

Morphine Sulfate 10mg/5ml Oral Solution

Schedule 5 (CD Inv)

Appropriate Use Guidance

Background and Risks

- Oral morphine sulfate liquid has been directly linked to the cause of death in **13** 'prevention of future death reports' issued by coroners since 2013, the majority of which related to its use in treating chronic pain.
- There are a variety of reasons given for this including people 'swigging' from the bottle rather than measuring the dose, people being supplied large quantities over a long period of time, illicit use, self-harm, interactions between the morphine and other prescribed and illicit medication, and a lack of documentation of who collected the supply.^[1]
- Morphine Sulfate oral solution is available as two strengths, **10mg/5ml** and **100mg/5ml**, one of which is **ten times** the concentration of the other. Safety incidents have occurred nationally due to confusion regarding the different strength liquids and issues with large quantities being prescribed and supplied.^[1]
- The prescribable volumes of the 10mg/5ml strength are 100ml, 300ml and 500ml. This can provide a total dose of 200mg, 600mg and 1000mg which allows for a **substantial risk of harm, misuse or misappropriation** ^[1] If you are suspicious of any prescription requests, please inform your controlled drugs accountable officer.^[4]

Before initiating a patient on liquid morphine consider the following:

1. Whether the patient may benefit from the use of an immediate release (IR) tablet or an IR orodispersible tablet instead to help ensure precise dosing. For example if: the patient has poor eye sight or dexterity and may struggle to accurately measure the dose, there is a risk they may swig from the bottle, or other risks associated with using the liquid.

Note: Orodispersible IR tablets are available in lower strengths of 1mg, 2.5mg, 5mg and 10mg. The lowest strength of the standard IR tablet is 10mg (although tablets are scored.)

2. If reducing and tapering doses **avoid using liquid opioid preparations** where possible. Liquid opioid preparations are rapidly absorbed and metabolised which can lead to tolerance and addiction^[3] Consider whether immediate release tablets may be more appropriate.

3. Any mental health co-morbidities: morphine sulfate oral solution may be a riskier analgesic option for patients with a history of mental illness, self-harm or personality disorder.^[4]

4. If a patient is or may be opioid naïve patient — especially if they are already taking other central nervous system (CNS) depressant medicines.^[5]

Prescribing Liquid Morphine Sulfate

- Prescriptions for 300mL bottles may also make it easier for patients to escalate their dose themselves – a 300ml bottle of 10mg/5ml liquid contains the same amount of morphine as ~60 x Zomorph 10mg capsules.
- The Department of Health have issued strong recommendations that the maximum quantity of Schedule 2, 3 or 4 Controlled Drugs prescribed should NOT exceed that needed for **30 days**. This is not a legal restriction but prescribers should be able to justify the quantity requested (on a clinical basis) if > 30 days' supply is prescribed.^[6]
- Where liquid morphine sulfate is prescribed patients must be counselled effectively on the risks of using the liquid including measuring the dose accurately and not swigging from the bottle, only taking the prescribed quantity etc.

Prescribing Liquid Morphine Sulfate in Primary Care

- Where possible and practical, morphine sulfate oral solution should **not** be placed on repeat.
- Should a patient's morphine sulfate liquid prescription be placed on repeat, prescribing teams and clinicians should exercise due diligence to ensure that patients are:
 - not requesting this earlier than would be expected or reasonable
 - not at risk of escalating their dose themselves
 - not misusing or misappropriating
- Teams should be aware that if their repeat prescription process allows patients to request their medication up to one week earlier than the date the supply is anticipated to last until, over the course of a year, if repeatedly requested early, this could amount to up to 12 weeks extra medication.

When a prescription request is received for morphine liquid:

1. Check the date the patient's prescription for this was last issued
2. Calculate the length of supply of the last prescription based on the dose and daily volume the patient could have taken if they were to take it at the maximum prescribed frequency each day.
3. Based on this date and the duration of supply, is the patient requesting this too early? If the patient is requesting early is there a valid reason for this? Consider the possibility that the patient may be taking more than their prescribed dose.
4. Consider post-dating prescriptions if necessary, please see appendix one for details of the process for electronic prescriptions.
5. If the patient is repeatedly requesting their morphine sulfate liquid too early they should be contacted and a review of their pain management arranged.

The following table provides approximate durations of supply if patients were to use the maximum dose and frequency for the following commonly prescribed PRN doses and volumes.

Volume prescribed (mls) of 10mg/5ml	Number of days supply for the following standard PRN doses		
	1.25mg-2.5mg QDS PRN	2.5-5mg QDS PRN	5-10mg QDS PRN
100ml	20 days	10 days	5 days
300ml	60 days	30 days	15 days
500ml	100 days	50 days	25 days

Appendix 1: Post-dating electronic prescriptions in primary care

Step 1: Left click on "Issue (button)" in "Add a Drug"

The screenshot shows the 'Add a Drug' window with the following details:

- Name: Amoxicillin 500mg capsules
- Dosage: One To Be Taken Three Times A Day
- Quantity: 15 capsule
- Duration: 5 Day(s)
- Rx Types: Acute
- Authorising Clinician: [Redacted]
- Buttons: Private, Personally-administered, For STI - free of charge
- Review Date: 18-Oct-2022
- Days Before Next Issue: Min, Max
- Selected Drug: Amoxicillin 500mg capsules
- Contains: Amoxicillin 500 mg
- Warnings: Medium Severity Warnings (3)
 - Caution Use Amoxicillin with caution in History of allergic disorders including asthma, eczema and anaphylaxis. Latex allergy, Anaphylactic shock due to adverse food reaction
 - Caution Manufacturer advises use Amoxicillin with caution in hepatic impairment. [RFC] Liver cancer
 - Caution Use Amoxicillin with caution in renal impairment. Increased risk of convulsions. Risk of crystalluria with high doses (particularly during parenteral therapy). Reduce dose if eGFR 30 ml/minute/1.73 m2 or less (consult product literature). Chronic kidney disease stage 3b, Chronic kidney disease stage 5
- Buttons: Add Another, Issue (highlighted), Issue Later, Cancel

Step 2: Left click in "Issue"

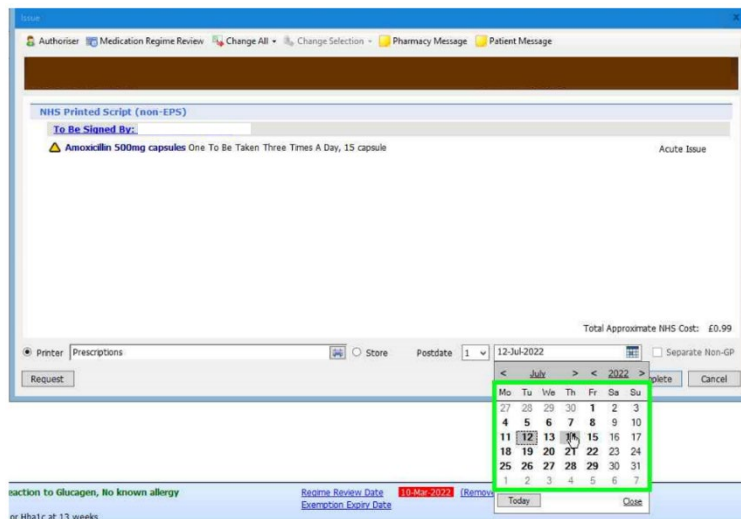
The screenshot shows the 'Issue' window with the following details:

- Authoriser: [Redacted]
- Medication Regime Review: [Redacted]
- Change All, Change Selection, Pharmacy Message, Patient Message
- NHS Printed Script (non-EPS)
- To Be Signed By: [Redacted]
- Amoxicillin 500mg capsules One To Be Taken Three Times A Day, 15 capsule Acute Issue
- Total Approximate NHS Cost: £0.99
- Printer, Prescriptions, Store, Postdate: 12-Jul-2022 (highlighted), Separate Non-GP
- Buttons: Request, Approve and Complete, Cancel

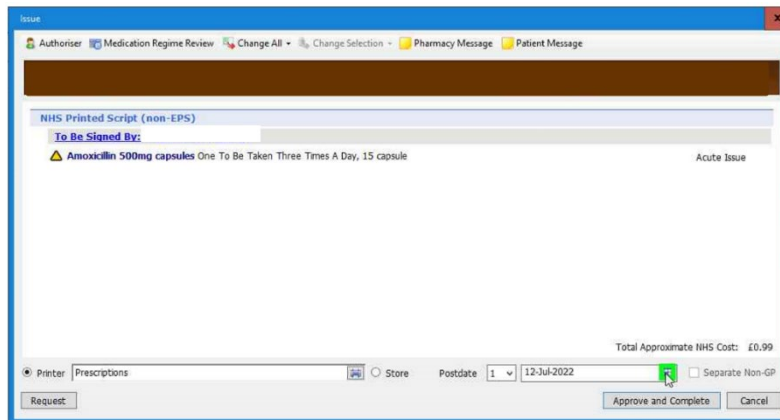
Step 3: Left click to select the number of days to postdate

The screenshot shows the 'Issue' window with the 'Postdate' dropdown menu open, displaying a list of numbers from 1 to 11. The number '1' is highlighted, indicating the selection of 1 day to postdate.

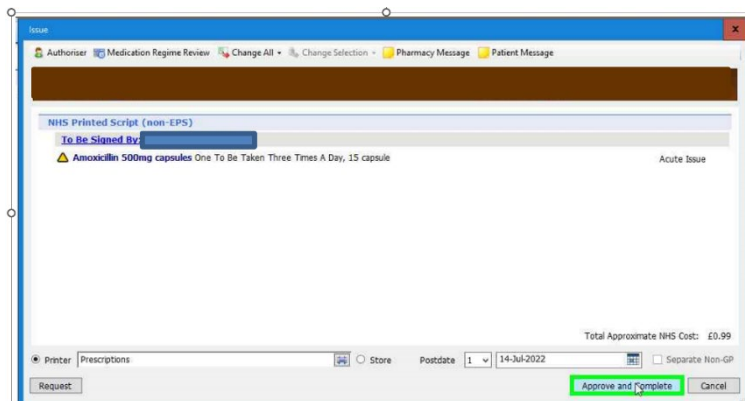
Step 4: Alternatively use the calendar symbol to pick the appropriate date



Step 5: Left click on "Close (pane)"



Step 6: User left click on "Approve and Complete (button)" in "Issue"



References

1. (Wickaware, 2021; NHS South Region South West, 2016
2. BNF Morphine sulfate
3. PrescQUIPP- *Reducing Opioids in Chronic Pain*
3. The Pharmaceutical Journal. Investigation: should liquid morphine be reclassified. September 2021. Available from: <https://pharmaceutical-journal.com/article/feature/investigation-should-liquid-morphine-be-reclassified>
4. NHS South West Region, controlled drugs newsletter August 2016.
5. <http://webarchive.nationalarchives.gov.uk/20171030131053/http://www.nrls.npsa.nhs.uk/resources/type/alerts/?entryid45=59888&p=3>
6. OPIOIDS AWARE

Morphine Sulfate Appropriate Use Guidance

Version	Date	Main Changes/Comments
1	December 2022	First draft
1.1	September 2023	Draft amended following discussion at the System Medicine Safety Group and East Kent Opioid Stewardship Group