

## **Critical Care/Pediatric Intensive Care (PICU) Guidelines for 1:1 RN to Patient Staffing**

*In all "intensive care units" the patient assignment for the registered nurse shall be 1:1 as assessed by the following acuity tool and by the staff nurses in the unit.*

*Due to high volume and the acute nature of their patient population, the large tertiary care hospitals (i.e. Brigham, Mass General, U-Mass, Bay State) contain multiple specialty ICU's. These specialized ICU's (medical, medical cardiac, surgical cardiac, surgical, burn, trauma, etc.) have nurses and medical staff who specialize in the care of a specific patient population. In contrast because of generally lower acuity and volume the community hospitals often surgical, medical, cardiac patients into a general ICU.*

*The Critical Environment Factors listed below apply to all acute care hospitals. They are basic workplace factors that affect the ability of nurses to provide patient care efficiently and safely.*

*The Clinical Criteria listed below indicate patients who require at a minimum, staffing of 1 RN to 1 patient. If any one of these criteria is present for a patient, that patient must be assigned a nurse responsible only for his/her care.*

*Assessment of acuity will take place upon ICU admission with verification every 4 hours. However the nurse assigned to the patient must be able to signal a change in acuity, with staffing to be adjusted as determined by the nurse, using this acuity staffing tool.*

*Patients who meet any of the clinical criteria below cannot be discharged from their ICU setting.*

*Patients who are stable, awaiting transfer or discharge with no foreseeable complications or who do not meet any of the criteria below may require only a 1 RN: 2 patient staffing assignment.*

*Patients who no longer meet the clinical criteria below may be appropriate for discharge from the ICU setting.*

*The staffing assignment for a patient who no longer requires a 1:1 or 1:2 ICU assignment according to the ICU nursing assessment shall be determined by the receiving unit.*

*Nothing in this acuity tool may supersede contractual staffing language, hospital policy or practice which calls for critical care patients to receive the same level of care regardless of their location in the hospital.*

CRITICAL ENVIRONMENTAL FACTORS	Check relevant box below:	
	Yes	No
<b>NURSE COMPETENCY</b> (based on the hospital's competency assessment and RN familiarity with unit)		
• Float Nurses are 20% or more of ICU staff		
• Per Diem Nurses are 20% or more of ICU staff		
• Travel Agency Nurses are 20% or more of ICU staff		
• Nurses with less than 2 years' experience in ICU nursing are 20% or more of staff		
<b>GEOGRAPHY OF THE UNIT</b> (whether layout allows for clear, rapid visibility of patient/monitor)		
• Patient/monitor cannot be visualized from nursing station		
<b>PATIENT CARE EQUIPMENT</b>		
• Mobility/lifting device and adequate staff are not available to operate equipment needed to care for patient (e.g., bariatric, traction, pronation bed, circular bed, Stryker bed)		
• Required equipment is not available on the unit and functional		
<b>OPTIMAL ELECTRONIC DOCUMENTATION SYSTEM</b> (e.g., no multiple and/or non-interfacing EMR systems)		
• Electronic Records are not fully integrated/compatible		
• Medication orders are not integrated into the medical records		
<b>MEDICATIONS</b> (e.g., availability on the unit and in appropriate doses)		
• Medication doses are not pre-mixed or available in room/unit medication cart/unit medication room		
• Pain medications are not available in multiple dose strengths (which leads to wasting/needling another nurse to waste)		
<b>SUPPORT STAFF IN PLACE</b> (immediate availability on the unit)		
• Pharmacist (24 hour)		
• Unit based MD		
• IV team/respiratory therapist		
• Physician Assistant		
• Unit Secretary		
• Sitters (if needed)		
• Aides /techs		
• Patient transport service		
• Travel team/coverage		
<b>RESPONSIBILITY FOR DUTIES OFF THE ICU UNIT</b>		

<ul style="list-style-type: none"> <li>Attendance is required at meetings or for education off the unit</li> </ul>		
<ul style="list-style-type: none"> <li>Nurse off the unit for 15-30 minutes or more to attend to a patient (e.g., rapid response, stroke evaluation, patient transport, patient support required during transport off unit or for tests/procedures, e.g., interventional radiology)</li> </ul>		
FAMILY SUPPORT		
<ul style="list-style-type: none"> <li>Parent/family/guardian(s) available</li> </ul>		

\*Infant/Pediatric dosing, dispensing, drug preparation and effects on child have multiple complexities. See <http://www.ismp.org/pressroom/pr20020606.pdf>

### **CLINICAL CRITERIA**

***If any of the following exist, 1:1 staffing must be implemented.***

#### **Clinical Criteria**

*One or more of the following clinical status indicators may be present in an ICU patient. If any of the boxes below are checked, that means 1:1 RN to patient staffing is required. If more than one category is present, higher intensity staffing may be indicated.*

CATEGORY OF CLINICAL STATUS OF PATIENT		CHECK BOX IF PRESENT	RN: PATIENT
<b>Respiratory</b>			
1.	Status post cardiac or respiratory arrest within the prior 12 hours		1:1
2.	Nitric oxide therapy for gas exchange (e.g., for respiratory failure, persistent pulmonary hypertension)		1:1
3.	Pulmonary hypertension requiring IV vasoactive agents		1:1
4.	Ventilator dependent children requiring frequent intervention for respiratory compliance/ chemically paralyzed for compliance (positioning, suctioning, trach care, sedation protocols, ABCDE bundle for weaning, frequent positioning, oral care)		1:1
5.	Complex respiratory management including high frequency		1:1

	ventilation		
6.	Escalating respiratory care needed (nasal Cpap)		1:1
7.	Respiratory distress requiring intubation and administration of pulmonary surfactants		1:1
8.	Newly intubated patient requiring peripheral IV, central line access		1:1
9.	New admissions requiring respiratory support/interventions and/or hypovolemic support		1:1
10.	Respiratory emergencies (e.g. upper airway obstruction, flail chest, asthma)		1:1
11.	Patients with artificial airway requiring hourly or more frequent interventions		1:1
12.	Status post-drowning, first 24 hours		1:1
<b>Cardiac</b>			
13.	Temperature below 97.6 or above 100.6 degrees		1:1
14.	Any type of shock (emergent in kids, e.g. tachypnea and tachycardia)		1:1
15.	Water intoxication (children very fragile)		1:1
16.	Exchange transfusions required		1:1
17.	ECMO (extra-corporeal membrane oxygenation (heart/lung machine)		1:1
18.	Septic shock requiring continuous monitoring and multiple intravenous vasopressors with hemodynamic instability		1:1
19.	Hemodynamic instability requiring vasopressors due to other than cardiac origin.		1:1
20.	Hemodynamic instability requiring frequent infusion (medication) titration and monitoring		1:1

Massachusetts Nurses Association Acuity Tool Criteria Recommendations  
Critical Care/PICU Recommendations  
Presented to the Health Policy Commission's Quality Improvement and Patient Protection Committee  
October 29, 2014

21.	Active hemorrhage requiring multiple blood transfusions and vasopressor meds		1:1
22.	Acute organ failure (liver, kidney, brain) requiring constant monitoring/intervention		1:1
23.	Unstable cardiac arrhythmias requiring frequent interventions such as defibrillation, transcutaneous pacing		1:1
24.	Unstable hyperglycemic patients on insulin drip requiring frequent titrations and blood sugar determination		1:1
25.	Patient in cardiogenic shock with or without IABP (intra-aortic balloon pump)		1:1
26.	Patients on devices, such as CVVH (continuous veno-venous hemofiltration (e.g. awaiting heart transplant)		1:1
27.	Patients requiring vasopressor meds		1:1
28.	Metabolic acidosis or alkalosis (e.g. tricyclic overdoses, frequent ABGs (arterial blood gases), monitoring for bicarbonate administration, measuring urine and blood pH, monitoring for arrhythmias)		1:1
29.	Invasive lines such as pulmonary artery catheter (e.g. Swan Ganz, A-line, CVP catheters) requiring frequent monitoring and intervention (recalibrations, readings)		1:1
30.	Hemodialysis/peritoneal dialysis in unstable patient		1:1
31.	Therapeutic hypothermia to treat right ventricular heart failure or on therapeutic hypothermia ("ice" protocol)		1:1
32.	Organ donation/transplant patients		1:1
33.	Op-day open heart surgery patients during first 12 hours post-op unless patient remains hemodynamically unstable		1:1
34.	Ventricular assist device present		1:1

35.	Patients undergoing procedures requiring sedation or paralysis (trach, scoping)		1:1
36.	Direct admission from operating room who is very unstable		1:1
37.	Multiple trauma (e.g. fractures, large organ damage, large complex wounds, vascular injuries, head injuries, psychosocial support (ex PTSD), car accident victims)		1:1
<b>Surgical</b>			
38.	Unstable op-day major surgical patients with transposition of the great vessels, coarctation of the aorta, foramen ovale or other congenital heart defects		1:1
39.	Op-day open heart surgery patients during the first 12 hours postoperatively unless patient remains hemodynamically unstable		1:1
40.	Insertion procedure for internal monitoring devices (e.g. bolt, extra ventricular drain)		1:1
41.	Organ transplant patients		1:1
42.	Bone marrow transplants for first 24 hours or until stable with no complications (e.g. hemorrhage, respiratory distress, blood pressure issues)		1:1
43.	Direct admission from OR if not going to PACU		1:1
44.	Patients undergoing procedures requiring sedation or paralysis (trach, scoping)		1:1
45.	Direct admission from operating room who is very labile, e.g. open abdomen		1:1
<b>Neurological</b>			
46.	Severe neurological impairment requiring continuous monitoring of intracranial pressure.		1:1
47.	Active substance withdrawal with hemodynamic and neurological impairment and/or severe agitation compromising patient and/or staff safety		1:1

48.	Inconsolable, highly irritable (screaming) neonate (e.g., in withdrawal or crying for unknown or other reasons)		1:1
49.	Any child experiencing witnessed or suspected seizures or unstable neurological status		1:1
50.	Severe mental impairment/learning disabilities/spectrum disorders (autism, Asperger's) in addition to physical issues requiring ICU care)		1:1
51.	Drug overdoses, suicidal, violent children		1:1
52.	Neuro ICP (intra-cranial pressure) monitoring required		1:1
<b>GI (Gastrointestinal)</b>			
53.	Active GI (gastro-intestinal) bleeding requiring multiple blood products		1:1
54.	Poor coordination of feeding mechanisms (e.g. sucking, regurgitation) requiring complex nutritional support or time-intensive feeding support)		1:1
55.	Complex nutritional and metabolic management including TPN (total parenteral nutrition)		
<b>Skin</b>			
56.	Extensive dressing changes (e.g. decubitus ulcer, wounds) if sedation required, wound dehiscence, drains requiring frequent monitoring		1:1
57.	Extensive burns (electrolyte imbalance, fluid replacement, dressing changes, pain management , heavy sedation, airway management, psycho social support		1:1
58.	Frequent body repositioning or graded sensorimotor intervention required (e.g. to prevent skin breakdown, to provide needed stimulation)		1:1
<b>Orthopedic</b>			
59.	Joint contractures or other musculoskeletal abnormalities requiring frequent interventions		1:1

<b>General</b>			
60.	Any child deemed unstable for current unit requiring transport to unit with higher level of care for further evaluation, surgery or management		1:1
61.	Victims of severe child abuse		1:1
62.	Toxic emergencies (e.g. poisoning)		1:1
63.	Patients requiring treatments or procedures hourly or more frequently		1:1
64.	Isolation precautions (transmission-based) and reverse isolation		1:1
65.	Immunocompromised/infectious/septic status requiring frequent monitoring		1:1
66.	Fragile child exhibiting physiological stress reactions (e.g. motor, eye signals, skin color changes, facial/attention changes, hypertonicity, hypotonicity)		1:1
67.	Any previously stable child with decompensating conditions requiring any of the following: X-ray, echo, EKG, r/o sepsis interventions including blood work, lumbar puncture, urine catheterization		1:1
68.	Children requiring IV sedation, IV pain medication or paralytics		1:1
<b>Admissions/Care Coordination/Education/Discharge Planning</b>			
69.	Patient admission, discharge or transfer		1:1
70.	Impending child death requiring intensive family support		1:1
71.	Two hours or more of patient or family education, coordination of care, psychosocial support, social work, complex discharge planning intervention and teaching required		1:1



Massachusetts Nurses Association Acuity Tool Criteria Recommendations  
Critical Care/PICU Recommendations  
Presented to the Health Policy Commission's Quality Improvement and Patient Protection Committee  
October 29, 2014