SOUTH SHORE SIMFLUENCER

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Figure 1: Our ED team resuscitating a patient in status epilepticus

WELCOME TO THE SSUH SIMFLUENCER!

Welcome to the 4th issue of The SSUH Simfluencer! This newsletter will serve as an educational tool for all faculty, staff, and learners in the emergency department (ED) at South Shore University Hospital. We will go over lessons learned, latent safety threats, and review best practices for managing critically ill patients in the ED.

This month, we discuss takeaways from our pediatric status epilepticus case!

Once again, I would like to thank each person who participated in these simulations. Your enthusiasm has made this initiative a success!

A GUIDE TO ACCESSING PEDIATRIC RESOURCES

… Including the brand new Northwell PEM pocket guide

STATUS EPILEPTICUS GUIDELINES

Preparing you for everyone's worst nightmare: A seizing child

LET'S REVIEW PEDIATRIC EQUIPMENT…

And where to find it!

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PEDIATRIC RESOURCES

- Children are not just small adults
- Dosing, equipment, vital signs, and medical management are different than adults
- It is important to understand what resources are available in the event of a pediatric emergency
- **Dosing Resources:**
  - Broselow tape:
    - Double sided! Please familiarize yourself next time you are on shift
  - Pediatric code calculator
    - Pre-calculated sheets are available on each pediatric code cart
  - Phone app (PediStat)
  - Clinical pharmacist
  - New: Northwell PEM Pocket guide
    - Scan QR code to view
- **Expert consultation resources**
  - TelePICU is available for consultaion in the ED
    - Call the Centralized Transfer Center (516-719-KIDS) to arrange
  - Pediatric hospitalist

Age	HR	SBP	RR	Kg
0m	110-160	>60	35-55	3.5
6m	90-160	>65	30-45	7
1	80-150	>72	22-30	10
2	70-120	>74	20-24	13
4	60-110	>78	20-24	17
6	60-110	>82	16-22	22
8	60-100	>86	16-22	26
10	60-100	>90	16-20	35
12+	60-100	>90	12-20	45+

Table 1: Normal pediatric vital signs

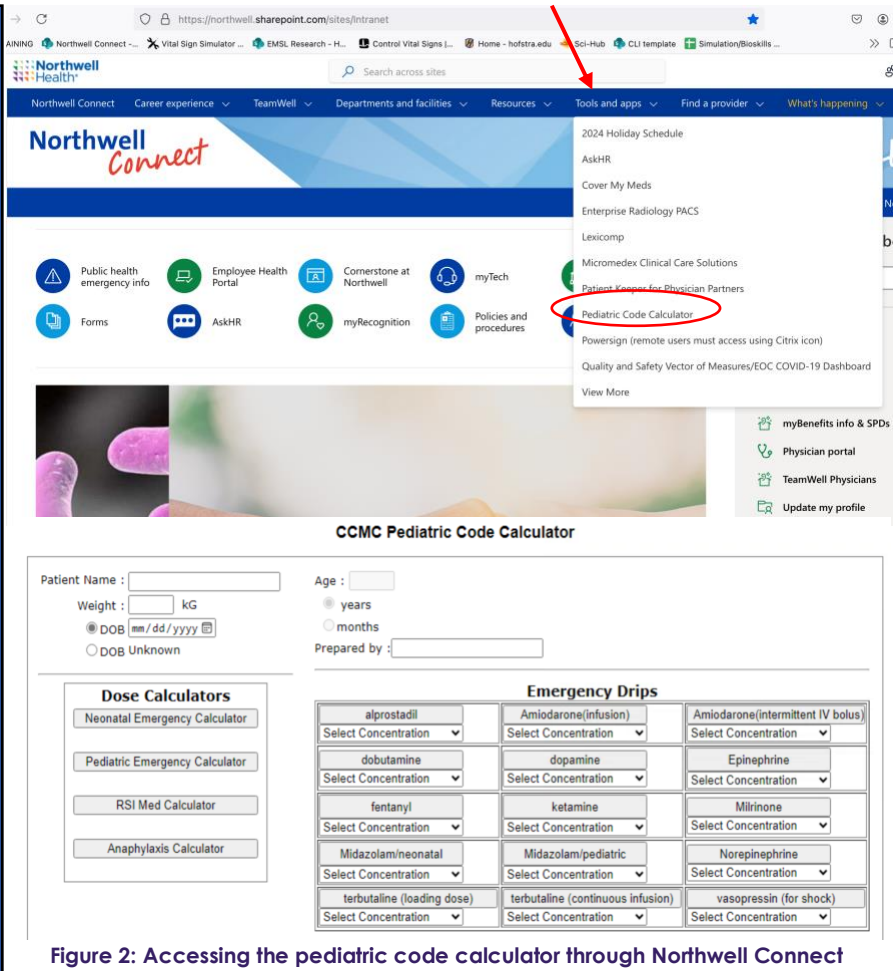


Figure 2: Accessing the pediatric code calculator through Northwell Connect

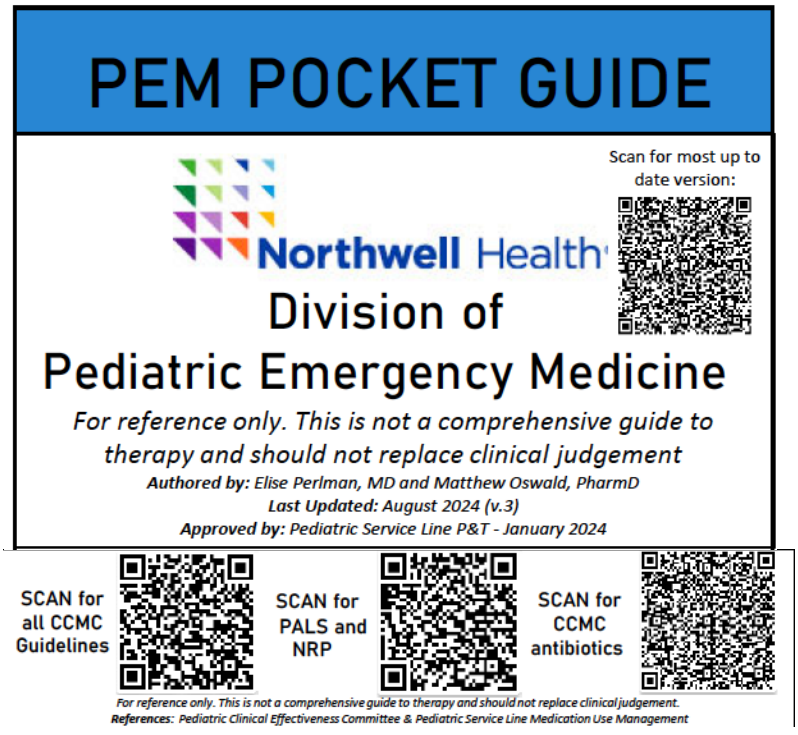


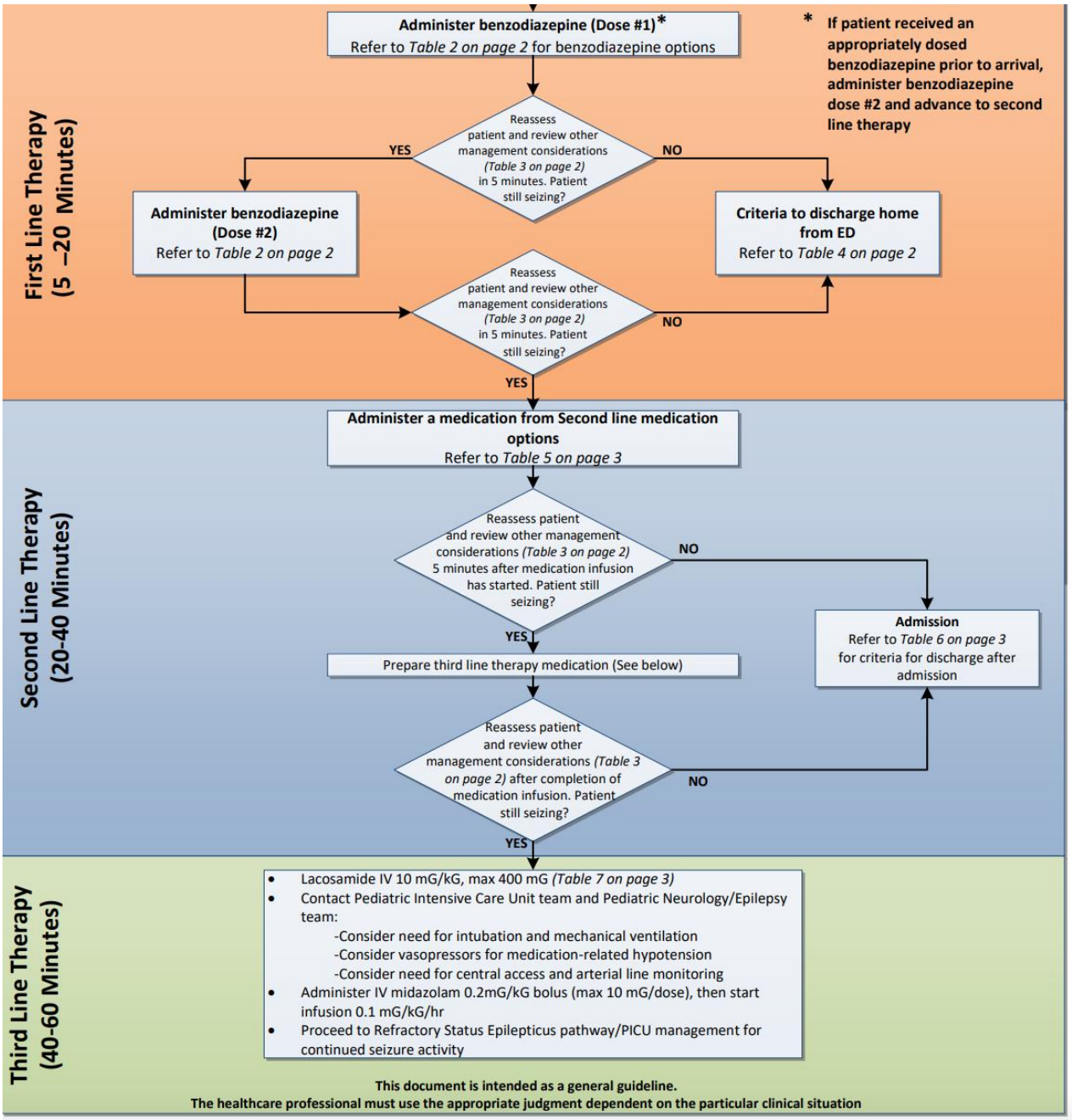
Figure 3: NEW!!! Pediatric Emergency Medicine Pocket Guide. Access this for normal pediatric vital signs, equipment sizing, common medication dosing, and guidelines for managing critical scenarios

PEDIATRIC STATUS EPILEPTICUS: CCMC ALGORITHM

- *Everyone's worst nightmare is a critically ill child. Let's talk about ***status epilepticus***, or intractable seizures
- Status epilepticus is defined as EITHER of the following:
  - Prolonged seizure activity (>5 minutes) ***OR***
  - Multiple seizures without return to baseline clinical status
- CCMC has developed guidelines for management of status epilepticus (see below)
- Consider the following dfferential diagnoses for intractable seizures:
  - Hypoglycemia
    - Tx: Dextrose 0.5g/kg
    - Rule of 50 calculates volume for this dose
    - Cannot use D50 in children <8yo (sclerosing to veins)
  - Hyponatremia
    - Tx: 3% saline 2-5mL/kg
  - Vitamin B6 deficiency (Suspect when patient is being treated for tuberculosis- Isoniazid can cause B6 deficiency)
    - Tx: B6 (pyridoxine) 100mg/kg
  - Eclampsia
    - Tx: MgSO4, Delivery
  - TCA overdose
    - Tx: Sodium bicarb 1-2mEq/kg*

Rule of 50s
D50 = 1 mL/kg
D25 = 2 mL/kg
D10 = 5 mL/kg

Figure 4: CCMC guidelines for status epilepticus in a child >28days old.



For reference only. This is n

References: Pediatric Clinic

Figure 5: CCMC guidelines May be accessed via this QR code

PEDIATRIC AIRWAY CONSIDERATIONS

Pediatric airway considerations:

- Children have a much lower reserve than adults
  - Deoxygenate quickly
  - Decompensate rapidly
- The most common cause of cardiac arrest in children is respiratory arrest
- Understanding how to manage pediatric patients with impending respiratory failure is essential to ED staff.
  - This includes becoming comfortable in locating and using airway equipment.
- Places to find equipment:
  - Option #1: Pediatric airway tower (trauma room)
  - Option #2: Pediatric airway box (orange)
  - Option #3: Green bins in trauma closet
  - Option #4: Broselow cart
- How do I know what size equipment to use?
  - Option #1: Broselow tape
    - Use corresponding color in pediatric code cart
  - Option #2: Northwell pediatric code calculator
  - Option #3: Phone application (ie- Pedistat)
  - Option #4: NEW!!! Northwell PEM Pocket guide

Figure 7: Dr. Schwartz utilizing the Broswelow tape to resuscitate his seizing patient

Figure 6: Dr. Ryu, Dr. Fan, and RN Francis and Adrian are using the pediatric airway box to manage their patient's airway.

Figure 8: Dr. Cooke with a very grateful patient who is now seizure-free thanks to a successful simulated resuscitation!

QUESTIONS?

CONCERNS?

TOPICS YOU WOULD LIKE TO SEE ADDRESSED USING SIMULATION?

Please reach out to us and let us know!

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Thanks!

-Lauren, Will, and Debby

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Check out some media from our recent simulation activities on instagram!