**Body System:** Patient-Based Care

**Session Topic:** Pediatric Drug Overdose Poisoning

| Educational Format | | Faculty Expertise Required |
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| **REQUIRED** | Interactive Lecture | Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required. |
| **OPTIONAL** | Problem-Based Learning (PBL) | Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. Please describe your interest and plan for teaching a PBL on your proposal form. |

| Professional Practice Gap | Learning Objective(s) that will close the gap and meet the need | Outcome Being Measured |
|---|---|---|
| • Drug overdose in children has steadily been on the rise over the last two decades, particularly due to prescribing, dispensing, administering, or monitory medication errors.<br>• Physicians may have knowledge gaps in counseling parents to prevent poisoning due to drug overdose or misuse.<br>• Physicians may have knowledge gaps related to triage, initial treatment, and ongoing management of pediatric patients who have experienced poisoning due to a drug overdose. | 1. Recognize signs and symptoms associated with medications commonly involved in acute poisoning.<br>2. Establish evidence-based protocols for treating and managing a pediatric patient who is suspected of drug overdose poisoning.<br>3. Develop a poison prevention education program for parents, including resources and tools that can be presented at child wellness visits. | Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations. |

**Faculty Instructional Goals**

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately

 

implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
    - Visit http://www.aafp.org/journals for additional resources
    - Visit http://familydoctor.org for patient eduction and resources
- Provide strategies for recognizing signs and symptoms associated with medications commonly involved in acute poisoning.
- Provide strategies and resources for establishing evidence-based protocols for treating and managing a pediatric patient who is suspected of drug overdose poisoning.
- Provide strategies and resources for developing a poison prevention education program for parents, including resources and tools that can be presented at child wellness visits.

**Needs Assessment:**

Deaths from drug overdose have been rising steadily over the last two decades in the U.S., with nearly 9 out of 1 poisoning deaths caused by drugs.[1] Medication errors are common among patients who are being treated for multiple chronic conditions.[2,3] Medication errors are also common among pediatric patients, who are at higher risk of experiencing medication errors than adults because of the need for a dose calculation based on a patient's age, weight (mg/kg), body surface area (mg/m2), and clinical condition.[4,5] Unintentional poisoning killed 838 U.S. children in 2010; and in 2011, U.S. poison centers received more than 1.4 million calls involving poison exposures for children 19 and younger, with nearly 80 percent of these calls involving children under 6, and roughly half of them involved exposures to medications.[6]

Prescribing, dispensing, administering, or monitory medication errors are among the most common types of medical errors for pediatric patients.[4,7] In fact, the American Academy of Pediatrics (AAP) suggests that parents' use of nonstandard measurement instruments (i.e. nonstandard kitchen spoon use) significantly contributes to medication dosing errors.[8]

In addition to prescribing errors of medications designed and dosed for children, the rising use of opioids, antihyperlipidemics, oral hypoglycemics, and β-blockers among adults is associated with a corresponding rise in exposures and poisonings related to these drugs in children, and continue to be a major cause of morbidity among children.[9-11]

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicates that family physicians do have a knowledge gap related to optimally managing and preventing poisoning from drug overdose.[12]

Physicians way want to consider incorporating key elements of the National Action Plan for Child Injury Prevention (NAP), developed by the CDC and more than 60 stakeholders. The overall goals of the NAP are to raise awareness about the problem of child injury and its effects on our nation, offer solutions by uniting stakeholders around a common set of goals and strategies, and mobilize action to reduce child injury and death.[6] Physicians may also consider

 

being involved in the PROTECT Initiative from the CDC, which is an innovative collaboration bringing together public health agencies, private sector companies, professional organizations, consumer/patient advocates, and academic experts to develop strategies to keep children safe from unintentional medication overdoses.[13]

Physicians may help prevent avoidable pediatric poisoning by medication misuse by engaging in continuing medical education that provides practical integration of current evidence-based guidelines and recommendations into their standards of care, including, but not limited to the following:[14-17]

- Antibiotics should not be used for the treatment of cold symptoms in children or adults.
- Over-the-counter cough and cold medications should not be used in children younger than four years because of potential harms and lack of benefit.
- Treatment with buckwheat honey, Pelargonium sidoides (geranium) extract (Umcka Coldcare), nasal saline irrigation, vapor rub, or zinc sulfate may decrease cold symptoms in children.
- Poisoning prevention education programs (specifically those that provide free or low-cost cabinet locks and poison control stickers) have been shown to improve safe storage behavior in the home.
- Caregivers should be prepared to contact a poison control center, such as the National Capital Poison Center (800-222-1222, http://www.poison.org), or emergency services immediately if a potential poisoning occurs.
- When feasible, use once- or twice-daily medication schedules, because this increases compliance rates to greater than 70 percent.
- When prescribing medications to children, give the parent educational materials to improve adherence.
- Single-dose activated charcoal is the gastrointestinal decontamination modality of choice in most medication ingestions; it can generally be used up to one hour after ingestion of a potentially toxic amount of medication.
- Ipecac syrup has no indication for use in a health care setting.

These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.

Resources: Evidence-Based Practice Recommendations/Guidelines/Performance Measures

- Recognition and management of acute medication poisoning[17]
- Prevention of unintentional childhood injury[15]
- Promoting medication adherence in children[16]
- Treatment of the common cold in children and adults[14]

 

- Medication adherence: we didn't ask and they didn't tell[2]
- FamilyDoctor.org: Poisoning (patient education)[18]
- CDC The PROTECT Initiative: Advancing Children's Medication Safety[13]

References


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14. Fashner J, Ericson K, Werner S. Treatment of the common cold in children and adults. *American family physician.* Jul 15 2012;86(2):153-159.


 

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