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MUNSON MEDICAL CENTER
MUNSON HEALTHCARE

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Owner	Marta Wiesen: Mgr Nursing Services - NICU/ C3
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Pediatric Intermediate Care: Admission, Discharge, Transfer Criteria

Purpose

Intermediate care at Munson Medical Center (MMC) is provided to the pediatric patient population with a severity of illness that does not require intensive care but requires greater services than those provided by routine general pediatric care. These patients require monitoring of vital signs and/or nursing interventions every two hours, but usually will not require invasive monitoring. These patients may require cardiac and/or respiratory monitoring. Patients with a risk of deterioration admitted for routine monitoring are excellent candidates for intermediate care.

This document is intended to guide the care of children requiring intermediate care outside of a pediatric intensive care unit. It ensures resources, facilities, and personnel needed to provide care beyond the level available on the general pediatric medical-surgical component of C3 with the ability to immediately stabilize a child who becomes critically ill. Established transfer policies with a Pediatric Intensive Care Unit (ICU) facility ensure timely and effective transition of care for these patients if their condition worsens or if they have been identified as high risk for pulmonary disease and/or cardiopulmonary collapse.

Policy

Admission

Pediatric Intermediate Care can be provided in any patient room on C3. Patients less than twenty-one years of age may be admitted to Intermediate Care status on C3. A written physician order is required for this level of care. A pediatric consultation is also required if the patient is not under a pediatrician's care

at admission to intermediate care. Necessary equipment and supplies will be brought to the room to care for the patient.

Respiratory Diseases

A. Patients with moderate pulmonary or airway disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:
    1. Patients with the potential need for endotracheal intubation.
    2. Patients with progressive pulmonary (lower or upper airway) disease of moderate severity with a risk of progression to respiratory failure or with obstruction potential.
    3. Patients acutely requiring supplemental oxygen (fraction of inspired oxygen greater than or equal to 0.5), regardless of cause.
    4. Stable tracheotomy patients.
    5. Patients requiring frequent (at intervals less than 2 hours), intermittent, or continuous nebulized medications.
    6. Patients requiring apnea work-up and cardiorespiratory monitoring.

Cardiovascular Diseases

A. Patients with moderate cardiovascular disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:
    1. Patients with non-life-threatening dysrhythmias with or without the need for cardioversion.

Neurologic Diseases

A. Patients with non-life-threatening neurologic disease requiring multidisciplinary intervention, frequent monitoring, and neurologic assessment not more than every 2 hours, including but not limited to the following, may be admitted:
    1. Patients with seizures who are responsive to therapy but require continuous cardiorespiratory monitoring and who do not have hemodynamic compromise but have the potential for respiratory compromise.
    2. Patients with altered sensorium in whom neurologic deterioration or depression is unlikely and neurologic assessment is required.
    3. Postoperative neurosurgical patients requiring cardiorespiratory monitoring.
    4. Patients with acute inflammation or infections of the central nervous system without neurological deficiency or other complications.
    5. Patients with head trauma without progressive neurologic signs or symptoms.
    6. Patients with progressive neuromuscular dysfunction without altered sensorium require cardiorespiratory monitoring.

Hematologic/Oncologic Diseases

A. Patients with potentially unstable hematologic or oncologic disease or non-life-threatening bleeding requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:

1. Patients with severe anemia without hemodynamic or respiratory compromise.
2. Patients with thrombocytopenia, anemia, neutropenia, or solid tumors who are at risk of cardiopulmonary compromise but who are currently stable and, as a result, require close cardiorespiratory monitoring.

Endocrine/Metabolic Diseases

A. Patients with potentially unstable endocrine or metabolic disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:

1. Patients with moderate diabetic ketoacidosis (blood glucose concentration less than 500mg/dL or pH greater than or equal to 7.2) require continuous insulin infusion therapy without altered sensorium.
2. Patients with other moderate electrolyte and/or metabolic abnormalities (requiring cardiac monitoring and therapeutic intervention), such as:
    a. Hypokalemia (blood potassium concentration less than 2.0 mEq) and hyperkalemia (blood potassium concentration greater than 6.0 mEq)
    b. Hyponatremia and hypernatremia with alterations in clinical status (i.e., seizures or altered mental status)
    c. Hypocalcemia or hypercalcemia
    d. Hypoglycemia or hyperglycemia
    e. Moderate metabolic acidosis requiring bicarbonate infusion
3. Patients with inborn errors of metabolism require cardiorespiratory monitoring.

Gastrointestinal Diseases

A. Patients with potentially unstable gastrointestinal disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:

1. Patient with acute gastrointestinal bleeding but who does not have hemodynamic or respiratory instability.
2. Patients with a gastrointestinal foreign body or other gastrointestinal problems requiring emergency endoscopy but who do not have cardiorespiratory compromise.
3. Patients who have chronic gastrointestinal or hepatobiliary insufficiency but do not have coma, hemodynamic, or respiratory instability.

Surgery

A. All patients requiring multidisciplinary intervention and frequent monitoring who have undergone surgical procedures but who do not have hemodynamic or respiratory instability, including but not limited to the following, may be admitted:
    1. Patients who have undergone upper or lower airway surgery.
    2. Patients who have undergone craniofacial surgery.
    3. Patients who have had thoracic or abdominal trauma.
    4. Patients being treated for multiple traumatic injuries.
    5. Patients less than 3 months of age undergoing surgery.

Renal Disease

A. Patients with potentially unstable renal disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:
    1. Patients with hypertension without seizures, encephalopathy, or other symptoms, but who require frequent intermittent therapeutic intravenous or orally administered medication.
    2. Patients with non-complicated nephrotic syndrome (regardless of cause) with chronic hypertension require frequent blood pressure monitoring.
    3. Patients with renal failure, regardless of cause.

Multisystem and Other Diseases

A. Patients with potentially unstable multisystem disease requiring multidisciplinary intervention and frequent monitoring, including but not limited to the following, may be admitted:
    1. Patients requiring the application of special technologic needs, including:
        a. Use of respiratory assistance, such as bi-level positive airway pressure.
        b. Pleural drains (i.e. chest tubes) after initial stabilization (for patients who do not have respiratory or hemodynamic compromise).
        c. Medications or resource needs above those provided in the general patient care unit.
    2. Patients who are direct admissions from another health care facility outside the hospital (may be directly admitted for intermediate care).
    3. Patients with uncomplicated toxic ingestions who do not have cardiovascular or respiratory compromise and who require cardiorespiratory monitoring.

Discharge and Transfer Guidelines

A. Patients will be evaluated and considered for transfer to general care status when the disease process has reversed or the physiologic condition that prompted admission has resolved and the need for multidisciplinary intervention and treatment is no longer present. The decision to

discharge from intermediate care status will be made based on the following criteria:

1. The patient has stable hemodynamic parameters for at least 6 to 12 hours.
2. The patient has stable respiratory status and has had evidence of acceptable gas exchange for more than 4 hours.
3. The patient has minimal oxygen requirements as evidenced by a fraction of inspired oxygen of 0.4 or less.
4. Intravenous inotropic support, vasodilators, and antiarrhythmic drugs are no longer required.
5. Cardiac arrhythmias are controlled for a reasonable period not less than 24 hours.
6. Patient has neurologic stability with control of seizures for a reasonable period.
7. The need for multidisciplinary intervention is predictable and compatible with the policies of the general pediatric population.
8. The health care team, after careful multidisciplinary assessment and together with the patient's family, decides that there would be no benefit to keeping the child hospitalized or that the course of treatment is medically futile.

B. The decision to transfer to a Pediatric Intensive Care facility will be made based on the following criteria:

1. If the patient's condition requires care beyond the capabilities of the unit providing intermediate care, the patient should be transferred to a facility with a pediatric intensive care unit. The physician, in consultation with the parents, will decide where the child will be best treated. The physician will make the necessary referral calls.
2. C3 staff will assist with making transport arrangements.

C. Dialogue between multidisciplinary teams, followed by a written physician order required for a change in patient status from intermediate to general care.

Reference

1. Jaimovich, D.G., and American Academy of Pediatrics, Committee on Hospital Care and Section on Critical Care. Admission and Discharge Guidelines for the Pediatric Patient Requiring Intermediate Care. *Pediatrics*. 2004;113:1430-1433. Reaffirmed by American Academy of Pediatrics, 1/2020

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System Policy Oversight Committee	Terri Fries: Document Mgmt Spec	10/2/2025
VP and CNO Patient Care Services	Tamara Putney: VP and CNO Patient Care Services	10/1/2025
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Applicability

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No standards are associated with this document

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Pediatric Response Team Protocol for Pediatric Patients

Purpose

The goal of the Pediatric Response Team (PRT) is to provide quick assessment and stabilization of an acutely ill pediatric patient or visitor in an effort to reduce the incidence of cardio/respiratory arrest and improve outcomes. The team will respond to a summons from any Munson Medical Center (MMC) staff who has identified an at risk child under the age of 18.

Protocol

PRT Members

A. The following will be activated via a PRT page:
   1. Pediatric Patient Care Coordinator (PCC)/Charge Nurse
   2. Pediatric Hospitalist on Call
   3. Neonatologist and Neonatal Nurse Practitioner on Call; Will respond to a page for a child 6 months of age and younger
   4. Emergency Department (ED) Charge Nurse
   5. Newborn Intensive Care Unit (NICU) Charge Nurse
   6. A3 or ICU Nurse
   7. Neonatal Respiratory Therapist (RT) and C3 RT
   8. Nursing Administrative House Supervisor
   9. Pharmacy, Lab, and Intravenous (IV) Therapy

Criteria to Summon PRT

A. Criteria for calling a PRT may include any change in the patient's baseline condition as observed by staff, for example:
    1. Change in vital signs, Pediatric Early Warning Score (PEWS), or blood oxygenation levels
    2. Change in mental status, including prolonged seizure
    3. Any pediatric patient requiring non-invasive positive pressure ventilation or non-emergent intubation
    4. Difficulty controlling pain or agitation
    5. Request from a family member

Activation of PRT

A. All staff, inpatient or outpatient, will activate the PRT by dialing "55555" for the operator. The staff member will state the following:
    1. Request to have PRT paged
    2. The location and age of the patient

B. If the PRT occurs outside of the Pediatrics unit, the Pediatric PCC/Charge Registered Nurse (RN) will respond to the area with the Pediatric Airway Bag, the glidescope with blades sizes 1-4, and the intraosseous (IO) kit. The ED RN will respond with the Pediatric Crash Cart.

C. If the pager system is down the switchboard operator will use the overhead paging system for notification of the PRT.

Responsibilities of the PRT

A. Collaborates to provide recommendations for patient care in response to the identified condition change, utilizing the American Heart Association (AHA) Pediatric Advanced Life Support (PALS) guidelines and MMC protocols as appropriate.

B. If the Pediatric Hospitalist is unable to respond immediately, they will call the location of the PRT to collaborate and direct the team.

C. The Pediatric RN, with the assistance of the responding RNs:
    1. Verifies the patient's code status
    2. Provides the team with pertinent patient history
    3. Ensures a computer/patient's electronic health record (EHR) is available
        a. Initiates PRT orders in Power Chart if appropriate
    4. Ensures the PRT record is initiated; located on the top of the Pediatric Crash Carts (#8128)
    5. Updates the family as needed
    6. Ensures all documentation is entered into Powerchart including the assessment,

vital signs and a focus note detailing the event and interventions.

7. Ensures needed equipment is at the bedside on the pediatric unit ie: Pediatric Crash Cart, suction, cardiorespiratory monitor, IV pole/pump, glucometer, EZ-IO
8. A3 RN to assist with documentation

D. The responsibilities of all team members responding to the PRT is to remain at the bedside until deemed not necessary; ie lab, IV therapy

E. If the patient's condition worsens or warrants emergent intubation, activate a Code Blue-Pediatric by dialing 55555 and state the following to the operator: Code Blue- Pediatric, patient location and age.

F. In the event the PRT determines the patient requires transfer to a tertiary care center, the team will huddle to determine the best location for immediate care needs prior to transfer. The transfer coordinator will be contacted to initiate the transfer process.

G. When a PRT is responding to a pediatric visitor or outpatient, the child may be transported to the ED for further assessment and treatment as appropriate.

References

1. Institute for Healthcare Improvement, *Getting started kit: rapid response teams*. Retrieved 12/22/2006 from: http://www.ihi.org/IHI/Programs/Campaign/.
2. Institute for Healthcare Improvement **.** ***8/03/2006. IHI.org story: children count in the 100,000 lives campaign*** **. Retrieved 12/26/2006 from: h**ttp:// www.ihi.org/IHI/Topics/Critical Care/IntensiveCare/ImprovementStories/ChildrenCountinthe100000LivesCampaign.htm
3. **Miller.; Zhan.** Pediatric patient safety in hospitals: a national picture in 2000**.** *Pediatrics*. June 2004; 113(6): pp.1741-1746 **113 (6): 1741. (2004)**
4. Pediatric Rapid Response Teams: Guidelines for Implementing a team. Retrieved 5/14/20 from: https://www.luriechildrens.org/globalassets/documents/emsc/resourcesguidelines/guidelines-tool-and-other-resources/practice-guidelinestools/prrt20113.pdf

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Applicability

Munson Medical Center

Standards

No standards are associated with this document

Philips Monitoring System (MUNSON)

Philips Monitoring System (MUNSON)

Introduction

Central Monitoring System

The Philips Patient Information Center is a regulated medical IT system that:

- Provides continuous monitoring of patient vital signs from admission to discharge.
- Consolidates and communicates vital signs data from monitors and third-party devices to caregivers and to the Electronic Medical Record (EMR) for a complete patient record.

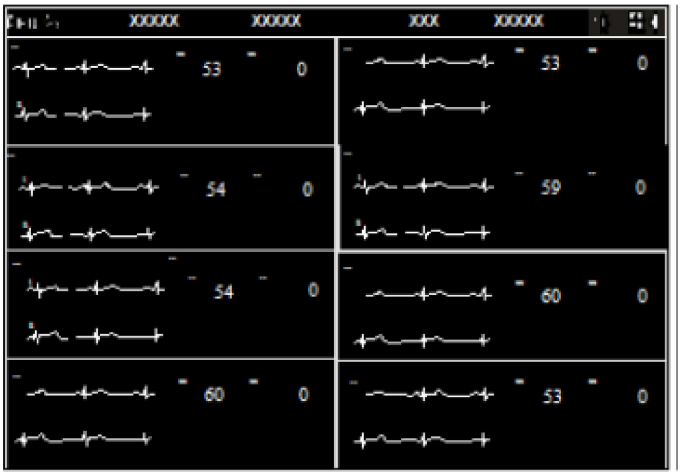
- Supports industry standard interfaces to integrate into existing hospital IT infrastructure and EMR systems while meeting requirements for manageability, serviceability, and security.
- Meets the needs of caregivers on the go by means of remote access to patient vital signs for information anywhere.

Through a combination of advanced alarm management, mobility, and clinical decision support, Philips Patient Monitoring Systems enable reduction of non-actionable alarms, improve workflow efficiency, and facilitate early intervention of patient deterioration to improve patient care and outcomes.

The Information Center software runs on a PC workstation with one or two displays for viewing patient data and accessing clinical applications. A mouse and keyboard are provided for entering and changing patient data and other information. If you position the cursor on a labeled application button and click, the application is immediately displayed on the screen. Note that an on-screen keyboard is not available.

With a touchscreen, you can access patient data by either using the mouse or by touching the item on the screen with your finger or a stylus. The mouse is best for making precise selections and measurements, such as using calipers. The touchscreen is best for actions such as acknowledging alarms, accessing application windows, or recording strips. When using a touchscreen, keep the area free of items that can inadvertently touch the screen. If the touchscreen becomes unavailable for any reason, you can access patient data by using the mouse and keyboard.

The Main Screen displays real-time waves, numerics, and alarms from multiple patients. It can be configured to show up to 64 waves, and contains the following elements:



1 Caption Bar

2 Patient Sectors

 Select the Patient Window button to open the Patient window to Display a real-time view of the current patient's data. You also can choose to do an ECG analysis to view all available ECG leads. The Patient Window provides a real-time view of the patient's waves and numerics. You can view patient data and perform all tasks in the Patient Window. In addition to the waves and numerics, the Patient Window contains the following items:

- The Bed Label Pane - Displays the bed label and ID for the currently selected patient. Select the down arrow to select another patient to view.
- The Print Icon to start a printout of the Patient summary report.
- The Help Icon.
- Alarm message areas – All active alarms and technical alarms display on the top right of the patient window. Status messages are color-coded to indicate the message severity. Orange background indicates high severity. Black background indicates low severity. Select the status message to open System Help in the application window. The Help contains a list of status messages with the possible causes and recommended actions for each message.
- Patient Name - Displays the patient's name. Depending on the length of the complete string and the amount of available space, a minimum number of characters is shown, ending with an ellipsis (...). Three question marks (???) precede the patient's name when there is a problem identifying the patient. For example: Patient data between the Information Center and the bedside does not match. All required information was not entered when the patient was admitted.

Buttons in the sector become visible when you move the cursor into the sector or, if using a touch screen display, when you first touch the sector with a stylus or the tip of your finger. When you place the cursor inside a patient sector, the sector is outlined in an orange border. You can minimize the buttons by moving the cursor into the sector and holding down the **Ctrl** key. While the cursor is inside the sector, the buttons remain minimized until you press the **Ctrl** key again. If you move the cursor out of the active sector and move it back in, the buttons become visible.

 Select the Manage Patient icon, which will allow you to:

- Admit, discharge, and transfer patients.
- Enter or update patient demographic information.
- Manage the equipment associated with the patient.
- Temporarily place the bed in standby.
- Enter a temporary transport location, and/or select the patient's equipment to place in standby.
- Export ECG waveform data to a Philips Holter system for analysis.

To Admit a Patient: Use one of the following methods:

- Manually enter new patient information in the fields in the **Patient Demographics** section by typing a 1-30 character first and last name in the appropriate fields. You can use the TAB key to move from field to field. You can also admit a new patient by entering the MRN.
- Use the **Find Patient...** option to find a patient who is being monitored in another Information center or who has been recently discharged.

You can then choose the patient's gender from a drop-down list. It will default to Male while performing a 12-lead if not assigned. It will default to Female while measuring STE if not assigned. Specify the patients birth date by entering it on the calendar. This will update the age field. Enter the patient's height in the appropriate field. This can be in inches or centimeters according to your policy. Enter the Patient's weight using pounds or kilograms according to your policy. Select "Apply" after verifying all information is correct.

Read all confirmation messages and check patient alarms, settings, and paced status when automatic admission, discharge, or transfer is complete.

Viewing and Adjusting Waves:

When the ECG measurement is on, the first wave displayed is the primary ECG wave. The primary wave is always used for ECG analysis. A rhythm status message displays in the upper right corner of the wave, and an arrhythmia status message displays above and in the center of the wave.

Pleth waves on an Efficia monitor are labeled as SpO2.

Wave Adjustments

You can adjust waves in the patient sector or Patient Window layout by selecting a wave then selecting one or more options described below.

- Change Wave – Select a wave from the list. You cannot select the primary ECG wave.
- ECG Analysis – Available if you select an ECG wave. Select to access the ECG Analysis application.
- Primary Lead – Available if you select the primary ECG wave. Select the primary led from the list.
- Size up or Size down - Select to increase or decrease the size (gain) of the wave (if available).
- Set up ECG – Available if you select an ECG wave. Select to access the **Measurements** application ECG page, where you can change heart rate limits and asystole thresholds.

Manually Transferring a Patient to a New Bed: Transfer data for a patient by performing the following steps:

- Use one of the following methods to open the **Manage Patient** In the sector for the bed that you want to transfer, select the name field or select the **Manage Patient** shortcut button. In the application window task bar, select the **Manage Patient** button.
- Select the **..** button. The **Transfer Patient** dialog box displays a list of available beds in the institutions and units.
- To transfer this patient to another bed within this unit, select the bed from the list of beds in your unit. To transfer this patient to a bed in another unit, first select the unit name, then select a bed from the list.
- Specify whether to clear the sector (remove the bed from the sector) upon transfer by selecting or clearing the **Clear Sector** check box. The system can be configured so that the check box is selected by default. Depending on your unit practices, you may want to clear the check box so the sector is not cleared and the equipment remains assigned to the sector.
- Select "OK".
- Confirm the transfer by selecting the orange "TRANSFER" button.

To Discharge a Patient: Use one of the following methods to discharge a patient.

- Manually discharge a patient in the **Manage Patient** application.
- Discharge a patient directly from the hospital information system or bed management system.

Considerations

Before discharging a patient, note the following:

- Discharging the patient at the Information Center also discharges the patient from the bedside monitor. All monitor and MMS settings (including arrhythmia settings) reset to their defaults.
- When you discharge a patient, the Information Center saves the patient data for all admitted patients. The system stores seven days of data and purges the stored data seven days after discharge.

You can search discharged patient data without readmitting for up to seven days.

- If you readmit a patient, the discharge data is overwritten by new monitoring data as it occurs, and you will only see the full disclosure amount of data.
- Monitoring devices may be set up with predefined configurations called *profiles*. When you discharge a patient, the profile reverts to the default profile configured for the device. Refer to your monitoring device documentation for details. When

you discharge an admitted patient at the Patient Monitor, the Information Center discharges the patient and saves the data.

- *Important* — For MRx monitors, turning off the bedside monitor for more than 10 seconds discharges the patient at the MRx monitor and resets defaults, but it does not discharge the patient from the Information Center; the patient is still admitted at the Information Center. It is important to discharge the patient before turning the monitor off to avoid data being associated with the wrong patient.
- Patients that are discharged while the Information Center is in Local/Disconnected mode will be synchronized upon connection to the primary server.

Warning

Read all confirmation messages and check patient alarms, settings, and paced status when automatic admission, discharge, or transfer is complete.

Measuring ECG:

The electrocardiogram (ECG) measures the electrical activity of the heart and displays it on the

Information Center as a waveform and a numeric. In order to compare measured ECG signals, the electrodes are placed in standardized positions, forming "leads". To obtain ECG signals optimized for use in diagnosis and patient management in different care environments, different lead placements can be used.

Selecting the Primary and Secondary ECG Leads

The telemetry device or patient monitor uses the primary and secondary lead selected at the

Information Center to compute HR and to analyze and detect cardiac arrhythmias.

You should choose a primary and (if using multi-lead monitoring) secondary lead that have the

following characteristics:

- the QRS complex should be either completely above or below the baseline and it should not be biphasic
- the QRS complex should be tall and narrow
- the T-wave should be less than 1/3 the R-wave height
- the P-wave should be less than 1/5 the R-wave height

Documenting Patient Events

Documentation of patient events and procedures is a necessary element of patient care. You can print reports from the PIC iX to paper, electronically via PDF, or both.

Create a Saved Strip

You can create a saved strip with the PIC iX electronic caliper (eCaliper) measurements and comments in any strip tile in Alarm Review, General Review, or specialty review applications.

Note —You must have Full Permission Access to annotate and save a strip to the database.

- Select the strip that you want to annotate.
- Select the Annotate icon. The Saved strip dialog box opens. You can move the dialog box as needed.
- Select a label from the drop-down list to add labels. This field can be customized as needed in Alarm Review.
- Enter text in the second field, up to 30 characters. This value displays in the Comment field for the strip.
- Add eCaliper measurements. Consider changing the wave speed to 50 mm/sec. (Select the speed on the bottom right of the strip, then select a speed from the list.) Click and drag in the strip to and from the desired location in the wave. The measurement is displayed between the vertical lines. In the dialog box, click the measurement label to add the measured value. *Note* — Double-click the measurement to see the caliper bars at any time.
- Select another strip and repeat these steps as needed.
- When you are done, select Save. The measurements are saved to the strip.

Reviewing ECG Waves

Depending on the number of ECG leads and licensing, 3 to 12 waves are available for review. These waves can be reviewed with the other data tiles, such as with events and alarms.

Alarms:

Quickly Viewing Target Events - When reviewing patient data, it is often helpful to quickly view specific types of alarms or events.

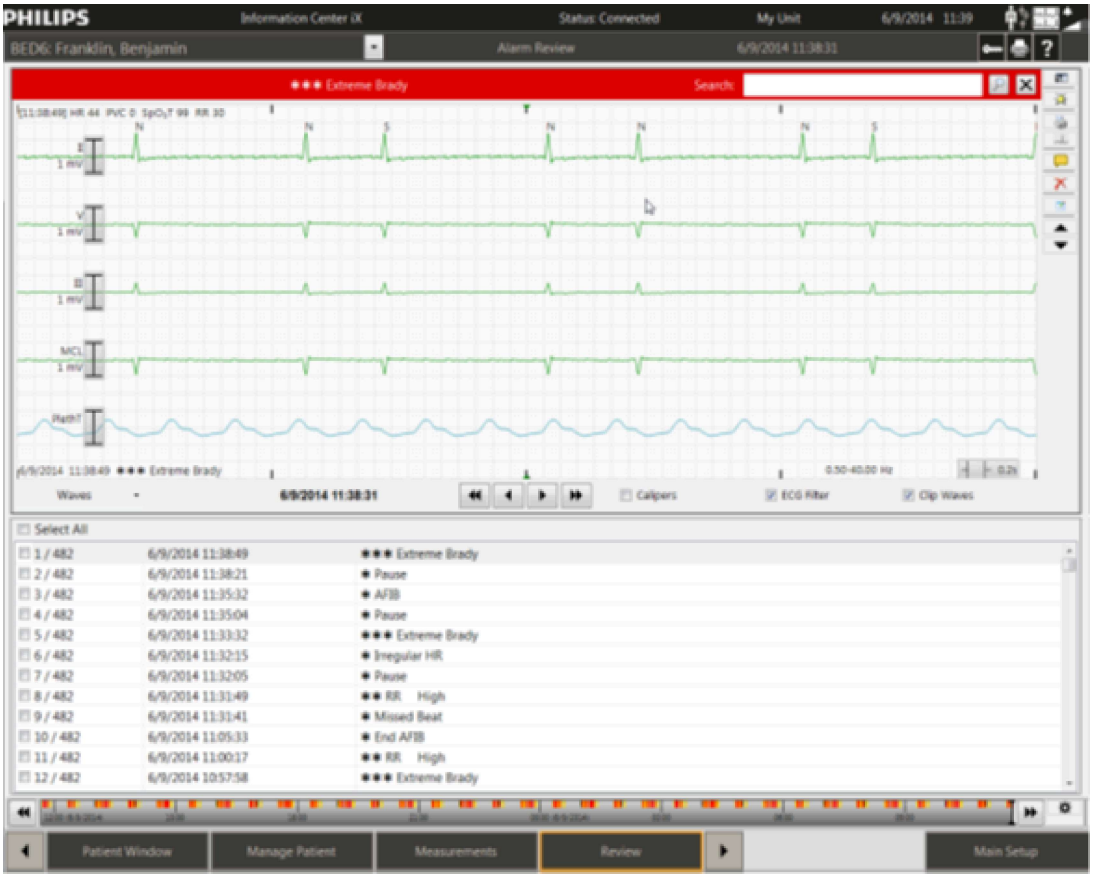
Fast Alarm Review - Select either the Acknowledge key, or the alarm banner in the sector to see alarming waves prior to being available in other applications. Alarm strips can be printed, annotated, or discarded. If you are using secondary notifications, such as with Philips CareEvent, you can manually page an alarm from this application.

Note — The Silence key is called the Acknowledge key.

Alarm Review

Alarm Review always opens with the most recent alarm strip. To review alarms, open Alarm Review from the Review sector button, if configured, or you can open Alarm Review from the main Setup menu or from the Review application menu in any open application. Use the toggle icon to switch between the three different tiles. The tile you prefer can be set up as a default on each host.

- **Tabular** tile – shows a detailed strip with multiple waves and a tabular list of alarms. Use the up and down arrow keys to quickly view alarm strips. This is the factory default tile.
- **Compressed** tile – shows 30 seconds of compressed waves for all strips.
- **Strip Window** tile – a combination of Compressed and Strip tiles.



Reviewing Alarms and Events in Other Applications

Within the factory default review applications (as well as custom applications that were created for your unit), there is a data type called the Event tile. You can use the Event tile to review alarms with other associated data, such as compressed wave storage or graphical trends. Arrhythmia events are also shown, even when a specific alarm is off, such as for yellow level ventricular alarms. The length of the colored box indicates the duration of the event.

- Open the review application. If opened from Alarm Review, the time focus is the selected alarm. If opened from another application, it opens at the current time minus the one minute for storage.
- The Event tile is highlighted below. Note the displayed number of events shown on the right. Alarms are shown with the corresponding color, and arrhythmia events are shown in cyan.

- Clear the check box next to the events you do not want to see. If licensed, specific events can be customized for each review application.
- Move the cursor over any alarm or event to see text that contains the details.
- Select the event to examine its associated waves, trends, and numerics.
- Use the arrow keys in the middle of the tile to quickly navigate to next or previous events.

 Alarms off. Displays next to the numeric when alarms are turned off for the numeric.

 Pause Alarms (Red and/or yellow). **PRESS THIS BUTTON AGAIN TO RESUME ALARMS!**

 Acknowledge/Review Button. Turns off the alarm sound and the sector background changes from blue to black.

 Volume icon. Select to adjust the alarm volume.

Physiological alarms are red and yellow alarms. A red alarm indicates a high priority patient alarm such as a potentially life-threatening situation (for example, asystole). A yellow alarm indicates a lower priority physiological alarm (for example, a respiration alarm limit violation). Additionally, there are short yellow alarms, most of which are specific to arrhythmia-related patient conditions (for example, ventricular bigeminy). Alarm message areas. All active alarms and technical alarms/INOPs display on the top right of the patient sector. A RED warning alerts you to a potential serious outcome, adverse event or safety hazard. Failure to observe a warning may result in death or serious injury to the user or patient. A YELLOW caution alerts you to where special care is necessary for the safe and effective use of the

product. Failure to observe a caution may result in minor or moderate personal injury or damage to the product or other property, and possibly in a remote risk of more serious injury. Technical alarms, or INOPs indicate that the monitoring device cannot measure or detect alarm conditions reliably. If a technical alarm interrupts monitoring and alarm detection (for example, LEADS OFF), the numeric is replaced by a question mark in the sector and Patient Window, and an audible indicator sounds. Technical alarms without this audible indicator indicate that there may be a problem with the reliability of the data, but that monitoring is not interrupted. Most technical alarms are light blue, however there are a small number of technical alarms that are always yellow or red to indicate a severity corresponding to red and yellow alarms.

There can be only one alarm sound annunciating at the Information Center at one time.

- If there is an unacknowledged red level alarm in the presence of any other level alarm, the sound for the red alarm annunciates.
- If there is no unacknowledged red level alarm condition and there is an unacknowledged long yellow alarm in the presence of any other yellow technical alarm (acknowledged or unacknowledged) the sound for the long yellow alarm annunciates.
- If there is no unacknowledged red level alarm or long yellow level alarm condition and there is an arrhythmia or nurse call event, the short yellow (*) alarm sound annunciates.
- If there are no unacknowledged red or long/short yellow alarm conditions and there is any bed with an unacknowledged technical alarm condition, the sound for the technical alarm annunciates.
- If multiple sectors are in alarm, once the highest level alarm is acknowledged in a sector the next highest alarm annunciates.
- An alarm tone indicates the alarm type. There is no sound for soft INOPs/technical alarms.

Other Buttons and Icons:

 **Battery icon.** If there is at least one battery-operated device assigned to this patient, the battery icon indicates the device with the least amount of battery strength. Move your cursor over the icon to view a list of equipment for this patient sorted from the lowest to highest battery charge. The battery icon has five levels: approximately 100% to 80%, 80% to 60%, 60% to 40%,40% to 20%, or -Replace Battery strength. The number of segments indicates the approximate power level.

 **Help icon**. Select to view the online Help application. The Help application is always available and provides context-specific information on using the Information Center applications.

 **Manage Patient icon**. Available in sectors not currently monitoring a patient. Select the icon to access the **Manage Patient** application where you can assign a monitoring device.

The Measurements Button: Provides access to the **Measurements** application, which allows you to:

- Change alarm limits for a patient.
- Turn specific alarms on or off for a patient.
- Adjust measurement settings within a profile.
- Set up telemetry devices.
- Designate which alarms will generate a recording or report or initiate a page.
- View or print an Alarm Summary.
- Configure criteria to trigger alarm advisor notifications.
- View active notifications.

Your choices in the application depend on how your unit is set up and the equipment assigned to the patient.

Paced Mode icon. Indicates the patient's current paced status.

-  On – The icon is white when **Paced Mode** is turned on.
-  Off – The icon is green with an X over it when **Paced Mode** is turned off.
-  Unconfirmed – A red question mark displays over the icon when the patient's paced mode is unknown or in conflict.

The pacer spike color is always white unless the ECG wave is white. If the ECG wave is white, then the pacer spike color is green. Pacer spikes may be configured to display with fixed amplitude for increased visibility.

Important — If **Paced Mode** is set to **Unconfirmed**, the ST/AR algorithm acts as though **Paced mode** is turned on. Select the icon to display a menu where you can turn **Paced Mode** on or off.

Warning - If the patient has a pacemaker, **Paced Mode** must be turned on, enabling the ST/AR algorithm to detect and reject pace pulses (spikes) from the HR count. Otherwise, pace pulses could be detected as beats and the monitor may not alarm for an asystole condition. If the patient does not have a pacemaker, turn **Paced Mode** off to allow the ST/AR algorithm to work most effectively.

 **Print/record Icon**. Depending on your system setup, select this icon to do the following:

- **Record All** — make a delayed recording for all sectors that currently have patient data.
- **Print All** — print a strip for all patients in the unit.
- **Save Strips —** create saved strips for all patients in the unit.

If you select this icon, a message asks you to confirm that you want to proceed with the action. Select **Yes** to confirm. Your system may be set up to just record, record and save a strip, or to just save a delayed strip.

Resuscitation Status Icons:

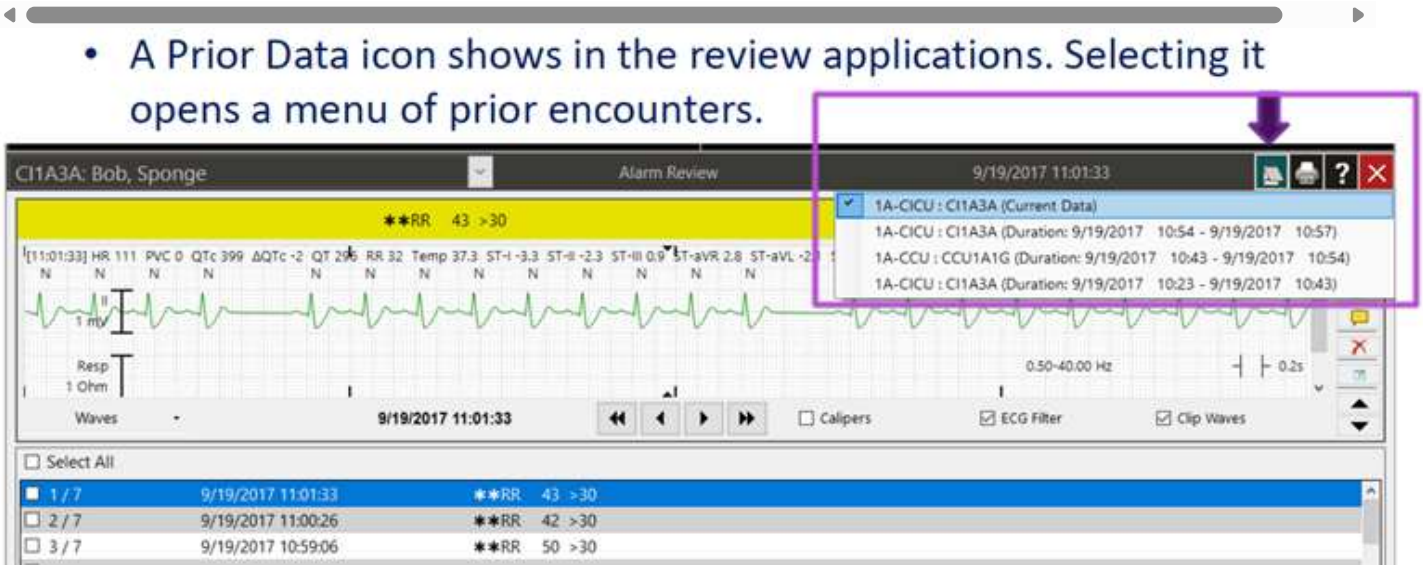
 Do Not Resuscitate. Resuscitation icon. Indicates the patient's current resuscitation status.

 Modified. The icon is solid white when the patient's resuscitation status is set to **DNR** (Do Not Resuscitate). The icon is a white outline when the patient's status is set to **Modified**. The icon does not display if the patient's resuscitation status is set to **Full**. Select the icon to access the **Manage Patient** application where you can change the resuscitation status.

<u>Prior Data:</u>

Patient data can be stored up to 7 days for each patient of Retrospective Review at Central Station. Data stored upon discharge, or from another unit with a transfer, will be shown separately from current data.

« SCROLL »



Once you are into this window –

- The Information Bar at the top turns teal green (states 'Prior Data')
- The only smart key on the bottom task bar will be 'Review'
- Main Screen button becomes 'Current Unit'
- To close the application, use the red X in the upper right or choose the Current Unit button

« SCROLL »

References:

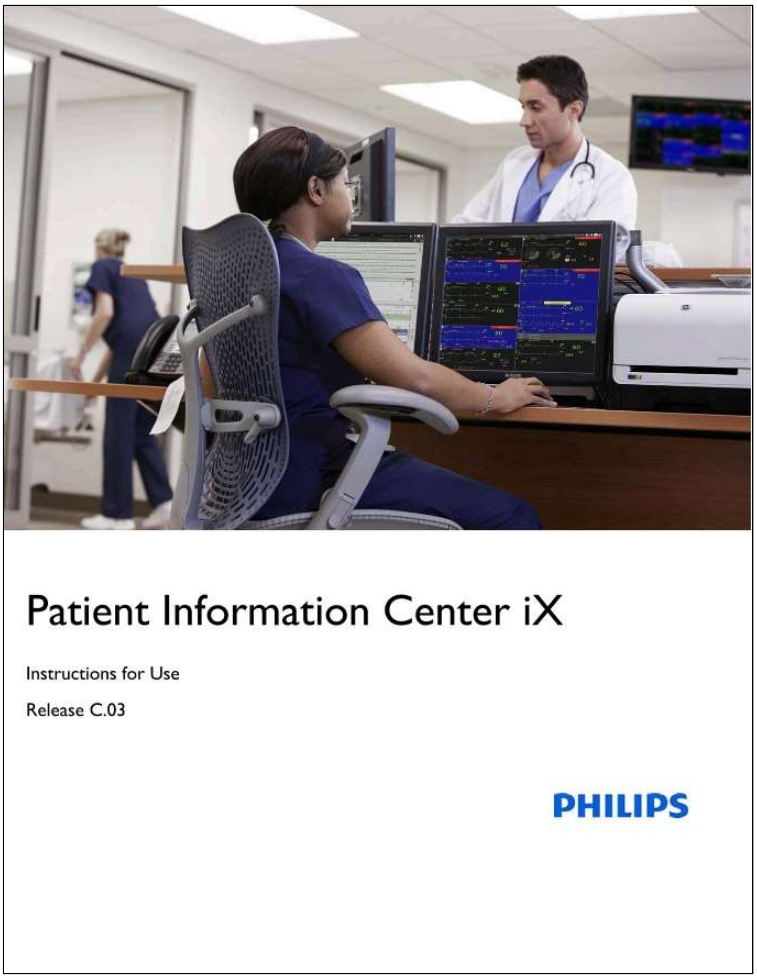
- MX Series QR Codes
- Central Monitoring Station PICiX
  - IFU_-_PIC_iX_Rel_C.03_-_English.pdf- Central station user manual
  - PIICiX Rev C.03 Patient Data Review
- MX40 Telemetry box
  - the MX40 IFU manual link
  - the MX40 quick card reference
- MX400 Large Mounted Monitor
  - IFU MX400-800_IVPM_N0x)Mar2019.pdf User manual
- Invasive pressure Guide
  - Invasive Pressure PDF
- Capnography
  - Capnography Application Guide

Notes

MX Series QR Codes

View image in PDF format.

Philips Monitoring System Manual



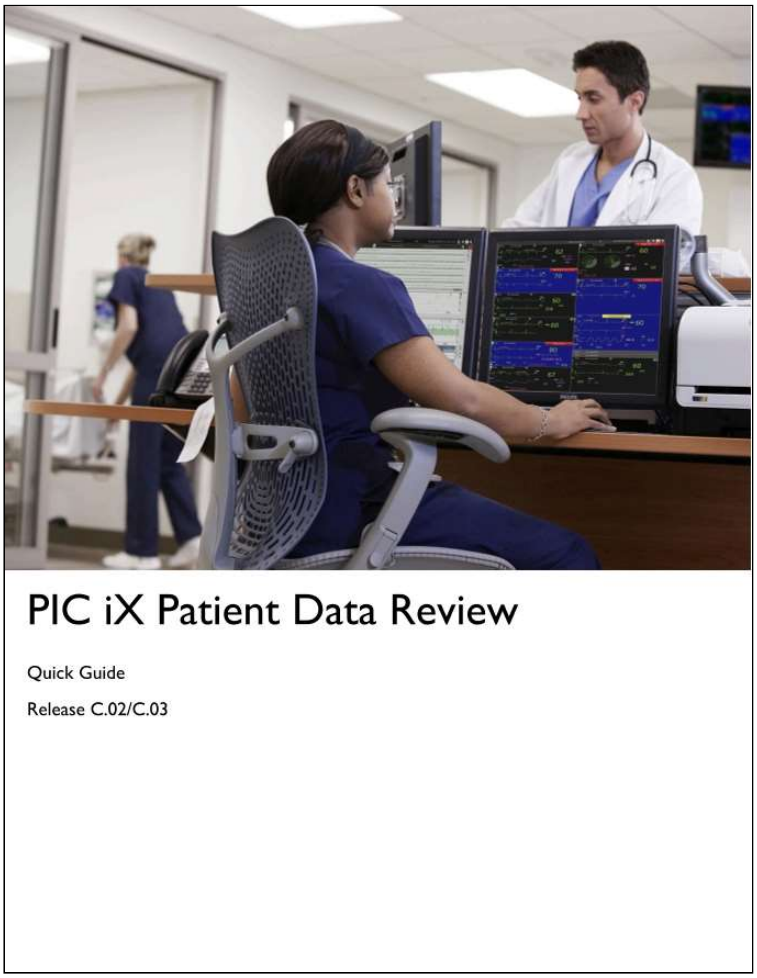
Patient Information Center iX

Instructions for Use

Release C.03

PHILIPS

View image in PDF format.



PIC iX Patient Data Review

Quick Guide

Release C.02/C.03

View image in PDF format.

Car Seat Quick Guide

Car Seat Assessment Record (CAR)
Quick Guide

1. Place baby in car seat.
2. Change Screen to **CAR SEAT TEST.**

3. Touch SmartKey – **START CAR.**
4. Select amount of time for Test Duration *(based on hospital protocol)*.

5. Touch **CONFIRM** key.

CAR is now in progress
Monitoring is continued during CAR.

6. If at any time during CAR you need to exit or stop – press the SmartKey **STOP CAR** and **CONFIRM**.

   At any time you can also switch back to your default monitoring screen by touching **Change Screen**, then touch the back arrow at the top of that menu. *CAR will continue to run in the back ground.*

7. When CAR is complete, the countdown timer (to the far right in the CAR Screen) will turn **RED**.

View image in PDF format.

Preparing A Patient For Surgery

Molly Gallagher, BSN, RN, CAPA
Jeannette Reynolds, MSN, BBA, RN, CPAN

October 2025

MUNSON HEALTHCARE

Goal and Objectives

Document was last saved: Just now

Goal:

This course provides information on the Preprocedure checklist and provides rationale on inpatient preparation for surgery or a procedure.

Objectives:

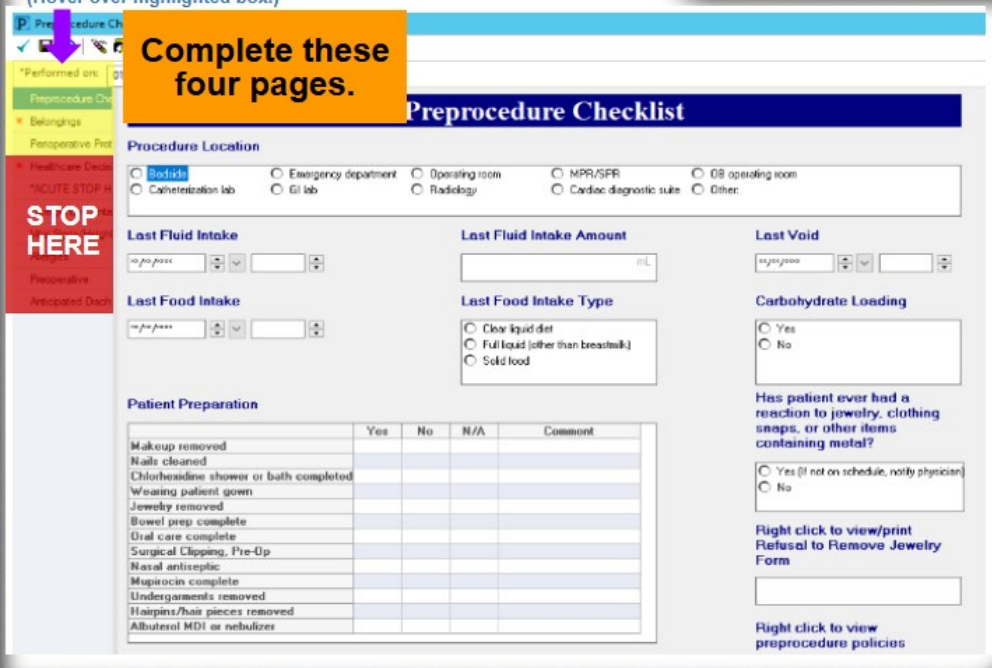
1. Accurately complete the Preprocedure checklist for a patient going to the Operating Room (OR), Medical Procedure Room (MPR), or Interventional Radiology (IR).
2. Correctly perform the pre-surgical hygiene elements when preparing a patient for surgery or a procedure.
3. Explain the importance of the Beta Blocker regimen during the peri-operative period.

Preprocedure Checklist

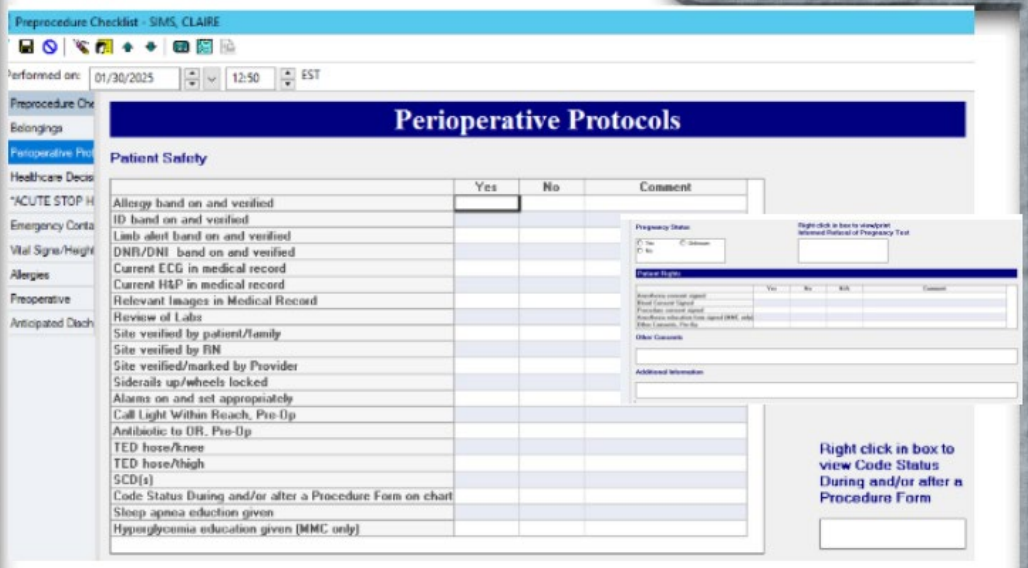
- Begin the Preprocedure checklist as soon as you know the patient is going to surgery - ideally the day before surgery.
- Must be completed for every patient going to the OR, MPR, or IR for surgery or procedure.
- With the patient's chart open, click AdHoc.
- Select preprocedure checklist.
- The acute care nurse will complete the first 4 pages of the powerform.

Preprocedure Checklist *(cont.)*

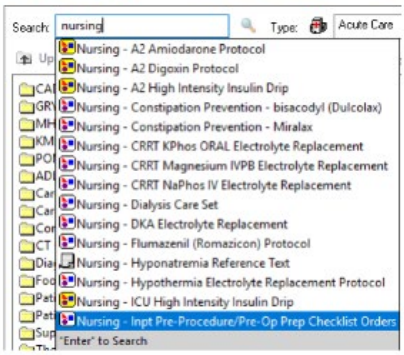
(Hover over highlighted box.)

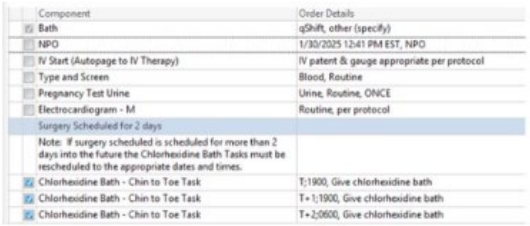


Preprocedure Checklist *(cont.)*



Nursing - Careset Orders

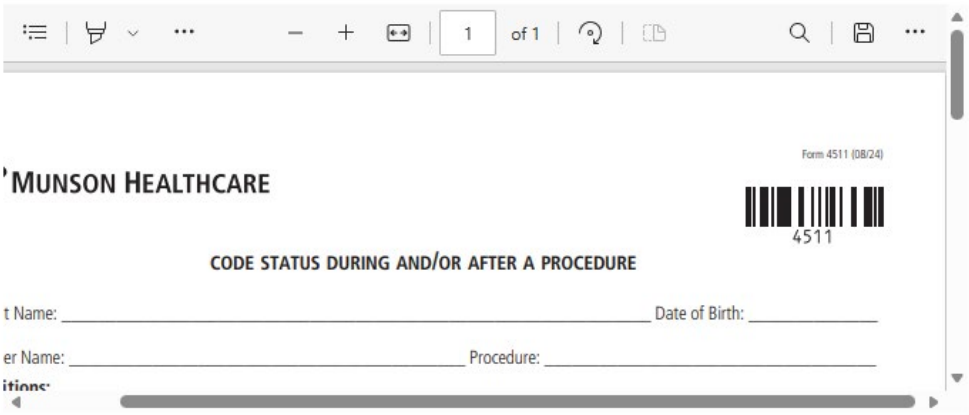




- Order your careset for Nursing - Inpt Preprocedure/Pre-Op Prep Checklist. Enter the careset as a 'Nurse per Protocol' (exception for patients scheduled in Maternity OR).
- Adjust the dates of CHG baths and nasal decolonization to correlate with day of surgery.
- Everything you do to help prepare the patient prior to their arrival in pre-op benefits the patient and prevents delays in surgery start times.

Treatment Decision Form

- Check code status in PowerChart.
- If the patient is anything except a full code, print a Treatment Decision Form (form #4511) and page the surgeon to complete it.
- Patients going to the operating room **do not** automatically become full codes. A Treatment Decision Form must be completed prior to surgery and will include a date/time to resume patient's preprocedure code status.



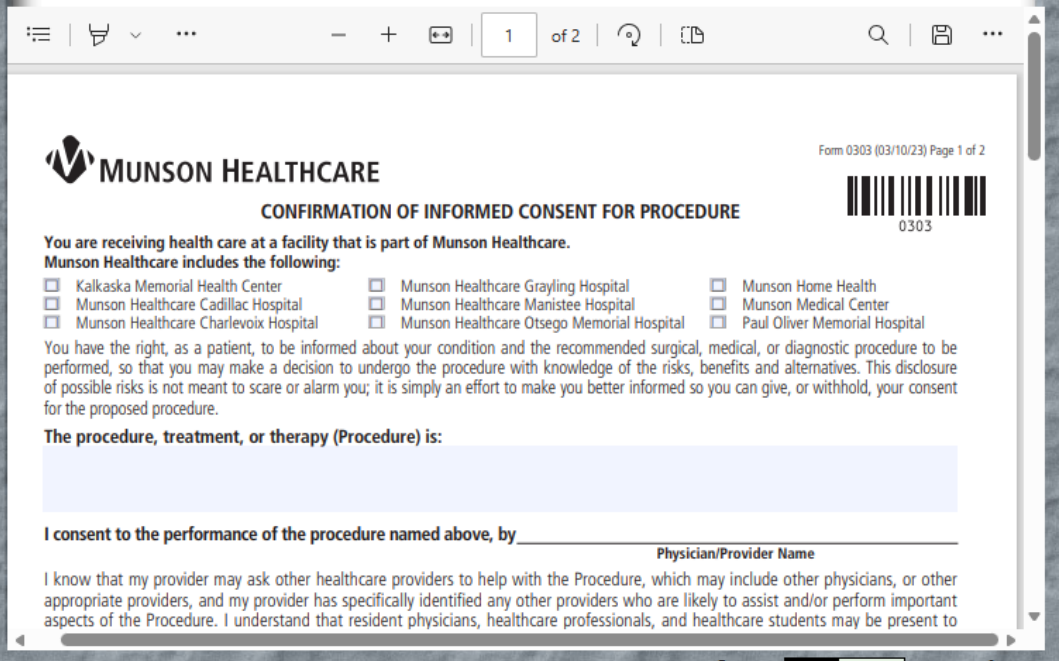
History and Physical (H&P)

- For all surgical or invasive procedures involving anesthesia or sedation, a valid H&P must be on the patient chart prior to start of the procedure. A valid H&P must have been completed within 30 days (not 31 or more days prior to admission or procedure).
- The surgeon must document in the patient's electronic record (H&P, consult, or progress note) the planned course of action and applicable side of the procedure, if warranted.
  - Writing an order is NOT acceptable as the surgical plan.
- In emergency cases, where completion of an H&P is not feasible, the surgeon should make a notation of relevant history and physical findings in the patients progress notes, if time allows.

Informed Consent

- Informed consent is a process of communication between a provider and patient to reach an agreement or permission to perform a procedure. The patient (or designee) signature on the form confirms that a provider has:
  - Reviewed the procedure.
  - Discussed the risks, benefits, or alternatives.
  - Answered all the patient or designee questions.
- The informed consent process could occur on the inpatient floor or at the site of the procedure.
- The patient and the provider performing the procedure will both sign the form (#0303) "Confirmation of Informed Consent for Procedure" (often referred to as CIC) ideally at the time of the informed consent discussion. The form must be signed prior to performing an invasive procedure.
- The signature of the provider performing the procedure **is required** on the form confirming the informed consent process has been completed.
- Consents are valid for 90 days.

Confirmation of Informed Consent for Procedure



1 of 2

MUNSON HEALTHCARE

Form 0303 (03/10/23) Page 1 of 2

0303

CONFIRMATION OF INFORMED CONSENT FOR PROCEDURE

You are receiving health care at a facility that is part of Munson Healthcare.
Munson Healthcare includes the following:

- ☐ Kalkaska Memorial Health Center
- ☐ Munson Healthcare Cadillac Hospital
- ☐ Munson Healthcare Charlevoix Hospital
- ☐ Munson Healthcare Grayling Hospital
- ☐ Munson Healthcare Manistee Hospital
- ☐ Munson Healthcare Otsego Memorial Hospital
- ☐ Munson Home Health
- ☐ Munson Medical Center
- ☐ Paul Oliver Memorial Hospital

You have the right, as a patient, to be informed about your condition and the recommended surgical, medical, or diagnostic procedure to be performed, so that you may make a decision to undergo the procedure with knowledge of the risks, benefits and alternatives. This disclosure of possible risks is not meant to scare or alarm you; it is simply an effort to make you better informed so you can give, or withhold, your consent for the proposed procedure.

The procedure, treatment, or therapy (Procedure) is:

I consent to the performance of the procedure named above, by _____
Physician/Provider Name

I know that my provider may ask other healthcare providers to help with the Procedure, which may include other physicians, or other appropriate providers, and my provider has specifically identified any other providers who are likely to assist and/or perform important aspects of the Procedure. I understand that resident physicians, healthcare professionals, and healthcare students may be present to

Informed Consent Process - Nurse's Responsibility

The nurse serves an important role in the process to optimize patient care and workflow.

- Review the provider's order and electronic record for the planned operative procedure.
- The RN may enter the procedure on the consent form using no abbreviations, or if available, use the procedure-specific consent form.
  - If needed, clarify any abbreviations, illegible or unusual order, and any discrepancies with the provider performing the procedure.
- Confirm the performing provider and patient have both signed, dated, and timed the CIC.
  - If the informed consent discussion occurred with the provider, but the provider did not have the patient sign the form at the time of the discussion, **nursing personnel may facilitate signature of the patient or the designee ONLY in situations where the patient or designee has no questions.**
  - Confirm the form is placed in the patient's chart and travels with the patient to the procedural area. If there is no provider or patient signature, inform the pre-procedure staff during hand-off communication.
  - The form may be sent to preop holding with only the patient's signature.

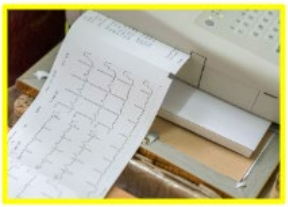
Checklist Components




Lab Tests

- Check all current lab values and report any abnormal findings to the surgeon.
- Obtain a urine pregnancy test (per Pre and Post Surgical/Procedural Adult Protocols) on all females between menarche and menopause. Women who have had tubal ligation still need a pregnancy test. Women who have had hysterectomies do not.
- Notify the pre-op RN of abnormal lab findings during handoff report.

Checklist Components

ECG Prior to Surgery?

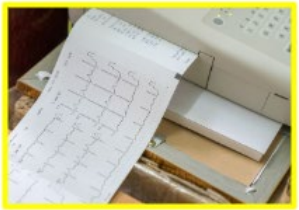
When:

- There needs to be a normal ECG on the chart from the last year, **or** the last 6 months if the last ECG was abnormal and patient is stable.
- If using a paper ECG from another facility, it needs to be verified and signed.

Who:

- Any patient with a history of a previous MI, angina, arrhythmia, renal failure, medication-dependent diabetes, or CVA.
- Any patient 45 years or older with a history of hypertension or history of ≥ one pack per day smoker.
- All patients 45 years or older having major vascular, intra-abdominal, thoracic, neurological, or orthopedic surgery.

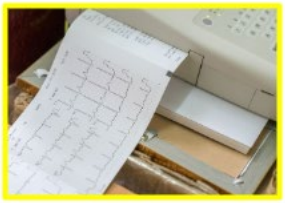
Checklist Components

IV Access

- Ensure a patent large bore IV. Refer to Pre and Post Surgical/Procedural Adult Protocols for catheter size required based on the type of surgery.
- If the patient has Heparin infusing, follow the physician orders regarding continuation/discontinuation.
- Discuss with the pre-op RN during handoff report if the patient's IV infusions should be discontinued prior to sending the patient to the peri-operative area.

Checklist Components

NPO

- NPO except clear liquids and medications after midnight.
- Stop clear liquids 4 hours before scheduled surgery time.
- If the surgeon's NPO orders conflict with the Pre-Procedure Nothing By Mouth Policy, page the anesthesiologist for clarification.
- Sips of water with meds are ok.

Pre-Surgical Hygiene

Prior to the pre-surgical bathing:

- **Remove all body jewelry** (including wedding bands).
- Remove hair clips, pins, rubber bands, etc.
- Remove body piercings.
- Remove makeup and nail polish.

Patient who did not remove ring prior to going into OR.

Pre-Surgical Hygiene *(cont.)*

The patient should have a total of three (3) chlorhexidine gluconate (CHG) baths **if required:**

- Two nights before surgery
- The night before surgery
- The morning of surgery

Example: If the patient's surgery is on Tuesday, bathe with CHG on Sunday night, Monday night, and Tuesday morning.

What if the patient is admitted the night before surgery?

You must ensure two (2) CHG baths are completed:

- The night the patient was admitted
- The morning of surgery

How to Give a CHG Bath

- Wash the entire body (from neck down) with CHG.
  - Cleanse groin area (avoid CHG on mucous membranes).
- Avoid scrubbing the skin too hard with CHG.
- Do **not** use regular soap after the CHG.
- Do **not** rinse the CHG off of the skin.
- Place the patient in a clean gown after the CHG bath (all clothing, including underwear, should be removed).
- Place clean linens on the bed after the CHG bath.

Pre-Surgical Hygiene *(cont.)*

Two nights before surgery:

- Give a soap and water bath ***prior*** to the first CHG prep bath.
- Shampoo hair with regular shampoo.
- Wash face with regular soap/cleanser.
- After the soap and water bath, give the first CHG bath, using either the wipes or the liquid.

The night before surgery:

- Wash face with regular soap or cleanser.
- Give the second CHG bath in the same manner as the previous night.
- Brush teeth and use mouth rinse.

Day of Surgery Preparation

- Use the Preprocedure checklist.
- Complete the 3rd CHG (last) bath. Place a clean hospital gown on the patient.
  - Clean under finger nails.
  - Confirm oral care is completed.
  - Encourage the patient to void prior to sending to pre-op.
    - Bathroom availability is limited in pre-op.
  - Remove the patient's underwear.
  - Inform the pre-op RN when medication patches are left on the patient.
- Complete nasal decolonization, if required.
- Document vital signs prior to transfer.
  - Report abnormal findings to the pre-op RN.
- Send the patient with dentures, glasses, and hearing aids.
- Call hand-off report to the pre-op RN.

Obstructive Sleep Apnea

- Communicate with the pre-op RN if your patient uses a CPAP or BiPAP and discuss if the device should be sent with the patient to the perioperative area.
- Ensure settings are documented, so that the machine can be used accurately postoperatively.

Antibiotics

- The surgeon or a covering physician shall write specific orders for all patients requiring prophylactic pre-operative antibiotics.
- Confirm an order for preoperative antibiotics is placed in PowerChart by the surgeon or covering provider.
  - Pre-op antibiotics should be administered by the pre-op nurse or anesthesia provider to ensure they are administered within one hour prior to the incision window.
- If the patient is on oral antibiotics, give prior to the patient going to pre-op.
- Ensure **scheduled antibiotics** are given as ordered.
- If a scheduled antibiotic is due during the perioperative period, please send it to OR with the patient.

Beta Blockers

Patients on a beta blocker at home should receive their beta blocker during the perioperative period (24 hours prior to surgery through discharge from PACU).

- Stress associated with surgery increases heart rate, myocardial contractility, and myocardial oxygen demand, putting the patient at risk for an acute myocardial infarction (AMI).
- Beta blockers offer cardioprotection for patients with a history of MI and hypertension. They diminish the effects of epinephrine and other stress hormones.
- An MI during surgery results in a nine-fold increase in unstable angina, MI, and cardiac death in the post-op period.
- If the patient's heart rate is greater than 50 and the systolic blood pressure is greater than 100, administer and document beta blocker in PowerChart.
- If held or stopped for a specific reason, it must be documented. This also applies to the perioperative period. Communicate this to the pre-op RN during handoff.
- NPO does **not** mean the patient should not receive their beta blocker. If in doubt, clarify with the surgeon and document who ordered the hold and why it is being held.

Miscellaneous Medications

Aspirin (ASA)

If the patient has a cardiac stent and takes a daily 81mg dose of ASA at home, they must have their ASA dose within 24 hours of surgery start time. There are rare instances where the bleeding risk outweighs the benefits and a surgeon may order the ASA be held.

- If the patient is having a neurosurgery procedure, confirm with surgeon prior to administering aspirin.

Anticoagulants/Anti-platelet medications

- Most anticoagulants will need to be held for invasive procedures/surgery.
- Verify the surgeon's order if anticoagulants are to be held or continued. If no order is present addressing the patient's anticoagulation status, page the performing provider.

Other medications

Medications such as anti-seizure, Parkinsons, anti-rejection, and chronic pain, should be continued, if ordered.

Please call pre-op holding and ask to speak with the charge nurse if you are unsure about giving a medication.

References

Munson Medical Center Policies and Procedures

- Surgical Antibiotic Prophylaxis
- Pre-Procedure Nothing by Mouth Policy
- Ensuring H&Ps are Present Before Surgery/Invasive Procedure
- Skin Preparation of the Surgical Patient
- Jewelry Removal Prior to Surgery
- Pre and Post Surgical/Procedural Adult Protocols
- Plan of Care – Nursing Process in the OR
- Inpatient Pre-Procedure/Pre-Op Checklist and Patient Preparation

Munson Healthcare Policies and Procedures

- Informed Consent - Diagnostic or Therapeutic Procedures and Treatments

Status Active PolicyStat ID 19500008

MUNSON MEDICAL CENTER
MUNSON HEALTHCARE

Origination	5/22/2025
Last Approved	12/16/2025
Effective	12/16/2025
Last Revised	12/16/2025
Next Review	12/16/2027

Owner	Marta Wiesen: Mgr Nursing Services - NICU/ C3
Area/ Department	Nursing
Applicability	MMC
Tags	Policy

Amber Alert

Purpose

To protect all infants (birth to one year) and children (less than 18 years of age) that are thought to be missing or potentially abducted. This policy involves immediate security alerts, locking down units/ hospital areas, searching, and broadcasting descriptions for the purpose of locating the infant/child. Measures will be taken to provide a secure environment for infant/children and all staff will follow security protocols. In the event of a suspected abduction or missing child the Munson Medical Center (MMC), staff will initiate an *Amber Alert regardless if infant/child is a patient or visitor.*

Protocol

A. Assure a secure environment for infants/children:
   1. The Front Lobby main entrance will be locked at 2100 and opened at 0500.
   2. All staff will be knowledgeable of the amber alert policy and responsibilities.
   3. Identified higher risk areas such as Maternity, the Neonatal Intensive Care Unit (NICU), and pediatrics (C3) will be kept locked at all times and only approved visitors will be allowed to enter.
      a. All staff will follow the Infant/Child Security System Policy while in Maternity, NICU, and C3 to keep this population of patients safe.
      b. All stairwell doors to Maternity, NICU, and C3 will remain locked from the outside at all times (Fire Exits only).
      c. Security personnel will make rounds every shift in Maternity/NICU and C3 (Pediatrics).

d. Infant/child Security System monitors are present in Maternity, NICU, and the C3 Pediatric population

B. If it is determined that an infant/child abduction or missing child has occurred, the below crisis response will occur.

Discovery Person Responsibilities

A. Elicit help by:

1. Discovery person or designee dial 55555 reporting AMBER ALERT
    a. Give the operator:
        i. The location of abduction or last seen missing, age, and gender if known
        ii. Do not delay initial overhead page; it's most important to make people aware and looking
    b. Remain on the line while the Amber Alert is called overhead
        i. Give further description as able: name, age, gender and identifiers of infant/child such as clothing worn or hair color, and any abductor info
        ii. Meet security at the suspected site of abduction or loss. A description of the incident and suspected abductor if available will be obtained and disseminated immediately to all security personnel via radio.
        iii. If more information is provided to switchboard, they will announce another overhead page with given information.
2. Discovery person or switchboard operator call 911. If calling 911:
    a. State, "There has been a suspected infant/child abduction at Munson Medical Center". Give the last seen location, age, sex and any descriptive identifiers of the infant/child.
    b. Inform the 911 Dispatcher that Security will meet police at the main entrance off Sixth Street.

Responsibilities of Higher Risk areas

A. Designated units with direct overhead activation capabilities.

1. Discovery person or designee dial 55555 reporting AMBER ALERT or utilize the hospital overhead page
2. If dialing 55555 follow “Discovery Person Responsibilities” above
3. If using hospital overhead page, announce overhead:
    a. Amber Alert, (unit name), all staff respond. Give information available: *age (approx if unknown), gender, and location of abduction or last seen missing*

b. ***DO NOT delay overhead if identifiers not available right away**

B. Delegate tasks
    1. All staff begin a head count of all infants/children patients in area
    2. A designee will staying with the involved family
    3. All staff immediately respond to monitor exits and search areas

C. Once further details obtained dial switchboard at 55555 to give switchboard operator further description: name, age, gender and identifiers of infant/child such as clothing worn or hair color, and any abductor info

D. Security to arrive at the suspected site of abduction or last seen. A description of the incident and further information of suspected abductor if available will be obtained and disseminated to all security personnel

All Staff Responsibilities

Expectation is all hospital personal stop what they are doing and immediately begin questioning anyone with an infant or child and checking all large items such as backpacks and carts

Switchboard Operator Responsibilities

A. OBTAIN: Name and number of caller

B. ASK CALLER: overhead was done?
    1. Yes ~ go to step D
    2. No ~ Obtain age, gender if available, and last seen location of child; Ask caller to: "Please hold so that I can activate the response team".

C. OVERHEAD PAGE (2) TIMES
    1. "Amber Alert (AGE & GENDER OF CHILD) (last seen LOCATION)"

D. GO BACK TO CALLER and obtain:
    1. Description of abductor
    2. Location where abductor is heading.
    3. Description of infant/child descriptive identifiers if available
    4. Obtain any and all identifying information for both infant/child and possible abductor
    5. Ask caller to remain on the line

E. OVERHEAD PAGE (2) TIMES "Amber Alert (age & gender of child) (location) (description of the abductor) and Please report any sightings or suspicious behavior to Security at 5-6700".

F. GO BACK TO CALLER and Ensure 911 called. If they have not already made 911 call prepare that switchboard operator may be asked to call 911 while discovery person continues search and works with hospital security
    1. If calling 911, state to 911 dispatcher "There has been a suspected infant/child abduction at Munson Medical Center". Give the location, age, sex and any descriptive

identifiers of the infant/child.

2. Inform the 911 Dispatcher that Security will meet police at the main entrance off Sixth Street.

G. PAGE via paging system event Amber Alert and Location

H. Send email to MMC-All-Staff with information

I. Repeat Overhead page as instructed by Security, Nursing Supervisor, or Administrator on call

J. ADDITIONAL INFORMATION may be asked

1. Overhead page additional information as requested by Security, Nursing Supervisor, or Administrator On Call.

K. ALL CLEAR:

1. WHEN ALL CLEAR IS GIVEN by Security, Nursing Supervisor, or Administrator on Call OVERHEAD PAGE (2) TIMES: "Amber Alert All Clear".
2. PAGE EVENT Amber Alert All Clear in online paging system
3. Send email to MMC-All-Staff with Amber Alert All Clear

Employees Responsibilities

A. All available MMC staff will respond quickly to **Amber Alert**.

B. Assigned individuals/departments should respond to their assigned posts (chart below).

C. All departments will be on the lookout for a suspected abductor or missing infant/child. Any unit/office with windows in which a parking lot or road is visible will observe for suspicious activity.

D. Staff should stop anyone carrying large items such as backpacks, purses, bags, or carts search for abducted infant/child.

E. Staff should avoid any physical confrontation with a suspected abductor. If the abductor appears to be fleeing and does not respond to verbal requests to stop, the suspected abductor should be followed and attempts made to obtain additional staff's assistance. Staff should obtain a thorough description for the suspected abductor, route of exit, and vehicle if pertinent. Dial 55555 with new information.

F. Staff monitoring exits will ask all individuals attempting to exit the building to wait for the all clear of the Amber Alert before leaving the building.

G. Staff may also request visitors to remain in the immediate area until the "all clear" is called to avoid being stopped multiple times by staff. A general explanation should be given, such as, "We are investigating a possible infant or child abduction." In the event someone refuses to wait, a mental note should be made regarding a general description of the individual and the route of exit.

Exits

A. The following exits will be assigned and monitored:

LOCATION	NORMAL BUSINESS HOURS	AFTER HOURS
Main Lobby Exits Pavilion Hall Fire Exit Pavilion Main Entrance Sixth Street Activity	Greeters Advance Registration & Testing Center (ARTC) Information Desk Staff	Environmental Services (EVS)
Pavilion-South Hall fire Exit	Patient Liaison, Clinical Quality, and Accreditation	Distribution
Emergency Department (ED) Walk-in and Ambulance Entrances	ED Staff Patient Access Services (PAS)	ED Staff PAS
East Pavilion-Basement Exit	Utilization Management	Logistics
Medical Professional Building (MPB) (close fire door into MPB and monitor hallway) Sixth Street Exit-off Administration & Child Care Exit	MMC Admin Suite	C2 Staff
Health Information Management (HIM), Human Resources (HR) (including Corridors and exits), Clinical Informatics	HIM staff, HR staff, and Clinical Informatics	C4 Staff
Ground Floor near Radiology Recovery	HR staff & Radiology staff	EVS
Cafeteria Corridors and by D elevators	Food & Nutrition Services (FNS)	FNS
Basement Hallway leading to the Parking Structure	EVS	EVS
Cardiac Diagnostic Unit (CDU) Corridor	Cardiac Diagnostic Suite (CDS) staff	ED Staff
Second Floor Connector from D Elevator	Lab staff	Lab staff
Third Floor Connector from D Elevator	Lab staff	Lab staff
B Building Basement	Pharmacy staff & EVS	EVS
B3 - Adult Surgical / C3 Hallway	B3 - Adult Surgical / C3 staff	B3 - Adult Surgical / C3 staff
Receiving Dock	Receiving staff	EVS Manager
Stairwell Doors on Rehab	Rehab staff	Rehab staff
A & D Tower levels 4, 5. 6 and 7	Staff to go to the windows to observe and	Staff to go to the windows to observe and

LOCATION	NORMAL BUSINESS HOURS	AFTER HOURS
	report any suspicious activity	report any suspicious activity
Lot C and Stairwell Exit	Outside Security Officer	Outside Security Officer
ED Entrance	Inside Security Officer	Inside Security Officer
Dispatch	Security Officer	Security Officer
Units	Security Officer	Security Officer
Employee Parking Structure & Exits from structure	Building 29 Occupants	Outside Security Officer

B. In the event the Amber Alert extends beyond 15 minutes, Incident Command will be established. Members of the Incident Command are: Nursing Supervisor, Nursing Vice President (VP), Security, Administrator on Call, and Corporate Communications.

Reference

1. Rabun, J. B., Jr. (2014). *For health care professionals: Guidelines on prevention of and response to infant abductions* (10th ed.). National Center for Missing & Exploited Children. Retrieved from for healthcare professionals

Document ID: 091.P100

Approval Signatures

Step Description	Approver	Date
System Policy Oversight Committee	Terri Fries: Document Mgmt Spec	12/16/2025
Interim CNO Patient Care Services	Shari Wilson: President Post-Acute Care	12/16/2025
Document Owner	Marta Wiesen: Mgr Nursing Services - NICU/C3	12/16/2025

Applicability

Munson Medical Center

Standards

No standards are associated with this document

MUNSON HEALTHCARE

Broselow™ Pediatric Resuscitation Cart

Duane Croel
Lauren Holland
Marissa Loud, MMC
Marta Wiesen, MMC

December 2025

Goal and Objectives

Goal

The purpose of this course is to familiarize clinicians with the Broselow™ system and where supplies are located on the pediatric resuscitation cart.

Objectives:

1. Describe how to call a Code Blue - Pediatric Medical Emergency.
2. Describe how to use the Broselow™ pediatric emergency tape.
3. Identify the location of Broselow™ carts throughout your hospital.
4. Identify the location of specific pediatric equipment in the Broselow™ Pediatric Resuscitation Cart based on the child's weight.

Code Blue - Pediatric Medical Emergency

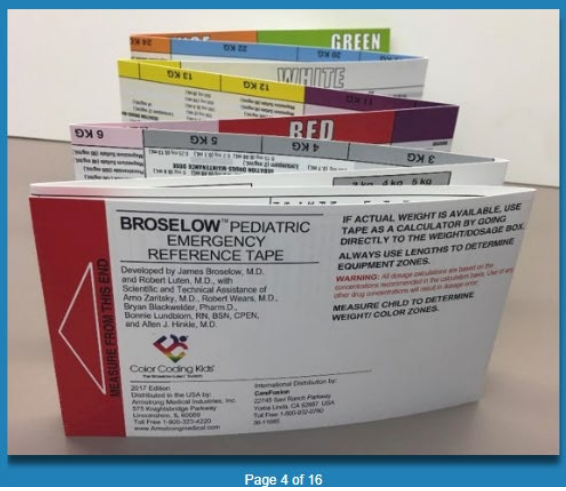
How do I call a Code Blue - Pediatric Medical Emergency?

1. Dial **55555** (POMH staff dial 461 and call the code themselves).
2. Tell the operator you have a Code Blue - Pediatric Medical Emergency.
3. State your specific location in the hospital (department or unit); if the child is a patient, state room number and provider.
4. Code Blue - Pediatric Medical Emergency should be called on children from birth to 18 years of age.

Broselow™ Tape

What is Broselow™ Tape?

- The Broselow™ tape utilizes a length-based system to help determine the approximate weight of a child, the corresponding medication dosages, and the appropriate size equipment needed for that child.
- The tape is divided into nine colored zones corresponding to different estimated weights.



Using Broselow™ Tape

Weights

Directions for Use

1. Place the tape on a flat surface with the color-coded weight side visible.

2. Place the red end of the tape even with the top of the child's head.

**Think 'Red' rhymes with 'Head."*

Using Broselow™ Tape *(cont.)*

3. Place one hand at the top, with the edge of your hand resting in the red box at the end of the tape.

4. Run your free hand down the tape from the child's head.
Never measure a child in the seated position.

Using Broselow™ Tape *(cont.)*

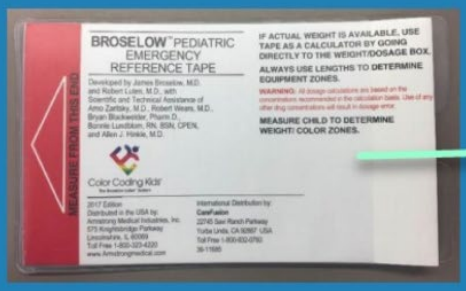
5. Stop your free hand at the bottom of the child's heel (not the toes). The edge of the free hand that lands on the tape adjacent to the child's heels indicates the child's approximate weight **in kilograms** and the child's corresponding color zone.

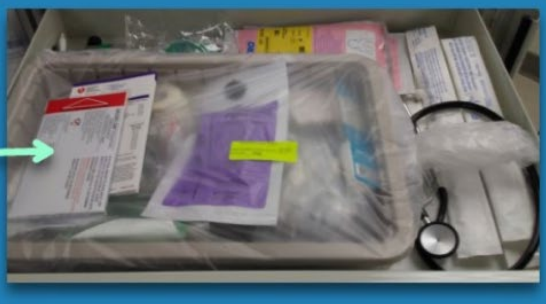
Make sure to measure the child with his/her shoes off.

If the child is longer/larger than can be measured with the tape, stop and proceed as you would with an adult.

Broselow™ Tape Location

The tape is located in the first drawer of the Broselow™ Pediatric Resuscitation Cart.





Medication Tray

The medication tray is found in the bottom drawer of the cart. All medications in the medication tray are listed below*:

Medication	Proposed Stock
Adenosine 6mg/2mL Vial	3
Amiodarone 450mg/9mL Vial	1
Atropine 1mg/10mL Syringe	2
Calcium Chloride 10% 10mL Syringe	1
Dextrose 10% 250 mL IVPB	1
Dextrose 5% 250 mL IVPB	1
Dextrose 5% 100 mL IVPB	1
Epinephrine 1mg/10mL Syringe	3
Epinephrine 1mg/1mL	5
Infant Dextrose 25% 2.5gm/10mL Syringe	2
Lidocaine 100mg/5mL Syringe	1
Magnesium 5 gm/10 mL Vial	1
Naloxone 2 mg/2 mL Syringe	2
Norepinephrine 4mg/4mL Vial	1
Sodium Bicarb 4.2% 2.5 mEq/5 mL Vials	6
Sodium Chloride 0.9% 500 mL IVPB	1

* All medications are subject to shortages
**Medication location may vary slightly in your cart

Knowledge Check 1

To call a Code Blue Pediatric Medical Emergency for any child between the ages of birth and 18 years of age, you would call*

- "0" for the operator
- 55555
- 55550
- 911

*At POMH, staff should dial 461 and page the code themselves.

Knowledge Check 2

When measuring with the Broselow™ Pediatric Emergency Tape, the red end of the tape is placed by the child's head.

- True
- False

Knowledge Check 3

If the child is longer than the Broselow™ tape, what should you do?

- Estimate what weight the child is and go from there.
- Stop and proceed as you would with an adult patient.
- Weigh the patient before performing CPR.

Knowledge Check 4

On the Broselow™ Pediatric Resuscitation cart, where will you find the Broselow™ Pediatric Emergency Tape?

- First drawer of the cart.
- Bottom drawer of the cart.
- On top of the cart.

Knowledge Check 5

On the Broselow™ Pediatric Resuscitation cart, where will you find the medication tray?

- On top of the cart.
- First drawer of the cart.
- Bottom drawer of the cart.

Choose Your Region Below:

This course will now branch off to offer region-specific information. Please choose the appropriate button for the region you work in:

South Region (POMH, Manistee, Cadillac)

Central Region (Munson Medical Center)

East Region (Grayling, OMH, Charlevoix)

South Region

The rest of the course will be specific to the South Region's Broselow™ Resuscitation Carts.

General Information

Cadillac cart

POMH cart

Manistee carts

The second through seventh drawers in the cart contain different color-coded modules based upon the length of the child as identified by the tape. The top and bottom drawers contain general supplies and equipment which can be used for any size patient.

Cart Locations

Cadillac:

- Emergency Department
- Inpatient Unit 3B
- PACU
- Inpatient (2nd floor) Supply Closet

Manistee:

- Emergency Department (trauma bay)
- Surgery

Paul Oliver Memorial Hospital (POMH):

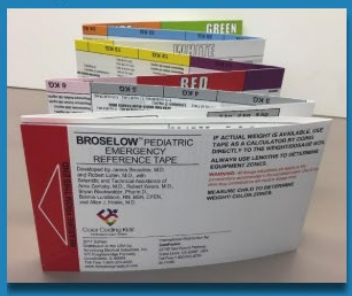
- Emergency Department

Where's the Defibrillator?

- Zoll Defibrillators are not always kept on Broselow™ carts.
- If needed, obtain the defibrillator from the adult crash cart nearest to the emergency location.

Summary

Click on each photo below to review:



To call a pediatric code, **dial 55555** and tell the operator you have a **Code Blue - Pediatric Medical Emergency.** State your specific location in the hospital (department or unit); if the child is a patient, state room number and provider.

- Pediatric code is called for children birth to 18 years of age.
- POMH staff must call 461 and page the code themselves.

Summary

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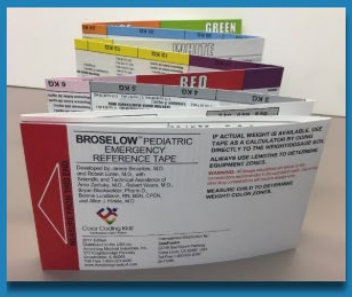
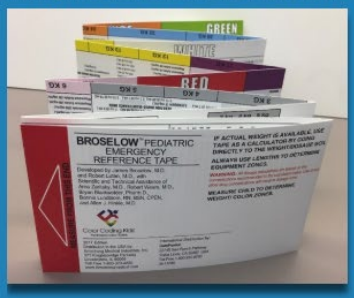


- The Broselow™ tape utilizes a length-based system to help determine the approximate weight of a child, the corresponding medication dosages, and the appropriately-sized equipment needed for the child. The tape is divided into nine colored zones corresponding to different estimated weights.
- It is important to place the red end of the Broselow™ tape even with the top of the child's head. The heel of the child (without shoes) designates the color zone and approximate weight of the child.

Summary

Click on each photo below to review:



- Each drawer in the cart contains different color-coded modules based upon the length/weight of the child as identified by the Broselow™ tape.
  - Pediatric resuscitation cart locations:
    - Cadillac: Emergency Department, Inpatient Unit 3B, PACU, Inpatient (2nd floor) Supply Closet
    - Manistee: Emergency Department (trauma bay), Surgery
    - POMH: Emergency Department
- Many Broselow™ carts do not contain the Zoll defibrillator and should be obtained from the nearest adult crash cart to the emergency location.

Munson Medical Center

The rest of the course will be specific to Munson Medical Center's Broselow™ Resuscitation Carts.

Broselow™ Resuscitation Cart

General Information:

- The second through seventh drawers in the cart contain different color-coded modules based upon the length of the child as identified by the tape. The top and bottom drawers contain general supplies and equipment that can be used for any size patient.
- Pediatric resuscitation cart locations:
  - PACU
  - ED
  - B2 (Post Op area by bed 20)
  - B2 OR
  - Ground Floor PACU
  - Crash Cart Storage on C1
  - MPB
  - Interventional Radiology
  - C3

Top of the Broselow™ Cart

- Latex-free exam gloves (S, M, L)
- Mattress warmer
- Sharps container (attached to back rail)
- Infant resuscitation bag with mask (hangs from IV pole)
- Pediatric resuscitation bag with mask
- Neotech Snorkel suction catheter
- Yankauer suction catheter
- Crash cart return form
- Code Blue sheet and attached critique
- Clipboard with pen
- Pediatric response team call record
- Pediatric sepsis protocol folder
- Pediatric one-step CPR electrodes

Back of Broselow™ Cart

- Back board
- Suction canister (1200 mL)
- Suction tubing (10 ft)
- Connection tubing (3/16″ x 1 1/2″)

Left Side of Broselow™ Cart

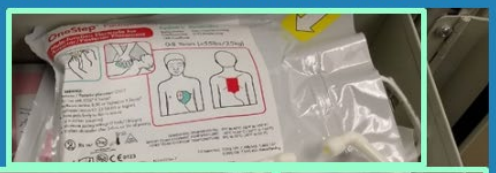
- Oxygen tank with regulator
- Mask fluid shield
- Emergency Cardiovascular Care (ECC) book (hangs from railing)
- Outdate card

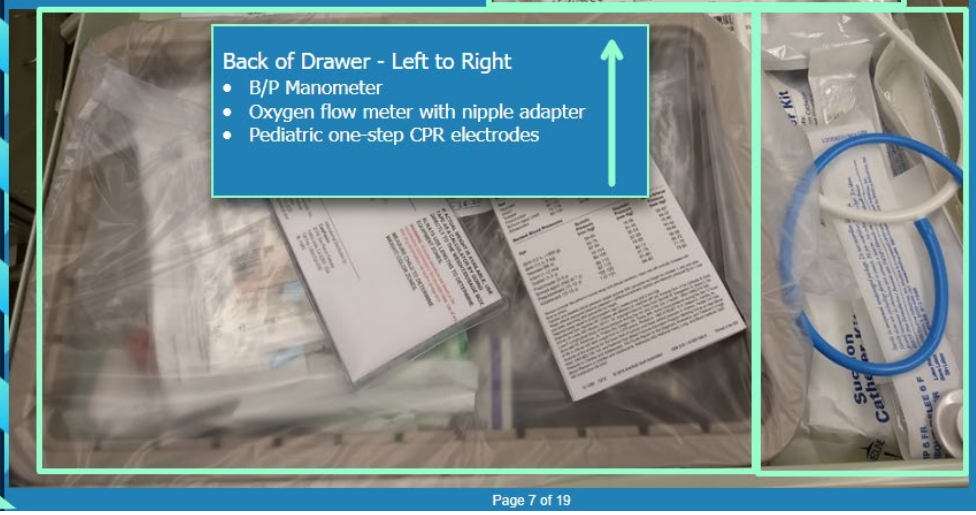
Right Side of Broselow™ Cart

- E-Vac portable suction (set-up)
- Wall suction regulator

First Drawer - Gray Drawer

Click in the rectangles to learn the items contained in that area of the **gray** drawer.





Back of Drawer - Left to Right

- B/P Manometer
- Oxygen flow meter with nipple adapter
- Pediatric one-step CPR electrodes

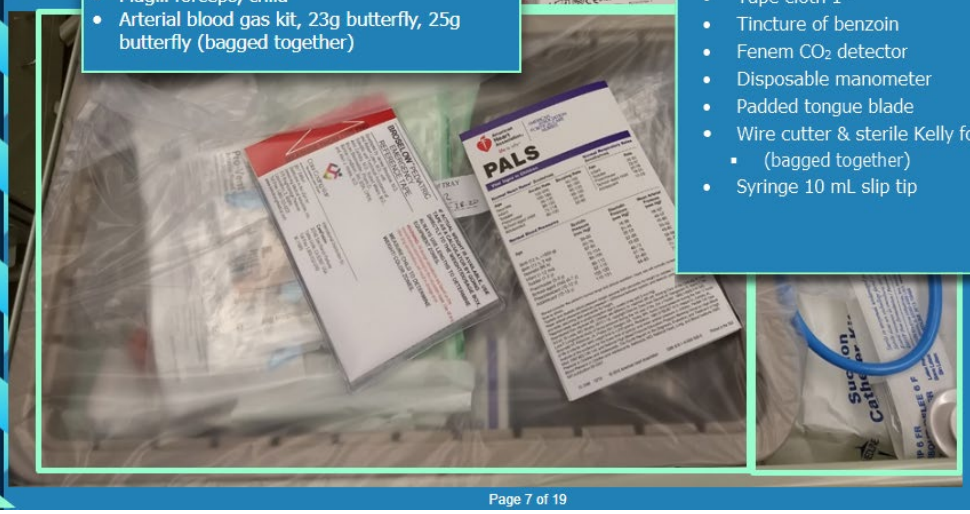
First Drawer - Gray Drawer

Gray Tray

- Miller size 0
- Miller size 1
- Miller size 2
- Miller size 3
- Macintosh size 0
- Macintosh size 1
- Macintosh size 2
- Macintosh size 3
- Magill forceps, infant
- Magill forceps, child
- Arterial blood gas kit, 23g butterfly, 25g butterfly (bagged together)

Gray Tray

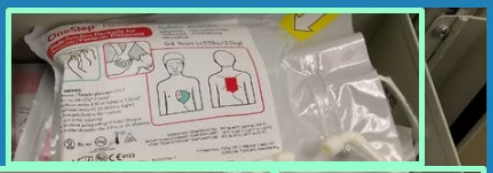
- PALS pocket reference card
  - (lays on top of covered tray)
- Pediatric Broselow™ tape
  - (lays on top of covered tray)
- CO_2 mini stat detector
- Pediatric pulse ox adhesive sensor
- Infant pulse ox adhesive sensor
- Tape cloth ½"
- Tape cloth 1"
- Tincture of benzoin
- Fenem CO_2 detector
- Disposable manometer
- Padded tongue blade
- Wire cutter & sterile Kelly forceps
  - (bagged together)
- Syringe 10 mL slip tip

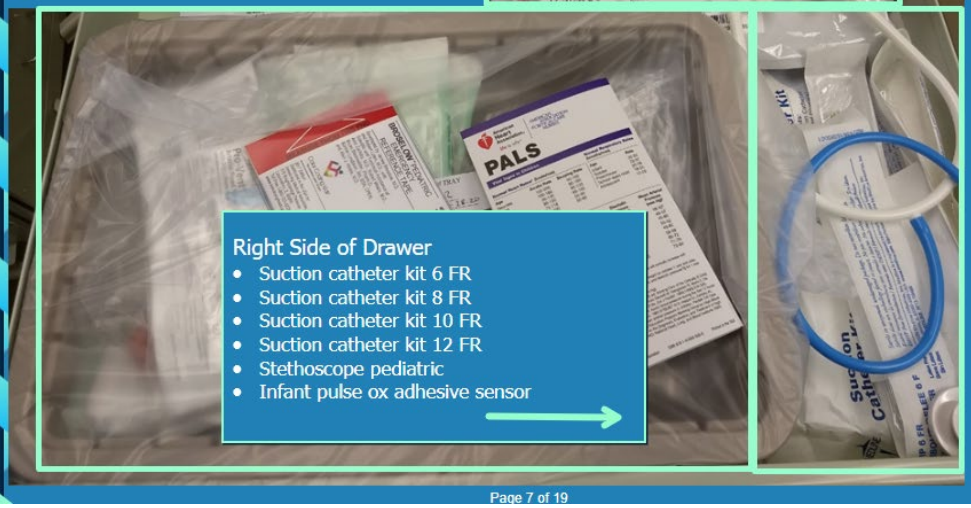


Page 7 of 19

First Drawer - Gray Drawer

Click in the rectangles to learn the items contained in that area of the **gray** drawer.





Right Side of Drawer
- Suction catheter kit 6 FR
- Suction catheter kit 8 FR
- Suction catheter kit 10 FR
- Suction catheter kit 12 FR
- Stethoscope pediatric
- Infant pulse ox adhesive sensor

Color-Coded Drawers

Color-coded drawers match the zones on the Broselow™ Tape.
Each drawer contains the appropriately-sized equipment, listed below:

- Oxygen delivery, Intubation, and IV delivery modules
- BP cuff
- Urinary catheter
- Nasopharyngeal and oral airways
- Endotracheal tubes
- Telemetry stickers
- T-connector and $ETCO_2$ airway adaptor
- IV tubing

Oxygen Delivery Module

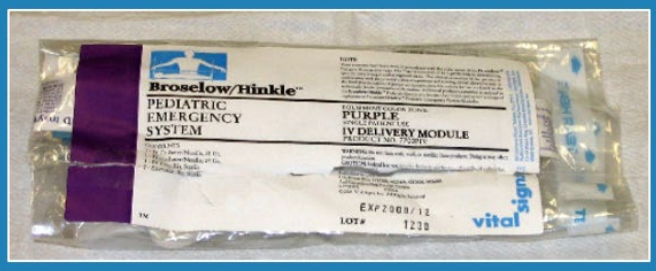
Pediatric non-rebreather mask
Oral airway

Intubation Module

- Endotracheal tube stylet
- Endotracheal tube
- Suction catheter
- Nasogastric tube
- 36" adhesive tape
- Water soluble lubricating jelly packet
- 3" x 3" gauze pad
- Miller laryngoscope blades**

** **NOTE:** **DO NOT** use the laryngoscope blades found in the Intubation Module! **Instead,** use the laryngoscope blades found in the first gray drawer of the cart.

IV Delivery Module



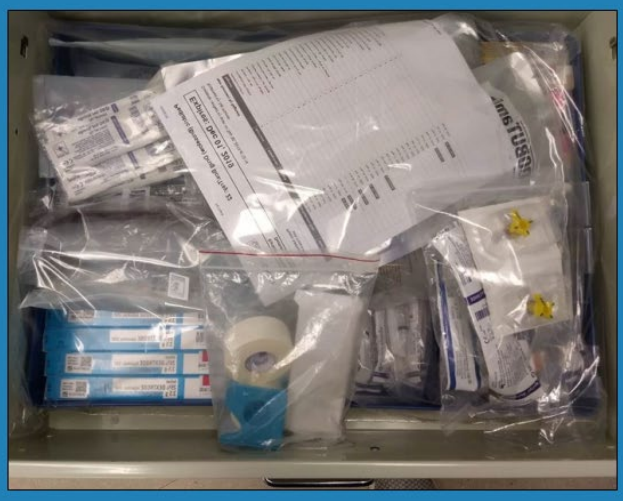
IV catheter needles
IV prep kit, sterile
Extension kit, sterile

Bottom Drawer

Pediatric Medication and Solution Tray

Packaged on top of medication tray in zip lock bags

- Tape, adhesive 1″
- Tape, micropore 1″
- Arm board pediatric 2" x 5″
- 3-way stopcock
- Syringe 30 mL luer lock
- Needle 1″ x 23 GA

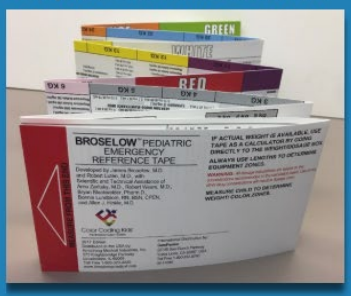


Where's the Defibrillator?

- Zoll Defibrillators are not kept on the Broselow™ Carts.
- Remember to get the defibrillator from the adult crash cart nearest to the emergency location.

Summary

Click on each photo below to review:



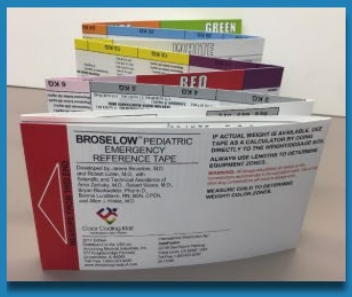
Calling a Code:

To call a pediatric code, **dial 55555** and tell the operator you have a **Code Blue - Pediatric Medical Emergency.** State your specific location in the hospital (department or unit); if the child is a patient, state room number and provider.

- Pediatric code is called for children birth to 18 years of age.
- NICU and Maternity will not call these codes overhead for inpatient infants located in these areas. If this occurs to a visitor in these areas, a Code Blue would be called.

Summary

Click on each photo below to review:



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- It is important to place the red end of the Broselow™ tape even with the top of the child's head. The heel of the child (without shoes) designates the color zone and approximate weight of the child.

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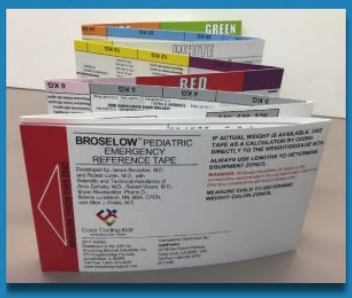


Broselow™ Cart:

- Each drawer in the cart contains different color-coded modules based upon the length/weight of the child as identified by the Broselow™ tape.
  - Pediatric resuscitation cart locations: C3, PACU (main level and 2nd floor), OR (2nd floor), ED, MRI, Angio Lab, CPD, and MPB.
- DO NOT use the laryngoscope blades found in the Intubation Module! Instead, use the laryngoscope blades found in the first gray drawer of the cart.
- The Zoll is not on the Broselow™ cart. This should be obtained from the nearest adult crash cart to the emergency location.

Knowledge Check 6

On the Broselow™ Pediatric Resuscitation cart, where will you find the infant and pediatric resuscitation bag(s)?

- First drawer of the cart.
- Hanging from the IV pole.
- Bottom drawer of the cart.

Knowledge Check 7

There is an oxygen tank supplied on each Broselow™ cart.

- True
- False

Knowledge Check 8

When measuring with the Broselow™ Pediatric Emergency tape, the length of the child indicates which color drawer in the Broselow™ Resuscitation cart you will use.

- ○ True
- ● False

Knowledge Check 9

Each colored drawer has the appropriate color-coded intubation module with the correct equipment size for the measured child.

- ○ True
- ● False

Knowledge Check 10

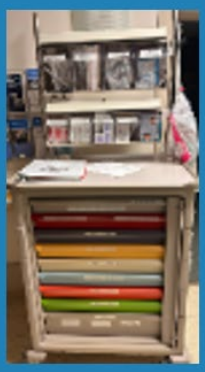
Since there is no Zoll defibrillator on the Broselow™ cart, one should be obtained from the nearest adult crash cart.

- ○ True
- ● False

East Region

The rest of the course will be specific to the East Region's Broselow™ Resuscitation Carts.

General Information



OMH cart & resuscitation pack

The second through seventh drawers in the cart contain different color-coded modules based upon the length of the child as identified by the tape. The top and bottom drawers contain general supplies and equipment which can be used for any size patient.

Grayling cart

Charlevoix cart

Cart Locations

Otsego:

- Emergency Department
- ICU
- Surgery - Instead of a Broselow™ Cart, there is a pediatric resuscitation pack on top of adult crash cart

Grayling:

- Emergency Department
- Outpatient Surgery
- PACU

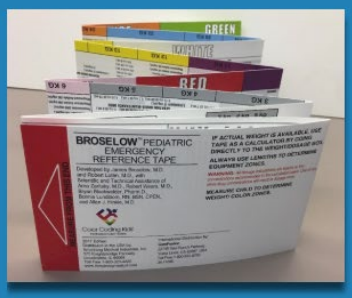
Charlevoix:

- Emergency Department (Triage Room 4)
- OB Storage Room

Where's the Defibrillator?

- Zoll Defibrillators are not always kept on Broselow™ carts.
- If needed, obtain the defibrillator from the adult crash cart nearest to the emergency location.

Summary



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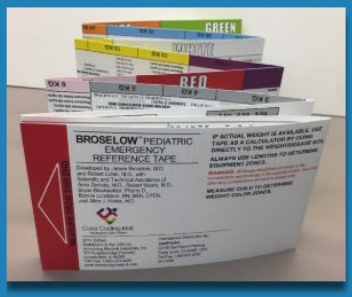

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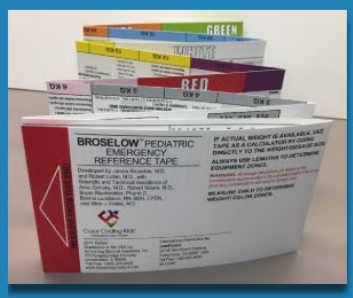
Summary



- Each drawer in the cart contains different color-coded modules based upon the length/weight of the child as identified by the Broselow™ tape.
  - Pediatric resuscitation cart locations:
    - Otsego: Emergency Department, ICU, Surgery - Instead of a Broselow™ Cart, there is a pediatric resuscitation pack on top of adult crash cart
    - Grayling: Emergency Department, Outpatient Surgery, PACU
    - Charlevoix: Emergency Department (Triage Room 4), OB Storage Room
  - Many Broselow™ carts do not contain the Zoll defibrillator and should be obtained from the nearest adult crash cart to the emergency location.

References

Munson Medical Center Policies and Procedures. (2025, May 9). *Code Crash Carts for Adult, Pediatric (Broselow™), and Infant Drugs/ Supplies Exchange Procedure*. PolicyStat.

Munson Medical Center Policies and Procedures. (2025, June 5). *Pediatric Response Team Protocol for Pediatric Patients*. PolicyStat.

Vital Signs Inc. *Broselow™ Pediatric Emergency Tape*. (2019). Ed., A. Armstrong Medical Industries, Inc.

Status Active PolicyStat ID 17948440

Origination	12/13/2023
Last Approved	6/3/2025
Effective	6/3/2025
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Next Review	6/2/2028
Owner	Jennifer Standfest: CNO
Area/ Department	Nursing
Applicability	MMC, Cadillac, Charlevoix, Grayling, Otsego

Cardiac Telemetry Monitoring

Purpose

To enhance patient safety and clinical consistency by outlining continuous cardiac monitoring guidelines, arrhythmia detections and overall alarm management.

Definitions

1. **Cardiac Monitoring/Telemetry Monitoring:** Continuous cardiac rhythm display at the bedside and/or transmitted to a central monitoring console that can provide alarms or print/save rhythm strips.
2. **Telemetry Technician:** Licensed or unlicensed staff member with training and competency in electrocardiogram (ECG) rhythm interpretation.
3. **Telemetry Observer:** An individual assigned to listen for and/or observe specific visual cues with the intention of escalating information to a resource trained to assess and/or intervene in a specific situation.

Policy

A. An order is needed to initiate and discontinue cardiac monitoring. Orders should specify any parameters and any circumstances in which the patient can be temporarily or permanently removed from monitoring.

B. When initiating cardiac monitoring, the following identifiers are used:

   1. 10-digit account number
   2. Last Name, First Name (NOTE: This will automatically pull through ADT feed if 10-digit account number is entered correctly)

C. The Registered Nurse (RN) is responsible to:

1. Initiate and maintain continuous monitoring and to perform initial review and adjustment of settings and alarm parameters.
2. Regularly review and interpret cardiac rhythm and document findings in the chart.
3. Assess need for continued cardiac monitoring daily, using provider orders or protocol, where applicable.
4. Report clinically relevant abnormalities identified on review or by alarm/event review to the provider. Abnormalities include but are not limited to:
    a. Any new dysrhythmia (i.e., tachy or brady arrhythmia exceeding alarm)
    b. Heart block
    c. New atrial fibrillation or flutter or inadequate rate control of these rhythms
    d. Ventricular tachycardia/fibrillation
    e. Supra-ventricular tachycardia
    f. Any symptomatic patient with a dysrhythmia
    g. Any dysrhythmia requiring immediate treatment
5. Initiate code response or other facility specific rapid response protocols or appropriate emergency interventions
6. The RN may delegate tasks to appropriately trained support personnel. These may include, but are not limited to: equipment preparation, skin preparation, electrode application/reapplication, application of monitoring equipment.

D. Where present, telemetry technicians may review and adjust specific settings and alarm parameters and may interpret cardiac rhythms, complete specific documentation, and shall report abnormalities to the RN.

1. The technician will monitor each telemetry unit for ventricular tachycardia, ventricular fibrillation, asystole, tachycardia and bradycardia, low battery and lack of rhythm. The telemetry technician will contact the nurse with findings.
2. A telemetry log may be kept on each unit with pertinent info such as the patient's name, dominant rhythm, assigned nurse and the direct phone number(s) for the assigned care team.

E. A telemetry technician and/or any RN not directly responsible for the patient's care who observes events or responds to alarms at the bedside or central monitoring station will notify the primary nurse of any changes in the patient's condition, monitor settings, or alarm parameters.

F. Where present, telemetry observers are identified 24 hours a day. The telemetry observer may perform other clerical duties that do not remove them from direct view or audio of the monitor. The observer will arrange for another trained observer or nurse to fill the role temporarily if needed for breaks or to perform other job duties away from the area.

G. Any support personnel should consult with/notify the appropriate individual (eg., telemetry observer or technician, RN, etc.) prior to removing a patient from monitoring for showering,

procedures/testing or discharge.

Electrode and Lead Placement, Battery Replacement

A. Electrodes are applied according to Lippincott Procedures - Cardiac monitoring (lww.com) instructions found online. Electrodes shall be changed daily and as needed (PRN) or in accordance with manufacturer recommendations.

B. Lead placement should be confirmed at the beginning of each shift, along with verification the monitor / transmitter is functioning properly and that suitable battery life remains.

C. Battery change should occur minimally when “low battery” signal appears, or with approximately 25% battery life remaining.

Lead Selection

A. Lead II is generally selected as the standard monitoring lead.

B. For a standard 5 lead system, V1 is commonly selected as the second lead. An alternate lead may be selected based on which provides a clearer trace, more prominent or upright waves, or by which a particular area of the heart can be better monitored.

Cleaning

A. Upon discontinuation of telemetry monitoring, the telemetry unit and electrodes are cleaned per manufacturer instructions.

Cardiac Rhythm Waveforms and Documentation

A. A rhythm strip will be measured, interpreted, and documented per the following guidelines:

1. Rhythm interpretation is ongoing and documented as part of the nursing assessment
2. Inpatient care (critical, intermediate, or telemetry care departments) at admission, each shift with initial RN assessment, and with any significant change in rhythm or significant symptoms
3. Emergency Department (ED) at admission and with any life-threatening rhythms or significant changes in patient condition
4. Rhythm waveform documentation should include the name of identified rhythm, heart rate, PR/QRS/QT intervals where applicable, and the name of the RN or Telemetry Technician performing the documentation.

Monitoring Guidelines

A. HR alarms will be set appropriately to the patient's baseline HR, rhythm, clinical condition or treatment plan by an RN or Telemetry Technician.

B. If a monitored patient has a pacemaker, the pacemaker detection function of the cardiac monitor must be turned ON

Refer to Munson Healthcare (MHC) entity specific intravenous (IV) Medication Guidelines and/or consult with pharmacy for information related to risk of prolonged QT interval and for IV medication administration and required monitoring.

C. QT interval monitoring functions of the cardiac monitors may be utilized by the RN/Tele Tech as an adjunct to patient / rhythm assessment. A patient with a baseline prolonged QT or on a medication that has the potential of prolonging the QT interval may have orders for more frequent QT measurements.

D. ST segment monitoring and ST mapping functions of the cardiac monitors may be utilized by the RN/Tele Tech as an adjunct to patient assessment. (Note: some clinical conditions make it difficult to achieve accurate ST monitoring i.e., atrial fib or flutter with an irregular baseline, ventricular pacing, left bundle branch block. Consider turning ST monitoring off in these conditions).

E. Silencing Alarms:

    1. A trained telemetry observer or technician or a registered nurse may silence clearly erratic/false alarms such as those caused by motion or artifact while requesting evaluation by clinical personnel.

    2. A lethal rhythm alarm may be silenced by a Telemetry Technician or RN after the RN evaluates the rhythm and/or patient condition.

Alarm Settings and Clinical Management

A. The Clinical Engineering department has oversight for the testing and maintenance of clinical devices to ensure accurate settings, proper operation, and detectability of alarms.

B. Monitor settings are configured according to manufacturer recommendations to enhance patient safety. A copy of all configuration settings is maintained by the Clinical Engineering department. These settings may only be changed with approval of the Cardiac Monitoring Steering Committee or the Cardiac Monitoring Alarm Committee, with the endorsement of the Clinical Leadership Council.

C. Arrhythmia monitoring will be on and audible for all monitored patients, with the exception of patients who are receiving end of life care, where death is anticipated and an order for comfort care is present.

D. Alarm volume should be set audibly so that nursing staff is able to hear and respond appropriately to non-critical and critical alarms. It is the responsibility of the bedside nurses, the unit coordinator, and other clinical staff to maintain the appropriate alarm volume which decreases noise pollution for patients and visitors, while ensuring prompt staff notification of alarm situations.

E. Select alarm parameters are unlocked and able to be adjusted on an individual basis by the RN, Telemetry Technician, or other licensed clinician within their scope of service.

F. All monitor alarm settings should be adjusted to reflect patient or condition specific values and should be reviewed and adjusted (if indicated) at admission, each shift, and as needed by the RN and/or Telemetry Technician.

    1. The nursing staff member will determine the appropriate response to the alarm; however, the nurse is responsible to confirm findings, verify patterns, and evaluate

interpretations through patient assessment. The response to an alarm may include but is not limited to silencing the alarm, recording the strip, and/or initiating emergency interventions.

2. In the event of a Code Blue or Cardioversion, an event strip will be documented containing the initiation of the event and documentation of changes in rhythm continuing through termination of efforts. As an alternative, a strip from the defibrillator may be used to record the events of the Code Blue.

G. Patient care staff are familiar with alarm settings, policies and procedures.

Transfer/Discharge Procedure

A. At the time of transfer/discharge, the patient MUST be discharged from the bedside and/or central monitoring console, and when applicable, have their encounter be dissociated from the electronic health record (EHR).

B. Refer to manufacturer instructions for use for specific steps to transfer or discharge patient.

Transport Monitoring

A. An RN (or in some cases, a paramedic) shall accompany the patient for transport if the patient is in critical condition, hemodynamically unstable and/or on continuous vasoactive infusions.

B. Other monitored patients transported by unlicensed staff will be monitored remotely by the telemetry technician, telemetry observer, or RN. A portable phone will be assigned and in the possession of the staff member closest to/responsible for the patient at all times. Monitoring staff will use this phone to communicate emergency conditions and request immediate assistance for the patient.

Reference

1. Wiegand, D. L. (Ed.). (2017). AACN Procedure Manual for High Acuity, Progressive, and Critical Care (7th ed., pp. 467-476). St. Louis, MO: Elsevier.

Keywords

Cardiac, Telemetry, Monitoring, Tele Tech

Approval Signatures

Step Description	Approver	Date
System Policy Oversight Committee	Terri Fries: Document Mgmt Spec	6/3/2025
CNO Council	Jennifer Standfest: CNO [AM]	6/2/2025

Document Owner	Jennifer Standfest: CNO [AM]	6/2/2025

Applicability

Cadillac Hospital, Charlevoix Hospital, Grayling Hospital, Munson Medical Center, Otsego Memorial Hospital

Standards

No standards are associated with this document

Status Active PolicyStat ID 18258004

MUNSON MEDICAL CENTER
MUNSON HEALTHCARE

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Last Revised	6/5/2025
Next Review	6/4/2028
Owner	Marta Wiesen: Mgr Nursing Services - NICU/ C3
Area/ Department	Nursing
Applicability	MMC
Tags	Procedure

Code Blue - Pediatric Response Plan

Purpose

This response plan provides guidance for the care of pediatric patients during a Code Blue-Pediatric (pediatric medical emergency).

Procedure

A. Code Blue-Pediatric will be called for any patient less than 18 years of age

B. Code Blue- Pediatric may be activated for a medical emergency involving pediatric visitors in all areas of the hospital, as the situation warrants

Code Blue - Pediatric Implementation

A. Staff will activate a Code Blue-Pediatric team via the operator at 55555. State "Code Blue-Pediatric, Location, Room Number, and Patient Age."

B. Responding Code Blue-Pediatric team members include:

1. Cardiopulmonary resuscitation (CPR) Team, including A3 or Intensive Care Unit (ICU) registered nurse (RN)
2. Pediatric Hospitalist
3. Pediatric Advanced Life Support (PALS) Charge RN
4. Emergency Department (ED) RN
5. Neonatal Intensive Care Unit (NICU) RN
6. Neonatologist and Neonatal Nurse Practitioner: (Will respond to all codes for

patients age 6 months and younger)

7. Anesthesia
8. NICU and Pediatric Respiratory Therapist
9. Security

C. The roles and responsibilities of the Code Blue-Pediatric team members will remain the same as defined in the "Responsibilities of CPR Team Members" guideline, with the exception of the responding RNs' responsibilities, which may fall to the nurse most capable, either PALS certified or most experienced, as appropriate.

D. The team leader during a Code Blue-Pediatric will be the Pediatric Hospitalist.

E. In the event the Pediatric Hospitalist is not immediately available, the Pediatric and ED RNs will work together with the Respiratory Therapist to provide patient care based on the American Hospital Association (AHA) PALS guidelines.

F. For a Code Blue-Pediatric requiring intubation, of those present, the Pediatric Hospitalist, Respiratory Therapist, Neonatologist, Neonatology Nurse Practitioner, and Anesthesiologist will huddle to determine the most proficient hands to intubate and the best location for immediate care needs.

G. The CPR Team remains to assist Pediatric PALS RN, ED RN, and NICU RN as directed by the team leader.

H. A Central Transporter will bring a replacement Pediatric Crash Cart to the location of the Code Blue-Pediatric.

I. The Transfer Coordinator will initiate the transfer process to a tertiary care center as needed.

Code-Blue-Pediatric Outside of the Pediatrics Unit

A. The PALS RN will bring the Pediatric Airway bag, the intraosseous (IO) kit, and the glidescope with blades sizes 1-4.

B. The ED RN brings the Pediatric Crash Cart.

Document ID: 070.P003

Attachments

MMC Broselow Cart Locations.pdf

Approval Signatures

Step Description	Approver	Date

System Policy Oversight Committee	Terri Fries: Document Mgmt Spec	6/5/2025
VP and CNO Patient Care Services	Tamara Putney: VP and CNO Patient Care Services	6/3/2025
Document Owner	Marta Wiesen: Mgr Nursing Services - NICU/C3	5/29/2025

Applicability

Munson Medical Center

Standards

No standards are associated with this document

Status Active PolicyStat ID 10859621

MUNSON MEDICAL CENTER
MUNSON HEALTHCARE

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Owner	Duane Croel: Clinical Coord - Resp Care Operations
Area/ Department	Respiratory Care
Applicability	MMC, KMHC, POMH
Tags	Protocol

Oxygen Protocol

Purpose

To provide a plan for oxygen.

Protocol

A. At Kalkaska Memorial Health Center (KMHC) and Paul Oliver Memorial Hospital (POMH) oxygen will be initiated and discontinued by Physician/Approved Designee order.

B. At Munson Medical Center (MMC), upon Physician prescription for oxygen therapy, the Respiratory Care Practitioner (RCP)/Nurse will have the authority to perform oximetry, titrate oxygen levels, and enter orders as outlined in this protocol.

C. The Oxygen Protocol will be used for all patients for whom oxygen has been prescribed, except for patients in the neonatal intensive care unit (NICU). For NICU patients, please refer to the Oxygen Therapy in the NICU policy and procedure.

D. Indications for oxygen therapy:

1. Documented hypoxemia (oxygen saturation (SpO2)/arterial oxygen saturation (SaO2) less than 92% or partial pressure of oxygen (PaO2) less than or equal to 60 mmHg)
2. Acute situation in which hypoxemia is suspected (suspected hypoxemia must be substantiated within 4 hours), including but not limited to, the clinical signs of hypoxemia: shortness of breath, tachycardia, diaphoresis and confusion)
3. Severe trauma
4. Post anesthesia

5. Acute asthma for the first 24 hours post admission
6. Home oxygen prescribed
7. Acute coronary syndrome
8. Intrauterine resuscitation of the fetus

E. In the event that the patient does not meet indications for oxygen therapy, at MMC the oxygen order will be kept in PowerChart for 24 hours. After 24 hours, the RCP will obtain an oxygen saturation measurement: If the oxygen saturation is in the desired range, the oxygen order will be discontinued as outline in the procedure. The RCP will consult the Physician/Approved Designee as necessary.

F. In the event that the RCP/Nurse is unable to obtain an accurate pulse oximetry measurement, the RCP/Nurse will contact the Physician/Approved Designee to obtain an order for an arterial blood gas (ABG) in order to substantiate suspected hypoxemia.

G. Oxygen will be titrated to maintain an SpO2/SaO2 of greater than or equal to 92%, with the following exceptions:
   1. Acute brain injury or cerebrovascular accident (CVA) patient: greater than or equal to 94%
   2. Home oxygen prescribed: greater than or equal to 90%
   3. Cardiothoracic Surgery Protocol: greater than or equal to 90%

H. Significant increases in the patient's delivered oxygen concentration will be reported to the patient's Physician. A significant increase will be defined as:
   1. Greater than 4 liters per minute (lpm) oxygen by nasal cannula required during initiation of oxygen therapy by the RCP
   2. Oxygen titration that requires changing from a nasal cannula to a mask to maintain desired oxygen saturations
   3. Oxygen titration or initiation greater than 2 lpm by nasal cannula to maintain desired oxygen saturation for infants less than 1 year of age.

I. The RCP/Nurse will monitor oxygen saturations daily and wean as tolerated to room air or to the patient's prescribed home oxygen level.

J. At MMC, it will be the responsibility of the nursing staff to perform intermittent (PRN) spot oximetry checks. The RCP is to be notified if the SpO2 is less than 92%. The Nurse may initiate oxygen at 2 lpm via nasal cannula and contact the patient's Physician and the RCP to report the initiation of oxygen therapy and receive and order (Oxygen per Protocol) for such. Indications for PRN pulse oximetry are as follows:
   1. Patient complaint of increased shortness of breath at rest
   2. Patient complaint of increased shortness of breath with exertion that does not subside with rest
   3. Increased respiratory rate
   4. Cyanosis
   5. Sudden confusion in a patient who was previously alert and oriented

K. The registered nurse (RN) may wean oxygen as outlined in Appendix B "RN Weaning Algorithm"

L. Patients for whom oxygen has been prescribed for the treatment of chest pain, or 1-4 lpm PRN for chest discomfort, dyspnea, arrhythmia, will not receive daily oximetry measurements. Oxygen will not be weaned per oximetry for these patients. However, the RCP/Nurse will check and document the use of oxygen as outlined in the procedure. If the patient is asymptomatic and has not required the use of oxygen over the past 24 hours, then the set up may be removed from the patient's room; however the PRN oxygen order will remain active in PowerChart (at MMC) in case the oxygen is needed at a later time. It will be the responsibility of the nursing staff to notify the RCP if the patient meets indications for oxygen therapy as outlined in this protocol. In the event the patient meets indications for oxygen therapy, the RCP/Nurse will contact the Physician/Approved Designee to obtain an "Oxygen per Protocol" order.

M. For patients who are receiving oxygen therapy as a comfort measure, and who have a Do Not Resuscitate (DNR) Order oximetry will not be performed unless otherwise requested by the Physician/Approved Designee.

N. When ordering oxygen therapy, the Physician/Approved Designee may indicate that he or she does not want the therapy delivered per protocol by indicating "Do Not Use Protocol" in his or her oxygen order. The RCP/Nurse will initiate the oxygen as ordered.

O. The RCP/Nurse will consult the Physician/Approved Designee as needed.

Process

A. Upon notification of an order for oxygen therapy, the RCP/Nurse will verify the Physician/Approved Designee's order.

B. The RCP/Nurse will gather the necessary equipment and go to the patient's room, identifying the patient with the patient's wristband and two identifiers.

C. The RCP/Nurse will assess the patient for indications for oxygen therapy; explain the procedure to the patient; and initiate, monitor, and titrate oxygen therapy as outlined in the Oxygen Protocol Flowchart (Appendix A).

D. If the nasal oxygen liter flow rate exceeds 4 lpm with adult patients, humidity will be added. Humidity will be used for all patients 16 years of age or younger who are receiving nasal oxygen.

E. Patients receiving continuous aerosol/heated humidity will be checked at least four (4) times per day; patients receiving oxygen via nasal cannula will be checked twice (2) a day; and patients receiving mask oxygen – venturi mask, partial rebreather or non-rebreather mask – will be checked four (4) times a day. At MMC, documentation of daily pulse oximetry checks and oxygen rounds/checks by Respiratory Care will be recorded on the Oxygen Therapy/Pulse Oximetry form in PowerChart.

F. Once the patient has been weaned off of oxygen to room air, the oxygen order will be discontinued per protocol, except for "1-4 lpm PRN for chest discomfort, dyspnea, arrhythmia" orders, which will not be discontinued. At MMC, the RCP will document the discontinuation of oxygen therapy on the Oxygen Therapy/Pulse Oximetry form in PowerChart. The RCP will complete the oxygen order in PowerChart.

G. The oxygen set up may be left on stand-by for up to 72 hours at the discretion of the RCP/

Nurse prior to the RCP/Nurse discontinuing the oxygen order.

Document ID: 006.028

Attachments

Appendix A: Oxygen Protocol Flowchart

Appendix B: RN Weaning Algorithm

Approval Signatures

Step Description	Approver	Date
System Policy Oversight Committee	Terri Fries: Document Mgmt Spec	5/4/2022
Pharmacy & Therapeutics	Philip Dimondo: Clinical Pharmacist	5/3/2022
Medical Director	John Krcmarik: PRN Medical Director	4/19/2022
Leadership	Kristine Johnson: Chief Operations Officer/Chief Nursing Officer	4/13/2022
Leadership	Deborah Kerner: Mgr Respiratory Care	1/11/2022
Leadership	Marianne Ewald: Mgr Cardiac Rehab	12/10/2021
	Duane Croel: Clinical Coord - Resp Care Operations	12/10/2021

Applicability

Kalkaska Memorial Health Center, Munson Medical Center, Paul Oliver Memorial Hospital

Standards

No standards are associated with this document

MUNSON MEDICAL CENTER
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Pediatric Diabetic Ketoacidosis (DKA) Nursing Reference

PROVIDER DRIVEN PROTOCOL

Please contact provider for order changes

Inclusion Criteria

1. Hyperglycemia (blood glucose > 200 mg/dL)
2. Ketosis (Beta Hydroxybutyrate (BHOB) > 1 mmol/L)
3. Metabolic acidosis (venous pH < 7.3) or serum bicarbonate < 15 mEq/L

Initial Management

Initial Fluid Bolus

- 10 mL/kg bolus of 0.9% sodium chloride
- Infuse over 1 hour

Maintenance Fluids

- To be present before hanging insulin drip
- **Bag 1:** 0.9% Sodium Chloride +/- Potassium*
- **Bag 2:** Dextrose 10% / 0.9% Sodium Chloride +/- Potassium*
- *Depending on serum potassium level. See Electrolyte Abnormalities below
- When blood glucose is less than 300 mg/dL, the dextrose containing solution will need to be y-sited into the sodium chloride solution
- Fall in blood glucose should not exceed 100 mg/dL/hr
- The two bags will be titrated based on blood glucose and rate of blood glucose fall to maintain the blood glucose within goal
- Fluid entries are found in Plum Pump under "DKA Bag 1 PED" and "DKA Bag 2 w/Dextrse PED"

Insulin Drip

- Do NOT bolus insulin
- Insulin infusion should be started AFTER initial fluid bolus is complete
- Maintain insulin drip at a constant rate. If blood glucose concentration decreases too quickly (> 100 mg/dL/hr) or falls too low (< 100 mg/dL), notify provider
- Infuse as a primary line

Call provider for the following	**Laboratory monitoring**
• HR > 190 bpm or < 80 bpm • All lab results; including: ○ Potassium < 3.5 mmol/L or > 5.5 mmol/L • Mental status change • Sudden onset of headaches or worsening headaches	Every hour • Blood glucose • If blood glucose > 570 mg/dL or < 20 mg/dL, nurse to enter order for “glucose-whole blood” Every four hours • BMP, Phosphorus, pH, Beta-hydroxybuterate

Owner: Pharmacy
Updated 5.21.2024
Reference Text attached to: Nursing – Peds DKA Instructions order

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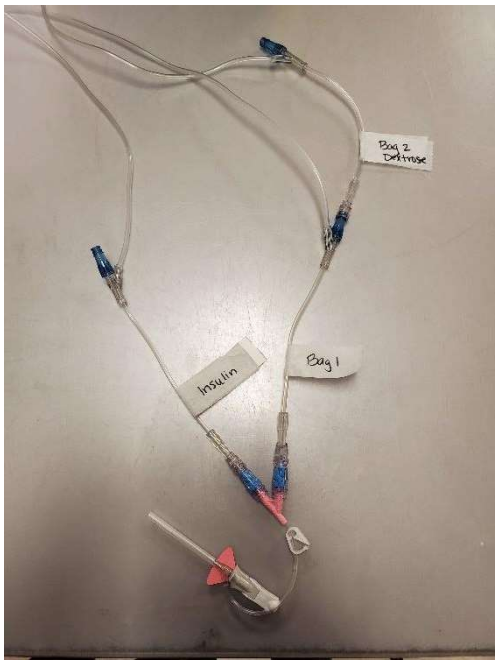
Setting up Fluids and Insulin

- Insulin must go at the site closest to the patient
- Do not Y insulin into fluids
- Fluids may be Y-sited together at one port
- Each fluid and insulin needs to be on its own pump
- Leave 2nd line empty for blood draws and intermittent IV medication administration



Fluid Management

Fluid rates to be adjusted per provider order

Fluid Deficit Calculation

a. Calculate fluid deficit from the table below

Degree of Dehydration	Fluid Deficit
Mild	5 % = 50 mL / kg
Moderate	8 % = 80 mL / kg
Severe	10% = 100 mL / kg

_____ kg x _____ mL/kg = _____ mL (a)

b. Total amount of fluid received in bolus = _____ mL (b)

c. Calculate remainder of fluid deficit: subtract (b) from (a)

Deficit from table (a) _____ mL - bolus dose (b) _____ (mL) = _____ (mL) (c)

d. Calculate maintenance fluid requirements for next 48 hours

200 mL/kg for first 10 kg

+ 100 mL/kg for next 10 kg

+ 40 mL/kg for kg greater than 20 kg

= _____ (mL) (d)

e. Calculate total fluids required for the next 48 hours: add (c) to (d) = _____ mL (e)

f. Determine hourly rate: divide (e) by 48 hours = _____ mL/hr

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Maintenance Fluid Management Guidance (to be used for titration during all phases & electrolyte abnormalities)				
Blood Glucose (mg/dL)	**% Rate from Bag 1** (Saline + electrolytes)	**% Rate from Bag 2** (Dextrose / Saline + electrolytes)	**Final Dextrose Concentration**	**Insulin Infusion Rate** (units/kg/hr)
> 300	100 %	0	0	0.1
200-300	50 %	50 %	5 %	0.1
100-200	0	100 %	10 %	0.1
< 100	Provider discretion • Decrease insulin drip rate to as low as 0.05 units/kg/hr and/or • Increase glucose infusion rate by increasing D10 fluid rate (up to 2x maintenance) or • Change to D12.5/NS at 100% total rate			

Initial Fluid Management Using the 2-Bag Method (initial 4-6 hours of management)

Bag 1: 0.9% Sodium Chloride + / - Potassium*

Bag 2: Dextrose 10% / 0.9% Sodium Chloride + /- Potassium*

*Depending on serum potassium level. See Electrolyte Abnormalities below

Fluid rates to be adjusted per provider order

Continued Fluid Management Using the 2-Bag Method (after the initial 4-6 hours of management)

Can continue using the original fluids or fluids may be changed to contain 0.45% sodium chloride instead (See Electrolyte Abnormalities section below).

Fluid rates to be adjusted per provider order

Electrolyte Abnormalities

Potassium abnormalities

- Initial serum potassium to guide maintenance fluid selection. Provider may elect to increase potassium content of maintenance fluids if patient becomes hypokalemic.
- Monitor for adequate urine output while replacing potassium

Serum Potassium	Potassium in the maintenance fluids
Greater than 5.5 mmol/L	None
3.5 – 5.5 mmol/L	20 mEq/L K-Acetate + 13.6 mmol/L K Phosphate
Less than 3.5 mmol/L *On initial assessment do not start insulin drip until K above 3.3 mmol/L	30 mEq/L K-Acetate + 20.4 mmol/L K Phosphate Anticipate this to continue even after K+ within normal limits to maintain normal levels.

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Chloride abnormalities
After initial 4-6 hours may consider changing both bags of maintenance fluids to contain 0.45% sodium chloride to decrease amount of chloride being administered.

DKA Resolution & Insulin IV to SQ Transition

Signs of DKA Resolution	
Correction of acidosis • Sodium bicarbonate >18 mEq/L • pH >7.3	Tolerance of diet • No vomiting, tolerating ice chips, appears ready to eat
Serum glucose < 300 mg/dL	BHOB < 1 mmol/mL

***There should be an overlap of at least 2 hours with intermediate- or long-acting insulin/basal insulin, but can consider shorter overlap of 1 hour with addition of rapid-acting insulin/bolus insulin per provider between administration of subcutaneous insulin and discontinuation of intravenous insulin. Exact overlap duration per provider order.

Common Calculations

Anion gap = Na – [Cl + HCO3]

Corrected sodium = Na + 1.6 [(glucose – 100)/100]

Osmolality = 2[Na] + [BUN]/2.8 + [Glucose]/18

Cerebral Edema

- Patients being treated for DKA are at high risk for development of cerebral edema
- Notify provider if any of these signs or symptoms are observed

Signs and Symptoms	Risk Factors
• Headache • Alterations in neurological status (restlessness, irritability, increased drowsiness, incontinence, deterioration of GCS) • Vomiting • Bradycardia • Hypertension • Pupillary changes	• Age < 5 years • Severe acidosis • Serum osmolality > 350 mOsm • Elevated BUN • Failure of serum sodium to rise with treatment • Large volume of rehydration fluids (> 40 mL/kg) • Use of sodium bicarbonate