

## Methotrimeprazine HCl (Nozinan®) Injection Shortage

### Suppliers of methotrimeprazine HCl injection in Canada<sup>1</sup>:

| DIN      | Brand Name        | Manufacturer | Status as of 22 Jan 2019                                  |
|----------|-------------------|--------------|---|
| 01927698 | Nozinan Inj 25/ml | AVT          | Currently in stock <sup>2</sup> ; backorder is forecasted |

### Health Canada-approved indications for injectable methotrimeprazine<sup>3</sup>:

- treatment of psychotic disturbances: acute and chronic schizophrenias, senile psychoses, manic-depressive syndromes
- treatment of moderate to severe pain
- treatment of nausea and vomiting of central origin
- management of insomnia

Methotrimeprazine may also be used for<sup>4,5</sup>:

- control of agitation in palliative care patients or patients with acute brain injury
- sedation: pre-surgically, in ICU or in palliative care patients

### Alternative dosage forms of methotrimeprazine<sup>1,2</sup>:

- oral tablets: 2 mg, 5 mg, 25 mg, 50 mg (AAP)

### Therapeutic Alternatives for Injectable Methotrimeprazine

#### 1. Acute psychotic disturbance<sup>6,7</sup>

| Drug/ROA                  | Dose   | Comments   |
|---------------------------|--|--|
| Haloperidol IM            | 2-5 mg (0.5-1 mg elderly) q4-8h prn. Max 20 mg/d (5 mg elderly)  | Haloperidol 5 mg IM + lorazepam 2 mg IM more effective than haloperidol alone.   |
| Zuclopenthixol acetate IM | 50-150 mg q2-3d prn up to 400 mg cumulative dose or 4 injections (whichever first)   | Do not use in antipsychotic-naïve patients. Kinetics may allow for fewer required injections in severe acute agitation and/or aggression.  |
| Olanzapine IM             | 5-10 mg (2.5-5 mg elderly); if needed: 2 <sup>nd</sup> dose 5-10 mg 2h after 1 <sup>st</sup> ; 3 <sup>rd</sup> dose ≥4h after 2 <sup>nd</sup><br>Up to 30 mg and no more than 3 injections/24h | Has only been studied in mildly to moderately agitated patients.<br>Efficacy ~haloperidol with less EPS.   |
| Risperidone ODT*<br>PO    | 2 mg   | In trial risperidone ODT 2 mg PO + lorazepam 2mg PO ~ haloperidol 5 mg IM + lorazepam 2 mg IM regarding psychotic agitation. <sup>8</sup><br>If patient willing & able to take PO. |

d=day; EPS = extrapyramidal symptoms; h=hour; IM=intramuscular; ODT=oral disintegrating tablet; PO = oral; prn=as needed; q=every; ROA= route of administration. \* Not currently stocked at McKesson.<sup>2</sup>

## 2. Moderate to severe pain<sup>9</sup>

| Drug/ROA  | Dose   | Comments   |
|---|--|--|
| Ketorolac IM or IV  | 10-30 mg q4-6h up to 120 mg/d  | 30 mg ~ 12 mg morphine.<br>Limit use to 5 days.  |
| Opioids:<br>Fentanyl SL, IM, IV<br>Hydromorphone PR*, IM, IV, SC<br>Morphine PR, IM, IV, SC   | See individual monographs  |  |
| Ibuprofen IV* <sup>10</sup>   | 400-800 mg infusion q6h prn<br>Max recommended: 2400 mg<br>Do not exceed 3200 mg/24h | Intended as post-operative adjunct to parenteral opioids.<br>Infuse over 30 min; Use beyond 24h needs to be justified. |
| d=day; h=hour; IM=intramuscular; IV=intravenous; min=minute; PR = rectally; prn= as needed; q=every; ROA= route of administration; SC= subcutaneous; SL= sublingual. *Not currently stocked at McKesson. <sup>2</sup> |  |  |

## 3. Nausea and Vomiting of Central Origin<sup>11</sup>

| Drug/ROA  | Dose  | Comments  |
|---|---|---|
| Chlorpromazine IM*, IV*   | 25-50 mg q3-4h prn  |   |
| Haloperidol IM, IV  | 0.5-2 mg q12h prn   |   |
| Prochlorperazine PR   | 5-10 mg TID-QID prn   |   |
| Metoclopramide IV, SC <sup>^</sup>  | 10-20 mg TID-QID prn  |   |
| Ondansetron ODF, IV   | PO: 16-24 mg/day divided q6-8h.<br>IV: initial: up to 16 mg over 15 min;<br>then: ≤ 8 mg at 4h and 8h prn | Potential serotonin syndrome or NMS-like events when combined with serotonergic or neuroleptic drugs. |
| BID=twice daily; d=day; h=hour; IM=intramuscular; IV=intravenous; min=minute; NMS=neuroleptic malignant syndrome; ODF=oral disintegrating film; PO=oral; PR= rectally; prn=as needed; q=every; QID=4 times daily; ROA=route of administration; SC=subcutaneous; TID= 3 times daily.*Not currently stocked at McKesson. <sup>2</sup> <sup>^</sup> No Canadian products officially indicated for SC route <sup>1</sup> but safety/efficacy have been established. <sup>12</sup> |   |   |

## 4. Agitation

| Drug/ROA  | Dose   | Comments  |
|---|--|---|
| <b>Terminal agitation, palliative<sup>12</sup></b>  |  |   |
| Midazolam SC <sup>^</sup>   | 10 mg/24h CSCI and 2.5-10 mg SC prn; ↑ dose prn (10-60 mg/24h CSCI common)           |   |
| Lorazepam IV, SC <sup>^</sup>   | 1-4 mg IV stat; 4-20 mg/24h CIVI or 1-2 mg SC q6-8h prn                              | Sometimes used instead of midazolam; generally used in conjunction with antipsychotic.          |
| Haloperidol SC <sup>^</sup>   | 2.5-10 mg stat and q1h prn (1-5 mg q1h in elderly)<br>Maintenance: 10-15 mg/24h CSCI | Add to midazolam if >30 mg/24h required   |
| <b>Brain Injury<sup>13,14</sup></b>   |  |   |
| Propranolol PO  | 20-40 mg/d; ↑ by 20 mg/d up to 640 mg/d  | These agents have the most evidence. <sup>13</sup> If PO not possible, consider antipsychotics. |
| Carbamazepine PO  | 200-300 mg BID-TID   |   |
| Divalproex PO   | 250-500 mg TID   |   |
| BID = twice daily; CSCI=continuous subcutaneous infusion; CIVI=continuous intravenous infusion; d=day; h=hour; IM=intramuscular; IV=intravenous; PO= oral; prn=as needed; q=every; ROA=route of administration; SC=subcutaneous; stat=immediately; TID=3 times daily. <sup>^</sup> No Canadian products officially indicated for SC route <sup>1</sup> but safety/efficacy have been established. <sup>12</sup> |  |   |

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