



Hertfordshire and
West Essex Integrated
Care System

Good Practice Guidance Reducing Harm from Omitted and Delayed Medicines

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for a healthier future



Learning Objectives

- Examples of medicines which must not be delayed or omitted
- Guidance on what to do following a missed dose
- Record-keeping
- Common reasons for missed & delayed doses and suggested actions
- Preventing missed & delayed doses
- Dealing with errors and incidents



What contributes to delayed and omitted doses?

Common sources of errors we've seen in practice

Poor documentation

Resident asleep

Away from care home e.g. day centre, appointment

Stock levels not matching recorded balance

Refusal



What contributes to delayed and omitted doses?

Reasons for delayed and omitted doses can vary widely, and errors can occur as a result of poor practice in any stage of the medicines process including:

- Transfer of care
- Medicines reconciliation
- Prescribing
- Transcribing
- Ordering, supply & receipt
- Administration

[Local guidance](#) has been developed to support care staff with prevention of missed & delayed doses



Examples of medicines which are time-critical (i.e. where timeliness of administration is crucial)

Treatment area	Examples of medicines	Potential consequence of omission
Acute respiratory conditions e.g. asthma attack or COPD exacerbation	<ul style="list-style-type: none"> Salbutamol, Terbutaline, Formoterol 	Could result in medical emergency
Acute respiratory conditions (i.e. not routine care for stable breathing)	<ul style="list-style-type: none"> Corticosteroids e.g. Prednisolone 	Could result in medical emergency
Anaphylaxis	<ul style="list-style-type: none"> Adrenaline e.g. Epipen, Jext, Emerade 	Could be life-threatening
Chest pain in angina	<ul style="list-style-type: none"> Glyceryl Trinitrate (GTN) 	Worsening of chest pain symptoms
Diabetes – To treat high blood sugar levels	<ul style="list-style-type: none"> Insulin – short acting insulins e.g. NovoRapid, Humalog 	If blood sugar levels continue to rise, this may develop into diabetic ketoacidosis which is serious
Diabetes – To treat low blood sugar levels (hypoglycaemia)	<ul style="list-style-type: none"> Glucose oral products (for choice of products see link) Glucagon injection e.g. Glucagen 	Confusion, blurred vision, slurred speech, drowsiness, seizures, unconsciousness
Severe chronic pain & breakthrough pain	<ul style="list-style-type: none"> Morphine, Oxycodone 	Loss of pain control
Palliative/ end of life symptom control	<ul style="list-style-type: none"> Glycopyrronium bromide, Levomepromazine, Midazolam 	Poor symptom control
Parkinson's Disease	<ul style="list-style-type: none"> Co-beneldopa, Co-careldopa, Rotigotine, Ropinirole, Entacapone, Amantadine, Pramipexole 	Loss of symptom control, it can take a long time for a person to get back to their baseline
Respiratory conditions	<ul style="list-style-type: none"> Oxygen 	Could result in medical emergency
Seizures – Rescue medication	<ul style="list-style-type: none"> Diazepam Midazolam e.g. Buccolam, Epistatus 	Loss of seizure control
Any drug intended for 'stat' (immediate) administration	Time of administration must be recorded on the MAR chart	



- Symptoms**
- Slow movements
 - Rigidity
 - Tremor
 - Loss of balance

- Examples of medication** used to treat Parkinson's Disease include:
- Co-beneldopa (e.g. Madopar)
 - Co-careldopa (e.g. Sinemet)
 - Rotigotine
 - Ropinirole
 - Entacapone
 - Amantadine
 - Pramipexole

Parkinson's Disease

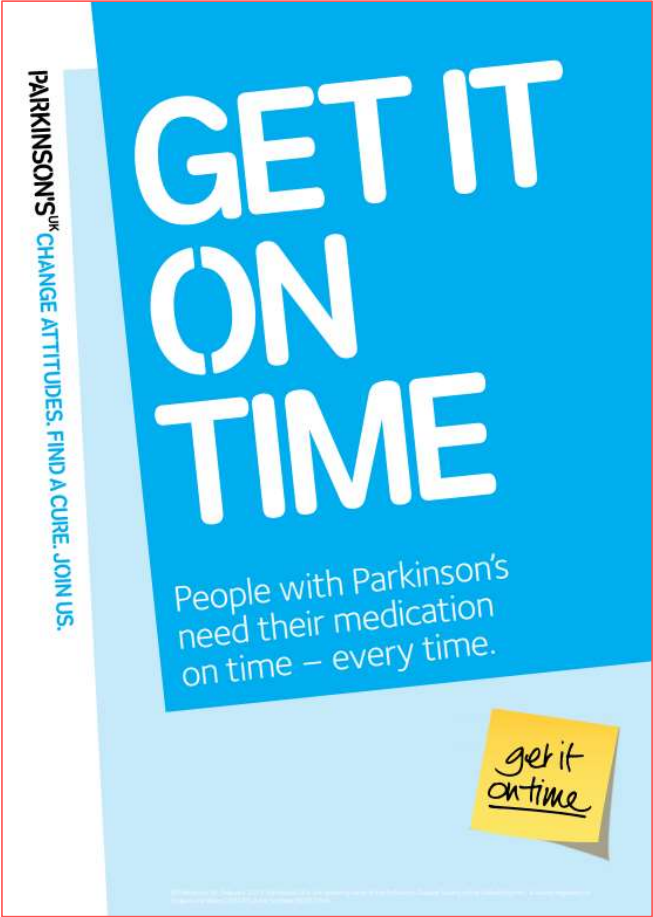
If a resident becomes unwell and is unable to take their medicines, contact the GP or specialist. Stopping Parkinson's medicines suddenly can be dangerous.

Develop **person-centred care plans** to show how people with Parkinson's disease will receive their medicines safely and in a way that meets their needs. Support residents with self-administration where appropriate.

- Timing** of medicines for Parkinson's Disease:
- Will be based on individual needs
 - **Must** be specified by the prescriber
 - **Must** be specified clearly on the MAR chart
 - May not fit in with the standard medicines administration rounds
 - Should only be adjusted after discussion with a specialist in managing Parkinson's Disease



Parkinson's 'Get It On Time' Resources



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Examples of medicines where a dose delayed beyond 2 hours could result in significant short-term or long-term patient impact:

Treatment area	Examples of medicines
Diabetes – To treat high blood sugar levels	<ul style="list-style-type: none"> • Insulin (intermediate-acting) e.g. Humalog Mix 25, Humalog Mix 50, Humulin I, Humulin M3, Insulatard, Novomix 30 • Insulin (long-acting) e.g. Abasaglar, Lantus, Levemir, Tresiba, Toujeo
Fluid and electrolyte imbalance	<ul style="list-style-type: none"> • Sando-K, Calcium Resonium
Immunosuppressants for treatment of organ transplantation	<ul style="list-style-type: none"> • Tacrolimus (e.g. Adoport®, Prograf®)

If dose is delayed beyond 2 hours or omitted, this could result in complications and/ or hospitalisation.



Examples of medicines where a dose omission (i.e. not administered by the time of the next scheduled dose) could result in significant short-term or long-term patient impact:

Treatment area/ medicine group	Examples of medicines
Anticoagulants for Stroke/ DVT/ PE	<ul style="list-style-type: none"> Apixaban, Dabigatran, Edoxaban, Rivaroxaban - these are also known as NOACs or DOACs Warfarin
Arrhythmia	<ul style="list-style-type: none"> Amiodarone, Flecainide, Verapamil
Arrhythmia, angina	<ul style="list-style-type: none"> Atenolol, Bisoprolol, Metoprolol, Propranolol
Crohn's Disease & Ulcerative Colitis	<ul style="list-style-type: none"> Mesalazine, Sulfasalazine
Corticosteroids (when used in the long-term management of inflammatory disorders)	<ul style="list-style-type: none"> Dexamethasone, Hydrocortisone, Prednisolone
Cytotoxic drugs & immunosuppressants (medicines that suppress the immune system) (Used for a range of conditions)	<ul style="list-style-type: none"> Oral e.g. Azathioprine, Ciclosporin, Cyclophosphamide, Hydroxycarbamide, Leflunomide, Methotrexate, Mercaptopurine, Mycophenolate Injectable e.g. Triptorelin
Diabetes	<ul style="list-style-type: none"> Oral e.g. Alogliptin, Gliclazide, Glimepiride, Linagliptin, Metformin, Pioglitazone, Sitagliptin, Tolbutamide Injectable e.g. Dulaglutide, Exenatide, Lixisenatide
Epilepsy	<ul style="list-style-type: none"> Carbamazepine (e.g. Tegretol®), Clobazam, Clonazepam, Gabapentin, Lamotrigine, Levetiracetam, Phenytoin (e.g. Epanutin®), Pregabalin, Sodium valproate (e.g. Epilim®)
Eye conditions (eye drops/ ointments)	<ul style="list-style-type: none"> Inflammatory eye conditions e.g. Prednisolone, Dexamethasone, Betamethasone, Fluorometholone Glaucoma e.g. Latanoprost, Bimatoprost, Timolol, Dorzolamide, Brinzolamide, Brimonidine
Infections	<ul style="list-style-type: none"> Oral antibiotics/antifungals/antivirals (examples not provided as risk of delay or omission will vary)
Rheumatoid arthritis	<ul style="list-style-type: none"> Hydroxychloroquine, Methotrexate, Sulfasalazine
Schizophrenia, psychoses, mania, bipolar disorder	<ul style="list-style-type: none"> Antipsychotics (oral) e.g. Aripiprazole, Clozapine, Olanzapine, Quetiapine, Risperidone Antipsychotics (depot) e.g. Flupenthixol Decanoate, Risperidone, Zuclopenthixol Decanoate Lithium



Anticoagulants are **used to treat & prevent blood clots** in the following conditions:

- Atrial fibrillation (irregular heart beat), which can lead to stroke or TIA (transient ischaemic attack i.e. mini stroke)
- Deep Vein Thrombosis (DVT)
- Pulmonary Embolism (PE)

Protective effects of NOACs can start to fade even after one dose omission - can lead to reduction in anticoagulant effect and **increase the risk of blood clots.**

Anticoagulants

Medication includes:

- Apixaban
 - Dabigatran
 - Edoxaban
 - Rivaroxaban
 - Warfarin
- Also known as NOACs/ DOACs

Care plans should include the following information to **support the safe use of anticoagulants**:

- How to use anticoagulants
- How long to take treatment
- Possible side effects and what to do if these occur (most common side effects are bruising & bleeding)
- The effects of other medications, foods, and alcohol on oral anticoagulation treatment
- How to monitor anticoagulant treatment
- How anticoagulants may affect their dental treatment
- When and how to seek medical help



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Used for a wide range of conditions e.g. Cancer, Rheumatoid Arthritis, Psoriasis, Crohn's Disease

If a dose is missed, contact the prescriber or specialist clinic. For specific advice on Methotrexate, see [guidance](#).

These are disease-modifying drugs that affect how the body's cells grow and reduce the activity of the immune system

Cytotoxic drugs & immunosuppressants

Prescriptions for cytotoxic drugs should clearly state the dose and frequency for administration. Directions such as 'as directed' must not be used, the prescriber must be consulted to change the directions.

Dispensed in original packs rather than compliance aids or monitored dosage systems (MDS).

Examples of medicines include:

- Azathioprine
 - Ciclosporin
 - Cyclophosphamide
 - Hydroxycarbamide
 - Leflunomide
 - Methotrexate
 - Mercaptopurine
 - Mycophenolate
- Plus many more....



Treatment of seizures – Rescue medicines

Rescue medicines are used to **treat** seizures – prescribed as a '**PRN**'.

Examples of rescue medicines:

- Buccal midazolam e.g. Buccolam, Epistatus - must be prescribed by brand
- Rectal diazepam

Prescriber must give detailed information about how & when to administer.

Care plans should include information about:

- **how** the seizure presents itself
- **the resident's rescue medicines**, which should include what effect these should have and within what time frame
- **when to seek more help** e.g. when to call for an ambulance

Care staff supporting people with rescue medicines should be **trained** and **competent** to be able to administer them.

Prevention of seizures

Anti-epileptic drugs (AEDs) are used to **prevent** seizures – prescribed as **regular** medicines

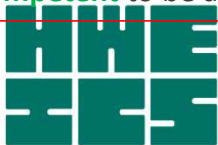
A few examples:

- Carbamazepine (e.g. Tegretol®)
- Clobazam
- Clonazepam
- Gabapentin
- Levetiracetam
- Phenytoin (e.g. Epanutin®)
- Sodium valproate (e.g. Epilim®)

Advice provided by the [Epilepsy Society](#) recommends, *in general*, **if a dose is missed** and the drug is usually taken:

- once a day – a missed dose should be taken as soon as it is remembered.
- twice a day – a missed dose can be taken if it is within six hours after it was due, otherwise it should be omitted, and the next dose taken at the usual time.

Medicines for epilepsy



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General guidance on actions to take following a missed dose

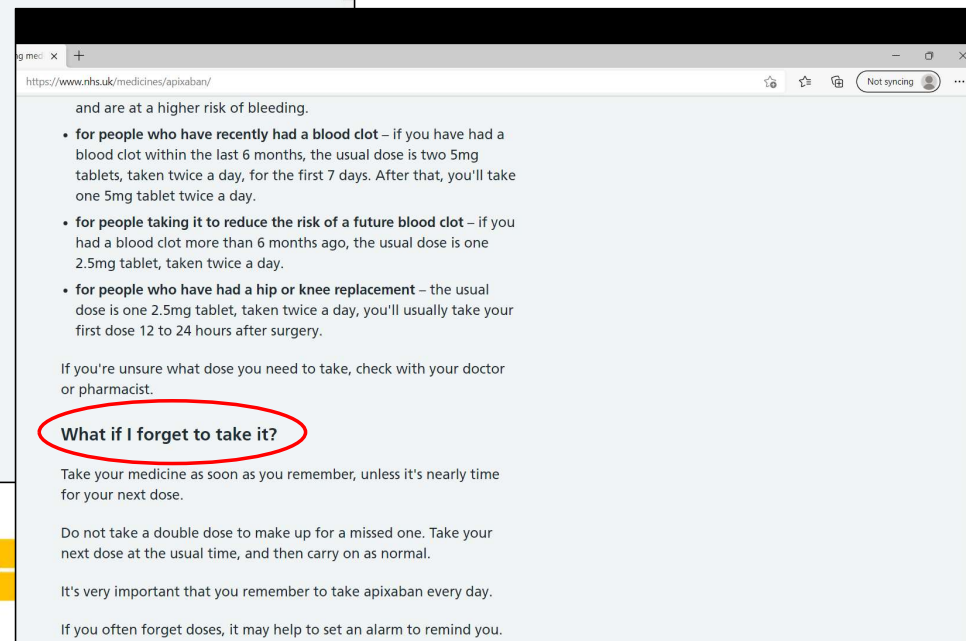
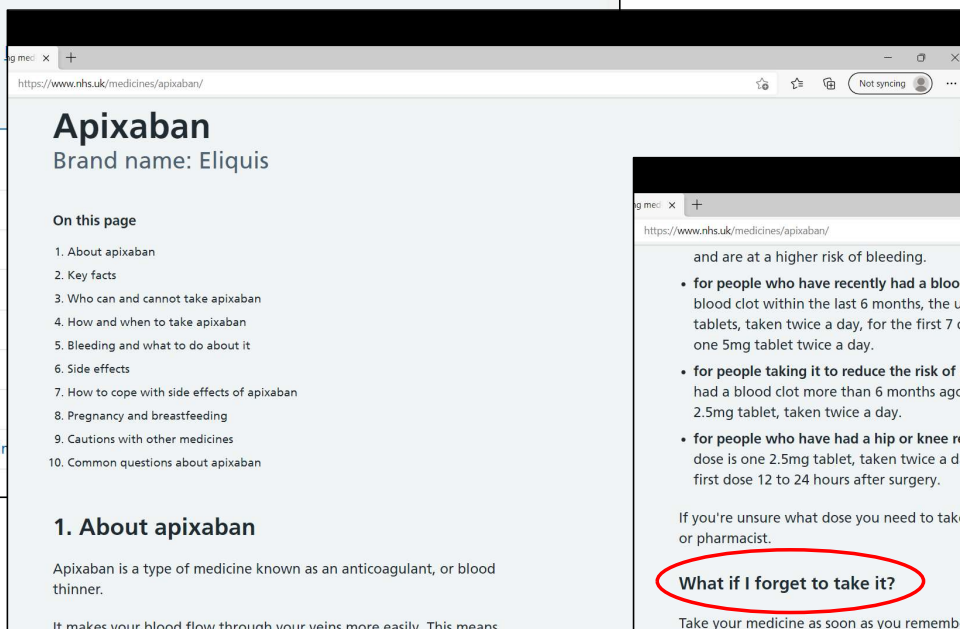
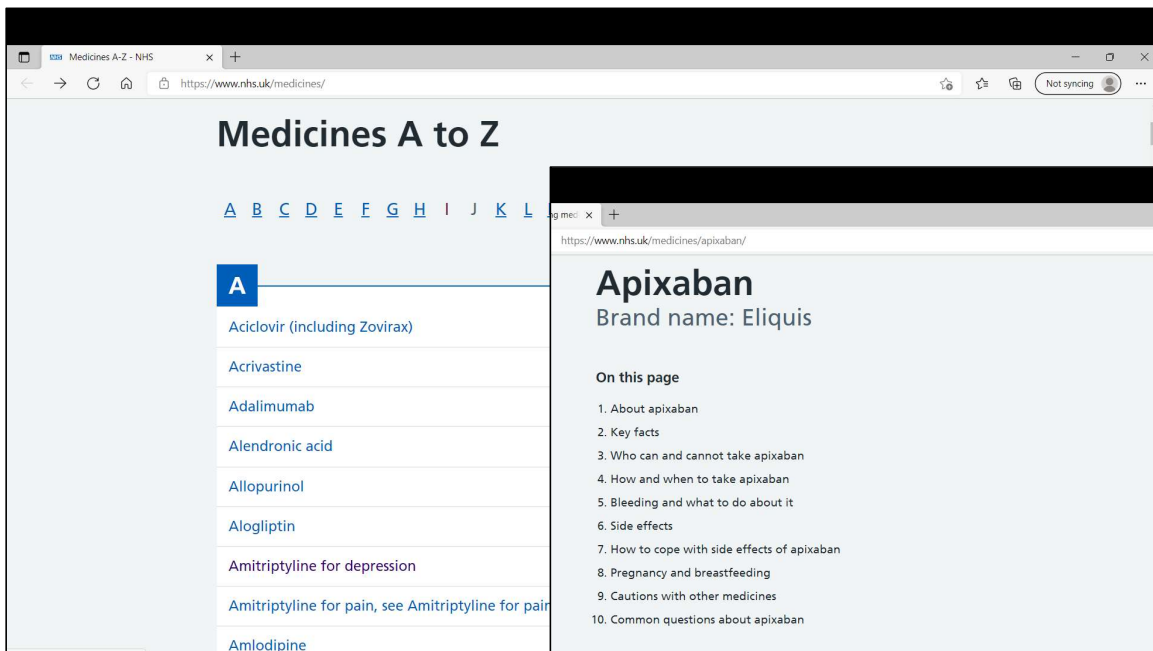
- 1) Refer to the **Patient Information Leaflet (PIL)**. PILs are provided with the medication, they can also be found on the following website <https://www.medicines.org.uk/emc/search>.

The screenshot shows the homepage of the medicines.org.uk/emc website. At the top, there is a navigation bar with links for HOME, MEDICINES, COMPANIES, LATEST UPDATES, ABOUT EMC, HELP, SIGN UP, and LOGIN. Below this is a search bar with the text "Search emc: Enter medicine name or company" and a search button labeled "GO". The search results for "rivaroxaban" are displayed, showing three entries under the "New Medicines" tab, each with a "SmPC" icon and details about the medicine, including the active ingredients/generics and the manufacturer. To the right of the search results is a "UK COVID-19 Vaccine Information" card with a "View Now" button. Below the search results is a "Useful links" section with four cards: "Drug Safety Update", "Yellow Card", "Search emc med data", and "emc northern ireland".



General guidance on actions to take following a missed dose

2) If the information is not provided within the PIL, check the NHS website <https://www.nhs.uk/medicines/>.



General guidance on actions to take following a missed dose

3. If **the information is not provided within the PIL or the NHS website**, use the following general guidance:
- **For medicines that are prescribed as once or twice a day:**
 - **Give the dose as soon as it is remembered/ available as long as the next dose is not due within a few hours, and then continue as normal**
 - **Seek further advice** from the prescriber, practice pharmacist or community pharmacist **if you are not sure what this means in the situation you are dealing with**
 - **For medicines that are prescribed more frequently throughout the day:**
 - It is **usually advised to omit the missed dose, wait until the next dose is due**, then **continue as normal**. For example, this may apply to an antibiotic or painkiller taken three or four times a day
- 3) If further guidance is needed, **contact a healthcare professional** - can include a GP, pharmacist or nurse practitioner.

A missed dose should **never** be doubled at the next medication time – this could be harmful.



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Recording delayed doses

Medication Administration Record

Name: <i>Winnie Winter</i>	D.O.B: <i>1/1/35</i>	Gender: <i>Female</i>	Allergies: <i><u>Nkda</u></i>
Address: <i>Happy Care Home Hertfordshire</i>			Start Day: <i>8/11/21</i>
Doctor: <i>Dr Day</i>			

Medication Profile	Time/Dose	Week 1							Week 2							Week 3							Week 4								
		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5		
<i>Apixaban 5mg tablets</i> <i>Take ONE tablet twice a day</i>	08:00	AS	AS	AS	AS	AS	AS	AS	<i>R</i>	FE	FE	FE	FE	FE	FE	FE	<i>S</i>	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
									<i>AS 10 2AM</i>								<i>FE 11 8AM</i>														
	20:00	TG	TG	TG	PD	PD	PD	TG	TG	TG	TG	TG	TG	TG	UG	UG	UG	UG	UG	UG	UG	UG	UG	UG	UG	UG	UG	UG	UG	UG	UG
Carried forward: 0	Qty recd: <i>56</i>	by: <i>AB</i>							date: <i>4/11/21</i>							Returned:							Qty:	By:							
									destroyed:																						

Key: R=Refused, N=Nausea or Vomiting, H=Hospital, L= On leave, D=Destroyed, S=Sleeping, O=Other (record reason in notes/ back of MAR)

Record non-administration **code** on MAR chart (do not leave this blank)

If the missed dose is administered at a later time, **always** record the time of administration



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General principles: Don't forget to record the quantity received and to check & record running balances

Recording delayed doses

Back of MAR chart

Date	Time	Medication	Dose	Comment	Outcome	Signature
15.11.21	08:00	Apixaban	5mg	Refused dose. Would like to take her dose a bit later in the morning.	Dose administered at 10am. MAR chart signed.	AB
23.11.21	08:00	Apixaban	5mg	Winne was asleep during the 8am medication round.	Winnie woke up at 10.15. Morning dose was administered at 11am. MAR chart signed.	FE

Record any additional information on the back of the MAR chart or supplementary sheet



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Common reasons for missed & delayed doses and suggested actions

Medication not available

- ✓ **Check** for stock
- ✓ If **no stock** is available, **obtain a prescription/ supply**
- ✓ If outside of regular pharmacy opening hours, **check nearby pharmacy opening hours**
<https://www.nhs.uk/service-search/find-a-pharmacy/>

Prescribing issue
e.g. directions unclear, drug allergy, adverse effect

- ✓ **Seek clarification** from a healthcare professional e.g. practice-based/ PCN pharmacist, community pharmacist, nurse practitioner, or GP

Resident asleep

- ✓ **Assess urgency**. Even one dose omission or delay could have a negative impact on the resident's condition and could result in harm
- ✓ If the resident is often asleep during the medication round, liaise with the prescriber or pharmacist to review timing of dose and alter if appropriate

Patient factors
e.g. low blood pressure, loose stools, low pulse

- ✓ **Discuss with the prescriber** and **agree a plan for monitoring** the resident
- ✓ Record **non-administration code** and **reason for omission** on the MAR chart
- ✓ **Make clear records** of any monitoring carried out



Common reasons for missed doses and suggested actions

Swallowing difficulty

- ✓ **Liase with the prescriber** to assess whether the medication is still indicated and required. If so:
 - **Check if the formulation is consistent** with any **Speech & Language Therapy recommendations**
 - If the resident cannot comfortably swallow the tablet/ capsule, consult the prescriber or pharmacist.
Some tablets/ capsules are harmful if crushed/ opened
 - HVCCG [Guidance on crushing tablets or opening capsules in a care home setting](#)
 - HVCCG [Medication Risk Assessment Form for residents with swallowing difficulties](#)
 - ENHCCG [Guidance on crushing tablets or opening capsules in a care home setting](#)

Refusal of medication

- ✓ **Establish reason** and if there is a **pattern of refusal**
- ✓ **Try returning after a short interval.** May not be appropriate in all cases e.g. if refusal is linked to a side effect
- ✓ **Discuss** with the prescriber
- ✓ **Record circumstances and reason/s for refusal in the care plan and MAR chart.**
- ✓ Follow the principles of the **Mental Capacity Act**



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For medicines where compliance with dosage and frequency are critical to the resident's wellbeing (e.g. epilepsy medication, NOAC etc), the prescriber should be contacted after the first dose is refused.

Preventing missed doses – good practice recommendations

Medicines reconciliation

- Complete this process for **all residents** transferred from another care setting/ place of residence
- The following information should be available on the day that a resident transfers into a care home:
 - **Full details** of medicines including strength, dose, form, timing, frequency, route, indication
 - **Medication changes**
 - **Date & time of last dose**

Administration of medicines

- **Plan** for medicines which have to be given at **specific times** e.g. in relation to food, time-specific medicines
- Be aware of **PRN medicines** – timings will not fit in with the standard medicines round
- Keep a **running balance tally** on the MAR chart (particularly original packs)
- **Sign** the drug chart **immediately after** administration – do not leave this task until the end of the meds round
- If the medicine is **omitted, enter non-administration code** on the MAR & **make a record** in care plan/ MAR chart

Shift handover

- **Discuss** any missed or delayed doses, and any **outstanding actions**
- If the timing of a medicine has been changed, **communicate** this with other colleagues



Preventing missed doses – good practice recommendations

Ordering and receipt

- During the monthly medicines ordering process:
 - Allow plenty of time to order prescriptions
 - Check prescriptions or prescription tokens against the medication order, **before** medicines are dispensed
 - **Allow plenty of time before the start** of the next medication cycle, to **check the supplied medication against the original order, and the MAR chart**. If a medication is missing from the MAR chart and/or not received in the delivery, do not assume it has been discontinued. Check with the GP practice or community pharmacy.
- Medicines started or changed mid-cycle:
 - If the prescription is sent electronically to the pharmacy, inform the pharmacy
 - For monthly prescriptions, check that the quantity prescribed/ issued is synchronised with the medication cycle

Audit

- Conduct regular audits
- Develop & implement **action plans**
- **Share** learning



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Dealing with errors and incidents relating to missed and delayed doses

Examples of scenarios which do not trigger raising a safeguarding concern:

- **Gap in recording** e.g. signature is missed on the MAR chart, but your investigation concludes that the medicine was correctly administered, ***no harm has occurred***, appropriate action has been taken with the member of staff concerned and recorded this
- **Medication is not given on one occasion** e.g. the resident does not receive prescribed medication (missed dose) on one occasion, a suitably qualified professional is consulted and ***no harm occurs***. Appropriate action has been taken with the member of staff concerned and recorded this
- **Medication is not given on more than one occasion and no harm occurs** e.g. recurring missed medication identified through observation or audit, a suitable qualified professional is consulted and ***no harm occurs***. Swift action is taken through training, supervision. You monitor the situation closely until poor practice has been corrected. The incident has been recorded and action taken/ advice given
- **Medication was given late** e.g. an unforeseen event meant that some people received their medication later than scheduled, you have checked to ensure that no medication was time-sensitive and ***no harm has occurred***, you have recorded the incident and action taken/ advice given



Dealing with errors and incidents relating to missed and delayed doses

Examples of scenarios which would trigger raising a safeguarding concern:

- **Consecutive/ multiple medication incidents involving the same resident** e.g. prescribed medication is not administered over more than one round because it has not been ordered or collected
- **Single medication incident involving multiple residents** e.g. a whole medication round is missed or delayed
- **Potential, moderate or severe harm** resulting from medication delay or omission

Reporting errors & incidents

If an error or incident results in an omitted or delayed dose, seek appropriate medical advice, and report the error/ incident in line with the [Hertfordshire Medication Errors and Safeguarding Guidance](#) (the guidance also includes a link for the [Provider Form](#), which should be used for recording non-safeguarding errors).



Recording Non-Safeguarding Medication Errors

Please use this form to record any medication errors that might arise.

Name of organisation *

Name of Site

Date of incident * **Time occurred ***

/ /
 : :

MM DD YYYY HH MM SS AM/PM

Try to be as accurate as possible

Nature of incident where safeguarding thresholds are not met *

E.g. Medication Error

Brief outline of what occurred *

E.g. Medication is missed on one occasion and no harm occurs

Outcomes *

What happened as a result of the medication error?

Actions Taken *

E.g. GP contacted, observations undertaken, supervision with staff member, additional training. Include how this will be reviewed to ensure embedded.

Lessons learnt *

E.g. Ensure staff member is not disturbed during medication round.

Has this occurred before in the last month? *

Yes No

Has this occurred before in the last three months? *

Non-safeguarding medication error form can be found via the [Hertfordshire Medication Errors and Safeguarding Guidance](#).



Resources

- Herts Valleys CCG & East and North Herts CCG Guidance – [Reducing Harm from Omitted and Delayed Medicines](#)
 - To access from HVCCG page, see [link](#)
 - To access from ENHCCG page, see [link](#)
- [CQC guidance - Time sensitive medicines](#)
- [Hertfordshire Medication Errors and Safeguarding Guidance](#)



Any Questions?



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