

# SAFE AND SECURE HANDLING OF MEDICINES

## Section 8.5 Controlled Drug (CD) stock in wards/departments/theatres including oral liquid CDs

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### 8.5.1. Controlled Drug (CD) Stock

The ward/department/theatre should have a list of the CDs to be held in each ward/department/theatre as stock items, including minimum stock levels. The contents of the list must reflect current patterns of usage of CDs and must be agreed between the pharmacist or pharmacy technician responsible for stock control of medicines in the ward/department/theatre and the senior charge nurse/midwife/operating department practitioner (ODP) (*Stock lists are currently under development*).

The list must be modified if practices change and must be subject to annual review.

Where possible, routine orders should be placed on Monday-Friday and not on weekends/public holidays.

### 8.5.2. Daily CD Stock Check

The senior charge nurse/midwife/ODP is responsible for ensuring that stock checks are performed, as a minimum once every 24 hours, of CDs that require safe storage (Schedule 2 CDs, buprenorphine and temazepam). The balance of stock CDs and patients own CDs (e.g. number of tablets, capsules, ampoules/vials, patches etc), must be physically counted. If this cannot be done, a [Datix](#) report must be completed.

When an area is routinely closed for a period of time e.g. weekends, the stock must be checked on closure of the ward and again when it re-opens. If this is carried out a daily stock check is not required during the period of closure.

The CD stock check must be carried out by two registered nurses/midwives/ODPs or one registered nurse/midwife/ODP and one student nurse/midwife/ODP.

Student nurses/midwives/ODPs can be involved in this process once they have successfully completed the administration of medicines theory and simulated practice within their educational programme.

It is good practice to rotate the staff undertaking the CD checks.

### 8.5.3. Procedure for Daily CD Stock Checking

- Check the running balance in the CD register and patients own CD register against the contents of the CD Cabinet, not the reverse, to ensure that all balances are checked.
- Ward staff carrying out their daily check should physically check the balance of all CDs, for example number of tablets, capsules, vials/ampoules and patches in the CD cabinet against that documented in the CD register and patients own CD register to ensure they are the same.
- The best time for performing the daily CD stock check is at handover between dayshift and nightshift.
- It is not necessary to open packs with tamper evident seals but the integrity of all packaging and products must be assessed.
- Oral liquid preparations of CDs should **not** be physically measured at every CD check. Instead, a visual estimation approach is an acceptable method. However routine periodic volume measurement checks should be implemented by the senior charge nurse/midwife/ODP to

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ensure volumes recorded in the CD register are accurate and reflect actual stock balance. It should be assumed that manufacturer sealed bottles contain the amount stated on the label.

- If a discrepancy is suspected between the visual estimation and the volume recorded in the CD register/patients own CD register, a nurse/midwife/ODP may undertake a physical measurement of open bottles of liquid CDs. The volume should be double checked by another nurse/midwife/ODP and the measured volume documented in the CD register/patients own CD register if it is different from the recorded volume (see example in [Section 8.5.6.](#)). See [Section 8.5.4.](#) below or contact pharmacy for advice on measuring CD liquids. See [Section 8.5.6.](#) for advice on what to do if there is a liquid CD discrepancy.
- Any discrepancies discovered on the CD stock check must be reported immediately to the nurse/midwife/ODP in charge. A [Datix](#) must then be submitted following this verbal communication and the nurse/midwife/ODP in charge should investigate. See advice in [Section 8.7.](#) for carrying out an investigation and reporting an incident via Datix.
- Check that all CD's are within their expiry date. If expired stock is discovered this must be segregated for destruction and the CD register annotated as per example in [Section 8.8.11.](#)
- Ensure that there is adequate stock and re-order if required.
- The two members of staff must sign the [daily stock check recording sheet](#) to confirm that they have carried out the stock check, once finished checking the contents of the cabinet. If a discrepancy has been reported via [Datix](#), the Datix number must be recorded on the daily stock check recording sheet in the comments box.

## 8.5.4. Measuring and Administering Oral liquid CDs

### 8.5.4.1. Measuring oral liquid CDs

The balance for oral liquid CDs must be confirmed on completion of a bottle. If there is a discrepancy between the actual volume of an oral liquid CD at the end of a bottle and the volume recorded in the CD register see [Section 8.5.6.](#) for advice.

Bottles must be physically measured if the expiry date has passed before completion of the bottle. Some oral liquid CDs have a shortened expiry date once opened e.g. use within 3 months of opening. On opening the new expiry date should be clearly marked on the bottle.

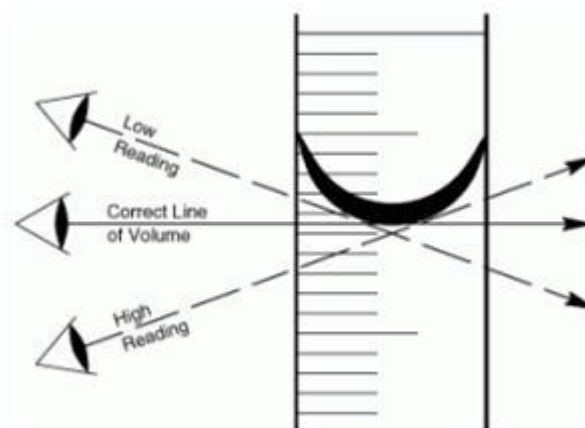
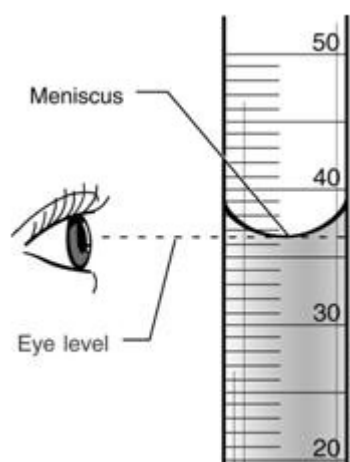
Once the expiry date has passed bottles should be clearly marked as expired and segregated for destruction as appropriate. Expired stock should be recorded in the CD register as per [Section 8.8.11.](#)

Volumes of liquid CDs must only be measured using an appropriate calibrated measure (with a government stamp). Plastic medicine cups are **not** suitable for accurately measuring CDs.

When measuring liquid CDs:

- Place the measuring cylinder on a flat, hard surface
- Ensure eye line is at the same height as the bottom of the meniscus
- The bottom of the meniscus is the accurate measurement

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#### 8.5.4.2 Measuring an oral liquid CD dose for administration to a patient

- Use an oral/enteral syringe to measure the required dose
- Always use the oral/enteral syringe with a bottle adaptor described below
- Allow the patient to take the dose directly from the oral/enteral syringe or put the measured dose in a medicine cup to administer to the patient
- Dispose of medicine cup and oral/enteral syringe in a blue lidded pharmaceutical waste bin.
- If there is more than a residual volume of liquid left in the syringe/medicine cup (e.g. patient has refused part of dose) then the remainder should be destroyed as per advice in [Section 8.8.11.](#)

Please note: Intravenous syringes should **NOT** be used to measure and administer oral liquid medicines

#### 8.5.4.3. Minimising loss of oral liquid CDs

To reduce/minimise loss of oral liquid CDs when measuring doses for administration to patients, it is advised that an adaptor is used for each bottle of oral liquid CDs as follows:

- Insert bottle adaptor into the top of the bottle of liquid CD
- Keep this bung in situ until the bottle is empty or the contents have expired
- Replace the cap on bottle each time it is used
- When the bottle is finished place the bung in a blue lidded pharmaceutical waste bin

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### 8.5.5. Oral Liquid CD Spillages

When spillages occur, a witness is required to verify that the spillage has occurred and this should be recorded in the CD register and signed by both the person making the spillage and the witness. To accurately record the volume lost, the remaining volume in the bottle should be measured by a nurse/midwife/ODP and volume confirmed by a second nurse/midwife/ODP. The stock balance documented in the CD register should reflect what volume remains. A [Datix](#) must be submitted following any loss or breakage of CDs.

For liquid CD spillages, use paper towels to soak up the liquid from the surface. The used paper towels should then be placed into a blue lidded pharmaceutical waste bin and an absorbent polymer e.g. vermagel placed over the used paper towels. The used paper towels must **not** be disposed of in normal waste streams or rinsed down the sink.

NAME, FORM OF PREPARATION AND STRENGTH....OXYCODONE LIQUID 5mg / 5mL										8
AMOUNT(S) OBTAINED			AMOUNT(S) ADMINISTERED							
Amount	Date Received	Serial No Of Requisition	Date	Time	Patient's Name	Amount given	Given by (signature)	Witnessed by (signature)	STOCK BALANCE	
Carried forward from Page Number.....7.....										
			24/04/2020	18.30	BALANCE B/F FROM PREVIOUS PAGE		A NURSE	B NURSE	25mLs	
			24/04/2020	2310	PATIENT A	5mLs	D NURSE	C NURSE	20mLs	
			24/04/2020	2312	SPILLAGE 13mLs AS ACTUAL REMAINING VOLUME IN BOTTLE MEASURED 7mLs. DATIX 12345		D NURSE	C NURSE	7mLs	

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### 8.5.6. Oral liquid CD Discrepancies

#### 8.5.6.1. Confirming the balance for oral liquid CDs on completion of a bottle

**The balance for oral liquid CDs must be confirmed on completion of a bottle.**

Discrepancies in liquid volumes may arise due to manufacturer's overage/underage or due to small losses when measuring frequent small volumes. An overage or underage of 5% of the **total** original volume of the bottle is considered acceptable.

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For example

- For a 100mL bottle of methadone 1mg/mL the total original volume in the bottle would be 100mL and a discrepancy of 5mL over or under the manufacturer stated volume would be acceptable.
- For a 250mL oxycodone liquid 5mg/5ml bottle the total original volume in the bottle would be 250mL and a discrepancy of 12.5mL over or under the manufacturer stated volume would be acceptable.
- For a 500mL bottle of methadone 1mg/mL the total original volume in the bottle would be 500mL and a discrepancy of 25mL over or under the manufacturer stated volume would be acceptable.

If the discrepancy is within 5% of the total original volume of the bottle, the nurse/midwife/ODP must record the actual balance in the CD register and document that the discrepancy is within 5%. The entry must be witnessed by another nurse/midwife/ODP and both must sign the CD register. No Datix is required for discrepancies of less than 5%. However, if staff have any concerns about overage/underage even within the permitted 5% boundaries they should seek advice from the CD team ([tay.cdteam@nhs.scot](mailto:tay.cdteam@nhs.scot)).

NAME, FORM OF PREPARATION AND STRENGTH....OXYCODONE LIQUID 5mg / 5mL

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AMOUNT(S) OBTAINED			AMOUNT(S) ADMINISTERED						
Amount	Date Received	Serial No Of Requisition	Date	Time	Patient's Name	Amount given	Given by (signature)	Witnessed by (signature)	STOCK BALANCE
Carried forward from Page Number.....7.....									Balance on transfer
			24/04/2020	18.30	BALANCE B/F FROM PREVIOUS PAGE		A NURSE	B NURSE	10mLs
			24/04/2020	2310	PATIENT A	5mLs	D NURSE	C NURSE	5mLs
250mLs (TWO HUNDRED AND FIFTY)	25/04/2020	083	ENVOPAK NO. 79003185	0910	RECEIVED FROM PHARMACY		C NURSE	D NURSE	255mLs
			25/04/2020	0918	BALANCE CHECKED ACTUAL MEASURED 260mLs. DISCREPANCY LESS THAN 5% DUE TO OVERAGE AT END OF BOTTLE		C NURSE	D NURSE	260mLs
			25/04/2020	0937	PATIENT B	10mLs	D NURSE	C NURSE	250mLs

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The CD register should be checked to ensure there have been no other discrepancies noted and balances adjusted since the bottle was opened. If more than one discrepancy has been noted the total volume of all discrepancies should be calculated and used to calculate the % discrepancy at the end of the bottle.

If the discrepancy is greater than 5% of the total original volume of the bottle, the registered nurse/midwife/ODP in charge should be informed and an investigation must be carried out. An investigation checklist (see [Section 8.7.2](#). and [Appendix 11](#)) should be completed.

The nurse/midwife/ODP in charge must make an entry in the CD register clearly documenting the discrepancy (including the actual balance) and stating that this is under investigation. The entry must be witnessed by another nurse/midwife/ODP and both must sign the CD register. The senior charge nurse/midwife/ODP or on-call duty manager for the area/site in the OOH period should be informed. The ward pharmacy team should also be informed.

If the discrepancy is greater than 5% a [Datix](#) report must be completed within 24 hours. All incident reports involving CDs must be tagged as a CD incident on DATIX to ensure the report is automatically forwarded to the CD Team (see [Section 8.7.2](#)). The DATIX number must be recorded in the discrepancy entry in the CD register. The completed [Investigation Checklist](#) should be sent to the reviewer to attach to the DATIX incident form.

NAME, FORM OF PREPARATION AND STRENGTH....OXYCODONE LIQUID 5mg / 5mL										8
AMOUNT(S) OBTAINED			AMOUNT(S) ADMINISTERED							
Amount	Date Received	Serial No Of Requisition	Date	Time	Patient's Name	Amount given	Given by (signature)	Witnessed by (signature)	STOCK BALANCE	
Carried forward from Page Number.....7.....									Balance on transfer	
			24/04/2020	18.30	BALANCE B/F FROM PREVIOUS PAGE		A NURSE	B NURSE	25mLs	
			24/04/2020	2310	PATIENT A	5mLs	D NURSE	C NURSE	20mLs	
			24/04/2020	2320	BALANCE CHECKED ACTUAL MEASURED 5mLs. UNDERAGE OF 15mLs. GREATER THAN 5% DISCREPANCY ALLOWANCE. INVESTIGATION UNDERWAY. DATIX NUMBER 12345		D NURSE	C NURSE	5mLs	

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### 8.5.6.2. How to calculate the 5% discrepancy allowance at the end of a bottle

Find out the original volume contained in the bottle by looking at the label. Calculate 5% of this number.

$$\text{Total original volume (mL)} \times \frac{5}{100} = 5\%$$

#### **Example calculation:**

Oxycodone 5mg/5mL 250mL bottle

$$250\text{mL} \times \frac{5}{100} = 12.5\text{mL}$$

Discrepancy allowed at the end of the bottle is therefore 12.5mL *\*Remember discrepancy can be a shortage or an overage\**

### 8.5.6.3. How to calculate the 5% discrepancy allowance if the balance has not been confirmed at the end of the bottle

If volumes have not been confirmed at the end of each bottle:

- Perform a physical volume check on all open bottles.
- Add volume of open bottles to balance of any full bottles to confirm the current physical balance.
- If this does not match what is recorded in the CD register then calculate the discrepancy amount. Review the CD register to find out when the last physical volume check was carried out.
- Calculate the quantity administered since the last physical volume check.
- Divide the discrepancy volume by the quantity administered since last physical volume check and x100 to calculate the percentage discrepancy.

#### **For example**

Current balance in CD register = 3870mL (7 x unopened 500mL bottles and 1 x opened bottle in CD cabinet)

Current physical balance = 3885mL (7 x unopened 500mL bottles and 1 x opened bottle with contents measuring 385mL)

Discrepancy = 15mL

Quantity administered since last physical volume check = 630mL

$$\frac{15\text{mL}}{630\text{mL}} \times 100 = 2.4\%$$

This discrepancy is within 5% and should therefore be documented as per advice above.

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#### 8.5.7. Four Monthly CD Check by Pharmacy Staff

A check of CD practices within wards/departments/theatres must be completed every four months by a member of pharmacy staff (pharmacist/pharmacy technician) and a registered nurse/midwife/ODP.

Wards/departments/theatres may request additional pharmacy CD checks if issues are identified or suspicions arise.

These checks must take place in accordance with pharmacy SOPs.

Where the balance of any CD stock is checked it must be clearly documented in the CD register using red ink. The entry must be signed and dated by a pharmacist / pharmacy Technician and a nurse/midwife/ODP.

See link to [Controlled Drugs Check Report](#).

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