KASPER Tips: Morphine Equivalent Dose and Naloxone Information on KASPER Reports

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KASPER patient reports provide Morphine Equivalent Dose (MED) information to assist practitioners and pharmacists with their opioid prescribing or dispensing decision. The MED information is not intended to limit opioid prescribing or dispensing, or to replace practitioners and pharmacists' professional judgment on how to treat their patient.

The daily Morphine Equivalent Dose is shown for each opioid prescription record and indicates the morphine milligram equivalent value assigned to the daily opioid dose. The daily MED is calculated using a conversion formula from the U.S. Centers for Disease Control and Prevention (CDC), and is a measure that equates different opioid potencies (based on route and dose) to a standard morphine dosage equivalent. This information makes it easier for healthcare providers to determine whether the amount of opioid medications the patient is receiving could place the patient at a greater risk of a drug overdose.

If the KASPER report contains opioid prescription records, at the top of the KASPER patient report users will now see an Active Cumulative Morphine Equivalent (ACME) number. This information will not be included on reports showing "No records found". The ACME number represents the daily MED level for active opioid prescriptions in effect for the patient on the last day of the date range selected for the report request (the "To Date"). Underneath the ACME number will be a chart showing the MED for each day included in the report date range overlaid upon a 100 MED baseline. All prescription records (opioid and non-opioid) that are active as of the "To Date" of the report are now highlighted in bold text. It is important to note that the ACME calculation is based on prescription data reported to KASPER only. It does not include prescription data from other states that may be included on the KASPER report based on an interstate data-sharing request. The last page of the report will provide information regarding the MED and ACME calculations. A table of opioid morphine equivalent conversion factors is included below.

If the ACME is 100 or greater, a warning symbol will appear along with a note that increased clinical vigilance may be appropriate. KASPER stakeholders established the warning threshold based on a recommendation from the Kentucky Injury Prevention and Research Center. According to the CDC, a patient with a daily MED level of 100 or greater has an overdose risk nine times higher than a patient with a level of 20 or less. For patients with an ACME of 100 or greater, the last page of the report will also include information and links to additional resources about naloxone prescribing and dispensing to help in situations where a provider believes the patient may be at risk of an overdose. The Kentucky Board of Medical Licensure advises that when a patient's MED level reaches the 100 threshold, prescribers are expected to increase safeguards (such as increased monitoring and the use of naloxone) and that ongoing treatment be supported by increased documentation of clinical reasoning.

Naloxone is an opioid antagonist medication that can be used to counter the effects of an opioid overdose if administered in time. Kentucky statutes allow licensed health-care providers to prescribe or dispense naloxone to an individual or to a third party capable of administering the drug for an emergency opioid overdose. For additional information regarding naloxone prescribing and dispensing refer to Kentucky statute KRS 217.186 (http://www.lrc.ky.gov/Statutes/statute.aspx?id=44004). The American Medical Association encourages physicians to co-prescribe naloxone to a patient, or prescribe naloxone to a family member or close friend when it is clinically appropriate. AMA guidance is available at https://www.end-opioid-epidemic.org/wp-content/uploads/2017/08/AMA-Opioid-Task-Force-naloxone-one-pager-updated-August-2017-FINAL.pdf.

Questions for practitioners to consider before co-prescribing or prescribing naloxone:

- Is my patient on a high opioid dose?
- Is my patient also on a concomitant benzodiazepine prescription?
- Does my patient have a history of substance use disorder?

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- Does my patient have an underlying mental health condition that might make him or her more susceptible to overdose?
- Does my patient have a medical condition, such as a respiratory disease or other co-morbidities, which might make him or her susceptible to opioid toxicity, respiratory distress or overdose?
- Might my patient be in a position to aid someone who is at risk of opioid overdose?

The Drug Enforcement and Professional Practices Branch staff is available to help with any questions regarding the Morphine Equivalent Dose information. For support, please contact DEPPB at (502) 564-7985.

Oral Morphine Milligram Equivalent Conversion Factors

Opioid (strength in milligrams except where noted)	Oral MME Conversion Factor*
Buprenorphine, transdermal patch** (MCG/HR)	N/A
Buprenorphine, tablet and film	N/A
Buprenorphine, film*** (MCG)	N/A
Butorphanol	7
Codeine	0.15
Dihydrocodeine	0.25
Fentanyl, buccal/SL tablet or lozenge/troche (MCG)	0.13
Fentanyl, film or oral spray (MCG)	0.18
Fentanyl, nasal spray (MCG)	0.16
Fentanyl, transdermal patch (MCG/HR)	7.2
Hydrocodone	1
Hydromorphone	4
Levomethadyl acetate	8
Levorphanol tartrate	11
Meperidine	0.1
Methadone	3
Morphine	1
Opium	1
Oxycodone	1.5
Oxymorphone	3
Pentazocine	0.37
Tapentadol	0.4
Tramadol	0.1

* To be used in the formula:
Strength per Unit x (Number of Units/Days Supply) x MME Conversion Factor = MME/Day
** Buprenorphine products do not have an associated MME Conversion Factor
*** Belbuca

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