Concentrated Electrolytes Injection

Scope: Unless otherwise stated, these items pertain to the following injectable concentrated electrolytes: potassium chloride; hypertonic sodium chloride for injection (greater than 0.9% concentration); potassium phosphate; sodium phosphate; and potassium acetate.

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
General Electrolyte Replacement Therapy						
Protocols and Order Sets						
1	Standard protocols exist and are followed for adult, pediatric, and/or neonatal electrolyte replacement therapy to treat hypokalemia, hyponatremia, and hypophosphatemia.					
2	Standard protocols for adult, pediatric, and/or neonatal electrolyte replacement therapy include the following: (score each item individually)					
a	Maximum concentration and infusion rate of IV solutions, and the concentration at which administration through a central IV access line is required					
b	Type and frequency of patient monitoring required (e.g., continuous ECG monitoring, patient assessment, serum electrolyte level and other laboratory monitoring) during IV administration and following therapy to evaluate the patient's response					
3	Standard order sets exist and are used to prescribe adult, pediatric, and/or neonatal electrolyte replacement therapy and include required patient monitoring.					
Products and Storage						
4	Commercially available premixed solutions or outsourced admixtures are used for electrolyte replacement therapy when they are available; otherwise, the pharmacy prepares and dispenses all IV infusions for electrolyte replacement therapy.					
5	In the pharmacy, containers of concentrated electrolytes are stored in a separate area designated for IV compounding and admixture supplies, and are physically separated from other medications and each other.					
6	Vials of concentrated forms of electrolytes that require dilution before IV administration are not available as unit stock (including in ADCs) on any patient care units (including in operating room/anesthesia stock), and are not dispensed to patient care units for individual patients. ***Exception:*** *Vials in a cardiac surgery kit or a cardiac surgery locked storage area (see item # 15).*					

continued on page 35

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
Product Labeling						
7	Product labels and associated work labels used by pharmacy staff to compound electrolyte solutions include the actual strength of the base solution and strength and dose of each additive, not just the volume amounts needed to prepare the products.					
Expression of Drug Doses						
8	Small volume single or intermittent IV infusions of potassium chloride, potassium phosphate, sodium phosphate, or sodium chloride in concentrations greater than 0.9%, are never referred to as "bolus" doses in computer order entry systems, order sets, protocols, pharmacy labels and/or **AUTOMATED SYSTEM LABELS**, MARs/eMARs, ADC screens, and/or infusion pump screens. ("Bolus" doses might be misinterpreted as direct, undiluted, and/or rapid IV administration.) ***Exception:*** *23.4% sodium chloride administered IV push to treat elevated intracranial pressure. See items # 18-22 in the section on Hypertonic Sodium Chloride for Injection (Greater Than 0.9%).*					
IV to Oral Supplements						
9	A pharmacy-managed or automated system is in place to proactively convert IV to oral electrolyte replacement therapy if the patient can tolerate it and his or her medical needs can be met.					
Electrolytes in Parenteral Nutrition (PN)						
Scoring guideline for this section: *Choose Not Applicable only if PN is never prescribed in your facility.*						
Prescribing						
10	Standard order sets for PN list electrolyte additives in the same sequence, dosing units (e.g., mg, mEq), and concentrations (e.g., mg/mL, mg/L) as in the pharmacy computer order entry system and automated compounder (if utilized).					
		NOT APPLICABLE				
11	PN electrolyte additives are prescribed for adults as a total dose per day, and for neonates or pediatric patients as a metric weight-based dose per day (e.g., mg/kg/day) or total dose per day. ***Additional scoring guideline:*** *If you provide care to only adults, neonates, or pediatric patients, score this item as it relates to the patient population you serve.*					
		NOT APPLICABLE				
Potassium Chloride for Injection Concentrate						
Products Used						
12	For adult maintenance IV infusions that require potassium chloride, only commercially available, premixed IV solutions containing the electrolyte are used (i.e., pharmacy does not prepare maintenance solutions containing potassium chloride). ***Scoring guideline:*** *Choose Not Applicable only if your facility does not provide care to adults.*					
		NOT APPLICABLE				
13	For single or intermittent small volume infusions to treat hypokalemia in adults, only commercially available premixed IV solutions labeled as "highly concentrated" potassium chloride are used. ***Scoring guideline:*** *Choose Not Applicable only if your facility does not provide care to adults.*					
		NOT APPLICABLE				

continued on page 36

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
14	Commercially available premixed IV solutions, outsourced solutions, or pharmacy-prepared solutions containing potassium chloride are used for single or intermittent small volume infusions to treat hypokalemia in pediatric and/or neonatal patients. ***Scoring guideline:*** *Choose Not Applicable only if your facility does not provide care to neonates or pediatric patients.*					
		NOT APPLICABLE				
Storage						
15	In surgical areas, vials of concentrated potassium chloride or high-dose potassium cardioplegic solutions are sequestered in sealed kits or locked storage areas and obtained immediately before use; **and** once the procedure has been completed, there is an effective process in place to return unused products to their secure locations or dispose of the partially empty vials or bags. ***Scoring guideline:*** *Choose Not Applicable only if your facility does not perform cardiac surgery that requires stopping the heart, or if your facility uses an alternative to potassium chloride to stop the heart during surgery (e.g., adenosine, lidocaine, and magnesium solutions).*					
		NOT APPLICABLE				
Hypertonic Sodium Chloride for Injection (Greater Than 0.9%)						
Products Used						
16	Base solutions requiring concentrations of sodium chloride that are available in commercially premixed solutions (e.g., 0.45%, 0.9%, 3%) are not compounded manually using a concentrated sodium chloride solution (e.g., 23.4%); instead, the commercially available premixed solutions of sodium chloride are utilized.					
17	To prevent mix-ups with 5% dextrose solutions, IV containers of 5% sodium chloride are not procured, ordered, or stocked in the facility.					
Protocols and Order Sets						
18	Standard protocols and order sets exist and are followed for each indication for which IV hypertonic sodium chloride is used (e.g., hyponatremia, elevated intracranial pressure, other off-label use).					
19	Protocols for IV hypertonic sodium chloride include directions for administration (e.g., maximum concentration, rate of administration, the concentration at which administration through a central IV access line is required) and the type and frequency of patient monitoring required during IV administration (e.g., patient assessment parameters, laboratory monitoring).					
Storage and Product Labeling						
20	Containers of 3% sodium chloride are restricted to the pharmacy and/or approved critical care or emergency/urgent care units, stocked in limited quantities, labeled with appropriate warnings (e.g., CONCENTRATED sodium chloride, administer via central line only), and segregated from other medications. ***Scoring guideline:*** *Select a score of E if containers of 3% sodium chloride are never procured, present, or used in the facility.*					
21	Vials containing 23.4% sodium chloride are not stocked outside the pharmacy or dispensed to patient care units.					

continued on page 37

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
22	Any IV push doses of 23.4% sodium chloride used in critical care or emergency/urgent care units are prepared and dispensed from the pharmacy, labeled with appropriate warnings (e.g., CONCENTRATED sodium chloride 23.4%, administer via central line only), and hand-delivered to the healthcare professional who will be administering the drug. ***Scoring guideline:*** *Choose Not Applicable only if IV push doses of 23.4% sodium chloride are never prescribed, dispensed, or administered in your facility.*					
		NOT APPLICABLE				
Potassium Phosphate and Sodium Phosphate						
Dosing						
23	Practitioners use a standard, facility-defined dosing unit of measure (e.g., mmol vs. mEq) to prescribe, label, dispense, administer, and document doses of potassium phosphate for all adult, pediatric, and neonatal patients. ***Exception:*** *The dosing unit of measure used for a potassium phosphate additive to PN may differ from other prescribed doses of potassium phosphate, as long as the dosing unit used for the PN additive matches the prescriber and pharmacy computer order entry systems and automated compounder (if utilized).*					
Concomitant Potassium						
24	When IV potassium phosphate is prescribed, there is an automated or manual process in place to calculate the concomitant amount of potassium the patient will receive with each dose and verify that it is appropriate considering the patient's potassium level and all other sources of this electrolyte (e.g., maintenance fluids, PN, single electrolyte replacement doses).					
Products Used						
25	Whenever possible, sodium phosphate injection is used to treat hypophosphatemia rather than potassium phosphate injection.					
Organ Preservation Solutions						
Storage						
26	Organ preservation solutions used during organ harvesting are brought into the facility and/or stored in sealed kits or locked storage areas, labeled with an appropriate warning (e.g., **"Organ Harvest Use Only"**), and obtained from storage immediately before use; **and** once the procedure has been completed, there is an effective process to return any unused products to their secure locations or to dispose of partially empty bags. ***Scoring guideline:*** *Choose Not Applicable only if organ harvesting never occurs in your facility.*					
		NOT APPLICABLE				