

TARGET Medical, nursing and pharmacy staff working within primary care a secondary care settings in NHS Lanarkshire	
PATIENT GROUP	All patients within NHS Lanarkshire Mental Health & Learning Disability services

Clinical Guidelines Summary

This guideline provides guidance for the safe, effective, and person-centred prescribing and administration of Antipsychotic Depot and Long Acting Injections (LAIs) in hospital and community settings across NHS Lanarkshire.

Antipsychotic Depot and Long Acting Injections (LAI):

- Are an antipsychotic drug formulated to allow the gradual release of a drug over a prolonged period.
- Have a variety of formulations and delivery vehicles.
- Are all administered by intramuscular injection.
- Should only be administered by appropriately trained and competent staff.
- They provide some advantages over oral medication, especially in terms of adherence. Their use is supported by current clinical guidelines.
- There are some potential disadvantages. These include patient tolerability and where side effects occur, they may be prolonged due to the extended release characteristics of the formulations.
- When considering the choice of treatment, patient opinion should be sought and taken into account.
- Communication between patient settings regarding depot prescriptions must be robust.
- In outpatient settings, the community depot prescription and administration record should be used.
- In inpatient settings, prescribing should be done on the inpatient prescribing system (either HEPMA or on the inpatient cardex depending on the systems used in that area).
- If a patient is detained under the Mental Health (Care & Treatment) (Scotland) Act 2003, or is being treated under the Adults with Incapacity (Scotland) Act 2000 (AWI) legislation, treatment must comply with a relevant treatment plan.



Contents

1.	Aim	4
2.	Scope	4
3.	Definitions	4
4.	Treatment recommendations and patient choice	5
5.	Patient choice; information and consent	6
6.	Medication-related issues	7
7.	Prescribing	8
-	'.1 Choice of antipsychotic	8
-	'.2 Test doses of FGA depots	8
-	'.3 Site of administration	9
-	'.4 Implications for administering outwith licensed sites of administration	10
-	'.5 Titrating and maintenance doses	10
7.6	Switching and stopping antipsychotic depots/LAIs	12
	7.6.1 Stopping	12
	7.6.2 General principles of switching	13
7.7	Prescribing Practicalities	13
8. :	Supply of depots/LAIs	15
8	3.1 Inpatients	15
8	3.2 Discharge	15
8	3.3 Community Patients	15
9. /	Administration	16
ģ	0.1 Practical issues with administration	16
	9.1.1 Nodule formation and site rotation	16
	9.1.2 Managing extremes of weight	16
	9.1.3 Advice on managing late doses	17
	9.1.4 Co-morbid substance misuse	17
Ç	0.2 Record keeping	17
10	Communication	19
	0.1 Communication between care settings	19

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



10.2 Communication with Primary Care	19
10.3 CAMHS	19
11. Side effect monitoring	20
12. Storage and transport	21
13. Audit and review	21
References/Evidence	22
Related Guidance/ Policy	23
Additional Training	23
Appendices	24
Appendix 1- Pharmacokinetics of antipsychotic depots/ LAIs *	26
Appendix 2- Dose selection for antipsychotic depot/LAIs	27
Appendix 3- Frequency flexibility for antipsychotic depot/LAIs	28
Appendix 4 - Patient information resources	29
Appendix 5 - Community Depot Prescription and Administration Record	30

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



1. Aim

To provide guidance to support the safe, effective and person-centred prescribing and administration of Antipsychotic depot and Long Acting Injections (LAIs).

2. Scope

This guidance applies to all staff involved in the prescribing, administration and supply of antipsychotic depot and LAIs across NHS Lanarkshire. It is the responsibility of senior managers to ensure that this guidance is implemented.

Only appropriately trained and competent staff may administer antipsychotic depot/LAIs. Newly qualified staff and staff returning to practice should undergo a period of supervised practice before they may administer depots/LAIs.

3. Definitions

Depot & LAI

An antipsychotic drug formulated in such a way that allows the steady gradual release of a drug over a prolonged period. An antipsychotic depot refers to first generation antipsychotic (FGA) depot where the drug is delivered in an oil based depot containing an ester of the active antipsychotic. This is slowly released from the oil and hydrolysed to the active drug. Some second generation antipsychotic (SGA) long acting injections (LAIs) are also available in a variety of formulations and delivery vehicles. All depot and LAIs are administered by deep intramuscular injection.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



4. Treatment recommendations and patient choice

Antipsychotic depots and LAIs provide some advantages over oral medication, especially in terms of adherence, and their use is supported by current clinical guidelines.

SIGN 131, 2013¹

'Individuals with schizophrenia who request depot and those with medication adherence difficulties should be offered maintenance treatment with depot antipsychotic medication'.

NICE CG178, 2014²

'Consider offering depot/long-acting injectable antipsychotic medication to people with schizophrenia:

- who would prefer such treatment after an acute episode
- where avoiding covert non-adherence (either intentional or unintentional) to antipsychotic medication is a clinical priority within the treatment plan.'

There are some potential disadvantages to antipsychotic depot and LAI use, including patient tolerability and managing side effects, which may be prolonged due to the extended release characteristics of the formulations.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



5. Patient choice; information and consent

Patients should be encouraged to be active participants in their care when it comes to making decisions about medication.

Any decision to commence someone on an antipsychotic depot/LAI must follow evidence-based guidelines. Patients and, where appropriate, their next of kin/ carer/ welfare guardian, must have a full discussion with their consultant psychiatrist about the risks and benefits of treatment in order for them to make an informed decision. The discussion should also consider practical aspects of depot/LAI use in terms of frequency of treatment, location of clinics, site of administration etc.

Information must be tailored to the individual's needs, understanding and capacity. It is essential to reflect on the principles of the Montgomery ruling when considering the information offered to patients to support shared-decision making. Prescribers must ensure that patients are aware of any material risks involved in the treatment and of any reasonable alternatives.³

Written patient information should be used to support the discussion about the risks and benefits of treatment. Patient information leaflets on psychotropic medicines are available at www.choiceandmedication.org/nhs24/ hosted via NHS Inform. In particular, a handy fact sheet comparing the LAIs and oral antipsychotics as well as handy charts comparing the different antipsychotics are useful tools.

Where patients are detained under the Mental Health (Care and Treatment) (Scotland) Act 2003 or being treated under the Adults with Incapacity (Scotland) Act 2000, appropriate information must be provided according to their needs and capabilities and relevant legal paperwork that complies with the proposed treatment must in place prior to initiation of depot/ LAI treatment. All staff involved in prescribing and administration must be aware of the contents of any treatment plan, have access to this at the point of prescribing and administration and follow the appropriate guidance with regards to treatment.

Consent to treatment good practice guide 4

MWC 2021 Medical Treatment Under Part 16 MHA 5

MWC 2021 Treatment Under Section 47 of the Adults With Incapacity Act ⁶

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



6. Medication-related issues

There are a number of other issues that may impact on the decision to prescribe an antipsychotic depot/LAI;

Potential for High Dose Antipsychotic Prescribing

Where a patient is prescribed regular or as required oral antipsychotics in addition to a depot/LAI, this may result in reaching high dose antipsychotic status, which requires increased monitoring in line with local and national guidance.

NHSL High Dose Antipsychotic Therapy Guidelines

Concomitant medication and potential drug interactions

Staff should refer to the current edition of the BNF, summary of product characteristics (SPCs)⁷ for individual medications or contact pharmacy for advice.

Precautions and contraindications

Refer to current SPC ⁷ of individual antipsychotic depot/LAIs for cautions and contraindications with existing medical conditions and for any additional monitoring this may entail.

Switching

Consideration should be given as to the safest way to switch to or from an antipsychotic depot/LAI. Contact MHLD pharmacy services for advice if necessary.

Extremes of weight

There are practical issues when prescribing or administering antipsychotic depot/LAIs to patients with very low body weight or who are significantly obese. Muscle mass is important for effective absorption of antipsychotic depots/LAIs. The reduced muscle mass in patients with low body weight may affect absorption and may also result in increased discomfort on injection. Significant obesity may make successful administration of antipsychotic depot/LAIs more challenging. The most appropriate site of administration should be considered, as well as different needle sizes for injection. The risks/ benefits of oral antipsychotic versus depot/LAI should also be considered in these circumstances (refer to section 9.1.2 Managing extremes of weight)

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



7. Prescribing

Prescribing of depot/ LAIs should be in line with NHSL Joint Formulary ⁸ Long Acting Antipsychotic Injections | Right Decisions

7.1 Choice of antipsychotic

The antipsychotics currently available as depot/LAIs are:

First generation antipsychotic (FGA) depots			
Flupentixol decanoate	Possibly more alerting than other FGAs		
Haloperidol decanoate	More commonly associated with EPSE than other FGAs. A baseline ECG is recommended prior to initiation		
Zuclopenthixol decanoate	May be more effective at preventing relapse than other FGAs ⁹		
Second generation antipsych	notic (SGA) LAIs		
Aripiprazole monthly			
Aripiprazole 2 monthly	Non formulary within NHS Lanarkshire		
Risperidone	Subject to cold chain storage		
Paliperidone palmitate monthly	Paliperidone is the major active metabolite of risperidone		
Paliperidone palmitate 3 monthly	Non formulary within NHS Lanarkshire		
Paliperidone palmitate 6 monthly	Non formulary within NHS Lanarkshire		
Olanzapine embonate*	*Olanzapine embonate is not approved for use in NHS Scotland and is therefore outwith the scope of this guidance SMC Olanzapine LAI decision ¹⁰ . Contact MHLD pharmacy for further information		

7.2 Test doses of FGA depots

Test doses for FGA depots are required to assess tolerability to the active drug as well as the theoretical and very rare risk of anaphylaxis associated with the oil component of the formulation. There are no test doses for any of the SGA LAIs, however, the patient should ideally be tolerant to and responsive to the oral form of the drug prior to initiating the LAI where possible. For tolerability prior to commencing paliperidone LAI, oral risperidone should be used.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



Drug	Test dose	Comments
Flupentixol decanoate*	20mg	Oil vehicle is a fractionated coconut oil
Haloperidol decanoate	25mg**	Oil vehicle is sesame oil **there is no test dose documented within SPC
Zuclopenthixol decanoate*	100mg	Oil vehicle is a fractionated coconut oil

Following a test dose, it is generally advisable for patients to remain in the healthcare facility for a period of time (historically this has been around 1 hour) for staff to monitor standard observations and ensure that there are no acute reactions to the depot e.g. allergic reaction to carrier oil (Refer to Section 11: Side effect monitoring). Given the delayed nature of release of the active ingredient from the carrier oil, depot antipsychotics are unlikely to produce significant side effects are the time of administration. A treatment dose can be initiated 1 week after the test dose if there are no reactions or side effects reported.

*Flupentixol and zuclopenthixol - Branded flupentixol and zuclopenthixol decanoate (Depixol® and Clopixol®) are formulated with the same fractionated coconut oil as the main excipient. They both belong to the thioxanthene class of antipsychotics and are chemically very similar in structure. Therefore, provided a patient has not experienced adverse effects following treatment with flupentixol decanoate, there is no real need to give a test dose if switching to zuclopenthixol decanoate (and vice versa).

7.3 Site of administration

The licensed sites of administration for each FGA depot and SGA LAI are:

Drug	Licensed site for administration (as per SPC) ⁷
Flupentixol decanoate	Upper outer buttock or lateral thigh
Haloperidol decanoate	Gluteal
Zuclopenthixol decanoate	Upper outer buttock or lateral thigh
Aripiprazole monthly	Deltoid or gluteal
Aripiprazole 2 monthly	Gluteal
Risperidone	Deltoid or gluteal
Paliperidone palmitate monthly	Deltoid or gluteal (initiation doses must be in deltoid)
Paliperidone palmitate 3 monthly	Deltoid or gluteal
Paliperidone palmitate 6 monthly	Gluteal

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



7.4 Implications for administering outwith licensed sites of administration

If a depot/LAI is prescribed and administered into a site that is not covered by the marketing authorisation and stipulated in the SPC, this is an off-label (unlicensed) use of that medication. In the event this is being considered, advice should be sought from MHLD pharmacy services. When prescribing outwith the marketing authorisation, it is important that consent is obtained for this and that the patient/ carer is aware of the implications (this site of administration may not have been subject to the same rigorous trials regarding safety and efficacy). If an unlicensed site of administration is pursued, injection technique, rotating the site, monitoring for any nodule formation as well as monitoring to ensure ongoing efficacy (due to potentially altered absorption kinetics) is essential.

Unlicensed Medicine Policy NHSL¹¹

Patient Consent to Unlicensed Medicine Use¹²

7.5 Titrating and maintenance doses

Principles of titrating depots

- For FGA depots, begin with the lowest therapeutic dose and titrate slowly to the minimum effective dose. Lower doses may be as effective as a higher dose range and potentially better tolerated.¹³
- Prescribe for the longest possible licensed interval to minimise injections (be aware of the maximum single dose as that may determine having to change the frequency).
- Adjust doses after an adequate period of assessment and be aware of the kinetics of the drug and formulation. Dose increases being made before steady state is reached may be required in terms of clinical and practical necessity, but where possible, these increases should not be made too quickly for risk of increasing the dose beyond what is required for the individual and putting them at risk of increased adverse effects.
- Commencing a SGA LAI should follow the guidance for initiation from the SPCs of each formulation.⁷
- When using depot/LAIs in an elderly population refer to individual SPCs and consider the need for lower test and maintenance doses as well as cautions, potential increased sensitivity and licensed indications in relation to age.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



Drug	Dose range	Dosing interval*
Flupentixol decanoate	50mg every 4 weeks to 400mg a week	1-4 weeks
Haloperidol decanoate	50-300mg every 4 weeks	4 weeks
Zuclopenthixol decanoate	200mg every 4 weeks to 600mg every week	1-4 weeks
Aripiprazole (1/12)	400mg every month (can be reduced as per SPC)	monthly
Aripiprazole(2/12)	720mg – 960mg once every two months	every 2 months
Paliperidone palmitate (1/12)	50mg to 150mg every month	monthly
Paliperidone palmitate (3/12)	175mg-525mg every 3 months	every 3 months
Paliperidone palmitate (6/12)	700mg -1000mg every 6 months	every 6 months
Risperidone	25mg-50mg every 2 weeks	2 weekly

^{*}information taken from SPC for individual products

Points to note for SGA LAIs:

Aripiprazole monthly

- One injection start: administer one injection of 400 mg into the gluteal or deltoid muscle and continue oral treatment with 10-20 mg/day for 14 consecutive days to maintain therapeutic concentrations during initiation of therapy.
- Two injection start: two separate injections of Aripiprazole 400 mg should be administered at two different injection sites along with one 20 mg dose of oral aripiprazole. Do not inject both injections concomitantly into the same deltoid or gluteal muscle.
- Lower doses of aripiprazole LAI injection can be administered as described in the SPC.
- Doses lower than 400mg of aripiprazole must be administered via a vial (the pre-filled syringe is not graduated). Please see the Aripiprazole Otsuka 400 mg powder and solvent for prolonged-release suspension for injection user manual for directions of use. <u>Aripiprazole Otsuka 400 mg powder and solvent for prolonged-release suspension for injection User Manual (emc)</u>. See Appendix 2 Dose selection for antipsychotic depot/LAIs

Aripiprazole 2 monthly

- Non-formulary
- The summary of product characteristics does not stipulate that it requires stabilisation with the monthly preparation, although tolerability with oral aripiprazole must be established.
- It is highly recommended that establishing on monthly aripiprazole would be more appropriate before considering the 2 monthly preparation because of extended duration of action.

Paliperidone monthly

- Paliperidone has initiation doses of 150mg on day 1; 100mg on day 8; followed by a monthly maintenance dose adjusted according to response.
- The initiation doses <u>must be</u> administered into the deltoid.
- Paliperidone doses must be prescribed in line with dose preparations available i.e. 50mg, 75mg, 100mg, 150mg. A dose of 125mg is not an appropriate dose as this would require 2 separate injections to be administered

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



Paliperidone palmitate 3 monthly LAI

- Non formulary
- Can only be considered for patients who are clinically stable on paliperidone monthly LAI for at least 4 months

Paliperidone palmitate 6 monthly LAI

- Non formulary
- Can only be considered for patients who are clinically stable on paliperidone monthly at doses
 of 100mg or 150mg for at least 4 months or paliperidone 3 monthly at doses of 350mg or
 525mg for at least one injection cycle

Paliperidone equivalent doses

Monthly	3 monthly	6 monthly
50mg	175mg	n/a
75mg	263mg	n/a
100mg	350mg	700mg
150mg	525mg	1000mg

Risperidone LAI

- Treatment with oral risperidone should continue for 3 weeks after the first LAI has been administered. Following injection of risperidone LAI, there is a lag period and the main release of risperidone starts from week 3 onwards.
- As paliperidone is the active metabolite of risperidone, it may be more appropriate to consider the use of paliperidone LAI in preference to risperidone (paliperidone has a longer frequency of administration, is not subject to cold storage and has a higher maximum dose)

Aripiprazole and paliperidone monthly preparations are administered every calendar month not every 4 weeks. From a practical perspective, it is recommended that monthly injections are prescribed and administered e.g. on the 1st X-weekday of the month, this avoids the potential of recurrent LAI administration falling on a weekend. If a monthly LAI is prescribed on a particular date and administration is due to fall on a weekend or public holiday, the administration can be altered in line with Appendix 3 Frequency flexibility for antipsychotic depot/LAIs

7.6 Switching and stopping antipsychotic depots/LAIs

7.6.1 Stopping

Discontinuation of FGA depots and SGA LAIs is relatively straightforward. The nature of the slow release formulation means that the drug will persist in the body for a number of months (*Appendix 1 for Pharmacokinetic of antipsychotic depot/LAIs including elimination half-lives*). In general, there is no rationale for decreasing the dose in preparation for stopping. The drug can generally be stopped from the patient's current dose and there will be a relatively consistent decrease in plasma levels over time.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



7.6.2 General principles of switching

- Given the extended half-life of these preparations, there is the potential for interactions and additive adverse effects when moving from one preparation to another antipsychotic.
- When moving from one FGA depot or SGA LAI to an oral antipsychotic treatment, it would usually be reasonable to titrate up to an approximate equivalent oral dose starting when the depot/LAI would have been due to be administered.
- When moving from one FGA depot to another, there may still be a requirement to administer a test dose.
- When moving to a SGA LAI, follow the guidance within the SPC for the new product.
- For specific advice on switching one antipsychotic to another, consult MHLD pharmacy services.

7.7 Prescribing Practicalities

All FGA depots/SGA LAIs must be prescribed on an appropriate NHS Lanarkshire prescribing system with the administration recorded on corresponding recording system at the time of administration;

In outpatient settings, the community depot prescription and administration record (Appendix 6) should be used. It is the responsibility of the psychiatrist or designated deputy to ensure the depot/LAI is prescribed to enable administration by nurses in this setting. Any changes to an antipsychotic depot/LAI prescription must be quickly and clearly communicated to all relevant staff.

In inpatient settings, prescribing of FGA depots and SGA LAIs should be done on the inpatient prescribing system (either HEPMA or on the inpatient cardex depending on the systems used in that area).

When a patient is admitted to a MHLD inpatient area, the community depot prescription should be discontinued and a new prescription written, if necessary, when the patient is discharged. This is to support robust medicines reconciliation processes at interfaces of care and to ensure there is minimal risk that the wrong dose or wrong drug is administered (in the event of changes to medication during the inpatient stay).

Only <u>one</u> NHSL prescription for administering FGA depots/SGA LAIs should be in use at any one time.

The community depot prescription and administration record must be legally written and signed by a prescriber before the depot/LAI can be administered to the patient. The community depot prescription and administration record must be completed in full and include;

- Patient's name; CHI; DOB; address; names of key personnel e.g. CPN
- Any known allergies or sensitivities, including sensitivities to dressings/ plasters. If none, then 'no known drug allergies' must be written

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



- The drug name, dose and frequency of administration Additional info (e.g. injection site preference)
- If there is a T2/ T3 certificate in place for patients subject to treatment under the Mental Health (Care & Treatment) (Scotland) Act 2003

The community depot prescription should be reviewed by the responsible prescriber at an outpatient appointment at least every 12 months.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



8. Supply of depots/LAIs

8.1 Inpatients

Depots/LAIs are ordered directly from the hospital pharmacy department (via stock and/or non-stock requisitions).

8.2 Discharge

Depots/LAI can be supplied on discharge prescriptions if the patient is due a depot/LAI within 7-14 days from the date of discharge. This may be required to minimise any potential delay in accessing supplies in the community. This should be discussed on case by case basis and may require liaising between the MHLD pharmacy team and the CMHT if required. For example, it may not be appropriate for the patient to be supplied with the depot/ LAI on discharge, but dispensed as part of the discharge medication and supplied separately to the CPN/CMHT.

It may be appropriate to administer a depot/LAI early to prevent the need for supply on discharge. Refer to Appendix 3- Frequency flexibility for antipsychotic depot/LAIs

8.3 Community Patients

There are some nuances in terms of depot/LAI supply for community patients. In general, they are prescribed through primary care via a GP10, on request from mental health services and supplied via community pharmacy. The medication will be labelled by the community pharmacy for an individual patient's use.

SGA LAIs are relatively high cost items and community pharmacies are unlikely to keep stock of these formulations. They will tend to place an order on receipt of a prescription, therefore it is important for prescriptions to be ordered in a timely fashion to minimise delays in supplies being obtained.

For some areas (predominantly North), the supply of certain FGA depots has historically been via a CMHT stock order from the local hospital pharmacy. In this situation, the responsibility of storage remains with the clinic or CMHT.

In the event that prescribing via GP10 or supply via community pharmacy of a depot/LAI is potentially compromised/delayed, there may be an option to access from one of the acute hospital pharmacies via a hospital outpatient prescription as an interim measure, dependent on stock availability. This should be an exception to depot/LAI supply and not the rule and areas should liaise with MHLD pharmacy to discuss arrangements on a case by case basis.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



9. Administration

The following links include diagrammatic information on injection sites:

Injection technique 1: administering drugs via the intramuscular route | Nursing Times 15

<u>Guidance-on-im-administration-of-oil-based-depots-and-other-long-acting-antipsychotic-injections-7th-edition.pdf</u> ¹⁶

There must be formal systems in place to confirm a patient's identity before a depot/LAI is administered. Ensuring the 'five rights' of medication administration are adhered to each time a depot/ LAI is administered will minimise the risk of medication errors; right patient, right drug, right dose, right route and right time.

All FGA depot/SGA LAI administrations must be recorded on a corresponding administration recording chart at time of administration.

9.1 Practical issues with administration

9.1.1 Nodule formation and site rotation

With repeated injections of depots/LAIs over years, there is a risk of hard lumpy nodule formation. It is imperative that sites of administration are rotated to minimise this risk, using all licensed sites of administration (refer to section 7.3) that the patient consents to and to use the smallest volume to deliver the prescribed dose (*Appendix 2 Dose selection for antipsychotic depot/LAIs*). Ultimately, nodule formation may necessitate a change in treatment if the patient suffers significant pain/ distress or if there is concern regarding reliable administration and/or absorption of the depot/LAI.

9.1.2 Managing extremes of weight

Needles need to be long enough to allow injection to the intended depth of muscle with a quarter of the needle remaining external to the skin. An assessment of the size of needle required to reach the muscle must be made taking into account any subcutaneous fat especially in obese patients.

3 commonly available needle sizes for IM administration are:

- 1-inch blue
- 1.5-inch green
- 2-inch yellow

Where needles are supplied with the injection e.g. SGA LAIs, these should be used.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



9.1.3 Advice on managing late doses

The key benefit of depots/LAIs is that they are long-acting and, as a result, there is usually lee-way in terms of more flexible due dates of administration e.g. if someone is going on holiday, misses a scheduled appointment because they are unwell or depot/LAI administration is due to fall on a public holiday. In general terms, administering a depot/LAI a day or two at either side of the scheduled date will not cause significant problems. There are some exceptions and advice is given in *Appendix 3 Frequency flexibility for antipsychotic depot/LAIs*. If there is a significant delay to depot/LAI administration, there is a risk of drug plasma levels decreasing and the potential for symptom control to worsen, potentially precipitating the need for short term adjunctive oral antipsychotic treatment. Advice on managing missed doses for most SGA LAIs can be found in individual SPCs. Individual circumstances need to be considered on a case by case basis and MHLD pharmacy services can be contacted for advice. Unless there is a change to the dose of depot/LAI, there is no need for the depot/LAI to be re-prescribed because of a late administration. The individual details should be well documented on the administration record and in the patient's notes.

9.1.4 Co-morbid substance misuse

In the event that a patient is due to receive their depot/LAI and they appear under the influence of substances, a risk assessment must be undertaken and decision to administer or delay made on a case by case basis. Given the sustained release characteristics of depots/LAIs, delaying administration by a day or two may be the most practical solution. For hard to engage patients, it may be more appropriate to administer the medication at the time they have presented.

9.2 Record keeping

Proper record keeping (hard copy and/or electronic) is essential to patient safety. Medication incidents have occurred because of poor record keeping and failure to follow recommended guidance e.g.

- Medication administered to the wrong patient
- Doses being given before or after the next due date in error.
- Wrong medication or dose being dispensed or administered.
- Doses missed completely.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



The following details **must** be recorded on the appropriate documentation for inpatients and outpatients every time of administration. **Recording depot/LAI administration 'given as per HEPMA record/ kardex'** is <u>not acceptable practice</u>.

	Depot administration record	Patient records
Date given	√	√
Drug and dose	-	√
Site administered	√	√
Name of NS administering	√	√
Next due date	√	√
Any noted side effects/	-	√
other relevant clinical info		

The reasons for a depot/LAI not being administered, administered at a different time or any other relevant information must be recorded in the patient's notes, in addition to recording on the administration record. Discontinued or old Depot/LAI prescription and administration records must be retained in the patient's notes

Wards and CMHTs must devise a local system for tracking the next due dates for all patients prescribed depot/LAI antipsychotics to minimise the risk of missed doses.

In addition, CMHTs must have a procedure in place for patients who have failed to attend their scheduled depot/LAI appointment, describing actions to be taken to reschedule, communication systems and documentation.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



10. Communication

10.1 Communication between care settings

It is essential to good patient care that communication between patient settings and interfaces of care regarding depot/LAI prescriptions is robust.

When a patient is transferred between settings, the following details must be clearly communicated

- The antipsychotic depot/LAI preparation, the dose and dosage interval.
- Date last given, site of administration and the next due date.

Note for CMHT staff; all MHLD inpatient areas now use HEPMA. Following discharge, a copy of the patient's inpatient HEPMA 'prescription and administration record' (which will include the date the depot/LAI was last administered) can be found on the;

Clinical Portal. Under section I. Medication, Immunisation & Devices: Prescription and Administration Record. (NB - it is dated with the date of admission rather than date of discharge)

10.2 Communication with Primary Care

The vast majority of supply of depots/ LAIs in Lanarkshire is via primary care on a GP10 prescription. In areas where supply of the depot/LAI is not via primary care and community pharmacy, the patient's primary care provider must be informed that a depot has been prescribed and requested to record the details on the primary care prescribing system as a 'HOSPITAL SUPPLY' medicine.

10.3 CAMHS

The off-label use of depots or LAIs is occasionally necessary within CAMHS. To facilitate the administration of the injection, the young person may have to access Adult Mental Health services. Arrangements for this should be in place before initiation of the depot/LAI or before discharge from inpatient services. Local Unlicensed Use Policies should be followed.

Unlicensed-Medicines-Policy | NHS Lanarkshire¹¹

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



11. Side effect monitoring

A full list of possible side effects can be found in the SPCs for each drug.⁷ The following are some important points to consider.

- Pain, erythema, swelling and nodules can occur at the injection site.
- With the exception of local reactions and the theoretical risk of anaphylaxis, depot/LAI antipsychotics are unlikely to produce significant side effects, including extrapyramidal side effects, at the time of administration. They are more likely to occur after several days, particularly around the time of peak plasma levels.
- Due to the <u>very rare risk</u> of anaphylaxis, test dose of FGA depots should be given in a healthcare facility that has access to the appropriate emergency equipment (disposable ambu-bag, airways, laerdal pocket mask and medicines) should any immediate adverse reactions occur.

General physical health monitoring in line with good practice guidance should be undertaken for all patients prescribed antipsychotics. 1,17 Standardised tools/ checklists should be used to monitor and assess side effects including the Glasgow Antipsychotic Side Effect Scale (GASS) GASS & Easy read GASS

Side effect monitoring during depot/L	Al initiation and follow up
Baseline monitoring prior to first dose/test dose	 Standard observations; weight Physical health monitoring in line with national guidance^{1,17}
Monitoring post-test dose administration	 Observe for anaphylaxis (note very rare) At 30 mins and 60 mins post administration, repeat standard observations; check general wellbeing
Monitoring side effects at peak plasma levels (around 1 week post dose - see <i>Appendix 1</i> for exceptions)	 Standard observations Conduct GASS or easy read GASS with patient Monitor for sedation or evidence of EPSE For inpatients, undertake monitoring 3 & 7 days posttest dose (and at peak levels)
Routine follow up	 Physical health monitoring in line with national good practice guidance ^{1,17} If patient on High Dose Antipsychotic Therapy, NHSL HDAT guideline should be followed Escalate if any concerns in relation to tolerability or response to treatment
	ent, escalate if any concerns in relation to ity or response to treatment

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



12. Storage and transport

Medicinal products must be stored securely and in accordance with any specific recommendations from the manufacturer.

Risperidone LAI (Consta) requires to be refrigerated and is subject to cold chain transportation. When areas are storing medication subject to cold chain storage, a daily log of the fridge temperature should be recorded and, if necessary, remedial action should be taken to ensure medications are stored as per manufacturers' guidance.

Risperidone LAI should be removed from the refrigerator and allow to sit at room temperature for at least 30 minutes before reconstituting.

If the cold chain is broken, risperidone LAI should be stored at room temperature and used within 7 days. Following reconstitution, risperidone LAI must be used within 6 hours.

For patients who have their depot/LAI dispensed via a community pharmacy, the dispensed medication is their own property and may be stored in their own home. The patient should be advised on how to store their antipsychotic depot/LAI appropriately. In some situations, it may be more appropriate for the depot/LAI to be stored in a health facility. This agreement may help ease of access and/or reduce safety concerns. It remains the property of the individual to whom it is prescribed and should not be used for any other patient.

Where depot/LAIs need to be transported for administration in the patient's home, ensure that medication is transported in a safe and secure manner and remains under the personal control of the member of staff at all times e.g. in the boot/ glove box of the car. Ensure that the correct procedure for safe disposal of sharps is adhered to.

Clinical support workers can collect depot/LAI medication on behalf of the team. This should be checked and signed for by registered staff when this is received.

Medication audits should take place at least weekly to ensure supplies of depots/ LAI are available for due administrations.

13. Audit and review

There should be regular self and peer audits of compliance with these guidelines.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



References/Evidence

- 1. Scottish Intercollegiate Guidelines Network (SIGN). Management of schizophrenia. (SIGN publication no. 131). March 2013 <u>Management of schizophrenia</u>
- 2. NICE guidelines [CG178]: Psychosis and schizophrenia in adults: prevention and management https://www.nice.org.uk/guidance/cg178
- 3. Montgomery v Lanarkshire Health Board 2015. <u>Montgomery (Appellant) v Lanarkshire</u> Health Board (Respondent) (Scotland) UK Supreme Court
- 4. Mental Welfare Commission for Scotland. Good Practice Guide. Consent to Treatment: A Guide for Mental Health Practitioners. July 2024
- 5. Mental Welfare Commission for Scotland. Advice Notes. Medical Treatment under Part 16 of the Mental Health (Care and Treatment) (Scotland) Act 2003. April 2021
- 6. Mental Welfare Commission for Scotland. Advice Notes. Treatment under section 47 of the Adults with Incapacity Act: overview and guidance. April 2021
- 7. Electronic Medicines Compendium. Summary of Product Characteristics. www.medicines.org.uk
- 8. Joint Adult Formulary | Right Decisions
- 9. da Silva Freire Coutinho E, Fenton M, Quaraishi SN. Zuclopenthixol decanoate for schizophrenia and other serious mental illnesses. *Cochrane Database of Systematic Reviews* 1999, Issue 3. Art. No.: CD001164.
- 10. https://www.scottishmedicines.org.uk/
- 11. <u>Unlicensed-Medicines-Policy | NHS Lanarkshire</u>
- 12. Patient Consent to Unlicensed Medicine Use NHSL
- 13. Mahapatra J, Quraishi SN, David A, Sampson S, Adams CE. Flupenthixol decanoate (depot) for schizophrenia or other similar psychotic disorders. *Cochrane Database of Systematic Reviews* 2014, Issue 6. Art. No.: CD001470
- 14. Bazire S. Psychotropic Drug Directory. 2020/21. Lloyd-Reinhold publications
- 15. Shepherd E. Injection technique 1: administering drugs via the intramuscular route.

 Nursing Times. Aug 2018. Vol 144 (8); 23-25. This article was updated by Shepherd E on 9 March 2022
- 16. White J. Guidance on the Administration to Adults of Oil-based Depot and other Long-Acting Intramuscular Antipsychotic Injections 7th Edition (2022)
- 17. British National Formulary. https://www.medicinescomplete.com

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



Related Guidance/ Policy

The following guidelines and policies should be used in conjunction with this guidance

- NHS Lanarkshire Code of Practice for Medicines' Governance
 http://firstport2/staff-support/care-assurance-accreditation-system/mental-health-learning-disability/Documents/Standard%2003%20%20Medicines%20Management/Medicines%20Code%20of%20Practice%20%20NHS%20Lanarkshire.pdf
- 2. Infection Control Policies firstport2/staff-support/infection-prevention-control/
- 3. NHS Lanarkshire Waste Disposal Operational Policy
- 4. Professional guidance on the safe and secure handling of medicines http://www.rpharms.com/recognition/setting-professional-standards/safe-and-secure-handling-of-medicines/

 handling-of-medicines/professional-guidance-on-the-safe-and-secure-handling-of-medicines
- 5. Professional guidance on the administration of medicines in health care settings https://www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Professional%20standards/SSHM%20and%20Admin/Admin%20of%20Meds%20prof%20guidance.pdf?ver=2019-01-23-145026-567
- 6. Storage and Handling of Vaccines and Pharmaceutical Products In GP practices, Health Centres and Clinics <u>Guidance on vaccine storage and handling Guidance on vaccine storage and handling Publications Public Health Scotland</u>
- 7. National Infection Prevention and Control Manual: Home

Additional Training

The following additional training is available;

- Anaphylaxis
 - https://rightdecisions.scot.nhs.uk/media/1746/anaphylaxis-algorithm.pdf https://www.resus.org.uk/library/additional-guidance/guidanceanaphylaxis/emergency-treatment
- NHSL Needlestick Injury and BBV exposure, prevention and management http://firstport2/staff-support/needlestick-injury
- Learnpro NES: Aseptic techniques
- TURAS Learn Intramuscular injections
 <u>Intramuscular injections | Turas | Learn</u>

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



Appendices

1. Governance information for Guidance document

Lead Author(s):	Jennifer Bryant
Endorsing Body:	Mental Health and Learning Disability (MHLD) Drug and Therapeutics Committee Area Drug and Therapeutics Committee (ADTC)
Version Number:	3.0
Approval date	19/03/2025
Review Date:	March 2028
Responsible Person (if different from lead author)	

CONSULTAT	TION AND DIST	RIBUTION RECORD		
Contributing Authors	Author /	Lorna Templeton		
Consultation Stakeholders		 Psychiatry MHLD Nursing Mental health Pharmacy LMC Primary Care Support Pharmacy 		
Distribution		 Dissemination to all MH&LD, OAP & CAMHS Medical & Nursing & Pharmacy Staff, Wards and Community teams First Port Staff briefing MH&LD D&T Newsletter Prescribing News 		
CHANGE RE	CORD			
Date	Lead Author	Author Change Version		
August 2018	Margaret McGreevy Mary Gilfillan	New Guideline	1	

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



December 2024	L Templeton	Significant update to extend the scope to prescribing as well as administration including practical advice on test doses; pharmacokinetics; titration; dose selection; administration site; consent	2
Nov 24	J Bryant	Review and update of guideline in line with practice. • Section 8.2 added • Appendix 1 & 3 updated added in Aripiprazole 2 monthly and paliperidone 6 monthly • Appendix 3 updated • Appendix 4 removed • Appendix 5 – Updated new depot Cardex added	3

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



Appendix 1- Pharmacokinetics of antipsychotic depots/ LAIs *

Please refer to NHSL joint formulary <u>NHSL Medicines Guidance | Right Decisions</u> for 1st line depot/LAI options

Long Acting Antipsychotic IM Injection	Peak plasma levels occur**	Half life	Approximate time to steady state (weeks)*
Flupentixol decanoate (Depixol®)	7 days	17 days following multiple doses (<i>Bazire</i>) ¹⁴	10-12 (Bazire) ¹⁴
Haloperidol decanoate (Haldol®)	3-9 days	3 weeks	8-16
Zuclopenthixol decanoate (Clopixol®)	4-9 days (<i>Bazire</i>) ¹⁴	17-21 days (<i>Bazire</i>) ¹⁴	10-12 (Bazire) ¹⁴
Aripiprazole (Otsuka®) monthly	Gluteal 7 days Deltoid 4 days	30 days for 300mg dose 46 days for 400mg dose	Following fourth dose (~16 weeks)
Aripiprazole (Maintena®) Two monthly	Pharmacokinetic parameters are lacking in SPC. The SPC states prescribers must consider Aripiprazole Maintena has been detected in plasma up to 34 weeks after a single dose of the prolonged release suspension.		
Paliperidone palmitate 1/12 (Xeplion ®)	13 days	25-49 days	2 (with titration as per SPC) (<i>Bazire</i>) ¹⁴
Paliperidone palmitate 3/12 (Trevicta®)	30-33 days	84-95 days deltoid 118-139 days gluteal	n/a should be at steady state with 1/12 prep before**
Paliperidone palmitate 6/12 (Byannli®)	33-35 days	148 days for 700mg dose 159 days for 1000mg dose gluteal	n/a should be at steady state with 1/12 prep before**
Risperidone (Risperdal Consta®)	5-6 weeks (<i>Bazire</i>) ¹⁴	Rate limiting half life 14-21 days (<i>Bazire</i>) ¹⁴	6-8 (<i>Bazire</i>) ¹⁴

^{*}information taken from SPC for individual products unless otherwise specified

^{**}Monitoring post first dose should be done around the time of peak plasma levels occurring. As a rule, this should be 1 week after initial dose (with the following exceptions; paliperidone 1/12 at 2 weeks; paliperidone 3/12 at 4-5 weeks; paliperidone 6/12 at 4-5 weeks, risperidone at 5-6 weeks

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



Appendix 2- Dose selection for antipsychotic depot/LAIs

Intramuscular injections can be painful and this can be especially true of the oily depot injections. Pain can be minimised by using the smallest volume. Ideally, no more than **2ml** should be administered into one site. The following tables give guidance on selection to minimise the volume of depot injection administered. ** **Different strengths of depot preparation should never be mixed****.

Flupentixol decanoate				
Dose	Dose Product/ strength Volume			
10mg	20mg/ml	0.5ml		
20mg	20mg/ml	1ml		
30mg	40mg/2ml	1.5ml		
40mg	40mg/2ml	2ml		
50mg	50mg/0.5ml 0.5ml			
60mg	100mg/ml 0.6ml			
70mg	100mg/ml 0.7ml			
80mg	100mg/ml 0.8ml			
90mg	100mg/ml	0.9ml		
100mg	100mg/ml	1ml		
120mg	200mg/ml 0.6ml			
150mg	200mg/ml	0.75ml		
200mg	200mg/ml	1ml		

Zuclopenthixol decanoate			
Dose	Dose Product/ strength		
50mg	200mg/ml	0.25ml	
100mg	200mg/ml	0.5ml	
150mg	200mg/ml 0.75ml		
200mg	200mg/ml 1ml		
300mg	500mg/ml 0.6ml		
400mg	500mg/ml	0.8ml	
500mg	500mg/ml	1ml	
600mg	500mg/ml	1.2ml	

Haloperidol decanoate				
Dose	Dose Product/strength Volume			
50mg	50mg/ml	1ml		
100mg	100mg/ml	1ml		
150mg	100mg/ml	1.5ml		
200mg	100mg/ml	2ml		
250mg	100mg/ml	2.5ml*		

^{*}a 2ml syringe is graduated to 2.5ml. Consider splitting dose especially if patient is very thin

Aripiprazole				
Dose Product/ strength Volume				
400mg	400mg	2ml		
300mg	400mg	1.5ml		
200mg*	400mg	1.0ml		
160mg*	400mg	0.8ml		

^{*}to deliver reduced dose with regards to specific drug interactions (see SPC)

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



Appendix 3- Frequency flexibility for antipsychotic depot/LAIs

This is general advice for managing patient holidays, short delays in administration as well as missed doses. Always consider the individual patient when interpreting this advice.

FGA depot frequency flexibility and missed dose advice (flupentixol, haloperidol, zuclopenthixol decanoate)						
Frequency of depot	Frequency of depot 1 weekly 2 weekly 4 weekly/ monthly					
Flexibility in frequency	1-2 days either side	3-4 days either side	5-7 days either side			
As a general rule, give the prescribed dose as soon as possible. Advice for managing late/ missed doses As a general rule, give the prescribed dose as soon as possible. If there is a significant delay, there may need to be consideration to use of short term adjunctive oral medication. There is no need to retitrate to original dose.						

Risperidone LAI (Consta ®) frequency flexibility and missed dose advice			
Frequency of depot	2 weekly		
Flexibility in frequency	3-4 days either side		
late/ missed doses	The delayed release from Risperidone Consta® means a dose can be given as soon as possible after a missed dose. If there is a significant delay, there may need to be consideration to use of short term adjunctive oral risperidone. There is no need to retitrate to original dose.		

Aripiprazole LAI frequency flexibility and missed dose advice				
Frequency of depot	y of depot monthly 2 monthly*			
Flavihility in	INIDITION AND A DAME ATTOR CONDUINDO	May be given up to 14 days before or after scheduled 2 monthly injection		
late/ missed doses	Follow advice in respective SPCs. Advice is dependent on stage of treatment (initiation or maintenance for monthly preparation), dose prescribed and time interval since last dose.			

Paliperidone LAI frequency flexibility and missed dose advice				
Frequency of depot	monthly	3 monthly*	6 monthly*	
Flexibility in frequency	•	14 days either side of 3 monthly date	14 days before or 21 days after 6 monthly date.	
Advice for managing	Follow advice in respective SPCs. Advice is dependent on stage of treatment (initiation or maintenance for monthly preparation), dose prescribed and time interval since last dose.			

*aripiprazole 2 monthly, and paliperidone 3 and 6 monthly preparations are non-formulary

Any late/early administration of antipsychotic depot/LAI must be clearly documented. Seek advice from the patient's consultant psychiatrist/ MHLD pharmacy if the patient is not within the parameters above. In the event of administration outwith the recommendations, some short-term adjunctive oral antipsychotic cover may be required.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028



Appendix 4 - Patient information resources

Patient information leaflets on psychotropic medications can be found at www.choiceandmedication.org/nhs24/ which can be accessed via NHS Inform.

Lead Author	Jennifer Bryant	Date approved	March 2025
Version	V3	Review Date	March 2028

Appendix 5 - Community Depot Prescription and Administration Record

CHI no DOB // First name DOB // Last name Sex: M F Address or attach addressograph label here			CMHT: CPN: T2/ T3 certificate (date): Consultant psychiatrist:						•		٠.	_									•	Lan	arkshir
								 Community Depot and Long-acting Antipsychot Injection Prescription and Administration Recor 															
								Identifies as															
Additional info	0							Di	rug alle	ergies/	Sensi	itivities	i										
Test dose/On	ce only injecti	ons																					
Date	Date Drug			Dose Route			Prescriber (print and sign)				1	Date given			Site/ Side				Given by (print and sign)				
					IM						\perp												
				IM																			
					IM																		
Repeat Depo	t and Long-act	ting Intram	uscular	inject	ions																		
Drug:		STOPPI	ED D	ue date																			
Dose:	,	via IM	Date:		Date given																		
Frequency:		Initials:		te/Side																			
Prescriber: (print & sign)		Date:			Given by (initials)																		



Prescriptions are valid for a maximum of 12 months and must be reviewed at regular intervals. Discontinue prescriptions following inpatient admission and re-prescribe following discharge. Follow NHS Lanarkshire Guidance for the Use of Antipsychotic Depot and Long-Acting Injections (LAI)

Abbreviations; DEL- deltoid (upper arm); VG – ventrogluteal (hip site); DG – dorsogluteal (upper outer quadrant of buttock); VL- vastus lateralis (thigh)

R – right side; L –left side CMHT -Community Mental Health team CPN - Community Psychiatric nurse IM - Intramuscular Code (A)- not given. Refer to nursing notes for full details/information

CDEPPR.24_12563.L