NHS
Greater Glasgow and Clyde

Mental Health Services

Good Practice Statement For The Use Of DEPOT & LONG ACTING ANTIPSYCHOTIC INJECTIONS

Date of Revision: April 2025
Approved by: Mental Health Services Safer Use of Medicines Group
Review Date: April 2028

CONSULTATION

The document was sent to Community Mental Health teams, Pharmacy and the Psychiatric Advisory Committee for comments prior to completion.

KEY DOCUMENTS

When reading this policy please consult the Consent Policy on Healthcare Assessment, Care & Treatment and Supporting Documents when considering any aspect of consent

National Institute for Clinical Excellence CG178 (2014), **Psychosis and schizophrenia in adults: prevention and management**

Maudsley (2021), Prescribing Guidelines in Psychiatry 14th edition.

White J. Guidance on the Administration to Adults of Oil-based Depot and other Long-Acting Intramuscular Antipsychotic Injections 7th Edition (2022) available at www.reach4resource.co.uk accessed [June 2022]

Summary of Product Characteristics for:

- Clopixol (Zuclopethixol Decanoate)
- Flupenthixol Decanoate
- Haldol (Haloperidol Decanoate)
- Risperdal Consta
- Xeplion (Paliperidone Palmitate)
- Trevicta (Paliperidone Palmitate)
- Byannli (Paliperidone Palmitate)
- ZypAdhera (Olanzapine Embonate)
- Abilify Maintena (Aripiprazole)

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Amendments made in this update

Version	Date	Summary of changes	Author(s)
5	April 2025	Pages 4 & 9 CMHT requirement for SOPs Page 5 non-formulary status of Risperdal Consta Page 6 non-formulary status of 3 & 6 monthly paliperidone LAI Page 6 non-formulary status of 2 monthly aripiprazole LAI Page 8 reference to the process maps in appendix 7 Page 9 requirement to use the EMIS depot administration template Page 9 all patient will have a warning added to EMIS if they are prescribed a depot Pages 22 to 26 addition of appendices 6 & 7	
6	August 2025	Page 7- Add half-life to table Page 11- Add advice on discontinuation	

INTRODUCTION

Antipsychotic depot injections have been used in psychiatry for many years. Their use was endorsed by NICE in CG178 Psychosis and schizophrenia in adults: prevention and management

'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 disadvantages to depot use namely managing side effects that may be prolonged and patient perception.

The use of depots can be the subject of controversy, however in appropriate circumstances they are a very useful addition to the range of antipsychotic preparations available.

The purpose of this good practice statement is to support the safe and effective use of depot antipsychotic injections.

All patients prescribed depot or long-acting antipsychotic injections must be provided with appropriate information about the treatment they are to receive. The Choice and medication website is recommended as a reliable source of patient information.

SCOPE

This guidance applies to all staff involved in the prescribing, administration and supply of depot and long-acting antipsychotics in the Mental Health Services of NHS Greater Glasgow & Clyde. It is the responsibility of all appropriate senior managers to ensure that this guidance is implemented.

DEFINITIONS

Depot or long-acting antipsychotic injection – an antipsychotic drug formulated in such a way as to allow the steady gradual release of a drug over a defined time period. There are a variety of formulations and delivery vehicles, but all are administered by deep intra-muscular injection.

STANDARD STATEMENT

Only appropriately trained and competent staff may administer depot or long-acting antipsychotic injections. Newly qualified staff must complete a competency framework and must undergo a period of supervised practice before they may administer depot antipsychotics. Student Nurses, once deemed competent, are allowed under supervision to administer depot or long-acting antipsychotics injections.

Community Mental Health Teams must have standard operating procedures describing their systems for the use of depot injections. Appendix 6 contains key principles intended to support the creation of appropriate standard operating procedures.

CHOICE OF DRUG AND DOSAGE SELECTION

The antipsychotics currently available as depot or long-acting preparations are:

First generation

- Flupentixol decanoate
- Haloperidol decanoate
- Zuclopenthixol decanoate

Second generation

- Aripiprazole
- Risperidone
- Paliperidone palmitate
- Olanzapine embonate (note: Category 3 non-formulary item)

All of the currently available depot and long-acting antipsychotic injections are indicated for the maintenance of schizophrenia and other psychoses.

First Generation

Depots are long-acting and any adverse effects are likely to be long lived. Therefore, when using 'first generation' depots, a small test dose is always given to identify if patients are likely to be susceptible to side effects or will suffer a severe reaction. Once a test dose has been given it is necessary to wait at least 4 –10 days before initiating any titration to maintenance dose (always refer to the Summary of Product Characteristics (SPC) for individual products). Adverse reactions may occur at any time during this period and the patient must be closely monitored.

The following table summarises the test doses for each depot drug, the dose range per week and the usual dosage interval.

Drug	Test dose (mg)	Dose range (mg/wk)[a]	Dosing interval (wks)
Flupentixol decanoate	20	12.5 - 400	2 - 4
Haloperidol decanoate	25[b]	12.5 - 75	4
Zuclopenthixol decanoate	100	100 - 600	1 - 4

Notes
In **older adults or frail individuals** the dose should be quartered or halved.

a. Dose range is given as mg/week for illustrative purposes only. Avoid using shorter dose intervals than those recommended (last column) except where the dose required necessitates an unacceptably high injection volume (>2.5ml of injection).

b. The SPC for haloperidol does not recommend a test dose therefore a test dose of 25mg is suggested. The use of haloperidol in combination with drugs known to prolong the QTc interval is contra-indicated. Such combinations should be avoided.

Second Generation

Risperidone

The formulation and pharmacokinetics of Risperdal Consta© preclude the use of a test dose**,** for risperidone-naive patients, it is recommended to establish tolerability with oral risperidone prior to initiating treatment with RISPERDAL CONSTA. It is recommended that patients treated with higher doses of oral risperidone should be considered for a 37.5mg starting dose of Risperdal Consta. Risperdal Consta is now a non-formulary preparation; a non-formulary request must be approved before treatment may begin.

Paliperidone monthly injection (Generic or Xeplion)

With paliperidone palmitate a loading dose of 150mg on day 1 then 100mg on day 8 is given followed by monthly adjustments according to response. The loading dose must be administered into the deltoid muscle. Please note that paliperidone long-acting injection is administered every calendar month **not** every 4 weeks.

Paliperidone 3 monthly injection (Trevicta) – non-formulary

This preparation offers the convenience of reduced numbers of annual injections. Patients who have responded well to and tolerated monthly paliperidone, who are clinically stable on treatment for at least 4 months may be switched to 3 monthly injections if clinically appropriate. (see table below for equivalent doses)

Paliperidone 6 monthly injection (Byannli) – non-formulary

Patients who are adequately treated with 1-monthly paliperidone palmitate injection at doses of 100 mg or 150 mg (preferably for four months or more) or 3-monthly paliperidone palmitate injection at doses of 350 mg or 525 mg (for at least one injection cycle) and do not require dose adjustment may be transitioned to 6-monthly paliperidone palmitate injection.
(see table below for equivalent doses)

Paliperidone equivalent doses

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

Full prescribing details may be found in the SPC for each product.

Please note: the 3 & 6 monthly paliperidone preparations are non-formulary in NHS GG&C.

Olanzapine

Olanzapine embonate has a complex starting dose depending on the oral dose of olanzapine the patient was taking. This preparation is non-formulary and subject to PACS-2 process. Please contact PMG (MH) before prescribing.

Aripiprazole

The recommended initial dose for aripiprazole is 400mg. However, this should be reduced as described in the SPC as necessary. Please note that aripiprazole long-acting injection is administered every calendar month **not** every 4 weeks.

Aripiprazole 2 monthly injection

A formulation of aripiprazole LAI has been launched recently. Equivalent doses are shown in the table below

Monthly	2 - monthly
300mg	720mg
400mg	960mg

Please note: aripiprazole 2-monthly injection is non-formulary in NHS GG&C

Always refer to the SPC, BNF or pharmacy for the appropriate initial dosing.

When initiating a depot, the following principles apply:

- Give a test dose (first generation only) or the recommended loading or initial dose first
- Begin with the lowest therapeutic dose. Lower doses are likely to be better tolerated and are less expensive.

- Administer at the longest possible licensed interval. Follow the recommended licensed dosing interval, there is no evidence to suggest that shortening the dosing interval will improve efficacy.
- Allow an adequate assessment period before adjusting doses. Peak plasma levels, therapeutic effect and steady-state plasma levels are delayed with depot injections. Adequate time must be allowed for these to occur before increasing doses. Therefore it would be prudent to wait until these have been achieved before considering increasing the dose. The following table gives the approximate time to steady state for these drugs.

Drug	Time to steady state (weeks)	Half-life (days)
Flupentixol decanoate	6 - 12	17 (multiple doses)
Haloperidol decanoate	10 - 12	18-21
Zuclopenthixol decanoate	10 - 12	17-21
Aripiprazole	16	30-47
Olanzapine embonate	12	30
Paliperidone palmitate	9 - 21	Monthly: 25-49 3-monthly: 84-95 (deltoid) & 118-139 (gluteal) 6 monthly: 148-159
Risperidone	6 - 8	14-21

Side effects

Like all drugs, depot and long-acting antipsychotic injections may be associated with side effects. A full list of possible side effects can be found in the SPC for each drug. The following are some important points to remember.

- Pain, erythema, swelling and nodules can occur at the injection site.
- Depot antipsychotics do not produce extra-pyramidal side effects at the time of administration. They may occur after several hours or days.
- Rarer adverse effects such as rashes and agranulocytosis are well documented with antipsychotics, anaphylaxis is not. However, it is recommended that the first dose of a depot be administered in a clinical base with access to emergency equipment (disposable Ambubag, airways, Laerdal pocket mask, and supportive medicines). Thereafter, there should be no need for nursing staff to carry adrenaline in case of anaphylaxis. Olanzapine LAI must always be given in a healthcare facility and patients must remain there for 3 hours post dose.

Standardised tools or checklists e.g. GASS (Glasgow antipsychotic side-effect scale) should be used to monitor and assess side effects every 6 – 12 months minimum.

Prescribing

Depot antipsychotic injections must be prescribed on the HEPMA system (for inpatients only) and on a depot prescription card/sheet for all outpatients. Depot prescription sheets should be reviewed every six months.

The prescription **must** be legibly written and signed by a medical practitioner or suitably qualified non-medical prescriber (acting in accordance with an agreed clinical management plan). Verbal prescriptions for depots **are not** permitted.

On initiation and also at any change of medication, dose or frequency, the date the injection is due should be clearly stated. Prescriptions should not be post-dated.

The prescription **must** contain the following details

- The patient's name, address and CHI number.

- Any known allergies or if none record '*no known allergie*s' on the prescription.
- Special notes of relevance to administration of the depot.
- The drug name, dosage, strength and frequency of administration.
- A review date.
- Prescriber's signature

Only an appropriate prescriber may make alterations to the prescription. The responsible medical officer should review prescriptions regularly at least every six months.

Licensed injection sites

The following table details the licensed site of administration for each long acting antipsychotic injection. The information has been taken from the current Summary of Product Characteristics for each drug.

Drug	**Licensed site of administration**
Flupentixol decanoate	Upper outer buttock or lateral thigh*
Haloperidol decanoate	Gluteal
Zuclopenthixol decanoate	Upper outer buttock or lateral thigh*
Aripiprazole	Deltoid or gluteal
Aripiprazole 2-monthly	Gluteal
Olanzapine embonate	Gluteal
Paliperidone palmitate monthly & 3-monthly (Xeplion & Trevicta)	Deltoid or gluteal
Paliperidone palmitate 6-monthly (Byannli)	Gluteal
Risperidone	Deltoid or gluteal

*Use of the lateral thigh is rare.

ADMINISTRATION

Detailed guidance to support administration of depot antipsychotics is outlined on pages 9 to 20 and in process maps (appendix 7). The following provides summary guidance.

- Depot and long acting antipsychotic injections may only be administered against a valid prescription.

- Before administering any new depot check that

  a. A test dose has been given, if appropriate, and no adverse reactions occurred.
  b. The patient has received an adequate explanation of the treatment and has received any appropriate written information.
  c. The patient consents to treatment or if detained under Mental Health legislation that the appropriate documentation is in place.

- Patient identification. It is essential that a formal system for confirming patient's identity be in use. This will ensure that patients are correctly identified before depots are administered.

- Once the above criteria are satisfied appropriately trained staff or student nurses under supervision may administer depots. All staff must meet the competencies required for administering depot injections.

- Select the appropriate strength of depot preparation to administer the required dose in the lowest possible volume (see appendix 1 for guidance).

- Observe good practice guidelines for hand washing and 'no touch' technique when preparing the dose for administration.

- Administer the depot by deep intramuscular injection using the 'Z tracking technique'.

- Dispose of all used materials as indicated by local policy.

- All community mental health teams will have detailed standard operating procedures (SOPs) describing how their depot clinic or home administration services function. These SOPs will be based on the principles outlined in appendix 6

The following source provides a good summary of injection technique

White J. Guidance on the Administration to Adults of Oil-based Depot and other Long-Acting Intramuscular Antipsychotic Injections 7th Edition (2022) available at www.reach4resource.co.uk accessed [June 2022] (pages 51 – 62)

Recording the administration

Proper record keeping is essential to patient safety, medication incidents have occurred because of poor record keeping e.g.

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

The following details must be recorded on the appropriate documentation:

On the depot card/HEPMA:

- Date given
- Preparation, strength and volume given
- Site given
- Next due date
- Nurse administering the dose
- Batch number & expiry date

In the patient's record:

- Drug given
- Dose given
- Site given
- Date next due
- Any noted side effects
- Details if dose refused
- Any other relevant clinical information

A template within EMIS will be used to record the administration of depots in all settings.

All patients will have a warning added to their EMIS recording indicating they are being treated with a depot antipsychotic.

Local areas should devise a system for tracking the next due dates for all patients prescribed depot antipsychotics. For inpatients this may involve documented checking each weekend of all patients due depots in the coming week.

In addition to the above out-patient settings must have a "Did Not Attend" procedure in place to deal with situations where patients fail to attend their appointment for their depot. This procedure must include the following

- Communication systems i.e. who to tell e.g. CPN, Consultant, GP
- Documentation
- Actions to be taken to contact and recall the patient. It should detail who is responsible for carrying out these actions.
- Key workers should prepare an individualised Did Not Attend plan for each person prescribed depot or LAI medication. This will inform staff unfamiliar with the patient of the actions to be taken when they do not attend appointments.

Communication

It is essential to good patient care that communication between patient settings regarding depot prescriptions is robust. This may be between community teams and mental health inpatient

settings, between community teams and acute medical inpatient settings and between mental health inpatient settings and acute medical inpatient settings. When a patient is transferred between any of these settings the following details must be clearly communicated

- The depot preparation prescribed plus the dose and dosage interval.
- Date last given and the next due date.

Good communication can be aided by transferring depot prescription & recording sheets with the patient as they move.

It is the responsibility of ward staff in mental health or acute settings to administer depot or LAIs when patients are in hospital. In no circumstances should community staff administer depots or LAIs to patients in hospital.

Staff within CMHTs are responsible for ensuring depot alerts on EMIS are up to date.

Medication related issues

A number of other important issues may impact on the use of depot antipsychotics

1. Concomitant medication

Patients may be prescribed or be taking a variety of other medications. It is important to be aware of these when prescribing depots. It is especially important when a psychiatrist is responsible for prescribing the depot and the GP prescribes everything else.

2. Changes to depot antipsychotic prescriptions

It is essential that all changes to a depot prescription are quickly and clearly communicated to all relevant staff. The use of the depot prescription sheet facilitates this. If the GP prescribes the depot a local system should be developed to ensure good communication.

3. Drug Interactions

It is important that all health professionals involved in the use of depot antipsychotics are aware of the clinically significant interactions between depots and other medicines. Staff should refer to the current edition of the BNF or contact Pharmacy for advice.

4. High Dose Antipsychotics

The Royal College of Psychiatrists has issued revised guidance on the use of high dose antipsychotics (May 2014). It is possible that a patient could be prescribed regular or as required oral antipsychotics whilst on a depot. This may result in them reaching high dose status with the associated requirement for monitoring as detailed in the **mhs-34-high-dose-antipsychotic-monitoring-policy.pdf**

5. Extremes of weight

There are practical issues to consider when prescribing or administering depots to patients with very low weight or significant obesity.

Muscle mass is important for effective absorption of depots. The reduced muscle mass in patients with low weight may affect absorption and may also result in increased pain on injection. Contact mental health clinical pharmacy services for advice.

Significant obesity may make successful administration of depots difficult. Longer needles may need to be used (see page 10).

6. Consent to treatment

If a patient is detained under the Mental Health Act and/or subject to a CTO, or is being treated under the Adults with Incapacity legislation, treatment with a depot antipsychotic must comply with any relevant treatment plan in place. All staff involved with the patient must be aware of the contents of any treatment plan. Staff must have access to a copy of the treatment plan with the depot prescription sheet at the point of administration.

7. General Physical Monitoring

The regular interaction between community staff and patients prescribed depots may provide an ideal opportunity to monitor relevant physical parameters. This is especially true for those patients who don't or won't attend their GP. Some of the items for monitoring are:

- Blood pressure, pulse.
- ECG
- Weight
- Side effects

8. Storage and preparation requirements for Risperdal Consta

Unlike the other depot preparations, Risperdal Consta requires to be refrigerated prior to use. Accordingly it is subject to 'Cold Chain' transportation. Deliveries from the Pharmacy Distribution Centre have cold chain verification. To ensure the 'cold chain' is maintained orders must be transferred to fridge immediately on receipt by ward and community staff.

If the 'cold chain' is broken at any point Risperdal Consta should be stored at room temperature and used within 7 days.

Risperdal Consta requires to be reconstituted prior to use. Staff should be familiar with and deemed competent to prepare this preparation before they are allowed to prepare and administer it. Once reconstituted, the product must be used within **6 hours**. Careful planning is therefore necessary when organising depot clinics where Risperdal Consta will be used.

9. Audit

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

Discontinuation

Due to the long half-life of long-acting injections (see table on page 7) it is vital that patients are monitored for an appropriate period of time to ensure that when stopping or switching to other treatment (oral or other long-acting injection) symptoms do not emerge. Clinicians should consider:

- Half-life of preparation prescribed. Drug levels are considered insignificant after 5 half-lives therefore patients may continue to receive benefit from treatment many months after discontinuation.
- Mental health stability of patient e.g. has the change been prompted by a deterioration in their mental health
- How long patient had been on treatment
- Is the patient being stabilised on another antipsychotic medication
- If switching to oral, assess compliance on a regular and ongoing basis
- When cross titrating consider total antipsychotic dose and carry out high-dose antipsychotic monitoring if necessary

DEPOT ANTIPSYCHOTIC INJECTIONS – GUIDANCE TO SUPPORT APPROPRIATE ADMINISTRATION

Injections may be administered by a number of routes but this guidance deals with the administration of depot antipsychotic medication by deep intra-muscular injection.

1. Preparation & equipment

Gloves

NHS Greater Glasgow & Clyde recommend the use of gloves to protect the nurse from contact with body fluids and allergic injection compounds. They may contribute to a reduction in a sense of control over the injections materials, especially in individuals who have learned technique without them, however this can be minimised by ensuring that gloves fit well.

Sharps

To reduce the risk of injury, sharp equipment such as needles and glass drug vials need to be handled and disposed of carefully. Used needles should **not** be re-sheathed and all used and unwanted sharp equipment should be disposed of in appropriate containers, **not** in clinical waste bags. Other waste can be collected in the disposal bag then placed in clinical waste bags.

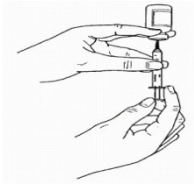
Needles

Needles should be long enough to allow injection to the intended depth of muscle with a quarter of the needle length remaining external to the skin. A variety of lengths are available and an assessment of the length of needle required to reach the muscle should be made by an assessment of the individual patient, taking into account any subcutaneous fat and remembering to allow for approximately 2-3mm of the needle length to be left outside the skin to allow the needle to be removed should it break. In obese patients care must be taken to ensure administration into muscle and not subcutaneous fat. Longer than standard needles may be required. The most common used for deep intra-muscular injections is 21g x 1.5 inch (green needle) or 23g x 1.25 inch (blue needle). In order to minimise the likelihood of drawing up small slivers of glass from glass drug vials, a smaller bore needle may be used to draw up the drug. The drug's viscosity will determine whether this can be done.

Syringes

Selection of syringe should take account of the volume of medication to be given as well as the syringe's suitability to measure dosage. Syringes range in size from under 1ml to over 50ml, however for injection other than insulin you will generally choose from the following:

- **1ml** which has markers showing each 0.1 of a ml.
- **2ml** which has markers showing each 0.1 of a ml.
- **5ml** which has markers showing each 0.2 of a ml.



These markers are important, as prior to drawing up an injection it is necessary to calculate the volume of medication that will provide the prescribed dose. To accurately calculate the dose requires selection of a syringe which is suitably marked for measurement of the dose *(see appendix 1, dose selection for depot injections)*

Dose selection

The administration of depot antipsychotic drugs is a skilled procedure. Intra-muscular injections can be painful and this can be especially true of the depot injections. Pain can be minimised by using the smallest volume possible. Ideally, no more than **2ml** should be given to one site if possible. The tables in appendix 1 give guidance on product selection to minimise the volume of depot injection administered.

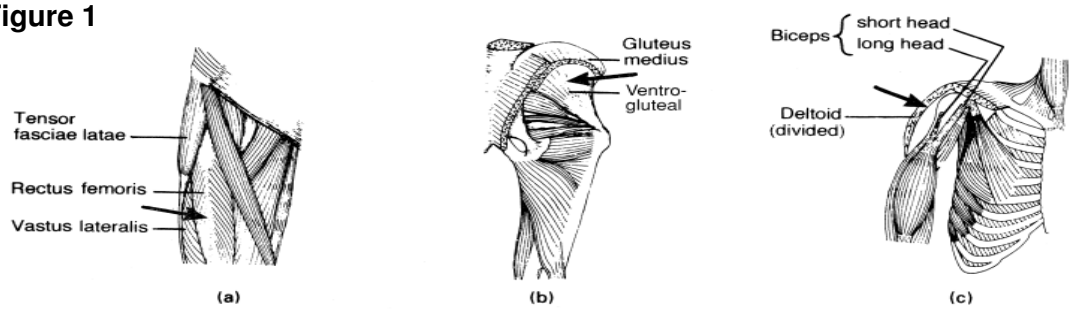
2. Preparation & equipment

Depot antipsychotic medication is administered by Z-track injection. Care must be taken to use concentrations in the smallest appropriate dose (ideally no more than 2 ml).

Prior to injecting, inspect the chosen site for signs of inflammation, swelling or infection and any skin lesions should be avoided. Following the injection, inspect the site for any adverse reaction. Document where the injection is given and alternate the site to allow an even rotation. This reduces the risk of abscess due to poor absorption and muscle atrophy.

The Royal Marsden (2003) offers the following advice on selection of sites for deep intra-muscular injections (fig.1)

Figure 1



(a)Rectus femoris: used for antiemetics, narcotics, sedatives, injections in oil, deep intra-muscular and Z-track injections. It is rarely used in adults but is the preferred site for infants and for self-administration of injections *(Springhouse Corporation, 1993).*

(b)Gluteus medius: used for deep intra-muscular and Z-track injections. The gluteus muscle has the lowest drug absorption rate. The muscle mass is also likely to have atrophied in elderly, non-ambulant and emaciated patients. This site carries with it the danger of the needle hitting the sciatic nerve and the superior gluteal arteries *(Workman, 1999).*

(b)Ventrogluteal: used for antibiotics, antiemetics, deep intra-muscular and Z-track injections in oil, narcotics and sedatives, typical volume is 1–4 ml. It is best used when large-volume intra-muscular injections are required and for injections in the elderly, non-ambulant and emaciated patient as it provides the safer option to accessing the gluteus medius muscle. This is because the site is away from major nerves and vascular structures and there have been no reported complications *(Beyea & Nicholl, 1995; Workman, 1999).*

(a)Vastus lateralis: used for deep intra-muscular and Z-track injections. This site is free from major nerves and blood vessels. It is a large muscle and can accommodate repeated injections.

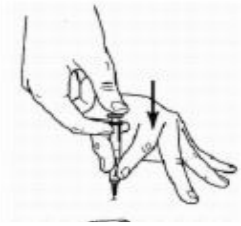
(c) Deltoid: should only be used with Paliperidone palmitate, Risperidone Consta and Aripiprazole

A recent study into best practice guidelines for the administration of intra-muscular injections in mental health care settings, (Wynaden et al, 2006) recommended the dorso-gluteal site.

Skin preparation
NHS Greater Glasgow & Clyde accept that if the patient is physically clean and the nurse maintains a high standard of hand hygiene and asepsis during the procedure, skin disinfecting is not necessary

Injection techniques

As the angle of the needle entry may contribute to the pain of the injection, intra-muscular injections should be given at an angle of between 70- 90^0 - this reduces pain and increases the likelihood of the needle reaching the muscle



NHS Greater Glasgow & Clyde recommend the **Z-track technique**. To Z-track an intra-muscular injection, pull the skin downward or to one side at the intended site. This causes the cutaneous and subcutaneous tissues to move by approximately 1-2 cm, by allowing the skin to fold back after the injection you close over the deposit of medication, preventing it from leaking.

Move the skin away with the Ulnar or flat of your steadying (generally non-dominant) hand and hold it there while you administer the injection. Using this part of your hand leaves your fingers free to assist in supporting the syringe when the needle has been inserted in the patient. Remember that moving the skin in this way may divert you from the original site and it is important that you focus on injecting into the appropriate muscle area.

Insert the needle to the desired depth using the dart-like action, then use the fingers of the steadying hand to hold the syringe barrel. Aspirate by pulling the plunger back to allow a small vacuum and hold for several seconds, this allows any blood encountered to be drawn into the syringe, discard the syringe and contents if this happens. If no blood appears, fully depress the plunger injecting slowly (allow 10 seconds for each 10 ml). When the plunger has been fully depressed, wait 10 seconds before withdrawing the needle this allows diffusion of the medication. A cotton wool ball and small wound plaster may be useful to absorb and cover any seepage of blood or medication. **Check before use whether the patient is allergic to these**. Do not massage the site following injection as this may encourage leakage. Some gentle exercise of the limb may be suggested as this may help absorption of the drug by increased blood flow.

Royal Marsden, (2003) listed a number of techniques that could be utilised to reduce pain and discomfort experienced by the patient during injection e.g.

- Adequate preparation of the patient
- Using ice or freezing spray to numb the skin
- Correct choice of site
- Technique
- Positioning of the patient so that the muscles are relaxed
- In addition Wynaden et al (2006), suggest that encouraging patients to adopt the prone position and lying on their stomach helps the patient to relax during the procedure and offers the nurse more personal security if the patient becomes restless or agitated during the procedure

Supporting documentation

Appendix 1 Dose selection for depot antipsychotic injections
Appendix 2 Equipment
Appendix 3 Procedure – preparation for administering depot antipsychotic injections
Appendix 4 Procedure – administration of depot antipsychotic injections
Appendix 5 Flowchart for administering an injection

Appendix 1

Dose selection for Depot Injections

The administration of depot antipsychotic drugs is a skilled procedure. Intra-muscular injections can be painful and this can be especially true of the depot injections. Pain can be minimised by using the smallest volume possible. Ideally, no more than **2ml** should be given to one site if possible. The following tables give guidance on product selection to minimise the volume of depot injection administered.

****Note** Under no circumstances should different strengths of depot preparation be mixed.**

The above advice is intended as a guide, if you require further advice contact pharmacy.

Flupenthixol Decanoate			
Dose	**Product**	**Volume**	**Method**
10mg	Flupentixol 20mg/ml	0.5ml	Via 1ml syringe
20mg	Flupentixol 20mg/ml	1ml	Via 1ml syringe
30mg	Flupentixol 40mg/2ml	1.5ml	Via 2ml syringe
40mg	Flupentixol 40mg/2ml	2ml	Via 2ml syringe
50mg	Flupentixol 50mg/0.5ml	0.5ml	Via 1ml syringe
60mg	Flupentixol 100mg/ml	0.6ml	Via 1ml syringe
70mg	Flupentixol 100mg/ml	0.7ml	Via 1ml syringe
80mg	Flupentixol 100mg/ml	0.8ml	Via 1ml syringe
90mg	Flupentixol 100mg/ml	0.9ml	Via 1ml syringe
100mg	Flupentixol 100mg/ml	1ml	Via 1ml syringe
120mg	Flupentixol 200mg/ml	0.6ml	Via 1ml syringe
150mg	Flupentixol 200mg/ml	0.75ml	Via 1ml syringe
200mg	Flupentixol 200mg/ml	1ml	Via 1ml syringe
250mg	Flupentixol 200mg/ml	1.25ml	Via 2ml syringe
300mg	Flupentixol 200mg/ml	1.5ml	Via 2ml syringe
350mg	Flupentixol 200mg/ml	1.75ml	Via 2ml syringe
400mg	Flupentixol 200mg/ml	2ml	Via 2ml syringe

Zuclopenthixol decanoate - Clopixol			
Dose	**Product**	**Volume**	**Method**
50mg	Zuclopenthixol 200mg/ml	0.25ml	Via 1ml syringe
100mg	Zuclopenthixol 200mg/ml	0.5ml	Via 1ml syringe
150mg	Zuclopenthixol 200mg/ml	0.75ml	Via 1ml syringe
200mg	Zuclopenthixol 200mg/ml	1ml	Via 1ml syringe
300mg	Zuclopenthixol 500mg/ml	0.6ml	Via 1ml syringe
400mg	Zuclopenthixol 500mg/ml	0.8ml	Via 1ml syringe
500mg	Zuclopenthixol 500mg/ml	1ml	Via 1ml syringe
600mg	Zuclopenthixol 500mg/ml	1.2ml	Via 2ml syringe

A 2ml syringe is graduated to 2.5ml. This dose may have to be split if the patient is very thin.

Haloperidol decanoate - Haldol			
Dose	**Product**	**Volume**	**Method**
50mg	Haloperidol 50mg/ml	1ml	Via 1ml syringe
100mg	Haloperidol 100mg/ml	1ml	Via 1ml syringe
150mg	Haloperidol 100mg/ml	1.5ml	Via 2ml syringe
200mg	Haloperidol 100mg/ml	2ml	Via 2ml syringe
250mg	Haloperidol 100mg/ml	2.5ml	Via 2ml syringe

Aripiprazole – Monthly injection			
Dose	**Product**	**Volume**	**Method**
400mg	Aripiprazole 400mg	2ml	Via syringe provided
300mg	Aripiprazole 400mg	1.5ml	Via syringe provided
200mg*	Aripiprazole 400mg	1.0ml	Via syringe provided
160mg*	Aripiprazole 400mg	0.8ml	Via syringe provided

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

Appendix 2

Equipment

1.	Clean tray or receiver in which to place drug and equipment
2.	19 g needle(s) to ease reconstitution and drawing up, 23 g if from a glass ampoule.
3.	21, 23 or 25g needle - size dependent on route of administration
4.	Syringe(s) of appropriate size for amount of drug to be given.
5.	Clean swab, if drug is presented in ampoule form.
6.	Drug(s) to be administered.
7.	Patient's prescription chart to check dose, route etc.
8.	Recording sheet or diary as required by law and depot policy.
9.	Well-fitting gloves
10.	**Risperdal Consta comes in pack with all equipment**
11.	**Paliperidone palmitate comes in pre-filled syringes with needles in pack**
12.	**Aripiprazole comes in pack with all equipment and as pre-filled syringes**

Appendix 3

Procedure – preparation for administering depot antipsychotic injections

	Action	Rationale
1.	Collect and check all equipment	To prevent delays and enable full concentration on the procedure.
2.	Check that the packaging of all equipment is intact	To ensure sterility, if the seal is damaged, discard.
3.	Wash hands with bactericidal soap and water or bactericidal alcohol hand rub	To prevent contamination of medication and equipment.
4.	Prepare needle(s), syringe(s) etc. on a tray or receiver	
5.	Inspect all equipment	To check that none is damaged if so discard.
6.	Consult the patient's prescription sheet, and ascertain the following: (a) Drug (b) Dose (c) Date and time of administration (d) Route and method of administration (e) Validity of prescription (f) Signature of doctor. (g) Site of last injection	To ensure that the patient is given the correct drug in the prescribed dose, at the right time, via the correct route and to the correct site.
7.	Check all details with another nurse, if required by hospital policy	To minimise any risk of error.
8.	Select the drug in the appropriate concentration, volume or dosage and check the expiry date. (Refer to appendix 1 for dose selection table)	To reduce volume / wastage. Treatment with medication that is outside the expiry date is dangerous - drugs deteriorate with storage. The expiry date indicates at point in time beyond which the product must not be used as its efficacy & quality will diminish
9.	Proceed with the preparation of the injection **Note: Risperdal Consta has specific preparation procedures that must always be followed. Refer to the package insert at all times.** **Some of the guidance below is not relevant to Aripiprazole, Risperdal Consta or Paliperidone(11,12,13,14,16)**	
10.	Inspect the solution for cloudiness or particulate matter. If this is present, discard and follow hospital guidelines on what action to take e.g. return drug to pharmacy to prevent the patient from receiving an unstable or contaminated drug. **Note. Risperdal Consta is a suspension of microspheres - it is always cloudy.**	

	Action	Rationale
	Note. Paliperidone is a white to off-white suspension	
11.	Tap the neck of the ampoule gently	To ensure that all the solution is in the bottom of the ampoule
12.	Cover the neck of the ampoule with a swab and snap it open. If there is any difficulty, devices to aid opening are available	To reduce the risk of injury to the nurse
13.	Inspect the solution for glass fragments if present, discard	To minimise the risk of injection of foreign matter into the patient
14.	Withdraw the required amount of solution, tilting the ampoule if necessary	To avoid drawing in any air
15.	Tap the syringe.	To dislodge any air bubbles, expel air.
16.	Change the needle, and discard used needle into appropriate sharps container **Aripiprazole, Risperdal Consta and Paliperidone all come with their own needles that must be used as indicated in the package insert.**	To reduce the risk of infection, avoid tracking medications through superficial tissues, ensure that the correct size of needle is used for the injection to reduce the risk of injury to the nurse.

Appendix 4

Procedure – administration of depot antipsychotic injections

	Action	Rationale
1.	Explain and discuss the procedure with the patient	To ensure that the patient understands the procedure
2.	Evaluate the patient's knowledge of the medication being offered. If this knowledge is incomplete or the patient wishes further information, offer an explanation of the use, action, dose and potential side effects.	A patient has a right to information about treatment
3.	Consult the patient's prescription sheet, and ascertain the following: (a) Drug (b) Dose (c) Date and time of administration (d) Route and method of administration (e) Validity of prescription (f) Signature of doctor (g) Site of last injection (h) Confirm identity of patient	To ensure that the patient is given the correct drug in the prescribed dose using the appropriate dilution and by the correct route. To ensure injection is given to the right patient.
4.	Assist the patient into the required position	To allow access to the chosen site and to ensure the designated muscle group is flexed and therefore relaxed.
5.	Remove the appropriate garment to expose the chosen site	To gain access for injection
6.	Assess whether skin cleansing is required	Skin cleansing not necessary if skin is clean
7.	Stretch the skin around the chosen site by gently pulling the underlying skin downwards or to one side of the injection site and hold	Z-track is recommended for all intra-muscular injections. To facilitate the insertion of the needle and to displace the underlying subcutaneous tissue.
8.	Holding the needle at an angle of 90°, quickly plunge it into the skin	To ensure that the needle penetrates the muscle. Leave a third of the shaft of the needle exposed to facilitate removal of the needle should it break.
9.	Pull back the plunger, if no blood is aspirated, depress the plunger at approximately 1 ml every 10 seconds and inject the drug slowly. If blood is aspirated, withdraw needle, dispose of injection materials and start again. Explain to the patient what has occurred to confirm that the needle is in the correct position.	
10.	Wait 10 seconds before withdrawing the needle, releasing the skin as you withdraw	To allow the medication to diffuse into the tissue. Manoeuvre seals puncture tract.
11.	Withdraw the needle rapidly. Apply pressure to any bleeding point	To prevent haematoma formation

	Action	Rationale
12.	Record the administration and site of injection on appropriate sheets / diary / appointment card. Record the date next injection due on appropriate sheets	To ensure different site used at next injection. To maintain accurate records, provide a point of reference in the event of any queries and prevent any duplication of treatment. To ensure reminder set for next injection
13.	Ensure that all sharps and non-sharp waste are disposed of safely and in accordance with locally approved procedures	To ensure safe disposal and to avoid laceration or other injury to staff.

Appendix 5

FLOWCHART FOR ADMINISTERING AN INJECTION

Is prescription valid and due?

No → Pursue valid prescription or reschedule

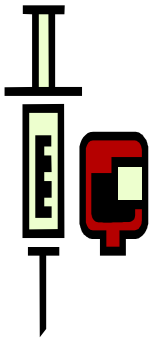
Yes

Is client aware of procedure and prepared?

No → Inform and prepare client

Yes

Collect injection materials and medication.



Recheck prescription and draw up required dose.

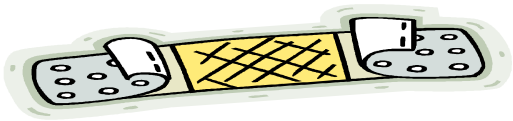
Put on gloves, locate and clean preferred site, push skin to the side, insert needle and aspirate

Blood drawn up?

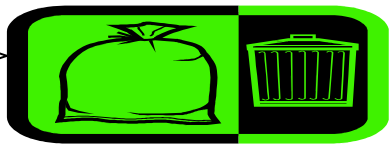
Yes → Remove needle and dispose of injection materials, start again

No

Inject slowly, wait 10 seconds then remove needle, allowing skin to fold back, wipe and apply plaster if needed.



Dispose of sharps in sharps box and other equipment in clinical waste bin



Check client's condition, record administration and forward plan

Source – Adapted (2006) from - The Royal Marsden Hospital and Blackwell Science © 2001 and University of Paisley

Appendix 6: Standard Operating Procedures Key Principles for the safe administration of depots within community mental health services

Standard statement:
All community mental health services that prescribe and administer depot and long-acting antipsychotic injections should have a standard operating procedure that describes their service model and processes for this practice.

This documents describes the key principles and contents all such SOPs should contain. A single service wide SOP is not possible given the differences between CMHT building and resource centres across GGC that necessitate local variations.

Principles for depot clinics:

Each SOP will contain appropriate detail covering each of the following principles

1. **The day of the week and duration of all clinics**
2. **The minimum appointment time for each patient and the maximum number of patients per clinic session**
3. **The number and grades of nursing staff assigned to each clinic**
4. **Processes for diary management and appointment setting**
5. **DNA and missed doses**
    - Detail the actions to be taken in the event of DNA
    - The follow up to be undertaken and by whom
    - Communication – i.e. who needs to know
    - Recording on EMIS
    - Any special processes for patients subject to treatment under MHA
6. **The training and competencies required of clinic staff**
7. **The system for prescribing depots**
    - Use of the GGC depot prescription and recording sheet
    - Clear visibility of MHA status to support DNA processes and audit
8. **Processes for stock ordering, receipt, storage, issue and reconciliation of depots**
9. **Processes for the safe transportation of depots where appropriate**
10. **Processes for the preparation and administration of depots**
    - Refer to the process maps (see appendix 7)
    - Ensure clarity around processes to minimise or avoid interruptions
11. **Processes for recording depot administration on EMIS**
    - Include use of the EMIS template to support recording of standard information
12. **Side effect and physical health monitoring**
13. **Processes for the safe disposal of sharps and part used ampoules etc.**

14. Processes for reporting and reviewing errors/incidents

- Escalation
- Seeking clinical advice
- Datix

15. List and links to local guidance resources.

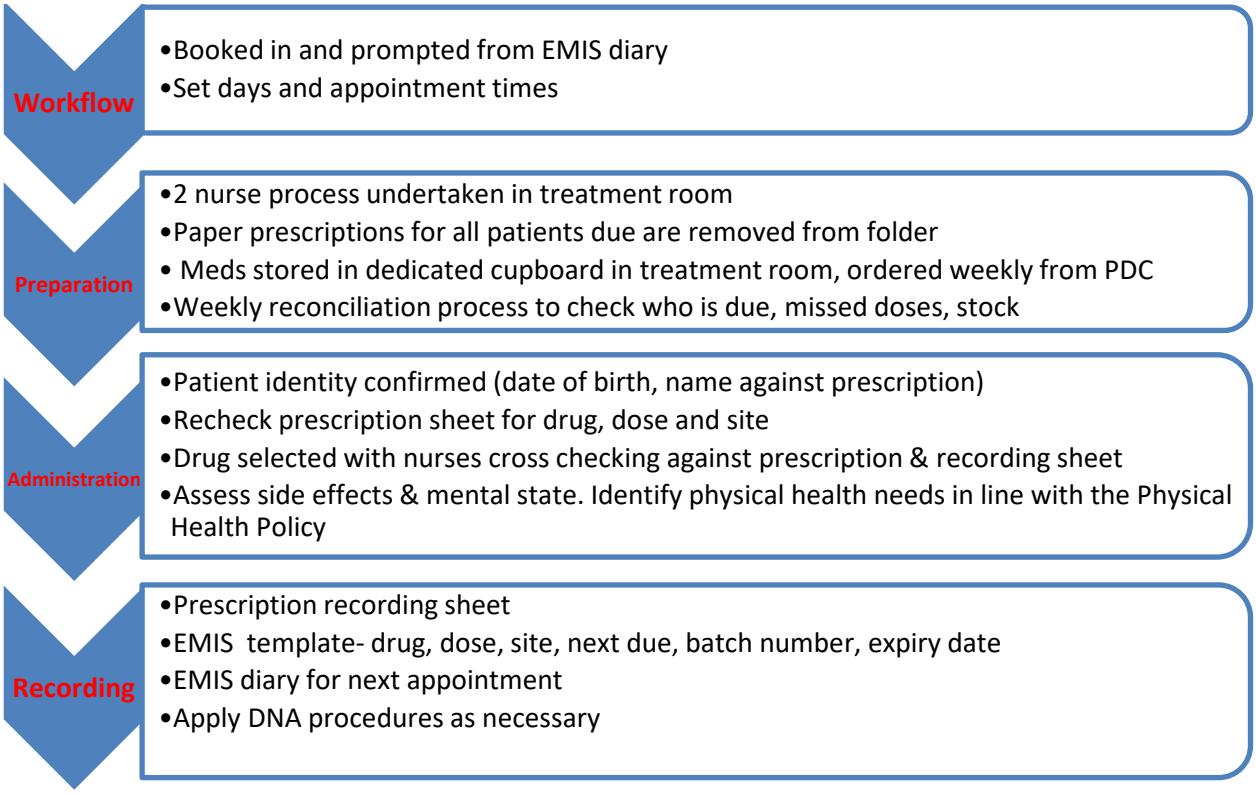
Where CMHTs administer depots primarily in a patient's place of residence rather than a clinic the SOP should reflect those elements of the list above that apply to that practice.

Depot SLWG July 2024

Approved by MH SUM Group
Review date:

Appendix 7: Process maps

Depot antipsychotic Administration CMHT Depot Clinic process map



Appendix 7: Process maps

Depot antipsychotic Administration CMHT Home Depot process map