


Criteria for Opioid Selection

To the Editor:

Despite the many advances made in the field of pain research and therapy, proper pain control is still hampered by many barriers. While much of the attention in recent years has focused on inadequate knowledge, poor assessment, concerns about the regulation of controlled substances, patient addiction, side effects, and analgesic tolerance, issues of cost, while omnipresent, have been the concern of very few clinicians.

It has been reported that in the United States of America, 13 million or 45% of patients over the age of 65 have no drug insurance coverage. If asked, many patients, especially those on Medicare, state that they cannot afford to buy the analgesics prescribed by their physician. The opioids creating the most apparent economic drain are sustained-release preparations (Table 1). The several sustained-release preparations available offer the medical community sound alternatives to patients who develop bothersome side effects to morphine. However, when considering an alternative opioid, the issue of excessive cost should be included with other selection criteria.

Table 1
Criteria for Opioid Selection Table

<table>
<thead>
<tr>
<th>Drug</th>
<th>Receptor Affinity</th>
<th>Pharmacokinetic Profile</th>
<th>Potency to oral morphine (ir)</th>
<th>Indicated Routes of Administration</th>
<th>Cost* for 30 days of 180 mg per day morphine or equianalgesic dose of another oral or TTS opioid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine (ir)</td>
<td>µ</td>
<td>20–30 min</td>
<td>3–6 h</td>
<td>↓↓↓↓↓</td>
<td>$68.40–126.90</td>
</tr>
<tr>
<td>Morphine (sr)</td>
<td>µ</td>
<td>2–4 h</td>
<td>8–12 h</td>
<td>↑↓↓↓↓</td>
<td>$116.16–172.91</td>
</tr>
<tr>
<td>Fentanyl (transdermal)</td>
<td>µ</td>
<td>12–24 h</td>
<td>48–72 h</td>
<td>70:1 (16)</td>
<td>↓</td>
</tr>
<tr>
<td>Hydromorphone (ir)</td>
<td>µ</td>
<td>20–30 min</td>
<td>4–5 h</td>
<td>5:1 (17)</td>
<td>↓↓↓↓↓</td>
</tr>
<tr>
<td>Hydromorphone (sr)</td>
<td>µ</td>
<td>2–4 h</td>
<td>8–24 h</td>
<td>5:1</td>
<td>not available in US</td>
</tr>
<tr>
<td>Methadone</td>
<td>µ</td>
<td>30 min</td>
<td>6–12 h</td>
<td>4:1 (&lt;90 mg) (18)</td>
<td>↓↓↓↓↓</td>
</tr>
<tr>
<td>oxycodone (ir)</td>
<td>µ</td>
<td>20–30 min</td>
<td>3–4 h</td>
<td>1:1 (19)</td>
<td>↓↓↓↓↓</td>
</tr>
<tr>
<td>oxycodone (sr)</td>
<td>µ</td>
<td>2–4 h</td>
<td>8–12 h</td>
<td>1:1</td>
<td>↓↓↓↓↓</td>
</tr>
</tbody>
</table>

*Source: Matt Kauflin, PharmD, CGP, Clinical Pharmacy Specialist. Based on Ohio Medicaid Reimbursement, 1999. (Note: retail prices may vary and be higher.)

ir = immediate release; sr = sustained-release; PO = by mouth; SL = sublingual; SC = subcutaneous; PR = per rectum; IM = intramuscular; IV = intravenous; TTS = transdermal.
Presently, there are few guidelines for the selection of an opioid as an alternative to morphine. The few that do exist do not include the cost of drugs as a variable to be considered. Based on clinical experience and after a review of the literature, the following parameters were merged under a single table: (1) relative affinities for the different opioid receptor types; (2) pharmacokinetic characteristics that influence onset of and duration of action; (3) potency; (4) available routes of administration; and (5) cost.

While a complete and comprehensive assessment and evaluation of each individual patient’s pain remains the cornerstone of pain therapy, and morphine is the opioid of choice for patients suffering from intense pain, some patients will require an alternative opioid. For those patients the Criteria for Opioid Selection Table may offer the clinical community a mechanism for selecting that alternative opioid that may be more suitable for the physiologic and socioeconomic profile of each patient.

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References