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Question: How do you convert methadone from a subcutaneous dose to an equivalent oral dose?

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Summary:

- For patients with palliative care needs, methadone should only be prescribed under the supervision of a specialist palliative care team.
- To convert from subcutaneous to oral methadone three methods are suggested;
    1. Using the same dose as was given subcutaneously (if overdosing is a concern this is the safest option).
    2. Multiplying the subcutaneous dose by 2
    3. Multiplying the subcutaneous dose by 1.4

Example: If a patient is receiving 10mg of methadone subcutaneously, using the conversions outlined, the equivalent oral dose could be 10mg, 14mg or 20mg.

Information:

There is limited information available to guide the conversion of methadone from a subcutaneous to an oral dose. The oral bioavailability of methadone varies from 36-100%[1,2] making exact subcutaneous (SC):oral (PO) equi-analgesic equivalence ratio difficult to determine.[3] Conversion ratios suggested include a 1:1 (SC:PO)[3,5], 1:2 (SC:PO)[1,2,], or 1:1.4[4] (SC:PO).

- *The Syringe Driver* textbook recommends that when converting from subcutaneous methadone to oral methadone, a ratio of **1:1** has been suggested.[3] This represents a cautious approach which takes into consideration the *mean*

oral bioavailability of methadone of 80% which is reported in this text.[3] Additionally, in 2005, Centerno and Vara published an uncontrolled before-after study of 10 patients comparing oral methadone with intermittent subcutaneous methadone dosing[5]. They concluded that minimal dose adjustments were needed when changing between oral and subcutaneous routes i.e. a **1:1** (range 1: 0.8 – 1.4) conversion ratio was suitable for the majority of patients[5].

- Two American reference sources, the *American Hospital Formulary Services (AHFS)* database and *Micromedex* recommend that if converting from parenteral to oral methadone, a ratio of **1:2** parenteral to oral should be used (e.g. a patient receiving 5 mg of parenteral methadone hydrochloride would be switched to 10 mg of oral methadone).[1,2] If this ratio is used it should be considered that the patient may receive double the previous dose of methadone due to the high bioavailability of methadone observed in some patients.
- In a retrospective analysis of eight patients converted from parenteral methadone to oral methadone, *González-Barboteo et al* recommended a conversion ratio of **1:1.4** for SC:PO.[4] They noted that the traditional ratio (SC:PO dose ratio of 1:2) produces toxicity problems.[4]

The clinical condition of the patient should always be taken into consideration when deciding which conversion ratio to use. It is generally best to convert conservatively using a 1:1 conversion ratio, on the understanding that upward dose titration may be necessary[3]. The patient should be monitored very carefully during the conversion period. In this context, methadone should only be prescribed under the supervision of a specialist palliative care team.

References

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