Disclosures to Participants

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Title of Activity: High Alert Medications in the Long-Term Care Setting

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Requirements for Successful Completion:

The purpose of this activity is to enhance the skills and practice of the long-term care registered nurse in the area of safe administration of high-risk medications by addressing key information about these medications and strategies to promote safe administration in the long-term care setting. The activity aims to increase patient safety by fewer errors associated with high-risk medications as evidenced by quality measures to determine the incidence of medication errors in internal long-term care facilities.

Disclosures to Participants

1. The RN will discuss implications of high-risk medication errors as well as appropriate actions to minimize these errors.
2. The RN will recognize common high-risk medications and the potential consequences for errors with each of these medications.

Disclosures to Participants

- To receive contact hours for this continuing education activity, the participant must:
  - Complete and submit an evaluation form
  - Achieve a passing score of 80% on the activity post-test
- Once successful completion has been verified, a "Certificate of Successful Completion" will be awarded for 1.0 contact hours.

Disclosures to Participants

- Conflicts of Interest

  Explanation: A conflict of interest occurs when an individual has an opportunity to affect or impact educational content with which he or she may have a commercial interest or a potentially biasing relationship of a financial nature. All planners and presenters/authors/content reviewers must disclose the presence or absence of a conflict of interest relative to this activity. All potential conflicts are resolved prior to the planning, implementation, or evaluation of the continuing nursing education activity. All activity planning committee members and presenters/authors/content reviewers have submitted Conflict of Interest Disclosure forms.

- The planning committee members and presenters/authors/content reviewers of this CNE activity have disclosed no relevant financial relationships related to the planning or implementation of this CNE activity.

Disclosures to Participants

- Non-Endorsement of Products
  - Approval of this CNE activity refers only to the continuing nursing education activity and does not imply a real or implied endorsement by **mmLearn.org at Morningside Ministries,** the American Nurses Credentialing Center (ANCC) or the Texas Nurses Association (TNA) of any commercial product, service, or company referred to or displayed in conjunction with this activity, nor any company subsidizing costs related to this activity.
- Expiration Date: 12/1/2015

Disclosures to Participants

Reporting of Perceived Bias:

- Bias is defined by the American Nurses Credentialing Center's Commission on Accreditation (ANCC COA) as preferential influence that causes a distortion of opinion or of facts. Commercial bias may occur when a CNE activity promotes one or more product(s) (drugs, devices, services, software, hardware, etc.). This definition is not all inclusive and participants may use their own interpretation in deciding if a presentation is biased.
- The ANCC COA is interested in the opinions and perceptions of participants at approved CNE activities, especially in the presence of actual or perceived bias in continuing education. Therefore, ANCC invites participants to access their "ANCC Accreditation Feedback Line" to report any noted bias or conflict of interest in the education activity. The toll free number is 1(866) 262-9730.

HIGH ALERT MEDICATIONS IN THE LONG-TERM CARE SETTING

Carrie Allen PharmD, CGP, BCPS, CCHP

WHO DOES THIS INVOLVE?

- Nurses
- Medication aides
- Pharmacies/pharmacists
- Medical Records and Data Entry Personnel
- Prescribers (doctors, Nurse Practitioners, Physician Assistants, Agents of the doctor)
- Management and Administration (including administrators)
- **WHY ALL OF THESE PEOPLE?????**

CALLING EVERYONE OUT - SYSTEMS APPROACH TO DECREASING ERRORS

- IF EVERYONE IS NOT "ON BOARD" DOING THEIR PART, ERRORS ARE MORE LIKELY
- Examples
  - Prescribers who say "just continue same orders" upon transfer and don't review any of them
  - Nurses who accept the "just continue same orders" upon transfer and don't review any of them

CALLING EVERYONE OUT - SYSTEMS APPROACH TO DECREASING ERRORS

- Pharmacists who fill duplicate orders (same drug class) or unusual orders without verifying with the prescriber AND nurse
- Medication aides who do not question odd orders or who give medications that don't match the order set without clarifying
- Managers and Administrators who do not take an interest in medication related processes and don't commit to an ONGOING process review to decrease med errors

Open, honest and “real” med error reports

- Report medication errors, including “near misses”, especially when system errors exist that may increase the likelihood that an error will occur
- Cover ups lead to more cover ups, staff ignorance, staff laziness and resident harm
- Open, honest, “real” (real error in real time) reporting leads to
  - Understanding that we all make mistakes
  - Knowing what common mistakes are made
  - Allowing us to develop a process to avoid mistakes

What are “high alert” medications?

- ISMP (Institute for Safe Medication Practices) - nonprofit organization devoted entirely to medication safety and error prevention, http://www.ismp.org
- Studies, medication error reporting, process control measures and even a consumer website www.consumermedsafety.org

ISMP
INSTITUTE FOR SAFE MEDICATION PRACTICES

What are “high alert” medications?

- ISMP defines “High Alert” Medications as:
  - Medications that have a high risk of causing significant patient harm when they are used in error (including DEATH)
  - Unclear if mistakes are more common with these medications, it is very clear that the consequences of error are more devastating to patients
- A complete list can be accessed at www.ismp.org/tools/highalertmedications.pdf

LONG TERM CARE

- Many of these errors we are talking about were most often reported in hospitals, and this is where many of the studies have occurred.
- However, these errors, especially with certain “High Alert” medications, can and DO happen everywhere
- Long-term care facilities utilize “high alert” medications frequently each shift AND often >1 on each resident
- Long-term care facilities often feel they do not have the time or do not need to perform double checks, utilize technology or verify and read back telephone orders as is common practice in hospitals

LONG TERM CARE

- As the acuity increases in various long term care settings (ALF, SNF), especially when staffing changes or process changes occur, these errors are ever more present in this setting.
  - This is a good point for management and administrators who are considering case-mix, resource utilization groups, equipment, technology and staffing ratios to consider closely
  - Understand how these concepts inter-relate to how medication errors can be perpetrated and make process changes accordingly to protect residents

LONG TERM CARE

- Individual people may be the point at which the error is notices, but we cannot expect people to bear the burden for and compensate for weak systems
- Weak system is one where medication errors may be more likely, because processes are poor, not routinely re-evaluated and medication error reporting is rare and non-specific

However…It is your license and your patient/resident & a human being counting on you to do the right thing

- Do no harm….we want to help, not hurt
- The elderly are a population that is more easily devastated by the effects of drugs, both because of their aging process and because they are often on a large number of medications – especially “high alert” medications.
- This means be careful, cautious and correct when administering these (and all)medications
- Follow up with more frequent monitoring (cardiac related, neurological/cognitive changes, s/sx bleeding, infection or hypoglycemia)

However…it is your license and your patient/resident & a human being counting on you to do the right thing

- We want to ensure our patient stays alive and as well as they can be
  - See Beer's List Presentation for medications/situations where elderly may be at risk from certain medications
  - Listen up for some* "High Alert" medications commonly encountered in long term care (this list is not all inclusive)
  - http://www.ismp.org/tools/highalertmedicationLists.asp has both community and inpatient lists…we know long-term care is really a "hybrid" of these settings

Do no harm – make sure your patient stays alive and well because of your good practices – be aware of these drugs

- N NARROW THERAPEUTIC INDEX MEDICATIONS (e.g., digoxin, methotrexate)
- O OPIATES (e.g., morphine, oxycodone, fentanyl)
- T TOTAL PARENTERAL NUTRITION (TPN)

- D DIABETES TREATMENTS (ORAL mediations , INSULIN, DIALYSIS SOLUTIONS)
- E ELECTROLYTES (e.g., potassium, magnesium IV)
- A ANTICOAGULANTS/ANTITHROMBOTICS

  (e.g., warfarin, heparin – subQ and I.V)
- D DEXTROSE ≥ 50% (e.g. hypoglycemia protocols)

NARROW THERAPEUTIC INDEX MEDICATIONS

- N - NARROW THERAPEUTIC INDEX MEDICATIONS (NTI medications)
- Examples: digoxin, methotrexate, tacrolimus, cyclosporine, azathioprine, cyclophosphamide, seizure medications (carbamazepine, phenytoin, phenobarbital)
- While others we'll talk about may be NTI medications, they are categorized in a more broad manner

NARROW THERAPEUTIC INDEX MEDICATIONS

- These are “High Alert Medications” because they have a greater risk of toxicity than many other medications when dosed incorrectly
  - e.g., methotrexate often is dosed weekly and “misinterpreted” to be given daily = liver & kidney failure and increased risk of infection and possibly death
  - e.g., digoxin the dose is small and laden with decimals (0.125 mg or 125 mcg), and odd dosing regimens (every other day, half tab to equal 0.0625 mg) mistakes can easily occur - can cause neurological, cardiac symptoms and death

OPIATES/NARCOTICS

- O - OPIATES
- Examples morphine, oxycodone, hydrocodone, codeine, methadone, fentanyl (oral, IV, Transdermal, buccal) – ALL opiates
- These are “High Alert Medications” because errors in calculations are quite easily made as well as confusion between long and short acting dose forms
  - Calculations in general
  - When converting from one drug to another (e.g. from oral to transdermal or IV to oral)

(continued)

OPIATES/NARCOTICS

- “Build up” and overdose may occur, many are look-alike sound alike, ease of causing respirator and CNS depression and possibly death
- Frequent use may also cause severe constipation and fecal impaction, which is considered to be a sentinel event in long term care

TOTAL PARENTERAL NUTRITION (TPN)

- T - TOTAL PARENTERAL NUTRITION (TPN) - becoming more common in the LTC facility
- Even the “premixes” such as Clini-mix can be problematic
- These are “High Alert Medications” because
- Errors in calculations related to additives such as potassium can cause electrolyte imbalances
- Rate calculation, calorie calculation can cause fluid overload and/or dumping syndrome.

TOTAL PARENTERAL NUTRITION (TPN)

- TPN are often used inappropriately to correct electrolyte imbalances,
- Increased risk of infection if proper technique, changing of bag & line management do not occur,
- False sense of security and lax monitoring may occur with the “premixed” solutions,
- Often goes on longer than needed without proper assessment.

DIABETES TREATMENTS

- D – DIABETES TREATMENTS
- Examples: ALL ORAL hypoglycemic mediations (e.g, glyburide, metformin), ALL INSULIN, dialysis solutions, and loosely related meds used such as Procrit or Aranesp
- These are “High Alert Medications” because serious harm and death may occur associated with hypoglycemic and hyperglycemic reactions.
- Also, errors in dosing, especially with insulin, are easily made, often dosing pens can help (do NOT use for more than one person)

DIABETES TREATMENTS

- Dosing errors can occur with regard to TIMING and food with oral and insulin diabetes medications
- Monitoring and holding of Procrit or Aranesp when hemoglobin is ≥ 10 mg/dL
- Lots of Look-Alike sound alike medications in this group

ELECTROLYTES

- E - ELECTROLYTES
- Examples Potassium IV and oral, Magnesium IV
- These are “High Alert Medications” because serious harm can occur due to errors in dosing, rate that IV is administered and lack of appropriate monitoring, which can cause cardiac complications, other electrolyte imbalances and potentially death

ELECTROLYTES

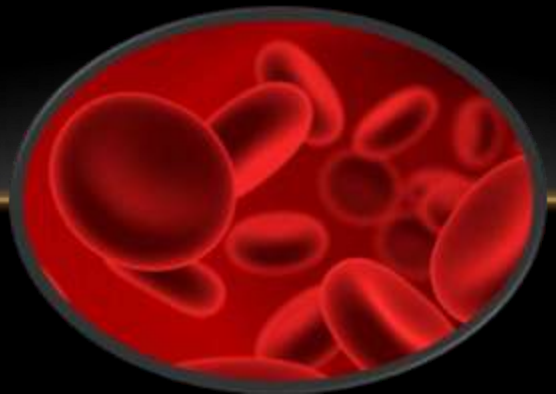
- Additionally, potassium can be problematic when:
  - It was originally given secondary to a diuretic and not discontinued when the diuretic was discontinued or not added when a diuretic was added
  - It is given with other medications that increase potassium and monitoring is infrequent or non-existent such as ACE-inhibitors (lisinopril), spironolactone, aldactone, ARBs (valsartan), etc.,

ANTICOAGULANTS/ANTI-THROMBOTICS

- A - ANTICOAGULANTS/ANTI-THROMBOTICS
- Examples include warfarin, heparin (subQ and I.V), low molecular weight heparins (Lovenox, Fragmin), Factor Xa inhibitors (Arixtra)
- These are “High Alert Medications” because they have a narrow therapeutic range, some have food interactions, many have drug-drug interactions, the dosing regimens can be complex/change often and they may go on longer than needed (forget to reassess and stop)

ANTICOAGULANTS/ANTI-THROMBOTICS

- Increased monitoring, especially for s/sx bleeding, mental status changes is important
- Having and following a standardized process of how to handle and consistently write warfarin orders, when to get labs, when to contact the doctor and getting all prescribers on board with this process is IMPERATIVE



DEXTROSE ≥ 50%

- D – DEXTROSE ≥ 50% (some say ≥ 20%)
- Examples are hypoglycemia protocols or emergent treatment orders for hypoglycemia
- This is a “High Alert Medication” because confusion often arises and higher concentrations get substituted for lower concentrations, infusion rate can cause problems, fluid overload, pulmonary edema and electrolyte imbalances may occur

FIXES

- System Assessment, process control – technology, staffing, education, protocols
- Ongoing competency assessment
- Culture of safety from top to bottom and bottom to top ALL input is important – including family and visitors

FIXES

- High leverage safety strategies – focus on the error prevention tools that help fix the system, not the punitive process for individuals who make errors (in most cases – bad apples do occur)
- Report medication errors AND near misses, round tables monthly and share stories (published and in facility), management “walk-arounds” and interviews
- Understand confirmation bias and train staff on ways to avoid it (independent double checks etc.)

FIXES

- Provide current drug information – electronic is more up to date, but book references are useful and more comfortable for some staff
- Communication of the drug information, get those orders right from the get go, verify and READ BACK TELEPHONE ORDERS
- Be aware of look alike sound alike medications

FIXES

- Request that the pharmacy label look alike sound alike and high alert medications as such
- Separate the storage of such items in the carts
- Verify, re-verify and triple check before giving medications, especially high alert medications – the six rights can help, but may not prevent errors…more than this is required.

THANK YOU