Dell Children’s Medical Center Pediatric Guideline

Title: Pediatric Narcotic and Benzodiazepine Weaning Guideline

Purpose
To outline the recommended dosing conversion from narcotic and benzodiazepine continuous infusions to methadone and lorazepam intermittent dosing and a recommended weaning plan.

Personnel Affected
Authorized Prescribing Practitioners, Pharmacists, and Registered Nurses

Guidelines

Duration of Wean Based on Duration of Infusion

<table>
<thead>
<tr>
<th>Time</th>
<th>Dosing Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 3 days</td>
<td>No taper necessary</td>
</tr>
<tr>
<td>4 days</td>
<td>Discontinue infusion without a wean or wean infusion over 24-36 hours. Monitor for symptoms of withdrawal. If symptoms occur, begin “short course” weaning plan.</td>
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<tr>
<td>5-13 days</td>
<td>Start a “short course” methadone/lorazepam wean. Start methadone and lorazepam 1-2 days prior to discontinuing infusions. Decrease narcotic and benzodiazepine infusions by 25% with the 2nd dose of methadone and lorazepam, respectively. Continue to decrease infusions by 25% (of starting rate) every 6 hours. Alternate timing of methadone and lorazepam doses. Wean methadone and lorazepam daily until off. See below.</td>
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<tr>
<td>≥ 14 days</td>
<td>Start a “long course” methadone/lorazepam wean. Follow same protocol as for the “short course” wean; however wean doses every other day until off. Alternate methadone and lorazepam weaning steps daily. See Below.</td>
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Conversion from Infusions to Methadone and Lorazepam

- *May begin as IV doses if NPO, however enteral administration is preferred
- *PO designates enteral route, NG/NI are acceptable

Narcotic conversion plan:
Calculate starting methadone dose:
Fentanyl: Multiply current fentanyl drip rate (mcg/kg/h) x 0.05 = _____ mg/kg/dose methadone q6h (max initial dose 0.2 mg/kg/dose q6h AND max 10 mg q6h)
Morphine: Current morphine drip rate (mg/kg/h) = _____ mg/kg/dose methadone q6h (max initial dose 0.2 mg/kg/dose q6h AND max 10 mg q6h)

Benzodiazepine conversion plan:
Calculate starting lorazepam dose:
Midazolam: Multiply current midazolam drip rate (mg/kg/h) X 0.5 = _____ mg/kg lorazepam q6h (max initial dose 0.2 mg/kg/dose q6h AND max 4 mg q6h)

Weaning Methadone and Lorazepam

Once stable on methadone and/or lorazepam for 24 h with no withdrawal symptoms, wean methadone and lorazepam as follows.

Methadone

Short Course Methadone Wean (wean every day)
Step 1: Starting dose of methadone PO q6h x4 doses (see above calculation)
Step 2: Wean to 80% of starting dose PO q6h x4 doses
Step 3: Wean to 80% of starting dose PO q8h x3 doses
Step 4: Wean to 80% of starting dose PO q12h x2 doses
Step 5: Wean to 80% of starting dose PO q24h x1 dose
Step 6: If each dose is ≤0.1 mg/kg, discontinue methadone. If not, wean methadone by ~20% (of starting dose) each day until ≤0.1 mg/kg/dose Q24h x1 dose (last step may be an ~10% wean). Then discontinue methadone.

Long Course Methadone Wean (wean every other day)
Step 1: Starting dose of methadone PO q6h x8 doses (see above calculation)
Step 2: Wean to 80% of starting dose PO q6h x8 doses
Step 3: Wean to 80% of starting dose PO q8h x6 doses
Step 4: Wean to 80% of starting dose PO q12h x4 doses
Step 5: Wean to 80% of starting dose PO q24h x2 doses
Step 6: If each dose is ≤0.1 mg/kg, discontinue methadone. If not, wean methadone by ~20% (of starting dose) every other day until ≤0.1 mg/kg/dose Q24h x2 doses (last step may be an ~10% wean). Then discontinue methadone.

Lorazepam

Short Course Lorazepam Wean (wean every day)
Step 1: Starting dose of lorazepam PO q6h x4 doses (see above calculation)
Step 2: Wean to 80% of starting dose PO q6h x4 doses
Step 3: Wean to 80% of starting dose PO q8h x3 doses
Step 4: Wean to 80% of starting dose PO q12h x2 doses
Step 5: If each dose is ≤0.05 mg/kg, discontinue lorazepam. If not, wean lorazepam dose by ~20% (of starting dose) each day until ≤0.05 mg/kg/dose Q12h x2 doses (last step may be an ~10% wean). Then discontinue lorazepam.

Long Course Lorazepam Wean (wean every other day)
Step 1: Starting dose of lorazepam PO q6h x8 doses (see above calculation)
Step 2: Wean to 80% of starting dose PO q6h x8 doses
Step 3: Wean to 80% of starting dose PO q8h x6 doses
Step 4: Wean to 80% of starting dose PO q12h x4 doses
Step 5: If each dose is ≤0.05 mg/kg, discontinue lorazepam. If not, wean lorazepam dose by ~20% (of starting dose) every other day until ≤0.05 mg/kg/dose Q12h x4 doses (last step may be an ~10% wean). Then discontinue lorazepam.

Excessive Sedation
If excessive sedation is apparent on clinical assessment after beginning methadone and/or lorazepam, hold the next dose x1, then proceed to the next step on the weaning plan.

Withdrawal Symptoms
If WAT-1 score ≥3* and assessment consistent with withdrawal, consider giving morphine 0.05-0.1 mg/kg (max 5 mg) IV x1 (consider the individual patient narcotic requirements when dosing, caution advised to not overdose the patient). Reassess WAT-1 score in 1 hour.
If WAT-1 score still ≥3* and assessment consistent with withdrawal, consider giving lorazepam 0.05-0.1 mg/kg (max 4 mg) IV x1 (consider the individual patient benzodiazepine requirements when dosing, caution advised to not overdose the patient). Reassess WAT-1 score in 1 hour.
If WAT-1 score persists ≥3 despite narcotic and benzodiazepine rescue x2 OR if greater than 2 rescue doses given in a 12 hour period then consider resuming previous weaning step on the weaning plan (or increasing dose 20% if on Step 1). Resume wean when WAT-1 score <3 OR withdrawal symptoms have been resolved x24 hours.

*Physician may choose higher WAT-1 score if patient has preexisting condition such as baseline hypertonia. See “DCMC WAT-1 Guidelines”.

Please contact Carolyn Ragsdale, PharmD, BCPS (PICU Clinical Pharmacy Specialist) with questions via phone at 512-324-0000 x87079 or pager at 512-205-4435.
References


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