**How to Use this Template**

These patient profiles are examples of the types of patients that the PDC has used for our PICU Surge Capacity Full Scale Exercises. These patients were specifically for a scenario that involved one PICU evacuating to another PICU. Patient profiles may be developed based on other scenarios and incoming surge patients with CBRNE and other man-made or natural disasters.

These are available to be used or you can create your own to fit the needs of your institution. Exercise patients may include actors (parental permission required for children), dolls, patient simulators etc. The patient scenarios may require the need for triage, patient surge/evacuation movement, treatment and/or disposition depending on the exercise objectives and goals. Simulated patients may present with placards describing their history, physical exam and results of interventions depending on the complexity of the exercise and desired outcomes. Patient simulators can be used for complex exercises requiring the need to address evolving patient scenarios. Lab data, X-rays, electrocardiograms, sonograms, and other results may be added to the scenarios as needed.

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## **Hand_Print_green%20cropPICU Patient Charts**

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**Case 1**

*8 y/o developmentally normal male with prenatal diagnosis of hydrocephalus s/p VPS placement at birth with recent VPS obstruction with EVD in place. Patient was mentating normally until 30 minutes ago when he became lethargic.*

**On PE:** VS RR 20 HR 65 BP 135/80 T 98 O2 sat 99%

On PE left pupil > right pupil. Minimally reactive to light. Not responsive to name. He stirs to sternal rub and other painful stimuli.

EVD clamped.

**Interventions:** Unclamp shunt

When unclamped, lots of CSF drains into EVD, patient wakes up and pupil normalizes.

**Other:** CT scan, mannitol, intubation

**Case 2**

*15 y/o female with history of moderately persistent asthma currently admitted for status asthmaticus. At OSH she was on BIPAP and continuous albuterol at 20 mg/hr. Patient states harder to breathe and chest pain.*

**On PE:** VS RR 35 HR 135 BP 120/72 T 98 O2 sat 95%

**Resp:** Facemask in place, no mist coming from facemask. Patient is tachypneic to 35 bpm with subcostal and intercostal retractions. Patient is taking short, fast breaths. +nasal flaring

As per EMS, albuterol was still running when they left the OSH. When you look you notice no mist coming out of mask. Unsure when albuterol ran out.

**Interventions:** Nebulizer treatments, consider initiation of terbutaline drip, BiPAP

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**Case 3**

*3 y/o male with no PMH asthma admitted for status asthmaticus with first wheeze. Patient was on Q1 hour albuterol at other hospital. Unsure when last treatment was given.*

**On PE:** VS- RR 30 HR 140 BP 92/42 T 99.5 O2 sat 98%

Resp-diffuse wheezing, good air entry all quadrants, mild subcostal retractions, no nasal flaring, no grunting

**Case 4**

*3 month old ex 26 week premie with CLD, ROP, h/o intubation at birth x 1 week then CPAP x 3 weeks now intubated in respiratory failure.*

**On PE:** SIMV PRVC RR 45 TV 45 PEEP 7 PS 10 100%

VS RR 60 HR 155 BP 70/40 O2 sat 99% wt 5kg

Sedated infant, moves extremities with stimulation

3.0 cuffed ETT taped at what looks like 8 at the lip

Good air entry throughout.

Pulses 2+, WWP

**Course:** Accidental extubation in elevator to HX 10

**Interventions:** Bag mask support until arrives in PICU

Then- reintubation or attempt at support with Nasal IMV. Patient will require re-intubation.

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**Case 5**

*6 month old male with trisomy 21, AVC s/p repair yesterday. Patient is still intubated. Currently on Milrinone 0.5 mcg/kg/min, Epinephrine 0.04 mcg/kg/min and Lasix drip at 0.1 mg/kg/hr.*

**On PE:** SIMV PRVC RR 35 TV 65 PEEP 5 PS 10 35%

VS RR 42 HR 175 BP 68/35 O2 sat 99% wt 7kg

Sedated infant moves extremities with stimulation

4.0 cuffed ETT taped at what looks like 13

**Resp:** decreased air entry left chest, no wheezes, no crackles

Pulses 1+, cap refill 3 secs

**Intervention:** Upon putting tension on ETT, good air entry both chests

**Additional interventions:** stop Lasix drip, give volume?

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**Case 6**

*4 y/o male MRCP, HIE, seizure disorder with respiratory insufficiency secondary to pneumonia.*

Arrives on BIPAP 10/5.

**On PE:** VS RR 30 HR 135 BP 80/45 O2 sat 94%

Mild subcostal retractions, good air entry, crackles right base, scattered wheezes, no nasal flaring

Cap refill< 2 sec, pulses 2+

**Case 7**

*5 y/o male with unknown genetic disorder, seizure disorder, developmental delay currently in respiratory failure s/p status epilepticus. Patient is on versed drip at 0.5 mg/kg/hr. According to mom no longer having seizures.*

**On PE:** SIMV PRVC RR 15 TV 180 PEEP 5 PS 10 30%

VS RR 25 HR 135 BP 75/42 O2 sat 99%, wt 20 kg

5.5 cuffed ETT taped at 15.5 cm, sedated but awakens to stimuli, pupils 2+ and reactive, moves all extremities

No subcostal retractions, good air entry throughout, no nasal flaring

Cap refill< 2 sec, pulses 2+

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**Case 8**

*2 y/o male currently intubated for unknown reason. Chart lost in transport.*

**On PE:** VS RR 30 HR 135 BP 75/42 O2 sat 88%

4.5 cuffed ETT taped at 13.5 cm

Sedated but awakens to stimuli, pupils 2+ and reactive, moves all extremities

No subcostal retractions, decreased breath sounds over right lower lobe, chest tube in place, transport team reports Pleurevac fell over on transport. No nasal flaring

Cap refill< 2 sec, pulses 2+

**Interventions:** Re-establish water seal or suction on pleurevac

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**Case 9**

*12 y/o female with ALL with fever and hypotension, presumed bacteremia.*

Currently receiving Cefepime, Vancomycin, Fluconazole. H/o sepsis in the past. Currently on Norepinephrine 0.08 mcg/kg/min.

**On PE:** VS RR 25 HR 145 BP 75/42 O2 sat 99%

Awake, alert, interactive, pupils 3+ and reactive, moves all extremities

Broviac in place, C/D/I

No subcostal retractions, good air entry throughout, no nasal flaring

Cap refill 1 sec, pulses 3+, warm extremities

**Interventions:** Increase norepinephrine to 0.1 mcg/kg/min

**Case 10**

*2 month old female, full term with respiratory distress on HFNC at OSH transported on 6 L NC.*

**On PE:** VS RR 70 HR 145 BP 70/42 O2 sat 97%

Awake, alert, smiling, cooing

Tachypneic, +subcostal retractions, + suprasternal retractions, good air entry throughout, scattered crackles and wheezes, +nasal flaring, + grunting

Cap refill< 2 sec, pulses 2+

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**Case 11**

*6 y/o ex 26 weeker with CLD, HIE, tracheostomy dependent, GT dependent admitted for increasing respiratory requirement and tracheitis. Currently requiring BIPAP (baseline on trach collar 2L)*

**On PE:** VS RR 25 HR 125 BP 85/48 O2 sat 95%

BIPAP 10/5 10L

Tracheostomy in place, thick yellow secretions in suction catheter

Mild subcostal retractions, decreased air entry right upper lobes, crackles right upper lobe, no wheezing, no nasal flaring

Cap refill< 2 sec, pulses 2+

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**Case 12**

*15 month old ex 24 weeker with h/o intubation for 3 months with known subglottic stenosis with metapneumovirus + bronchiolitis. Currently has stridor and increased work of breathing.*

Upon looking through the chart you notice he was on heliox with some resolution of stridor.

**On PE:** VS RR 45 HR 155 BP 75/42 O2 sat 94%

Awake, alert, interactive

Stridor at rest, + suprasternal retractions, mild subcostal retractions, decreased air entry throughout, +nasal flaring

Cap refill< 2 sec, pulses 2+

**Interventions:** Start heliox or BiPAP

**Case 13**

*16 y/o male POD2 s/p uncomplicated craniotomy for resection of brain tumor.*

**On PE:** VS RR 12 HR 75 BP 115/62 O2 sat 99%

Pupils 2+ and reactive, moves all extremities

No subcostal retractions, good air entry throughout, no nasal flaring

Cap refill< 2 sec, pulses 2+

UO 1 cc/kg/hr

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**Case 14**

*14 y/o female POD 1 s/p uncomplicated scoliosis repair for idiopathic scoliosis. No complications overnight.*

**On PE:** VS RR 15 HR 75 BP 120/72 O2 sat 99%

Pupils 2+ and reactive, moves all extremities

No subcostal retractions, good air entry throughout, no nasal flaring

Cap refill< 2 sec, pulses 2+

2 drains in place with small amounts of serosanguinous drainage

UO 1 cc/kg/hr

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**Case 15**

*15 y/o female new onset DKA resolving. On insulin drip 0.1 units/kg/hr and D10NS+20 meq KPhos and 20 meq KCl@ 2 maintenance.*

VS RR 16 HR 85 BP 120/68 O2 sat 99%

Awake, alert, interactive, pupils 2+ and reactive

No subcostal retractions, normal respiratory pattern, good air entry throughout, no nasal flaring

Cap refill< 2 sec, pulses 2+

VBG pH 7.23/25/82/10/-18/lactate 1

Last Dstick 201

Last chem 147 108 25 ca 7.8 mg 1.7 phos 4

3.2 12 1.4

UA + nitrites, +leukocyte esterase +ketones

**Case 16:** Sim Man 3G

**Scenario Based Simulation:** GI Hemorrhage

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| **Educational Goal** | Recognizing early shock, possible deterioration requiring fluid resuscitation and moving on to appropriate calls for help |
| **Objectives** | * Identify the patient as possible shock state * Assess for appropriate access * Consider fluid and blood product resuscitation * Call for help – GI and Pedisurg |
| **Supplemental Materials** | Octreotide drip, pump, NGT to a diaper, no suction, 1 unit PRBC |

**Scenario:** Alison Zilversmit is a10 yo (30 kg) female patient w/ Crohn’s disease and intestinal ulcers hospitalized for recent weight loss. Transferred to the PICU yesterday for melena and hypotension. No site of bleeding noted on lower endoscopy – presumed small intestinal site. Initial VSs: Afeb HR 138, RR29, BP 78/38. Given 40 mL/kg LR and then transfused 2 U PRBC, the last of which completed 4 hours ago.

**Case Development:** 15 minutes after arrival in institution, HR increases by 30 bpm, RR increases by 8 bpm, and SPB falls by 30 torr – gradually over 15 minutes time. Treatment: in response to signs of hemorrhagic shock, MDs should bolus NS or LR, draw CBC and Type and cross, consider O+ or type specific PRBCs, consider increase in Octreotide drip. Appropriate response also includes placement of 2nd IV. If response is fluid bolus of 20 mL/kg, then BP stops falling and HR stops increasing at end of bolus. If response is bolus of 40 mL/kg or greater, BP should increase by 25 torr and HR should decreased by 20 bpm. Consider Pedisurg consult. If order for blood transfusion is given, order is not filled unless blood type is also sent. If blood type is sent, then PRBC unit takes > 1 h to arrive. Requires Ranitidine in 6 h.

**Case 17:** Sim baby

**Scenario Based Simulation:** Resolving Sepsis and ARDS with Immunocompromised State

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| **Educational Goal** | Continued management of infant with immunosuppression and malignancy |
| **Objectives** | * Identify patient with immunocompromised state * Assess for appropriate access * Arrange for isolation |
| **Supplemental Materials** | Broviac line in place, radial Aline, ventilator |

**Scenario:** Jacob Berger is a 2 MO (6.8 kg) male infant with congenital leukemia on consolidation therapy. Patient has been in the PICU for management of sepsis with GPC for the past 7 days. Repeat BCx are negative x 5 days. He is on Vanco and usual regimen of prophylactic antibiotics. He is on no drips. He has resolving ARDS. He is intubated and is now on IMV of 10, breathing spontaneously above, and 30% FiO2. Anticipate extubation in next 1-2 days.

**Case development:** No deterioration. VSs remain the same. SaO2 remains the same. Patient needs to be placed on ventilator. For safety of the mannequin, keep vent off and just set respiratory rate with adequate chest movement. Is due for Vanco in 2h and PDN at 5 pm. For transfer to PICU, team needs to decide on whether patient needs isolation.

**Case 18:** Trach baby - 4/5 month old baby

**Scenario Based Simulation:** Airway Obstruction

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| **Educational Goal** | Identifying need for maintaining artificial airway. |
| **Objectives** | * Assessing for any clinical deterioration with desaturation – placement of pulse ox * Apply supplemental O2 * Replace airway as needed * Identify exposure hypothermia and arrange for treatment |
| **Supplemental Materials** | Picture of infant with Pierre Robin Sequence; Trach in place but no back-up, GT in place |

**Scenario 2:** 2 MO infant h/o Pierre Robin Sequence. He was admitted 3 weeks ago after presenting with choking with feeds and FTT. He required a tracheostomy and GT placement. Both surgical sites are well healed. His parents are learning trach care and arrangements are being made to send him home in a few days. Patient arrives without “back-up” trach. Current VSs: 33.5, 80, 24, 72/35.

NKDA. Immun UTD. Has regular pediatric care. He is small for age.

**Case 19:** Trach baby- 4/5 month old baby

**Scenario Based Simulation:** BPD with acute on chronic respiratory distress

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| **Goal** | Identifying an acute on chronic respiratory deterioration |
| **Objectives** | * Assess for respiratory deterioration * Provide supplemental O2 * Assess adequacy of artificial airway * Assisted breathing as needed |
| **Supplemental Materials** | Neo Shiley trach and back-up |

**Scenario 1:** 6 month old female with 1 week history of fever to 101.3 and RSV infection. Recent VSs are 38.4, 146, 48, 86/57. SaO2 is 97% on RA. Her examination is remarkable for tachypnea, wheezing on auscultation of her chest. She has occasional cry. Eyes are open but she is not active. Perfusion is normal.

NKDA, Immunizations UTD. Her PMHx is remarkable for former 26 week premie with 92 days of ventilation in the NICU and a Grade 1 IVH. She is s/p tracheostomy and has a 4.0 Neo Shiley in place.

**Case 20:** SP- Male

**Scenario Based Simulation:** Life threatening Ca channel blocker ingestion

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| **Educational Goal** | On-going management of Ca channel blocker ingestion |
| **Objectives** | * Identify patient with shock secondary to life-threatening ingestion * Consider need for external pacing if deteriorates * Determine need for labs, especially EPOC for iCa level * Consider whether Ca infusion is needed |
| **Supplemental Materials** | ECG, 2 PIVs, external pacer, iPAD |

**Scenario:** Tom Jordan is a15-year-old (70 kg) male was admitted yesterday for a calcium channel blocker overdose after he ate an unknown number of his grandfather’s pills in a suicide attempt. He has a history of depression but is on no chronic medications. This is his first suicide attempt. His admission vital signs were P 43, BP 77/30, R 12, T 98.7 on RA. You have one EKG - shown below. On admission, he was not able to protect his airway. He was intubated in OSH ER but was successfully extubated after 4 hours. Poison Control was called. Their recommended course of therapy was followed. This includes GI decontamination, IV fluid resuscitation, atropine, norepinephrine, and calcium chloride, he shows continued hypotension and is started on a drip of insulin and glucose. No direct record of Poison Control opinion is in chart.

**Medications:** Insulin at 0.08 U/kg/h and D10 at 100 mL/h IV

**Case Development:** Current VSs: P 45, BP 78/30, R 12, T 98.7 on RA. His cap refill is normal. PE is unremarkable. Labs sent at OSH but not available. Team should be concerned about his mild hypotension. They should want labs, especially EPOC for iCa level. Ven EPOC is 7.43/39/52/24/-3.2, iCa 1.05, lactate 1.7, Na 143, K 4.2, glucose 98. Any other labs are sent to lab and are not available yet. Requests for EKG should be granted with the image below.

**SP Case Development:** SP is teen-ager. His eyes are closed. He is comatose. He moans when lightly touched or stimulated. He moans when his name is called. If touched with more aggressive stimulation, he says, “get away”. He may also say, “leave me alone” and similar things. He has no other real lines.

**Case 21:** NeoBaby - intubated

**CPR baby and SP (Parent)**

**Scenario Based Simulation:** Post op cardiac

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| **Educational Goal** | Manage patient with moderate CHF, recovering from OHS |
| **Objectives** | * Continue Dobutamine drip through atrial drip * Assess degree of cardiac failure * Need to calm agitated parent – consider SW help * Consider escorting mother to waiting area and check on her as needed. |
| **Supplemental Materials** | PIV, atrial line, and radial art line. On ventimask at 1 lpm. Patient arrives with mother who is agitated |

**Scenario:** Elizabeth Jones is a 6 week old (3.5 kg) female with h/o large perimembranous VSD diagnosed prenatally. She has FTT (250 g weight loss since birth). She is now POD #2 from patch closure of the VSD. She was extubated 2 hours ago. She has 1 PIV, an atrial line, and a radial line.

**Medications:** Dobutamine (pump needed) through Atrial line. Ranitidine of 1 mg/kg Q 12 h IV. Atrial and radial lines both running at 3 mL/h of NS with 1 U/mL of heparin.

**Case Development:** VSs are Afeb, 136, 24, 68/38. 99% SaO2 on RA. No deterioration. NO change in patient VSs. Patient is not on monitor. Labs can be sent but do not return from lab. EKG is as below. Ranitidine is due at 8 pm tonight.

**Case 22:** CPR baby

**Scenario Based Simulation:** Pacer wires disconnect

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| **Educational Goal** | Manage problems with non-functioning external cardiac pacer |
| **Objectives** | * Identify patient with shock secondary to a problem pacer * In a logical manner, work through problems – determine cause of HR drop * Re-establish pacing and appropriate HR |
| **Supplemental Materials** | Pacer box, leads attached to mannequin chest, additional ground wire, extra screen and laptop – check to see what type of bradycardia can be controlled on screen and if atrial rhythm with pacer spike shows |

**Scenario:** Katia Mikhailov is a 15 MO (10.3 kg) female with Down syndrome and h/o AVC. The patient is s/p repair at 9 months of age but had a large residual VSD. She is now POD #2 from surgical closure of the VSD and had post-surgical complication of junctional bradycardia. She is on an external pacer with AV sequential pacing. She has developed bradycardia en route. VSs are Afeb, 48, 22, 68/38. 99% SaO2 on RA. BSs and heart tones are normal. Cap refill is 2 sec.

**Case Development:** Infant remains bradycardic until pacer system is checked. Pacer and leads intact. Pacer set at HR 100 Atrial lead at 3 and Ventricular at 4. Pacer does not work again until replacement battery placed (need to go to ICU). When this happens, HR increases to 100 with pacer spike on EKG. Image below.

**Case 23:** CPR Baby- 4/5 month old baby

**Scenario Based Simulation:** Febrile seizure

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| **Educational Goal** | Assess for possible transfer to floor vs. continued need for PICU care |
| **Objectives** | * Neuro exam * Prepare for administration of additional AEDs as needed |
| **Supplemental Materials** | None |

**Scenario 2:** 6 MO infant with 2 day h/o URI was admitted to OSH this morning with complicated febrile seizure (>20 minutes). Current VSs are 38.6, 136, 38, and 96/56. Her SaO2 is 97% on RA. She has a 2 day h/o congestion with thin, white rhinorrhea, tactile temp, mild decrease in PO intake but drinking well, and occasional cough. She has been treated with saline nose drops and antipyretics. She received a total of 0.4 mg/kg of IV Ativan 6 hours ago with no further seizure. She is breathing spontaneously but, she remains somnolent.

NKDA. Immun UTD. Has regular pediatric care. She is generally healthy.