General High-Alert Medications

Scope: Unless otherwise stated, these items pertain to the high-alert medications included in this assessment (if used in the facility) and those on the facility's list of high-alert medications.

Self-Assessment Items

A	There has been no activity to implement this item.
B	This item has been formally discussed and considered, but it has not been implemented.
C	This item has been partially implemented for some or all patients, orders, drugs, or staff.
D	This item is fully implemented for some patients, orders, drugs, or staff.
E	This item is fully implemented for all patients, orders, drugs, or staff.

		A	B	C	D	E
Technology						
1	**COMPUTERIZED PRESCRIBER ORDER ENTRY** systems are used to transmit nonemergent orders for high-alert medications in all settings in the facility (e.g., emergency departments, post-anesthesia care units, clinics, inpatient units).					
2	**MACHINE-READABLE CODING** is used to verify all base solutions and additives (including verification prior to attachment to automated compounders) when preparing **COMPOUNDED STERILE PREPARATIONS** of high-alert medications. ***Scoring guideline:*** *Choose Not Applicable only if* ***COMPOUNDED STERILE PREPARATIONS*** *of high-alert medications are never prepared in your facility.*					
		NOT APPLICABLE				
FAQ 3	For **COMPOUNDED STERILE PREPARATIONS** containing high-alert medications, the base solution and all additives (including the actual volume in syringes) are **INDEPENDENTLY DOUBLE CHECKED** by a practitioner (even if initially prepared by a pharmacist) prior to mixing when no technology-assisted validation is in place to confirm the correct products and volumes. (The **SYRINGE PULLBACK METHOD** is not used as part of the verification process.) ***Scoring guideline:*** *Choose Not Applicable only if* ***COMPOUNDED STERILE PREPARATIONS*** *of high-alert medications are never prepared in your facility.*					
		NOT APPLICABLE				
4	**MACHINE-READABLE CODING** is used in the following locations and/or for the following tasks: (score each item individually)					
a	In the pharmacy for selection of high-alert medications prior to dispensing or leaving the pharmacy					
b	When filling ADCs with high-alert medications, scanning each medication or solution individually before stocking it ***Scoring guideline:*** *Choose Not Applicable only if ADCs are never used in your facility.*					
		NOT APPLICABLE				
c	When removing high-alert medications from ADCs via override or from open/multiple-dose matrix drawers ***Scoring guideline:*** *Choose Not Applicable only if ADCs are never used in your facility.*					
		NOT APPLICABLE				
d	At the patient's bedside prior to administration to identify both the patient and the medication/dose					
5	eMARs are accessible at the patient's bedside and used for reference during the drug administration process.					

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		A	B	C	D	E
6	**SMART INFUSION PUMPS** with activated **DOSE ERROR-REDUCTION SOFTWARE (DERS)** are used to administer IV and/or epidural high-alert medications. ***Exception:*** *IV push medications administered by a practitioner, and small volume vesicant infusions which, when administered via the peripheral IV route, should only be infused by gravity and not by an infusion/syringe pump.* ***Scoring guideline:*** *Choose Not Applicable only if high-alert medication infusions are never administered in your facility.*					
		NOT APPLICABLE				
FAQ 7	**SMART INFUSION PUMPS** are integrated with the computer order entry systems and EHR; **and** auto-programming of high-alert medication infusions occurs through this closed-loop technology directly via the medication order. ***Scoring guideline:*** *Choose Not Applicable only if* ***SMART INFUSION PUMPS*** *are never used and/or high-alert medication infusions are never administered in your facility.*					
		NOT APPLICABLE				
8	Prescribers, pharmacists, and nurses can easily and electronically access the most current inpatient and outpatient laboratory values while working in their respective clinical locations.					
Technology Alerts						
9	All inpatient and/or outpatient orders are entered into a computer order entry system and screened electronically against the patient's current medications and medical profile to identify potential contraindications, interactions, and duplicate therapy before high-alert medications are administered, unless a delay in administration could result in patient harm.					
10	The following technology systems used in the facility are tested at least annually to ensure that **MAXIMUM DOSE** alerts are functional for high-alert medications; **and** alerts are created for those that are not present: (score each item individually)					
a	Computer order entry systems (prescriber and pharmacy)					
b	Automated compounding devices ***Scoring guideline:*** *Choose Not Applicable only if automated compounding devices are never used and/or* ***PARENTERAL*** *products are never compounded in your facility.*					
		NOT APPLICABLE				
c	**SMART INFUSION PUMPS** ***Scoring guideline:*** *Choose Not Applicable only if* ***SMART INFUSION PUMPS*** *are never used and/or high-alert medication infusions are never administered in your facility.*					
		NOT APPLICABLE				
11	The EHR and/or computer order entry system alerts the user if the patient's documented weight or height exceeds a threshold that suggests the possibility of an error (e.g., entering weight in pounds instead of kg, switching height and weight entries, entering a weight that exceeds a facility-defined percent gained or lost).					
12	Computer order entry systems are directly **INTERFACED** or integrated with the laboratory system and automatically alert practitioners who are placing and/or verifying orders to abnormal values, indicating a potential need to modify therapy with high-alert medications.					
13	An active computer surveillance system (e.g., **DATA MONITORING SOFTWARE**) is used to monitor available data sources to optimize therapy and identify patients at risk of harm from high-alert medications (e.g., decreased platelet count in a patient receiving heparin), and to notify an authorized practitioner of intervention opportunities in real time.					

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Dispensing						
14	Orders for weight-based high-alert medications cannot be verified, dispensed, or administered until the patient's recent, actual weight (not stated, estimated, or historical weight) in metric units has been entered in the pharmacy computer order entry system (i.e., orders cannot be verified until the weight field has been populated). ***Exception:*** *Emergent orders for which a delay in administration could cause patient harm.*					
15	Pharmacists work onsite in patient care areas at least 8 hours each day performing clinical activities (e.g., reviewing medication orders, verifying medications, attending interdisciplinary rounds, providing input into the selection and administration of medications, educating patients) where high-alert medications are ordered and administered.					
Device Management						
16	Before purchasing a new administration device to deliver a high-alert medication (e.g., insulin pen, **SMART INFUSION PUMP**, elastomeric pump, intrathecal pump) the facility conducts a **PROACTIVE RISK ASSESSMENT** using a sample device and implements strategies to minimize the risk of errors.					
Administration						
17	When infusions of high-alert medications are started, reconnected, or changed (new bag or syringe), or the rate is adjusted, the tubing is traced by hand from the solution container, to the pump, and then to the patient for verification of the proper pump/channel and route of administration. ***Scoring guideline:*** *Choose Not Applicable only if high-alert medication infusions are never administered in your facility.*					NOT APPLICABLE
Independent Double Checks						
18	When starting or restarting an IV or epidural high-alert medication infusion, and with each new bag/bottle/syringe or change in the infusion rate, one practitioner readies the solution and a second practitioner, using the EHR/order/MAR/eMAR and available technology (e.g., integrated **SMART INFUSION PUMPS**, **BARCODE SCANNING TECHNOLOGY**), independently verifies the following before starting the infusion: patient; drug/solution; drug concentration; rate of infusion; line and pump attachment; and channel selection (for multiple-channel pumps). (The latter two elements require verification by a practitioner even if technology is employed to verify the other elements.) ***Exception:*** *Frequent rate changes to titrate a medication (e.g., vasopressors) to effect.* ***Scoring guideline:*** *Choose Not Applicable only if IV or epidural high-alert medication infusions are never administered in your facility.*					NOT APPLICABLE
19	For IV or epidural high-alert medication infusions, an **INDEPENDENT DOUBLE CHECK** between the oncoming and outgoing nurse at shift change is required to verify the patient, drug/solution, drug concentration, rate of infusion, line and pump attachment, and channel selection (for multiple-channel pumps). ***Scoring guideline:*** *Choose Not Applicable only if IV or epidural high-alert medication infusions are never administered in your facility and/or there is no transition between staff caring for patients or shift changes.*					NOT APPLICABLE
Expression of Drug Doses						
20	The abbreviation "U" or "u" is never used for units when expressing medication (e.g., heparin, insulin) doses in any paper, label, or electronic format used to communicate medications in the facility.					

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21	Trailing zeros are not used when expressing medication doses (e.g., 5 mg, never 5.0 mg), and leading zeros are used when expressing doses less than 1 measurement unit (e.g., 0.3 mg, never .3 mg) in any paper, label, or electronic format used to communicate medications in the facility.					
22	Orders for weight-based high-alert medications for neonatal and younger pediatric patients below a facility-specified weight (e.g., 40 kg) include the basis for the dose (e.g., mg/kg or mcg/kg) along with the total calculated patient-specific dose (e.g., morphine 0.1 mg/kg x 15 kg = 1.5 mg IV every 4 hours PRN severe pain). ***Scoring guideline:*** *Choose Not Applicable only if your facility never administers high-alert medications to neonates or younger pediatric patients.*					
		NOT APPLICABLE				
23	Standard protocols, order sets, and orders express IV and neuraxial high-alert medication infusions/doses in a manner (e.g., mg, mmol, mEq, mg/kg, mcg/kg/min) and sequence that matches the entries on MARs/eMARs, pharmacy labels and/or **AUTOMATED SYSTEM LABELS**, infusion pumps, and automated compounders (if utilized). ***Scoring guideline:*** *Choose Not Applicable only if IV and/or neuraxial high-alert medications are never administered in your facility.*					
		NOT APPLICABLE				
Product Differentiation						
24	When more than one standard concentration is needed for high-alert medication infusions (for adult, pediatric, or neonatal patients), the facility uses consistent terminology and visual cues to distinguish between the concentrations on labels, MARs/eMARs, and electronic (e.g., computer order entry systems, ADCs, **SMART INFUSION PUMPS**) screens. ***Scoring guideline:*** *Choose Not Applicable only if high-alert medication infusions are never administered in your facility.*					
		NOT APPLICABLE				
25	To minimize errors with high-alert medications that have similar or confusing labels, packaging, and/or drug names, process strategies (e.g., **BARCODE SCANNING TECHNOLOGY**, **TALL MAN LETTERING**) and environmental strategies (e.g., segregated storage, lidded compartments in ADCs) are in place.					
Rapid Response Team						
26	A rapid response team is available 24 hours a day, 7 days a week (or whenever the facility is open), and consistently responds to patient, family, and staff concerns about increasing instability and/or clinical deterioration of the patient.					
Staff Competency and Education						
27	Practical, hands-on techniques such as **SIMULATION TRAINING** are used at least annually with practitioners and teams (e.g., rapid response teams) to promote initial and continuing competence with high-alert medications and emergency responses to adverse drug events; **and** known error-prone conditions are embedded in the training to help staff avoid them, detect them, and/or manage their effects.					
28	Practitioners who prescribe, dispense, and administer high-alert medications receive ongoing information about associated risks and errors that have occurred in the organization and have been reported by external organizations, and about strategies to minimize these risks and errors.					
Patient Education (Includes Caregiver Education When Appropriate)						
29	Criteria have been established to trigger an automatic consultation with a pharmacist or other patient educator for patients who take or will be taking facility-defined high-alert medications at home.					

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30	Patients prescribed therapy with high-alert medications are provided with information about the common types of errors known to be problematic with these drugs (e.g., methotrexate inadvertently prescribed daily for arthritis, wrong dose errors due to frequently changing warfarin orders, mix-ups between rapid-acting and **BASAL INSULINS**), and how to prevent and detect these errors.					
Learning Culture						
31	The organization routinely reviews the following data and reports; **and** a convened interdisciplinary team investigates identified problems, learns their causes, and recommends/facilitates action for improvement: (score each item individually)					
a	Staff compliance with protocols, guidelines, and order sets related to high-alert medications					
b	Staff compliance with technology (e.g., **BARCODE SCANNING TECHNOLOGY** rates, activation of **SMART INFUSION PUMP DOSE ERROR-REDUCTION SOFTWARE [DERS]**, ADC overrides)					
c	Technology alerts (e.g., **MAXIMUM DOSES**, serious drug interaction, allergies) associated with high-alert medications to determine whether practitioners are responding to them appropriately					
d	Internal reports of risk, errors, and adverse events related to high-alert medications					
e	External reports of risk, errors, and adverse events related to high-alert medications					
32	The following investigative resources are used to identify risks or errors with high-alert medications and to demonstrate sustained improvement after implementation of risk-reduction strategies: (score each item individually)					
a	Medication event reports					
b	Adverse drug reaction reports					
c	Pharmacy interventions (e.g., pharmacist suggestion of a therapeutic change to improve the safety of a medication order)					
d	Rapid response team calls					
e	Use of reversal agents or antidotes (e.g., flumazenil, naloxone, sugammadex, vitamin K_1, fresh frozen plasma, prothrombin complex concentrates, dantrolene)					
f	Certain laboratory or monitoring results (e.g., aPTT or INR greater than "x;" heparin-induced thrombocytopenia [HIT] antibody; hypoglycemia and hyperglycemia)					
g	Other clinical **TRIGGERS** (e.g., airway interventions, unplanned or prolonged hospitalization, inability to complete a procedure [sedation failures], opioid-induced respiratory depression or unintended advancing sedation)					
FAQ 33	Staff are anonymously surveyed every 1 to 2 years to assess the organization's **SAFETY CULTURE**; **and** the findings are used to advance the organization's **SAFETY CULTURE**.					