

# Welcome

## Clozapine & LAI Virtual Forum

October 4, 2023 | 4:00 – 4:45 pm ET



The Clozapine & LAI Virtual Forum is a peer-to-peer, interactive dialogue between psychiatrists, nurse practitioners, and other prescribing clinicians. It is informal, no registration required — just join our Zoom call and share your challenges and questions on the month's trending topic around either clozapine or LAIs.

### TODAY'S TOPIC: Debrief on New Long-Acting Injectable Antipsychotic Medications (LAIs)

# MODERATORS

**Donna Rolin, PhD, APRN, PMHCNS-BC, PMHNP-BC**  
Clinical Nurse Expert; Clinical Associate Professor  
Prescriber  
APA/SMI Adviser; University of Texas at Austin

**Robert Cotes, MD**  
Clinical Physician Expert; Associate Professor  
APA/SMI Adviser; Emory University

**Kathryn Hanley, LPA, APRN, PMHNP-BC,**  
Nursing Consultant; Advanced Practice  
APA/SMI Adviser; Ascension Seton Shoal Creek

**Raymond Love, PharmD, BCPP, FASHP**  
LAI Workgroup Member  
APA/SMI Adviser; University of Maryland

## Discussion Questions for Virtual Forum: Making Sense of the LAI Antipsychotic Medication Research

- Several new LAIs are subcutaneously (SQ) injected (and not intramuscular like the others). How familiar are you with identifying landmarks and administering SQ injections?
  - Abdomen
  - Lateral arm
- With which of the newest LAIs are you familiar or have seen prescribed?
  - Abilify Asimtufii
  - Invega Hafyera
  - Perseris
  - Rykindo
  - Uzedly

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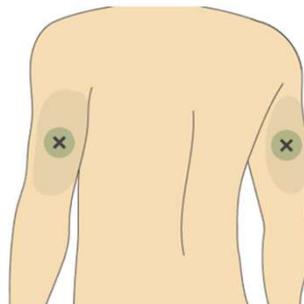
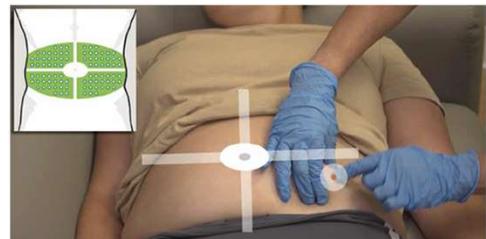


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## SQ LAI Injection Sites

- New injection site:
  - Subcutaneous in abdomen
  - Subcutaneous in back of upper arm



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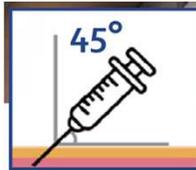
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## Abdominal Subcutaneous - Administration



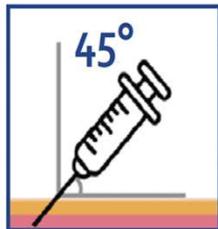
Injection angle: 45°  
Max volume: 1.5 mL

### Steps to find the injection site:

1. Find the costal margin. This is the ridge formed by the cartilages of the seventh to tenth ribs. This is your upper border.
2. Next find the iliac crests and imagine a line connecting them across the abdomen. This is your lower border.
3. Visualize a two-by-two grid across the area between these two borders on the patient's abdomen. The umbilicus -- or belly button -- should be in the center of the grid. Avoid this area.
4. Choose an injection site in one of the four areas outside of the umbilicus which is a minimum of two inches from the umbilicus.
5. Pinch a 2-inch fold of skin (to pull the adipose tissue up from the muscle) before and during the injection. This helps the medication go into the subcutaneous tissue and not the deeper muscle.

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## Lateral Aspect of Upper Arm Subcutaneous - Administration



Injection angle: 45°  
Max volume: 1.5 mL

### Steps to find the injection site:

1. Standing slightly behind the patient, choose a spot in the area halfway between the shoulder and the elbow (at least 3 inches below the shoulder and 3 inches above the elbow) on the side or back of the arm.
2. Pinch a 2-inch fold of the skin (to pull the adipose tissue up from the muscle) before and during the injection. This helps the medication go into the subcutaneous tissue and not the deeper muscle.
3. Note: This injection site should not be confused with a deltoid intramuscular injection.

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# LAI Available in the U.S., Including Newly Approved Agents

## Comparison of LAI Agents by Drug

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Medication	Site	Volume of Injection
<b><u>First Generation Antipsychotics</u></b>		
Haldol Decanoate (haloperidol decanoate)	Deltoid IM or Gluteal IM	3 mL max
Prolixin Decanoate (fluphenazine decanoate)	IM, with deltoid or gluteal injections possible	0.5-2 mL
<b><u>Second Generation Antipsychotics</u></b>		
Abilify Asimtufii (aripiprazole extended-release suspension)	Gluteal IM	2.4-3.2 mL
Abilify Maintena (aripiprazole monohydrate LAI)	Deltoid IM or Gluteal IM	0.8-2 mL
Aristada (aripiprazole lauroxil LAI)	1.6 mL: Deltoid IM or Gluteal IM Higher doses: Gluteal IM	1.6-3.9 mL
Aristada Initio (aripiprazole lauroxil) – for initiation only	Deltoid IM or Gluteal IM	2.4 mL
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Medication	Site	Volume of Injection
Invega Hafyera (Paliperidone palmitate 6-month LAI)	Gluteal IM only	3.5-5 mL
Invega Sustenna (Paliperidone palmitate LAI)	Both loading doses: Deltoid IM Maintenance doses: Deltoid IM or Gluteal IM	0.25-1.5 mL
Invega Trinza (Paliperidone palmitate 12-week LAI)	Deltoid IM or Gluteal IM	0.875-2.625 mL
Perseris (risperidone subcutaneous LAI)	Abdomen or upper arm SC	0.6-0.8 mL
Risperdal Consta (risperidone microspheres LAI)	Deltoid IM or Gluteal IM	2 mL
Rykindo (risperidone for extended-release suspension)	Gluteal IM	2 mL
Uzedy (risperidone for extended-release suspension)	Abdomen or upper arm SC	0.14-0.7 mL

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Aripiprazole Products				
	Aripiprazole extended-release suspension (Abilify Asimtufil)	Aripiprazole Monohydrate (Abilify Maintena)	Aripiprazole Lauroxil (Aristada)	Aripiprazole Lauroxil Nanocrystal Technology (Aristada Initio)
Year Approved	2023	2013	2015	2018
Indications	Schizophrenia, bipolar I maintenance	Schizophrenia, bipolar I maintenance	Schizophrenia	For the initiation of aripiprazole Lauroxil when used for the treatment of schizophrenia
Injection Site	Gluteal	Deltoid or gluteal	Deltoid (441 mg only) or gluteal	Deltoid or gluteal
Needle Gauge	21G, 22G	23G, 22G, or 21G	21G, 20G	21G, 20G
Injection Volume	2.4 mL (720 mg) 3.2 mL (960 mg)	1.5 mL (300 mg) 2.0 mL (400 mg)	1.6 mL (441 mg) 2.4 mL (662 mg) 3.2 mL (882 mg) 3.9 mL (1064 mg)	2.4 mL
Injection Frequency	Every 8 weeks	Every 4 weeks	Every 4, 6 or 8 weeks	One-time initiation with aripiprazole Lauroxil
Starting Dose	960 mg	400 mg	Depends on oral dose and frequency	675 mg
Maintenance Dose	960 mg	400 mg	Depends on oral dose and frequency	N/A
Oral Supplement	Yes- 14 days, unless you are switching from Abilify Maintena	Yes- 14 days	Yes- 21 days if NCT is not used	N/A
Reconstitution	No	Prefilled syringes and vials available	No	No
Refrigeration	No	No	No	No
Observation	No	No	No	No

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Paliperidone Products			
	Paliperidone Palmitate Monthly (Sustenna)	Paliperidone Palmitate Every 3 months (Trinza)	Paliperidone Palmitate Every 6 months (Hafyera)
Year Approved	2009	2009	2021
Indications	Schizophrenia, Schizoaffective disorder	Schizophrenia	Schizophrenia
Injection Site	Deltoid or gluteal	Deltoid or gluteal	Gluteal
Needle Gauge	22G, 23G	22G	20G
Injection Volume	0.25 mL (39 mg) 0.5 mL (78 mg) 0.75 mL (117 mg) 1 mL (156 mg) 1.5 mL (234 mg)	0.875 mL (273 mg) 1.315 mL (410 mg) 1.75 mL (546 mg) 2.625 mL (819 mg)	3.5 mL (1092 mg) 5 mL (1560 mg)
Injection Frequency	Every 4 weeks	Every 12 weeks	Every 6 months
Starting Dose	234 mg Day 1 + 156 mg Day 8 in deltoid	After treatment with 1-month Sustenna for at least 4 months	After treatment with 1-month Sustenna for at least 4 months; After treatment with 3-month Trinza for at least one three month cycle
Maintenance Dose	117 mg (range 39 to 234 mg) every 4 weeks	3.5 times the last dose of the once monthly formulation	Based on Sustenna or Trinza dose
Oral Supplement	No	No	No
Reconstitution	No	No	No
Refrigeration	No	No	No
Observation	No	No	No
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Risperidone Products				
	Risperidone Subcutaneous (Perseris)	Risperidone Microspheres (Risperdal Consta)	Risperidone Microspheres (Rykindo)	Risperidone extended-release suspension (Uzedly)
Year Approved	2018	2003	2023	2023
Indications	Schizophrenia	Schizophrenia; bipolar disorder	Schizophrenia	Schizophrenia
Injection Site	Subcutaneous-abdomen OR upper lateral arm	Deltoid or gluteal	Gluteal	Subcutaneous- abdomen or upper lateral arm
Needle Gauge	18G	20G or 21G	20G	21G
Injection Volume	0.6 mL (90 mg) 0.8 mL (120 mg)	2 mL	2 mL	0.14 mL (50 mg) 0.21 mL (75 mg) 0.28 mL (100 mg) 0.35 mL (125 mg) 0.42 mL (150 mg) 0.56 mL (200 mg) 0.7 mL (250 mg)
Injection Frequency	Every 4 weeks	Every 2 weeks	Every 2 weeks	Every 4 or 8 weeks
Starting Dose	90 or 120 mg	25 mg	25 mg	Depends on oral risperidone dose
Maintenance Dose	90 or 120 mg	25-50 mg every 2 weeks	25-50 mg every 2 weeks	Depends on oral risperidone dose
Oral Supplement	No	Yes- 21 days	Yes- 7 days	No
Reconstitution	Yes	Yes	Yes	No
Refrigeration	Yes	Yes	Yes	Yes
Observation	No	No	No	No
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## New LAIs

Medication	FDA approval	Indication	Site	Dosage (mg)	Notable Characteristics
Abilify Asimtufii (aripiprazole extended-release suspension)	4/2023	SCZ, BP1	Gluteal IM	720, 920	May take 2 weeks to fully assess oral tolerability, 14 day oral supplementation, given q 8 weeks
Invega Hafyera (paliperidone 6-mo LAI)	8/2021	SCZ	Gluteal IM	1092, 1560	Administer after 4 months of Sustenna or 1 month of Trinza, given q 6 month
Rykindo (risperidone for extended-release suspension)	1/2023	SCZ, BP1	Gluteal IM	12.5, 25, 37.5, 50	7 day oral supplementation (21 days for Consta), given q2 weeks
Uzedy (risperidone for extended-release suspension)	4/2023	SCZ	Abdomen or upper arm SC	50, 75, 100, 125, 150, 200, 250	Oral overlap not required, given q1 or q2 months

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## SMI ADVISER ASSETS ON LONG-ACTING INJECTABLES

### Long-Acting Injectable Center of Excellence



SCAN ME!

**Welcome to the Long-Acting Injectable (LAI) Center of Excellence (COE)**

SMI Adviser created the LAI COE to promote the safe and effective use of LAIs. The ultimate goal of this effort is to improve the lives of individuals who have schizophrenia, schizoaffective, and bipolar disorders. The LAI COE provides clinicians with training opportunities, technical assistance, and vetted resources. These include:

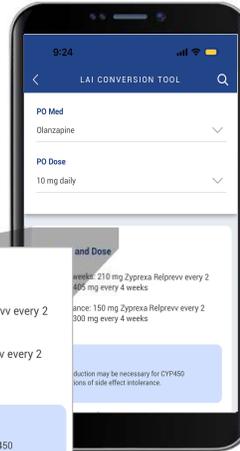
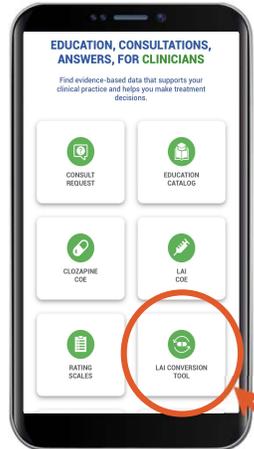
- Live and on-demand webinars
- Virtual Learning Collaboratives
- Virtual Forums
- Email listserv
- On-demand consultations
- Intensive consultation to sites or communities
- Clinical tips and resources

The LAI COE is led by SMI Nursing Expert, Donna Rolin, PhD, APIN; SMI Adviser Physician Expert, Robert Cotes, MD, and SMI Adviser content partner, National Association of State Mental Health Program Directors (NASMHPD), and supported by members of the LAI Workgroup.

For individual and family resources on using long-acting injectables, visit the individual and family Knowledge Base.

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## LAI DOSE CONVERSION TOOL



### LAI Med and Dose

- Initial 8 weeks: 210 mg Zyprexa Relprev every 2 weeks or 405 mg every 4 weeks
- Maintenance: 150 mg Zyprexa Relprev every 2 weeks or 300 mg every 4 weeks

### Hint

Dose reduction may be necessary for CYP450 interactions of side effect intolerance.

Download at [SMIAdviser.org/app](http://SMIAdviser.org/app)

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## FEEDBACK

Please help us improve the Clozapine & LAI Virtual Forum by completing this survey:

<http://smiadviser.org/forumfeedback>



## Pre-submit Cases

[www.smiadviser.org/vfcases](http://www.smiadviser.org/vfcases)

## UPCOMING VIRTUAL FORUM

11/1/23 @4:00-5:00 PM ET

Demystifying Lithium's Renal Effects

For additional questions and resources – join the Clozapine and LAI Centers of Excellence Exchange Community

- [www.smiadviser.org/cloz\\_lai\\_signup](http://www.smiadviser.org/cloz_lai_signup)

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