$$\frac{\text{ETT or trach size} \times 3}{2}$$

5. **IV's** can be difficult to start on pediatric patients, advocate for an **IO** to get the patient stabilized!

6. **Respiratory**

- Pediatric patients typically respiratory arrest, not cardiac arrest.
    - If respiratory issues are not resolved, this may lead to cardiac arrest.
- Things that may help:
    - Elevate the head of the bed if appropriate
    - Place a roll behind the neck to help open airway (sniffing position)
    - Suction/clear nares
    - If a vented patient is decompensating, it is OK to break the vent circuit to bag patient (unless they are on a high PEEP)
    - Respiratory treatments
    - Administering oxygen

Recognizing Respiratory Problems Flowchart

PALS: Signs of respiratory problems					
Clinical signs		Upper airway obstruction	Lower airway obstruction	Lung tissue disease	Disordered control of breathing
Airway	Patency	Airway open and maintainable/not maintainable			
Breathing	Respiratory rate/effort	Increased			Variable
	Breath sounds	Stridor (typically inspiratory)	Barking cough Hoarseness Wheezing (typically expiratory) Prolonged expiratory phase	Grunting Crackles Decreased breath sounds	Normal
	Air movement	Decreased			Variable
Circulation	Heart rate	Tachycardia (early); bradycardia (late)			
	Skin	Pallor, cool skin (early); cyanosis (late)			
Disability	Level of consciousness	Anxiety, agitation (early); lethargy, unresponsiveness (late)			
Exposure	Temperature	Variable			

PALS: Identifying respiratory problems by severity	
Progression of respiratory distress to respiratory failure*	
Airway	Respiratory distress: open and maintainable Respiratory failure: not maintainable
Breathing	Respiratory distress: tachypnea Respiratory failure: bradypnea to apnea
	Respiratory distress: work of breathing (nasal flaring/retractions) Respiratory failure: increased effort progresses to decreased effort and then to apnea
	Respiratory distress: good air movement Respiratory failure: poor to absent air movement
Circulation	Respiratory distress: tachycardia Respiratory failure: bradycardia
	Respiratory distress: pallor Respiratory failure: cyanosis
Disability	Respiratory distress: anxiety, agitation Respiratory failure: lethargy to unresponsiveness
Exposure	Variable temperature

*Respiratory failure requires immediate intervention.

Respiratory Syncytial Virus Infection (RSV)

Symptoms:

- Usually, symptoms appear within 4 to 6 days after getting infected
- Runny nose, decrease appetite, coughing, sneezing, fever, wheezing
- Young infants may only present with irritability, decreased activity, and breathing difficulties
- Can cause more severe infections such as bronchiolitis and pneumonia

Care/Discharge Instructions:

- Usually goes away on its own in 1-2 weeks
- Supportive care
- Fever control = Motrin (over 6 months) 10mg/kg and Tylenol 15mg/kg
- Keep them well hydrated = 3-5 ml for every 3-5 minutes
- When to return: uncontrolled fevers with proper dosage of medication, increase work of breathing (abnormal sounds, retractions, nasal flaring, etc.), decrease activity, fewer than six wet diapers in 24 hours, inconsolable/fussy

High Risk Patients:

- Premature infants
- Infants, younger than 6 months
- Children younger than 2 years old with chronic lung disease or congenital heart disease
- Weakened immune systems
- Children who have neuromuscular disorders, including those who have difficulty swallowing or clearing mucus secretions

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Bronchiolitis

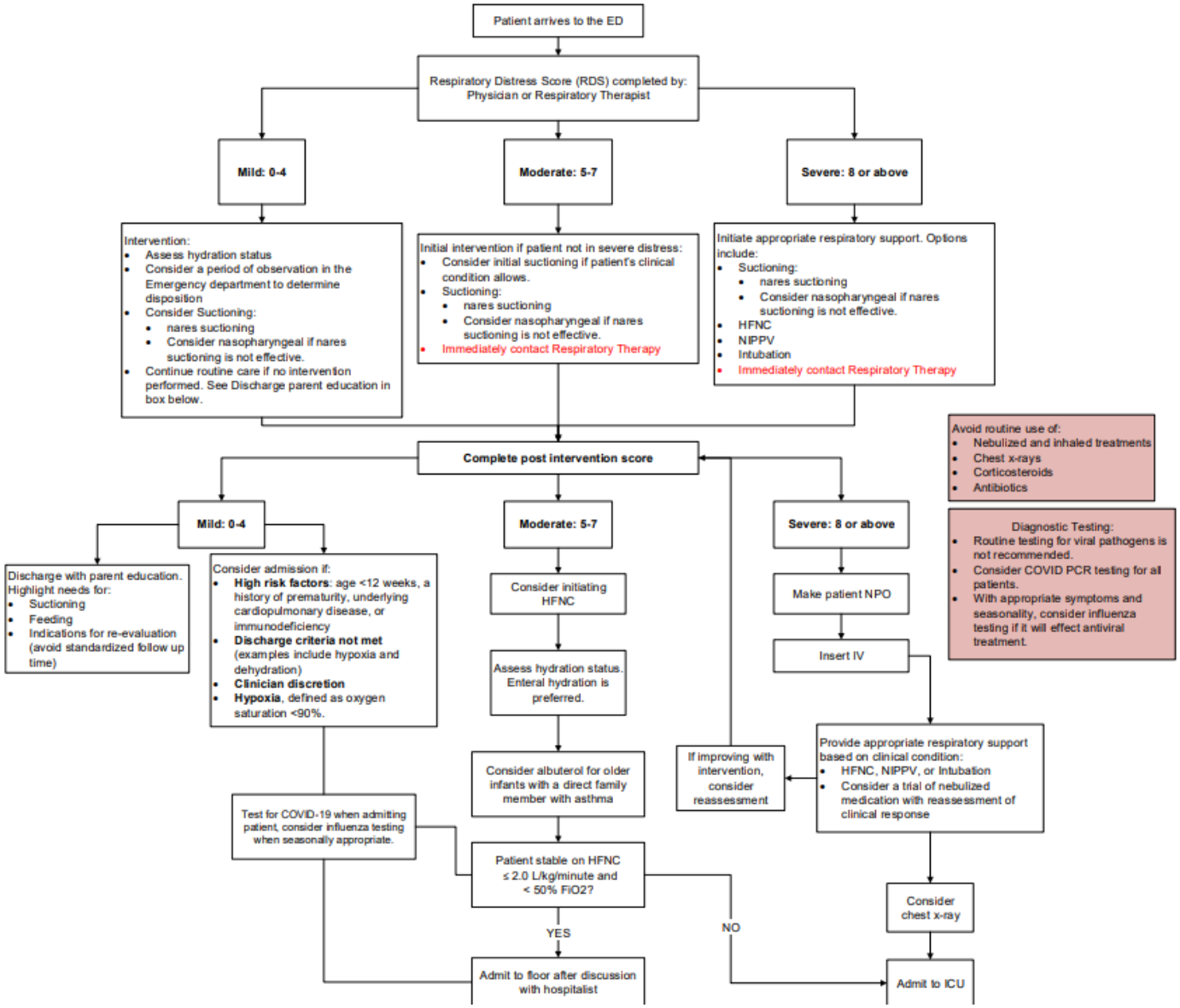
Treatments:

Routine use of bronchodilators, steroids and antibiotics for clinical bronchiolitis are not recommended.

In select cases (prior history of wheezing episodes, history of atopy, strong family history of asthma) a trial of albuterol may be appropriate.

Antibiotics should only be used for clear cases of bacterial infection.

ED management algorithm:



High Flow Nasal Cannula

High-flow nasal cannula (HFNC) is a relatively safe and effective noninvasive ventilation method that was recently accepted as a treatment option for acute respiratory support before endotracheal intubation or invasive ventilation.

The action mechanism of HFNC includes:

- decrease in nasopharyngeal resistance
- washout of dead space
- reduction in inflow of ambient air
- an increase in airway pressure

Advantages:

Offers delivery of 60-100% oxygen

Delivery is by Nasal cannula not a mask

Cautions:

Cannot use bubbler, humidity is included within the machine set-up

Pediatric/Neonatal considerations:

- An appropriately sized cannula should occupy only 2/3rds of the nares
- Flow rates should be titrated by RT/ MD
- Patient should be NPO on initiation of high flow until released by provider
- Patients who are worsening despite HFNC at 1.5 LPM/kg flow rate, HFNC can be increased to up to a maximum of 2LPM/kg, with no limit to the total maximum flow rate. Consult attending and PICU.

<u>Non-invasive Positive Pressure Ventilation</u>

- Done through a conventional ventilator.
- Used to decrease the patient's work of breathing, maintain airway patency and recruit alveoli
- Is either synchronized with the patient's spontaneous respiratory effort or has a defined backup rate.
- Suction nares as needed per each patient at minimum q4 hours
- Keep patients face clean and dry of mucous, will help create a good seal.

Indications:

- Bronchiolitis
- Status asthmaticus
- Pneumonia
- Pulmonary edema
- Cystic fibrosis
- Acute chest syndrome
- Chronic lung disease
- Atelectasis
- Respiratory distress syndrome
- Adjunct therapy post-extubation
- Upper airway obstruction caused by tracheomalacia, laryngomalacia or Pierre Robin syndrome

Contraindications:

- Acutely impaired mental status
- High aspiration risk
- Hemodynamic instability
- Craniofacial injuries/surgery

Complications:

- Barotrauma
- Aspiration
- Skin breakdown
- Gastric distention
- Hemodynamic instability/ decreased cardiac output (positive pressure ventilation creates pressure changes in the chest cavity decreasing venous return to the heart)