Guidelines for the Administration of Long Acting Antipsychotic Injections in Adults

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CONTENTS

If reading this electronically, by pressing Ctrl and clicking on the subject in the index, you will be taken straight to the relevant page in the document.

1. INTRODUCTION AND CONTEXT ................................................................. 4
2. SCOPE OF THE GUIDELINES ................................................................. 4
3. LONG ACTING ANTIPSYCHOTIC INJECTIONS ....................................... 5
4. PATIENT INFORMATION AND CONSENT ............................................. 6
5. THE PRESCRIPTION .................................................................................. 7
6. TEST DOSES PRIOR TO ADMINISTRATION ........................................... 9
7. CHOOSING AN APPROPRIATE SITE ....................................................... 9
8. PREPARATION AND PROCEDURE ......................................................... 12
9. CONTRAINDICATIONS AND MONITORING OF SIDE EFFECTS ............. 14
10. REFERENCES ............................................................................................ 15
12. APPENDICES ........................................................................................... 16
    Appendix 1: Long acting antipsychotic injection administration guide ..... 16
    Appendix 2: Glasgow Antipsychotic Side-effect Scale (GASS) ............... 18
1. INTRODUCTION AND CONTEXT

Long acting antipsychotic injections (LAAIs) are made up of both oil-based depot injections, e.g. fluphenazine, and aqueous based injections, e.g. risperidone long acting injection (Risperdal Consta ®). Across the Trust we have a number of clinics and wards where LAAIs are administered, and also a number of practitioners who administer LAAIs to patients when they attend for clinic or sometimes in their own home.

In order to ensure that patients receive the best possible standards of care, we need to ensure that our practices, skills and techniques are regularly reviewed and are in keeping with current and evidence based practices. These guidelines offer clear guidance to practitioners about the appropriate techniques, which are endorsed by the Trust in the light of recent research into LAAI medication. It also sets out clear guidance about legal requirements, and guidance on dosage for LAAI preparations.

The following Sussex Partnership clinical policies should be read and referred to alongside these clinical guidelines for the intramuscular injection of LAAIs:

- Medicines Code
- Infection Control Policy
- Patient Identification Policy
- Resuscitation and Anaphylaxis Policy
- Sharps Policy
- Hand Washing Policy
- Clinical Risk Policy
- Mental Capacity Act 2005 Policy

as well as the Nursing and Midwifery Council Standards for Medicines Management (2010)¹.

2. SCOPE OF THE GUIDELINES

2.1 These guidelines are intended for all qualified nurses and other practitioners assessed as competent to administer LAAIs, working within Sussex Partnership NHS Foundation Trust, who undertake the administration of LAAIs, and for nurses and other practitioners in training supervised by a qualified practitioner. Their aim is to assist staff in their professional practice.

2.2 They set out a process to aid effective and informed LAAI administration and have been derived from current research evidence where available.

2.3 They offer clear guidance on issues such as LAAI preparation, consent, how to help prepare the patient, administration and the monitoring and evaluation of possible side effects. They will assist an appropriate decision-making pathway and reflect the degree of expertise the qualified nurse requires in terms of clinical and decision-making skills.
3. **LONG ACTING ANTIPSYCHOTIC INJECTIONS**

3.1 Long acting antipsychotic injections (LAAIs) are for maintenance therapy in the treatment of schizophrenia, mania and other psychoses. They are usually prescribed when the patient elects to have treatment administered in this way out of convenience, or where adherence to oral treatment has been unreliable or complicated in some way in the past. As with other antipsychotic medications, however, they may give rise to extrapyramidal and anticholinergic side effects, raised prolactin levels and other symptoms such as sedation. Many adverse events will be dependent on the dose, frequency and the individual’s tolerance.

3.2 As with oral antipsychotics, patients receiving LAAIs should be maintained under regular clinical review, particularly in relation to the risks and benefits of the drug regimen. Whilst in secondary care the clinician responsible will be a consultant psychiatrist or other nominated prescriber. If the patient is discharged to the GP they should take on this role, referring the patient back to secondary care if there are concerns.

3.3 If patients on long-acting antipsychotic injections are admitted to a general hospital ward and their dose is due, it is vital that the Trust team and the acute hospital team liaise closely with regard to the action to be taken. Whilst it is permissible for a CPN to visit the ward to administer the LAI, this must only occur following consultation with the ward medical team, in order to establish the physical well-being of the patient and the assessed appropriateness of administering the injection on the date it is due. Once it is agreed that the injection should proceed, the CPN may attend the ward with the medication, (and must also take a copy of the valid prescription), but must gain final confirmation from the nurse in charge of the ward, (and where possible from medical staff), before attending the patient and administering the drug. The nurse in charge or ward doctor must also be given opportunity to examine and confirm the injection before administration. Following administration, the CPN must ensure that a copy of the LAI prescription is left with the nurse in charge and a full record of the administration is made in the clinical notes. CPA/eCPA must also be updated as necessary.

3.4 In accordance with NICE clinical guidelines for psychosis and schizophrenia (2014)^2.

- A risk assessment should be performed by the clinician responsible for treatment and the multidisciplinary team regarding concordance with medication, and depot [LAAI] preparations should be prescribed when appropriate.

- Depot [LAAI] preparations should be a treatment option where a patient expresses a preference for such treatment because of its convenience, or as part of a treatment plan in which the avoidance of covert non-adherence with antipsychotic drugs is a clinical priority.

- For optimum effectiveness in preventing relapse, depot preparations should be prescribed within the standard recommended dosage and interval range.

- Following full discussion between the responsible clinician and the patient, the decision to initiate depot [LAAI] should take into account the preferences and attitudes of the service user towards the mode of administration and organisational procedures. (For example, home visits and location of clinics)
Test doses should normally be used as set out in the BNF and full licensed prescribing information on depot antipsychotics is available from the Summary of Product Characteristics, which can be found in the electronic medicines compendium (www.emc.medicines.org.uk). (See also appendix 2 - Long acting antipsychotic injection administration guide)

**NOTE - test doses are not used for risperidone, paliperidone or aripiprazole long acting injection. Where a patient is neuroleptic naïve or has not previously been prescribed the active ingredient (orally or IM), a trial of oral risperidone (for risperidone and paliperidone) or aripiprazole is recommended.**

### 4. PATIENT INFORMATION AND CONSENT

4.1 Patients and carers must be offered clear and accessible information in a suitable format regarding the use and possible side effects of any injection being considered, to assist in ensuring that full consent has been obtained before commencing treatment. A record should be made in the patient’s notes/care plan of any information provided and in what format, and also of any information offered but refused.

4.2 Patient information leaflets are available from the medication section of the Trust website:

http://www.choiceandmedication.org/sussex/

4.3 Additional information resources and other web links are also available from the Royal College of Psychiatrists website.

[www.rcpsych.ac.uk/mentalhealthinformation.aspx](http://www.rcpsych.ac.uk/mentalhealthinformation.aspx)

A medication information booklet for people with literacy problems or learning disability can be jointly compiled by professionals and carers to provide information and ensure informed consent.

Easy read leaflets and audio podcasts for specific medicines are also available via a link on the Trust’s website.

http://www.sussexpartnership.nhs.uk/service-users/what-happens/medication

4.4 In seeking to inform the patient about their proposed treatment consideration should be given to any communication barriers such as the patient’s first spoken language, any sensory loss, or learning disability. Where necessary the desired interpreting or advocacy services should be sought prior to the appointment to ensure that informed consent can be obtained. This must be documented in the patient’s notes.

4.5 If information in other formats are required, such as larger print, audio or leaflets in community languages then these can be obtained by contacting the Communications Department on 01903 843129.

4.6 Some patients for cultural, religious or personal reasons may be sensitive to the site used for administration and/or the gender of the person administering the injection.
Special arrangements will need to be discussed and agreed and these special arrangements documented in the notes and on the prescription.

4.7 Where a patient is assessed as lacking capacity using the FACE assessment tool the decision to prescribe a LAAI must be part of a “Best Interests” decision under the Mental Capacity Act 2005. In such circumstances a completed ‘medication use form’ for carers and next of kin may be useful to demonstrate their involvement in the decision. These forms can be found via the following link to the Trust’s website:


5. THE PRESCRIPTION

5.1 In the community, LAAIs must be prescribed and their administration recorded on the Community Long Acting Injection Prescription Chart. For inpatient units the LAAI must be prescribed on the Drug Prescription and Administration Chart.

5.2 The prescription must be legally written and signed by a doctor or non medical prescriber before the LAAI can be administered to the patient.

5.3 In some situations, such as when the prescription appears to be out of date, or there is no longer any room to sign that medication has been given on the current prescription chart, and the patient has arrived at clinic for treatment, a remote prescription may be sought. This is only appropriate if the patient has previously been prescribed the medicine. (See section 5 Medicines Code.) In any other situation, faxed prescriptions may be accepted for the administration of LAAI.

5.4 Prescription details must include:

- The patient’s full name, not an assumed name
- The patient’s address
- The patient’s hospital number
- The patients’ date of birth.
- Any known allergies or sensitivities, including sensitivities to dressings/ plasters. If none, then ‘no known drug allergies’ must be written. THIS SECTION MUST NOT BE LEFT BLANK
- Special notes, (ie. only accepts the injection lying down, prefers a particular site)
- The drug name, dosage, strength and frequency of administration
- The date of review
- The doctor’s signature.

5.5 The nurse’s signature or two initials must then be added in the relevant section of the prescription / administration chart when the medication has been given, along with details of the site where the medication has been given, indicating

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ven R =</td>
<td>Ventrogluteal - right</td>
</tr>
<tr>
<td>Ven L =</td>
<td>Ventrogluteal - left</td>
</tr>
<tr>
<td>Dor R =</td>
<td>Dorsogluteal – right</td>
</tr>
<tr>
<td>Dor L =</td>
<td>Dorsogluteal - left</td>
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</tbody>
</table>
Del R = Deltoid – right
Del L = Deltoid - left
Oth R = Route not recommended first line - right. Record in the notes the route and the reason why selected.
Oth L = Route not recommended first line - left. Record in the notes the route and the reason why selected.

5.6 On no account may a nurse make alterations to the prescription for LAAs, with regard to type or dosage, unless they are a qualified supplementary prescriber acting within an agreed clinical management plan, or an independent prescriber authorised by the Trust to prescribe in this area of practice.

5.7 In circumstances where a patient is unwilling to accept the prescribed dose, the nurse must then liaise with the prescriber at the earliest opportunity to establish what action to take. If the patient indicates that they would be willing to accept a lower dose and the prescriber agrees then a new prescription is required. If the prescriber is not on site then ideally a fax or email should be used to confirm the change in dose; in exceptional circumstances a text message may be received by a nurse but the dose must be countersigned by the prescriber within one working day (see chapter 5 of the Trust’s Medicines Code for more details on dealing with emails, faxes and text messages). The new dose must be either written onto a new Community Long Acting Injection Prescription and the dose reviewed by the prescriber responsible for the care of that patient, or if an inpatient the dose must be recorded in the ‘Once only prescriptions’ section of the Drug Prescription and Administration Chart and the dose reviewed by the prescriber responsible for the care of the patient. A record of the discussion and decision made must be made in the patient’s notes.

5.8 It is preferred that patients only attend for their LAI medication on the next due date but in reality this does not always happen and occasionally people attend clinics slightly earlier, out of greater convenience. Where patients attend for their injection slightly earlier or later than the next due date, it is considered acceptable for nursing staff to use their discretion as to whether to give the medication slightly out of prescribed schedule, or ask the patient to return on the date the LAI is actually due. (See 5.9 and 5.10 for further guidance).

5.9 It is acceptable to administer one day early if the medication is prescribed weekly, two days early if the medication is fortnightly, three days early if the medication is every three weeks, and four days early if the medication is every four weeks. **This guidance is not based on clinical evidence.**

5.10 Administering antipsychotic long acting injections a few days later than scheduled is unlikely to cause any problems, even if normally administered on a weekly or fortnightly basis. With **risperidone long acting injection** (Risperdal Consta®) blood levels drop rapidly shortly after the due day so the likelihood of relapse if not administered on or soon after the due date is greater. Administration less than 7 days later (4 days for risperidone LAI) than scheduled should take place as normal and the delay must be clearly documented in the patient's notes. The date of the next injection should be adjusted accordingly and clearly documented. If the patient presents 7 or more days later (4 or more days for risperidone LAI) than scheduled, this should be brought to the attention of the prescriber, if possible, before administration takes place. The lateness of the administration and the prescriber’s instructions to proceed, (or otherwise), must be clearly documented in
the patient's notes along with any adjustment to the administration schedule. **This guidance is not based on clinical evidence.**

5.11 Prescriptions must be reviewed at least every six months by the responsible prescriber.

5.12 A sample of the Community Long Acting Injection Prescription chart can be found via a link on the Trust’s website

http://www.sussexpartnership.nhs.uk/component/jdownloads/finish/2031/3574?Itemid=0

6. **TEST DOSES PRIOR TO ADMINISTRATION**

6.1 LAAIs are long-acting medications that take a long period to fully wash out of the body. Therefore adverse effects, which result from injection, are likely to be long-lived. With the exception of risperidone, paliperidone and aripiprazole long acting injections, it is recommended that patients are given a small test dose before the onset of the therapeutic dose for treatment, to avoid severe and prolonged adverse effects.

6.2 A table of LAAI administration guidelines including test doses can be found as Appendix 2 of this guidance.

7. **CHOOSING AN APPROPRIATE SITE**

7.1 Most LAAI are administered by deep intramuscular injection. Although other intramuscular sites are considered possible, the Trust primarily endorses use of the ventrogluteal muscle, which is shown in the figures 1 and 2 below. This is based upon recent literature, which supports the fact that this is a lower risk site in terms of potential harm to the patient, and facilitates the LAAI being effectively given into the muscle, rather than inadvertently into the sub-cutaneous (fatty) tissues from which absorption of the drug will be significantly delayed. Delayed absorption could have a number of consequences, e.g. the dose may be inappropriately increased as the anticipated response is not seen. Some medications, such as zuclopenthixol decanoate, are only licensed for administration in the dorsogluteal site so in these circumstances practitioners should follow the dorsogluteal site guidance below.

7.2 Because historically nurses have predominately used the dorsogluteal route, this route is still approved for use until training in how to administer using the ventrogluteal route has been proved for individuals. It is also recognised that some patients are less likely to be receptive to changes to their injection site, and patient preference must also be considered when selecting a site for injection.

7.3 Several LAAIs are licensed for deltoid use. In the case of paliperidone LAAI the deltoid route is the licensed method for the loading dose as the pharmacokinetics are more favourable.

7.4 **Ventreogluteal site** - research indicates that the ventrogluteal site is a safer site for administration of deep intramuscular injections than other sites. This is because it is well land-marked, allowing the nurse to easily locate it, and it is relatively free of major blood vessels and nerves, thus reducing the risk associated with damaging the sciatic nerve and superior gluteal artery, which are both closely located to the dorsogluteal site. In some circumstances, for example where the patient chooses
not to have the injection into this site, another site can be considered for use, this would usually be either the dorsogluteal muscle or lateral thigh.

7.5 Women tend to carry more sub-cutaneous (fatty) tissue at this site than men, so this should be considered when choosing the length of needle to use. Greater consideration should be given to using a 50 mm needle as this is preferential in terms of ensuring the medication is delivered into the muscle, unless the patient is underweight.

7.6 **Dorsogluteal site** - research suggests that for clients receiving deep intramuscular injections into the dorsogluteal site, who have a BMI of in excess of 24.9, a needle of at least 40mm should be used to ensure that medication is delivered into the muscle and not the subcutaneous (fatty) tissue between the muscle and skin.

7.7 Woman tend to carry thicker layers of subcutaneous (fatty) tissue in the dorsogluteal area and this should be considered when choosing the site for administration of deep intramuscular injection and choosing needle length.
7.8 **Tissue Viability** - in circumstances where medication given as a deep intramuscular injection is inadvertently deposited into the subcutaneous (fatty) tissue, there is an increased risk of granuloma, sterile abscess, redness and swelling at injection site, ulceration of tissue and ultimately fat necrosis.

7.9 **Deltoid muscle** - The Royal Marsden Guidelines³ state that the maximum limit for administration into this site is 2mls. Reconstituted RLAAI is 2mls in volume. The correct needle for deltoid needs to be chosen (i.e. 25mm, 21 gauge for Risperdal Consta ®) under no circumstances should this be used to administer medication into the dorsogluteal or ventrogluteal site.

![Figure 5 Deltoid site](image)
![Figure 6 Deltoid muscle](image)

7.10 **Recommended maximum volumes of fluid for each muscle group³**
- Deltoid – 2mL
- Dorsogluteal – 4mL
- Ventrogluteal – 2.5 to 4mL

7.11 **Use of alternative sites to those recommended first-line or sites that are ‘off licence’** - in instances where it appears that the amount of subcutaneous (fatty) tissue is too great for the needle to deposit the medication into the muscle, or where the patient chooses not to have the injection in the clinically preferred site, a full discussion should take place involving the consultant psychiatrist, the prescriber (if not the consultant), the mental health pharmacist and the designated nurse. This discussion and its conclusion should then be fully recorded in the patient’s notes. The nurse/doctor should be given the relevant training and supervised practice to equip them to administer into an alternative site safely, and without compromise to patient care or safety.

In such circumstances a completed ‘medication consent form’ for patients may be useful to demonstrate their involvement in the decision. These forms can be found via the following link to the Trust’s website:


(Details of licensed and additional alternative unlicensed LAAI sites can be found in Appendix 2 – Long Acting Antipsychotic guide)
8. PREPARATION AND PROCEDURE

8.1 The nurse will need:

- 2 - 5ml syringe
- Green 21 gauge 38mm or 50mm needle (note – RLAAI is provided with special syringes and needles in the pack)
- Needle for drawing up injection – Pink 18 gauge 40mm needle
- Gloves
- Alcohol swab
- Non woven gauze swab (in case of seepage from injection site)
- Small plaster (optional)
- Prescribed medication
- Prescription chart (community or inpatient)
- Receptacle for equipment
- Sharps container

8.2 Confirm that the injection is due for the identified patient or has not already been administered before assembling the equipment by checking the prescription, the administration record and whenever possible with the patient.

8.3 Explain to the patient the procedure and which site you will be using. Seek confirmation of patient’s consent. If there are problems with communication offer information in another format or consider advocacy or interpreter services documenting what action has been taken in the patient’s notes. If the patient does not consent to this site, consider another site, being aware of potential licensing implications.

8.4 Record in the patient’s notes that verbal consent has been obtained and if an interpreter was used or information was provided in another format, this should also be recorded in the notes.

8.5 Prior to preparation of medication, it is vital to identify an area where the qualified nurse will not be disturbed, that provides confidentiality for the patient and where there is appropriate facility for the disposal of sharps - either a sharps box within a clinical area or a portable sharps container for use in the community.

8.6 The qualified nurse should wash their hands before preparing the patient and the medication to be administered. Full details of the correct procedure for hand hygiene can be found in the Sussex Partnership’s Hand Washing Policy.

8.7 Draw up the prescribed dose of medication immediately prior to the injection, using a wide bore needle.

8.8 Change needle and use the relevant gauge and length needle to administer. (See section 7 for advice).

8.9 Choose a site for the injection. In general not more than 3mls of oily injection should be administered at any one time in a gluteal site, and no more than 2 mls at the deltoid site

8.10 Ask the patient to expose thigh, buttock or arm for injection, using the opposite side to that of the one injected previously.
8.11 Examine site for evidence of lesions and establish that the site is pain free. Seek clarification again that the patient is happy to have medication given at this site. If the site is not intact or the patient is not happy with another of the clinically preferred sites indicated in this guidance, further discussion with the multi disciplinary care team should be initiated. (See section 7 for guidance).

8.12 Wipe the injection site with an alcohol swab (70% Isopropyl Alcohol) and wait 30 seconds until it dries (to avoid the possibility of alcohol entering the site). The use of wipes prior to giving an injection is in keeping with the current recommended infection control measures, and is aimed at reducing the risk of infection at the site of injection.

8.13 Administer the injection using the Z-track technique as shown below. Z tracking need not be used in the deltoid site.

Z-Tracking technique

a) Displace the skin by pulling it laterally away from the intended point of injection.

b) Insert the needle into the site at a 90° angle, aspirate and if safe continue to inject.

c) Wait 10 seconds then withdraw the needle and release the skin allowing the displaced tissue to seal the needle track

![Z-tracking technique image]

Figure 4 – Z-tracking technique

8.14 Once the needle has been inserted using the dominant hand at a ninety degree angle, aspirate by pulling back on the plunger for 5 seconds, allowing time for any blood to travel from a penetrated vessel up the bore of the needle. If blood is aspirated withdraw the needle, seal the wound and repeat the procedure at another site with new equipment and medication. If no blood is aspirated administer the injection.

8.15 There is some evidence to suggest that as there are no major blood vessels in the ventrogluteal site, aspiration is not needed, however there is no evidence to suggest that this cautionary practice is in anyway harmful. On this basis the Trust advocates that its nurses continue to use the aspiration technique for all sites until a more substantial body of evidence emerges.
8.16 Once the injection has been given, wait 10 seconds to ensure time for the liquid to begin dissipating into the muscle tissue before removing the needle.

8.17 Dispose of sharps and equipment at the point of use in accordance with the Trust’s Sharps Policy.

8.18 Do not massage the site after the injection as this can promote dispersal into the subcutaneous fatty tissue. Wipe the site with gauze or cotton wool if any medication or blood oozes from it, and if the patient is not allergic to them, apply a plaster (optional).

8.19 Immediately record the administration on the community long acting intramuscular injection prescription chart, or the inpatient drug prescription and administration chart, and in the patient’s notes. Also, record the next due date in the diary, and inform the patient.

9. CONTRAINDICATIONS AND MONITORING OF SIDE EFFECTS

9.1 Throughout treatment, contraindications to the prescribed medication must be considered. Any concerns must be discussed with the prescriber and documented in the patient’s notes.

9.2 As a benchmark and to establish the impact of side effects, all patients will be offered the opportunity to complete a Glasgow Antipsychotic Side-effects Scale (GASS) to measure the impact of the side effects of their LAAI. This should be offered routinely at least every 6 months, prior to the prescription’s six-monthly review and approximately six weeks after initiation of a LAAI or when there has been dosage alteration.

9.3 Completion of the GASS can be carried out either in the depot clinics, by the care coordinator or on the ward.

9.4 If the dose needs to be reduced to alleviate side effects, it is important to recognise that the plasma-drug concentration may not fall for some time after reducing the dose. It may take a month or longer before side effects subside. Side effects should be reassessed by repeating GASS approximately 6 weeks after the dose alteration.

9.5 The GASS is available in Excel format by clicking on the icon below or in paper copy as appendix 3 to this guidance

10. REFERENCES


2. NICE clinical guidelines for psychosis and schizophrenia (CG 178). NICE. Feb 2014.


May 2014 Review no later than May 2017
<table>
<thead>
<tr>
<th>Medicine</th>
<th>Route(s)</th>
<th>Test dose ¹</th>
<th>Maintenance dose</th>
<th>Maximum dose</th>
<th>Storage</th>
<th>Pharmacokinetics (Bazire)</th>
<th>Examples of volumes ²</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aripiprazole (Maintena®)</td>
<td>Deep IM into the ventrogluteal or dorsogluteal muscle.</td>
<td>No Test dose (Oral used)</td>
<td>400mg monthly</td>
<td>400mg (no sooner than 26 days after the previous injection).</td>
<td>PK = 5-7 days (at SS) T1/2 = 46.5 days (400mg) and 29.9 days (300mg)</td>
<td>400 mg = 2.0 ml of 200mg/mL 300 mg = 1.5 ml of 200mg/mL 200 mg = 1.0 ml of 200mg/mL 160 mg = 0.8 ml of 200mg/mL</td>
<td>See specific Trust guidance.</td>
<td></td>
</tr>
<tr>
<td>Flupentixol decanoate (Depixol®)</td>
<td>Deep IM into the ventrogluteal or dorsogluteal muscle.</td>
<td>20mg (allow 1 wk before re-administering)</td>
<td>50mg every 4wks to 300mg every 2 wks</td>
<td>400mg weekly</td>
<td>DOA = 3-4 wks PK = 7-10 days T1/2 = 8 days (single) 17 days (multiple) SS = 10-12 wks</td>
<td>20mg = 1ml of 20mg/ml 40mg = 2ml of 20mg/ml (2ml vial) 50mg = 0.5ml of 100mg/ml (0.5ml vial) 100mg = 1ml of 100mg/ml 200mg = 2ml of 100mg/ml 400mg = 2ml of 200mg/ml</td>
<td>&gt; 65 years half to quarter of the dose. Can be mixed with other Depixol formulations</td>
<td></td>
</tr>
<tr>
<td>Fluphenazine decanoate (Modecate ®)</td>
<td>Deep IM into the ventrogluteal or dorsogluteal muscle.</td>
<td>12.5mg 6.25mg (&gt;60 yrs)</td>
<td>12.5mg to 100mg every 2 to 5 weeks</td>
<td>100mg every 2 weeks</td>
<td>Below 25°C</td>
<td>12.5mg = 0.5ml of 25mg/ml 25mg = 1ml of 25mg/ml 50mg = 0.5ml of 100mg/ml (0.5ml vial) 100mg = 1ml of 100mg/ml</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haloperidol decanoate (Haldol®)</td>
<td>Deep IM into the ventrogluteal or dorsogluteal muscle.</td>
<td>50mg 12.5-25mg (&gt;65 yrs)</td>
<td>50 mg to 300 mg every four weeks</td>
<td>300mg every 4 weeks</td>
<td>Below 25°C</td>
<td>50mg = 1ml of 50mg/ml 100mg = 1ml of 100mg/ml 200mg = 2ml of 100mg/ml 300mg = 3ml of 100mg/ml</td>
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<td>Olanzapine pamoate monohydrate (Zypadhera®)</td>
<td>Deep IM into the ventrogluteal or dorsogluteal muscle.</td>
<td>Initially 210mg every 2 weeks or 405mg every 4 weeks for 2 months (PO Olanzapine 10mg). 300mg every 2 weeks for 2 months (PO Olanzapine 15 or 20mg)</td>
<td>After 2 months 150mg every 2 weeks or 300mg every 4 weeks (PO Olanzapine 10mg). 210mg every 2 weeks or 405mg every 4 weeks (PO Olanzapine 15mg). 300mg every 2 weeks (PO Olanzapine 20mg)</td>
<td>300mg every 2 weeks or 405mg every 4 weeks</td>
<td>Do not refrigerate or freeze.</td>
<td>DOA = 1 day – 4 weeks T1/2 = 30 days SS = 5-6 months EP = 6-8 months</td>
<td>150mg = 1.0mL of the 210mg vial 210mg = 1.4mL of the 210mg vial 300mg = 2.0mL of the 300mg vial 405mg = 2.7mL of the 405mg vial</td>
<td>See specific Trust guidance.</td>
</tr>
<tr>
<td>Paliperidone (Xeplion®)</td>
<td>First 2 doses into the deltoid (in order to attain therapeutic concentrations rapidly).</td>
<td>No Test dose (Oral used)</td>
<td>Maintenance dose is range = 25-150mg monthly usually 75mg.</td>
<td>150mg monthly</td>
<td>Do not store above 30°C.</td>
<td>DOA = 1 day – 4 months PK = 13 days T1/2 = 25-49 days</td>
<td>In standard syringes</td>
<td>See specific Trust guidance.</td>
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<td>Drug</td>
<td>Administration</td>
<td>Dosage</td>
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<td>Storage</td>
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<tr>
<td>Pipotiazine palmitate</td>
<td>Deep IM into the ventrogluteal or</td>
<td>25mg-500mg</td>
<td>Every 2 weeks</td>
<td>2°C to 8°C (fridge)</td>
<td>DOA = 4-6 wks</td>
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<td></td>
<td>dorsogluteal muscle</td>
<td>(5-10 mg) (&gt;65 yrs of age)</td>
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<td></td>
<td>PK = 9-10 days</td>
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<td></td>
<td></td>
<td>50-100 mg every 4 weeks</td>
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<td>T1/2 = 14-21 days</td>
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<td></td>
<td>200 mg every four weeks</td>
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<td>SS = 8-12 wks</td>
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<tr>
<td>Risperidone</td>
<td>Deep IM into the ventrogluteal,</td>
<td>25-50mg every 2 wks</td>
<td></td>
<td>Whole vial used for each strength</td>
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<tr>
<td></td>
<td>dorsogluteal or deltoid muscle</td>
<td>(For starting doses consider 25mg LAI if on &lt;4mg oral risperidone and 37.5mg LAI if on &gt;4mg oral risperidone)</td>
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<td></td>
<td>50 mg every two weeks.</td>
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<tr>
<td></td>
<td></td>
<td>25 mg every two weeks in (&gt;65 years of age)</td>
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<tr>
<td>Zuclopenthixol decanoate</td>
<td>Deep IM into the ventrogluteal (if trained) or otherwise dorsogluteal (nb. lateral thigh is a licensed route but is not recommended first-line)</td>
<td>100 mg (half to quarter dose &gt;65 yrs)</td>
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<td></td>
<td></td>
<td>200-500 mg every one to four weeks</td>
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<td></td>
<td></td>
<td>600 mg per week</td>
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</tbody>
</table>

1. Patients who have suffered a relapse following cessation of depot therapy may be restarted on the same dose, although the frequency of injections may need to be increased in the early weeks of treatment until satisfactory control is obtained.
2. Can be stored at temps not exceeding 25°C for no more than 7 days prior to administration.
3. This takes into account the cheapest vial.
4. The BNF recommends ‘in general not more than 2-3 ml of an oily injection should be administered in any one site’.

**Key**

- **DOA** = Duration of action
- **PK** = Peak
- **T1/2** = Half life
- **SS** = Steady state
- **EP** = Elimination phase
Appendix 2

Glasgow Antipsychotic Side-effect Scale (GASS)

Name:  
Age:  
Sex:  M / F

Please list current medication and total daily doses below:

This questionnaire is about how you have been recently. It is being used to determine if you are suffering from excessive side effects from your antipsychotic medication. Please place a tick in the column which best indicates the degree to which you have experienced the following side effects. Tick the **and** box if you found that the side effect distressed you.

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<table>
<thead>
<tr>
<th>Over the <strong>past week</strong>:</th>
<th>Never</th>
<th>Once</th>
<th>A few times</th>
<th>Everyday</th>
<th>Tick this box if distressing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I felt sleepy during the day</td>
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<tr>
<td>2. I felt drugged or like a zombie</td>
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<td>3. I felt dizzy when I stood up and/or have fainted</td>
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<td>4. I have felt my heart beating irregularly or unusually fast</td>
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<td>5. My muscles have been tense or jerky</td>
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<td>6. My hands or arms have been shaky</td>
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<td>7. My legs have felt restless and/or I couldn’t sit still</td>
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<td>8. I have been drooling</td>
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<td>9. My movements or walking have been slower than usual</td>
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<td>10. I have had, or people have noticed uncontrollable movements of my face or body</td>
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<td>11. My vision has been blurry</td>
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<td>12. My mouth has been dry</td>
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<td>13. I have had difficulty passing urine</td>
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<tr>
<td>14. I have felt like I am going to be sick or have vomited</td>
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<td>15. I have wet the bed</td>
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<tr>
<td>16. I have been very thirsty and/or passing urine frequently</td>
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<td>17. The areas around my nipples have been sore and swollen</td>
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<tr>
<td>18. I have noticed fluid coming from my nipples</td>
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<td>19. I have had problems enjoying sex</td>
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<td>20. Men only: I have had problems getting an erection</td>
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</tbody>
</table>

**Tick yes or no** for the following questions about the **last three months**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Tick this box if distressing</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. Women only: I have noticed a change in my periods</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>22. Men and women: I have been gaining weight</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
1. Allow the patient to fill in the questionnaire themselves. Questions 1-20 relate to the previous week and questions 21-22 to the last three months.

2. Scoring

   For questions 1-20 award 1 point for the answer “once”, 2 points for the answer “a few times” and 3 points for the answer “everyday”. Please note zero points are awarded for an answer of “never”.

   For questions 21 and 22 award 3 points for a “yes” answer and 0 points for a “no”.

   Total for all questions=

3. For male and female patients a total score of:
   0-21 = absent/mild side effects
   22-42 = moderate side effects
   43 and over = severe side effects

4. Side effects covered by questions 1-2 sedation and CNS side effects
   3-4 cardiovascular side effects
   5-10 extra-pyramidal side effects
   11-13 anticholinergic side effects
   14 gastro-intestinal side effects
   15 genitourinary side effects
   16 screening for diabetes mellitus
   17-21 prolactinaemic side effects
   22 weight gain

The column relating to the distress experienced with a particular side effect is not scored, but is intended to inform the clinician of the service user’s views and condition.