



AE and National Patient Safety Goals

HQ AMC/SGK



OBJECTIVES



-
- **Explain importance of using concepts from the National Patient Safety Goals in AE**
 - **Explore National Patient Safety Goals and other patient safety interventions and describe how they can be used to keep patients safe in the AE System**
 - **Discuss barriers to adopting patient safety initiatives and how they can be overcome**



THE RIGHT THING



-
- **The Joint Commission established NPSGs in 2002 to focus attention on specific safety concerns**
 - **The goals have since expanded and changed**
 - **AE Patient Safety implemented appropriate NPSGs**

**BECAUSE THEY ARE THE RIGHT THING TO DO FOR
THE PATIENTS**



GOAL 1



IMPROVE PATIENT IDENTIFICATION

Improve the accuracy of patient identification

- **Use two identifiers: Full name and date of birth**
 - **How: MATCH the patient's two identifiers (Arm band, ID Card, Ask!) to the identifiers on the patient's order (Chart)**
 - **MUST have info at bedside to verify – can't rely on memory**
 - **Same for specimen collection – label in front of the patient**

- **Eliminate transfusion errors related to misidentification**
 - **MATCH the component to the order**
 - **MATCH the component to the patient as above**
 - **Two-person process, one who will administer**



GOAL 1



IMPROVE PATIENT IDENTIFICATION

■ Guidance

- AF Patient Identification Policy 22 Oct 2008
- TRANSCOM Policy on Patient ID during PM 9 Oct 2009

■ AE Considerations

- Patient ID concerns and potential problems are the same as at ground medical facilities
- Patients without wristbands
- Name alerts/patients with same or similar names
- Foreign patients: Language barriers; unfamiliar names

Allergy Name: Wagoner, Saul N
YES Orig: WALTER REED AMC, WASH DC
Dest: BROCKE AMC-FT SAM HOUSTON

Cite:  Blood Type
DOB: 03/20/1970
Rank: E06 Status: All



GOAL 2: IMPROVE COMMUNICATION



Improve the effectiveness of communication among caregivers:

- **Write down/read back: Orders and results**
 - **When receiving patient information by phone, write it down and then read it back to confirm you heard and transcribed it correctly.**
 - **Document it directly on the record to reduce the risk of a transcription error.**
- **Report critical test results on timely basis**
- **AE Considerations**
 - **May be difficult in AE environment but worth the effort**



GOAL 2: IMPROVE COMMUNICATION



Do not use dangerous abbreviations: Atch 17, AFI 41-307

Official "Do Not Use" List¹

Do Not Use	Potential Problem	Use Instead
U (unit)	Mistaken for "0" (zero), the number "4" (four) or "cc"	Write "unit"
IU (International Unit)	Mistaken for IV (intravenous) or the number 10 (ten)	Write "International Unit"
Q.D., QD, q.d., qd (daily)	Mistaken for each other	Write "daily"
Q.O.D., QOD, q.o.d, qod (every other day)	Period after the Q mistaken for "I" and the "O" mistaken for "I"	Write "every other day"
Trailing zero (X.0 mg)* Lack of leading zero (.X mg)	Decimal point is missed	Write X mg Write 0.X mg
MS	Can mean morphine sulfate or magnesium sulfate	Write "morphine sulfate" Write "magnesium sulfate"
MSO ₄ and MgSO ₄	Confused for one another	

¹ Applies to all orders and all medication-related documentation that is handwritten (including free-text computer entry) or on pre-printed forms.

*Exception: A "trailing zero" may be used only where required to demonstrate the level of precision of the value being reported, such as for laboratory results, imaging studies that report size of lesions, or catheter/tube sizes. It may not be used in medication orders or other medication-related documentation.



GOAL 2: IMPROVE COMMUNICATION



Hand-off Communications

Provide a method to share patient information with the next provider of care, including opportunity to ask/respond to questions

- Standardize reporting
- Ensure medication, equipment, supplies loaded/working
- Ask/encourage questions

- AE Considerations
 - Hand-offs very frequent and time is limited in AE
 - Some patients quite complicated
 - MTF to ASF or Flight Crew
 - MTF provider to accepting provider
 - Flight crew to ASF, destination facility, or another crew



GOAL 2: IMPROVE COMMUNICATION



Use of SBAR for standardized hand-off

- **Situation**: What is currently going on. *Patient name, age, where he is going and why*
 - **Background**: History of current problem(s) *Diagnosis; surgeries, open problems, current vitals, allergies, last meds and IVs, medical equipment*
 - **Assessment**: Evaluation of the patient's current state *Include open problems and care plan/interventions*
 - **Recommendation**: Suggestion for continued care of the patient. *What to watch for, med times, etc*
-



GOAL 3: MEDICATION SAFETY



- **Labeling medications: Any medication removed from its original container and not used immediately must be labeled.**
 - Medication name
 - Strength
 - Quantity
 - Diluent and volume (if not apparent from the container)
 - Expiration date when not used within 24 hours
 - Expiration time when expiration occurs in less than 24 hours

Multiple medications mixed in baggies is unacceptable!



GOAL 3: MEDICATION SAFETY



High Alert Medication Safety

- High Alert medications are those that have a higher than usual risk of causing harm if misused
- Examples: - Narcotics/Opiates - Anticoagulants
- Insulin – Promethazine IV – TPN
- Interventions: - Independent double checks
- Standardized orders
- Unit dosing

ISMP High Alert Med List: [High Alert Med List](#)



ISMP

LIST OF HIGH ALERT MEDS



Institute for Safe Medication Practices

ISMP's List of *High-Alert Medications*

High-alert medications are drugs that bear a heightened risk of causing significant patient harm when they are used in error. Although mistakes may or may not be more common with these drugs, the consequences of an error are clearly more devastating to patients. We hope you will use this list to determine which medications require special safeguards to reduce the risk of errors. This may include strategies like improving access to information about these drugs; limiting access to high-alert medications; using auxiliary labels and automated alerts; standardizing the ordering, storage, preparation, and administration of these products; and employing redundancies such as automated or independent double-checks when necessary. (Note: manual independent double-checks are not always the optimal error-reduction strategy and may not be practical for all of the medications on the list).

Classes/Categories of Medications	Specific Medications
adrenergic agonists, IV (e.g., epinephrine, phenylephrine, norepinephrine)	colchicine injection***
adrenergic antagonists, IV (e.g., propranolol, metoprolol, labetalol)	epoprostenol (Flolan), IV
anesthetic agents, general, inhaled and IV (e.g., propofol, ketamine)	Insulin, subcutaneous and IV
antiarrhythmics, IV (e.g., lidocaine, amiodarone)	magnesium sulfate injection
antithrombotic agents (anticoagulants), including warfarin, low-molecular-weight heparin, IV unfractionated heparin, Factor Xa inhibitors (fondaparinux), direct thrombin inhibitors (e.g., argatroban, bivalirudin, heparin), thrombolytics (e.g., alteplase, reteplase, tenecteplase), and glycoprotein IIb/IIIa inhibitors (e.g., eptifibatid)	methotrexate, oral, non-oncologic use
cardioplegic solutions	opium tincture
chemotherapeutic agents, parenteral and oral	oxytocin, IV
dextrose, hypertonic, 20% or greater	nitroprusside sodium for injection
dialysis solutions, peritoneal and hemodialysis	potassium chloride for injection concentrate
epidural or intrathecal medications	potassium phosphates injection
hypoglycemics, oral	promethazine, IV
hypotonic medications, IV (e.g., digoxin, milrinone)	sodium chloride for injection, hypertonic (greater than 0.9% concentration)
liposomal forms of drugs (e.g., liposomal amphotericin B)	sterile water for injection, inhalation, and irrigation (excluding pour bottles) in containers of 100 mL or more
moderate sedation agents, IV (e.g., midazolam)	
moderate sedation agents, oral, for children (e.g., chloral hydrate)	
narcotics/opioids, IV, transmucosal, and oral (including liquid concentrates, immediate and sustained-release formulations)	
neuromuscular blocking agents (e.g., succinylcholine, rocuronium, vecuronium)	
radiocontrast agents, IV	
total parenteral nutrition solutions	

© ISMP 2008

***Although colchicine injection should no longer be used, if it will remain on the list until all supplies of unopened colchicine injection expire in August 2008. For details, please visit www.fda.gov/ohrt/colchic/NEWS/2008/NEWS1791.html.

Background

Based on error reports submitted to the USP-ISMP Medication Errors Reporting Program, reports of harmful errors in the literature, and input from practitioners and safety experts, ISMP created and periodically updates a list of potential high-alert medications. During February-April 2007, 170 practitioners responded to an ISMP survey designed to identify which medications were most frequently considered high-alert drugs by individuals and organizations. Further, to assure relevance and completeness, the clinical staff at ISMP, members of our advisory board, and safety experts throughout the US were asked to review the potential list. This list of drugs and drug categories reflects the collective thinking of all who provided input.

 Institute for Safe Medication Practices
www.ismp.org



GOAL 3: MEDICATION SAFETY



- **Concentrated electrolytes: Potassium; >0.9% Sodium**
 - **Should not be available, should be diluted and prepared for administration prior to arrival for flight**

- **Look Alike-Sound Alike Medications**
 - **Constant vigilance r/t frequent new medications**
 - ◆ **AE Med supplies**
 - ◆ **Patient medications**

- **ISMP's List of Confused drug names:**
 - **<http://www.ismp.org/Tools/confuseddrugnames.pdf>**



GOAL 3: MEDICATION SAFETY



Anticoagulant Safety

Reduce the likelihood of harm associated with anticoagulation therapy

- **Use unit-dose products**
- Use approved protocols
- Assess INR prior to initiating warfarin therapy
- Manage food and drug interactions
- **Use programmable pumps for IV heparin**
- Written policy for ongoing lab assessments
- Provide education to staff/patients/families
- Evaluate program



GOAL 3: MEDICATION SAFETY



Anticoagulant Therapy cont:

■ AE Considerations

- **Diagnosis/Reason for anticoagulant**
 - ◆ Increased clotting time, increased risk of bleeding or surgical prophylaxis
 - ◆ Check labs
 - ◆ Monitor for signs of bleeding
 - ◆ Assess fall risk
- **Protect from bleeding**
 - ◆ Minor trauma from falls, bumps, scratches
 - ◆ Direct pressure, monitor, report



GOAL 3: MEDICATION SAFETY



Maintain & Communicate Accurate Medication Information

■ AE Considerations

- Accurate Medication Administration Record (MAR) 3899i
- Orders match MAR and match pt medications



GOAL 5: INFUSION PUMP SAFETY



- **Ensure free-flow protection on all pumps**
 - **General Use**
 - **PCA**
 - **No Dial a Flow!**

- **AE Considerations:**
 - **Avoid rapid or too slow infusion**
 - **Free-fall IV risky in AE, changes in pressure affect drip rate**



GOAL 6: IMPROVE EFFECTIVENESS OF CLINICAL ALARMS



- **Maintenance activities**
- **Procurement**

- **AE Considerations**
 - **Environment noisy & darker than usual patient care area**
 - ◆ **Monitors hard to see/hear**
 - ◆ **Is model in use approved for flight?**
 - ◆ **Check operation prior to take-off**
 - ◆ **Take inoperable equipment out of service, turn in for repair**



GOAL 7: REDUCE RISK OF HEALTHCARE ASSOCIATED INFECTIONS



Hand Hygiene

■ Per 41-307: Follow CDC Guidelines

- **Soap and water for visibly soiled hands**
- **Alcohol based rub for routine decontamination between patients**
- **Before and after patient contact**
- **Before and after donning gloves**
- **Before eating, using bathroom**

■ Standard Precautions: For all patients

- **Treat all Blood and Body Fluids as contaminated**
- **Use PPE for situations where contact is likely**



GOAL 7: REDUCE RISK OF HEALTHCARE ASSOCIATED INFECTIONS



- **Transmission based precautions: Known/suspected infectious disease process**
 - **Airborne Precautions**
 - ◆ **Patient Placement dependent on airflow for specific aircraft, place downwind near airflow exit**
 - ◆ **Minimum: no other patient within 10 feet**
 - ◆ **Ambulatory patient near sidewall; litter lowest position**
 - ◆ **Use of N95 Respirators**
 - **Droplet precautions**
 - ◆ **Placement on aircraft same as for airborne**
 - ◆ **3 foot clearance for transmission**
 - ◆ **Within 3 feet wear N95 and PPE**
-



GOAL 7: REDUCE RISK OF HEALTHCARE ASSOCIATED INFECTIONS



- **Contact precautions**
 - ◆ **Spread by direct contact (patient) or indirect contact (environment)**
 - ◆ **Gastrointestinal infection, skin rash**
 - ◆ **PPE for contact with patient/environment**

- **Multidrug resistant organism infections (MDRO)**
 - **Risk assessment and take action as indicated**
 - **Educate: Staff/patients/families**
 - **Implement surveillance strategies**
 - **Monitor outcomes of surveillance programs**
 - **Share results with stakeholders**



GOAL 7: REDUCE RISK OF HEALTHCARE ASSOCIATED INFECTIONS



Prevent central line associated bloodstream infections

- Educate staff/patients/families
- Implement evidence based strategies to reduce risk
- Monitor and evaluate risk and outcome of prevention
- Provide results to key stakeholders
- Use catheter checklist/standard protocol
- Perform hand hygiene prior to insertion
- Avoid femoral site if possible (Adult)
- Use standardized supply cart
- Standardize protocol for sterile barrier precautions
- Use chlorhexidine based antiseptic
- **Use standardized protocol to disinfect hub and ports**
- Evaluate routinely; remove nonessential catheters



GOAL 7: REDUCE RISK OF HEALTHCARE ASSOCIATED INFECTIONS



Implement evidence based practices for surgical site infections

- **Educate staff/patients/families**
- **Implement evidence based strategies to reduce risk**
- **Monitor and evaluate risk and outcome of prevention**
- **Collect measurements of infection rates for 30 days for non-implant and one year for surgeries involving implanted devices**
- **Provide process and outcome measure results to stakeholders**
- **Administer evidence-based prophylaxis as indicated**
- **Use clippers, not razors, to remove hair when indicated**

AE Considerations: Observe post operative patients for S/S infection, provide info to next provider of care



GOAL 7: REDUCE RISK OF HEALTHCARE ASSOCIATED INFECTIONS



Implement evidence based practices for catheter-associated urinary tract infections

- **Insert indwelling urinary catheters according to established evidence-based guidelines:**
 - ◆ Limiting use/ duration to situations necessary for pt care
 - ◆ Use aseptic techniques for site prep, equip, & supplies
 - **Manage indwelling urinary catheters according to established evidence-based guidelines:**
 - ◆ **Securing catheters for unobstructed urine flow and drainage**
 - ◆ **Maintaining the sterility of the urine collection system**
 - ◆ Replacing the urine collection system when required
 - **AE Considerations: Observe aseptic technique and care for patients with urinary catheters**
-



GOAL 8: MEDICATION RECONCILIATION



Accurately and completely reconcile medications across the continuum of care

- **Compare current and newly ordered medications**
- **Communicate medications to next provider of care**
- **Provide a reconciled medication list to patients**

AE Considerations:

Complete 3899I on all patients



GOAL 9: REDUCE RISK OF FALLS



■ AE Considerations

- Litter patients
 - ◆ Proper litter carry techniques
 - ◆ Environmental assessment
 - ◆ Use proper number of people
- Ambulatory
 - ◆ Care during on and offload
 - ◆ Consider trip hazards, patient weaknesses
 - ◆ Assess gait, assist if needed
 - ◆ Be aware of color ID bands (yellow = fall)
- Warn to rise slowly, call for help if tired or weak

Report all falls!



GOAL 13: ENCOURAGE PT ACTIVE INVOLVEMENT IN CARE



- **Identify ways for patient/family to report concerns**

- **AE Considerations:**
 - **Encourage patients, families & attendants to ‘speak up’ and report concerns – BEFORE anything happens!**
 - ◆ **Explain reason for PS strategies, enlist support**
 - ◆ **Thank them for reporting!**
 - **Encourage patients to complete questionnaire**
 - **2 patient safety questions added to questionnaire**



PATIENT SURVEY QUESTIONS



-
1. I am wearing an identification wristband with my name for this flight.
 2. The nurse asked me my name before giving me medication.



GOAL 14: PREVENT PRESSURE ULCERS



-
- Create written plan: ID of risk for & prevention of pressure ulcers
 - **Perform initial assessment to ID pts at risk for pressure ulcers**
 - Conduct a systematic risk assessment for pressure ulcers using a validated risk assessment tool such as the Braden Scale or Norton Scale
 - Reassess pressure ulcer risk at defined intervals
 - **Take action to address any identified risks for pressure ulcers:**
 - Preventing injury by maintaining and improving tissue tolerance to pressure in order to prevent injury
 - Protecting against the adverse effects of external mechanical forces
 - **Educate staff to identify risk for and prevent pressure ulcers**
-



GOAL 14: PREVENT PRESSURE ULCERS



■ AE Considerations:

- Assess risk for pressure ulcers for litter patients during hand-off
- Keep linens/litter clean/dry
- Reposition litter patients q2hours
- Document assessment and interventions
- Other thoughts?



GOAL 15:

ID SAFETY RISKS IN PT POPULATION



Identify individuals at risk for suicide

- Conduct a risk assessment that identifies specific patient characteristics and environmental features that may increase or decrease the risk for suicide
- **Address the patient's immediate safety needs and most appropriate setting for treatment**
- When a patient at risk for suicide leaves the care of the hospital, provide suicide prevention information (such as a crisis hotline) to the patient and his or her family



GOAL 15:



PT SAFETY RISKS IN PT POPULATION

- **AFI 41-307, Attach 5 Mental Health/ Behavior Mgmt**
 - **AECM is responsible for maintaining safety: Flight Crew, other patients, passengers, medical crew**
 - **Patient Placement: Lowest litter tier or by bulkhead, away from O2 valves, exits, flight deck**
 - ◆ **Within sight of attendant or crewmember**
 - **Least restrictive means of controlling behavior:**
 - ◆ **Medication**
 - ◆ **Education/Counseling**
 - ◆ **Attendant, Family involvement, if available**
 - ◆ **Restraints: per AFI 41-307, atch 5**



GOAL 16:

RECOGNITION/RESPONSE TO CHANGES IN PT CONDITION



- **Develop method of allowing health care staff to directly request additional assistance from specialty trained individuals when the patient's condition appears to be worsening**

 - **AE Considerations: Good assessment prior to flight!**

 - **Resources in AE:**
 - **CCATT**
 - **Flight Surgeon**
 - **Phone patch**
 - **Protocols**
 - **Trauma Alert**
-



Questions Comments Concerns?



Resources



■ The Joint Commission

- <http://www.jointcommission.org/>

■ AFI 41-307, Aeromedical Evacuation Patient Considerations and Standards of Care

- <http://www.e-publishing.af.mil/shared/media/epubs/AFI41-307.pdf>

■ Institute for Safe Medication Practices

- <http://www.ismp.org/>

■ AF Policies on the Kx

- https://kx.afms.mil/kxweb/dotmil/kjPage.do?functionalArea=AFClinicalQuality&cid=CTB_087081

■ CDC

- <http://www.cdc.gov/>