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Pharmacy Department

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Pharmacy Newsletter provides information regarding the decisions of P & TC, current concepts in drug therapy, warnings and cautions issued by various regulatory agencies, drug interactions, ADRs and matters related to drug usage.

Opinions expressed are of authors and does not necessarily represent AKUH's view/recommendations.
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Medication Reconciliation – Call for Focus

Saharish Nazar, Manager Pharmacy Services

Medication reconciliation is the process of identifying the most accurate list of all medications that the patient is taking, including name, dosage, frequency, and route, by comparing the medical record to an external list of medications obtained from a patient, hospital, or other provider.

Preventing medications harms, or adverse drug events (ADEs), remains a top patient safety priority across the continuum of care for patients specially in the hospital. Medication history can be taken in a variety of settings such as the emergency department, upon Inpatient admission in ward or during a clinic visit. No matter what the setting is, the steps to take complete and accurate medication history are the same with the goal of providing correct medications to the patient and preventing ADEs at all transition points within the hospital.

Medication Reconciliation at AKUH mandates to record at least the below information: Medication Name, Dose, Frequency and Route. Taking a best possible medication history is essential. Key points to remember:

1. Interview patients/ caregiver wherever possible.
2. Remember most patients vary from their prescribed regimen. This may or may not be intentional.
3. Remember to ask about over the counter, herbal or complimentary medications.
4. Confirm the medicine list with one or more sources of information, if possible e.g., previous Rx.
5. Check a medication reference if you are unsure about a certain medicine.
6. Correctly document & transcribe the medication history.

Your Medication List

The Joint Comission's 5 Step Process to Conduct Medication Reconcilitaion

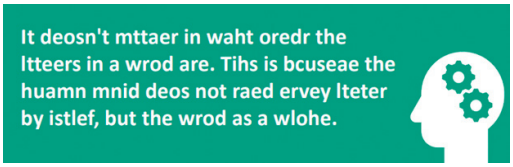
Step no.	Step description
1.	Develop a comprehensive list of all current medications.
2.	Develop a list of medications to be prescribed.
3.	Compare original and updated medication lists.
4.	Make clinical decisions pertaining to what medications should be continued.
5.	Communicate the new medication information to patient and patient's caregiver.

Source: Reference 12.

Medication Errors | Look alike, Sound alike & Read alike

Bilal Ahmad, Pharmacist

The existence of confusing drug names is one of the most common causes of medication error and is of concern worldwide. Contributing to this confusion are illegible handwriting, incomplete knowledge of drug names, newly available products, similar packaging or labeling, similar clinical use, similar strengths, dosage forms, frequency of administration, and the failure of manufacturers and regulatory authorities to recognize the potential for error . The Institute for Safe Medication Practices (ISMP) has reported over *1,000 drug pairs* of confusing drug names.



A 12 year old child presented to emergency department with sign and symptoms of nausea, vomiting and diarrhea. During the history and medication reconciliation, it was found that the child was talking tablets (Lithium carbonate), **Neurolith SR** ® from last 1 week instead of Tablet Neurobion(Vitamin B1, B6 and B12) that was actually precribed by the physician.

Neurolith ® (litium Carbonate) was wrongly dispensed as a READALIKE drug with **Neurobion®**. (Vitamin B1, B6 and B12) .

The drug, lithium carbonate usually cause mucosal irritation and hence lead to Nausea, vomiting and gastrointestinal symtpoms. There were no CNS manifestations along with abnormal gait.

Neuro*BION*® (Vitamin B1, B6, B12)	**Neuro*LITH SR*®** (Lithium Carbonate)
• Vitamin B complex.	• Used for bipolar disorder.
• Available in injection and tablet form.	• Available as 400mg tablets.
• Can be taken as per need basis depending on the deficiency.	• Usual adult dosing is 600-900mg/day in 2 to 3 divided doses.
• Tablet form can be obtained without prescription.	• Can be obtained only with valid prescription.

Significant damage could occur if the two medicines are interchanged. While the patient given neuroBION® instead of neuroLITH® might not any show adverse effects but exacerbation of the existing condition is possible. Similarly, serious harm could occur if the patient is given neuroLITH® instead of neuroBION®.Lithium toxicity might occur Patients with acute lithium toxicity often present with symptoms of nausea, vomiting, and diarrhea; neurological findings develop late in acute poisoning hence, monitoring of lithium levels would be necessary.

Drug Interaction Corner: Benzodiazepine & Opioids

Faqeeha Shakeel, Pharmacist

WHO and FDA reminded that Benzodiazepines when co-administered with opioids can depress the central nervous system (CNS) which results in serious side effects, difficulty in breathing / respiratory distress, which may lead to death.
Opioids are used to treat pain and cough; benzodiazepines are used to treat anxiety, insomnia, and seizures, when co-prescribed, additive effects on the central nervous system increase the risks of sedation, respiratory depression, coma and death. Use of opioids and benzodiazepine should not be used commonly instead of the common use; professionals should reserve concomitant prescribing of opioid analgesics with benzodiazepines or other CNS depressants for use in patients for whom alternative treatment options are inadequate. If an opioid analgesic is initiated in a patient who is already on a benzodiazepine, prescribe a lower initial dose of the opioid, and titrate based on clinical response. Patient should be monitored closely for respiratory depression.
Proper counselling should be done to the care givers / patients who are concomitantly on opioids and benzodiazepine related to respiratory depression.

References:
World Health Organization. WHO Pharmaceutical Newsletter. April, 2020 [Internet]. Edition no. 3.

What Do We Need to Know about Remdesivir

Syeda Muniba Naqvi, Trainee Pharmacist

Rationale and FDA Approval

Although the US Food and Drug Administration (FDA) has issued an Emergency Use Authorization (EUA) to permit the emergency use of Remdesivir in hospitalized adult and pediatric patients irrespective of disease severity. Now, it has been approved by FDA.

Posology

200 mg as a single dose on day 1, followed by 100 mg once daily for 4 days in adult patients not requiring mechanical ventilation/extracorporeal membrane oxygenation (ECMO) or until hospital discharge, whichever is first and may continue for 5 more days if clinical improvement is not observed. A 10 day therapy is suggested for patients requiring invasive mechanical ventilation/ECMO. The dosing remains same for children/adolescents weighing 40 kg and above. In infants/ children weighing between 3.5 kg and 40 kg; 5mg/kg/dose on day 1 is followed by 2.5mg/kg/dose once daily.

Adverse Effects and Safety Concerns

Elevated levels of Transaminase and Aminotransferase have been reported hence monitoring of hepatic enzymes is required prior to and during therapy. Infusion-related hypersensitivity and anaphylactic reactions have also been reported.

Administration Guidelines

DRAP approved Remdesivir 100mg lyophilized powder for infusion is being used for treatment of Covid'19 patients in Pakistan. The powder needs to be first reconstituted with sterile water for injection and then diluted for infusion with normal saline. Its compatibility with other solutions has not yet been tested. A 100mg vial is to be reconstituted with 19ml sterile water for injection to make 20ml of 5mg/ml solution followed by shaking for 30 seconds then allowing to rest for 2 to 3 min. The solution is then further diluted with normal saline up to a total volume of 100 or 250 ml for infusion. For adequate mixing the infusion bag should be gently inverted 20 times instead of shaking. After dilution the 100ml and 250ml solution can be infused over 30 to 120 min. The reconstituted/diluted drug is stable for 4 hours at room temperature (20 to 25 C) and for 24 hours in refrigerator (2 to 8 C). Remdesivir should not be co-administered with other IV drug solutions because of unestablished compatibility.

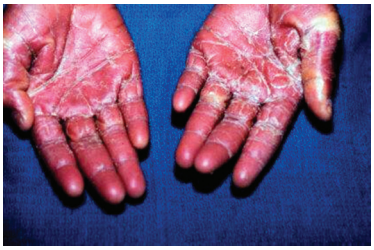
A Question From Toxicology|American Academy of Clinical Toxicology

Bilal Ahmad, Pharmacist

Question: Ingestion of what toxicant has been associated with feces and vomitus with a blue-green hue?

The signs and symptoms associated with boric acid ingestion are relatively non-specific and usually include nausea, vomiting and diarrhea. In addition to "boiled lobster" (appearance) skin rash followed by desquamation, feces and vomitus have been reported to have a blue-green hue.

Boiled Lobster (Skin Rash) appearance



What is boric acid used for?

Boric acid is used in the manufacture of ceramics, glass, and pesticides, as an antiseptic for burns, and for treatment of vulvovaginal candidiasis. Accidental ingestions have been reported globally, most commonly in children. In a large retrospective series of cases from two poison centers, the median age of affected patients was 2 years, and 80% of the cases were in patients younger than 6 years of age. However, 13.5% of affected patients were adults. Adult exposure may be accidental or intentional. *If the vaginal capsules taken orally then the above mentioned symptoms may occur. So special counselling (How to administer) and Auxillary labels (Not For oral use) is mandatory.*

References:

Webb DV et al. Boric acid ingestion clinically mimicking toxic epidermal necrolysis. J Cutan Path 2013; 40:962-965 .

COVID-19 Pandemic, It's Time to get back on track with Children's Immunization

Since the start of the pandemic, there has been a troubling drop in routine childhood vaccinations, because families are not going to the Hospitals, due to fear of infection.

We know too well the devastating consequences that diseases, like whooping cough and measles, can have on children and their families. It is tragic to see a child become sick, or even die, from a disease that we can prevent with safe and effective vaccines. In our fight against the COVID-19 pandemic, we cannot let down our guard against preventable childhood diseases. Now is the time to get every child back on track with recommended vaccines. SO GET YOUR CHILD VACCINATED NOW.

For details contact, 021-34861573, 1504

Or visit our Immunization Services (Community Health Centre Pharmacy and Outreach Pharmacies).

Provide us your Valuable Feedback!

To keep the Pharmacy Newsletter of Aga Khan University Hospital (AKUH) updated we would like to take your valuable feedback. We are grateful to you for sparing few minutes of your precious time to complete form by below online link or form can be emailed to you as well. Just drop us an email with subject ***Newsletter Feedback****. Email us at:****drug.information@aku.edu***
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