



MONKEYPOX INTRADERMAL VACCINE ADMINISTRATION AND INVENTORY MANAGEMENT

August 25, 2022

Presenters

- Kathy Bay
- Heidi Kelly
- Jenny Arnold
- Elle Cooper, Anne Tu, and Brittany Jolivette
- Janel Jorgenson

Today's topics

- JYNNEOS vaccine general info: Kathy
- Intradermal vaccine administration, tips and tricks, lessons from the field: Heidi/Jenny/Tacoma Pierce County Health Department nurses
- Errors and deviations and VAERS: Kathy
- WAIS vaccine inventory management: Janel
- Q&A

Vaccine Guidance

JYNNEOS Vaccine Preparation

JYNNEOS vaccine regimen	Route of administration	Injection volume	Recommended number of doses	Recommended interval between 1st and 2nd doses
Alternative regimen				
People age \geq 18 years	ID	0.1 mL	2	28 days
Standard regimen				
People age <18 years	Subcut	0.5 mL	2	28 days
People of any age who have a history of developing keloid scars	Subcut	0.5 mL	2	28 days

FDA [emergency use authorization \(EUA\)](#) allows intradermal injection for people 18 years of age and older allows subcutaneous injection for most people under the age of 18

Vaccine Updates

- Utilizes dendritic cells in the skin to help produce a better immune response
- Site reaction:
 - More redness, firmness, itching and swelling at site
 - Less pain at site
- Previous study has confirmed non-inferior immune response
- Intradermal (ID) dose of 0.1 mL dose for adults
 - Not recommended for those with risk of keloid scars
 - Utilize 26 or 27 gauge TB syringe, ¼ to ½ inch short beveled needle
 - Volar aspect forearm
- Under 18 years should receive 0.5 mL subcutaneous dose

[How to administer a JYNNEOS vaccine intradermally - YouTube](#)

Intradermal Vaccine Updates

- Low dead volume syringes and/or needles can be used to extract 5 doses (0.1 mL each) for intradermal injection from a single vial
- If standard syringes and needles are used, there may not be sufficient volume to extract 5 doses from a single vial
- Must give full 0.1 mL dose, cannot pool vials for dosing
- Once the vial is punctured and a dose is withdrawn, if it is not used in its entirety, it should be stored at +2°C to +8°C (+36°F to +46°F) and discarded within 8 hours of the first puncture
- Use of sterile, single-use disposable needs and syringe for each injection is essential for prevention of cross contamination
- [One and Only Campaign | Injection Safety | CDC](#)

Infection Control

- Critical to use aseptic technique to prevent cross contamination of vial
- Vial must be used within 8 hours of first access
- Time and date vial when opened to allow for verification
- Do not pool vaccine from multiple vials to get extra doses
- Use of sterile, single-use disposable needs and syringe for each injection is essential for prevention of cross contamination

JYNNEOS Vaccine Admin Errors/Deviations

- Spacing
- Dosage
- Intervals
- Storage and handling

Intradermal Route

Dosage	If the incorrect dosage is administered, resulting in a lower-than-authorized dose (e.g., recipient pulled away, leaked out of a syringe, 0.1 mL administered subcutaneously).	Repeat dose immediately (no minimum interval). However, if a half-volume dose of vaccine is administered to a patient instead of the intended full volume, another half-volume dose can be administered on the same clinic day, and the 2 halves can count as 1 full dose.
Route	Incorrect route resulting in lower-than-authorized dose administered (e.g., inadvertent subcutaneous administration of 0.1 mL, when intradermal route was intended).	Repeat dose immediately via intended route (no minimum interval).

Source: [Vaccine Administration Errors and Deviations | Monkeypox | Poxvirus | CDC](#)

RESOURCES



Immunization Information System (IIS)

You will be directed to the page listing vaccines available for the clinic. Select the vaccine product on the far left, it will become highlighted with a blue check mark. To completely document the vaccination, use the scroll bar at the bottom of this section and scroll right for the remaining two fields "volume administered," and "unit of measure." Complete each field.

OR

Important Note: To adjust the number by decimal points, it must be typed in. The default adjustment for the up/down arrows in PrepMod "volume administered" column is in whole numbers. Please use keyboard entry for dosage information.



Washington State Immunization Information System



Monkeypox Vaccine Management in the WAIS

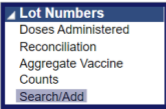
The *JYNNEOS monkeypox vaccine* is coming to WA state through non-traditional ordering methods. A limited number of organizations will initially receive monkeypox vaccines. Organizations that receive vaccine allotment directly should manually add their facility's monkeypox vaccine inventory into the Washington State Immunization Information System (WAIS). After adding the vaccine into the WAIS, the monkeypox vaccine product can be electronically transferred to other providers that participate in the WAIS.

When transferring vaccine inventory to another provider, an official transfer request should be created in the WAIS. Once the electronic transfer request is approved by the Department of Health, the physical transfer can occur. When the recipient physically receives the transferred vaccine, the provider should accept the official transfer in the WAIS.

JYNNEOS monkeypox vaccine, CVX 206, can be administered as either an intradermal injection of 0.1ml or a subcutaneous injection of 0.5ml. Both are a two-dose series with a 28-day interval between doses. Because the same product is being used for both types of injections, careful inventory management, frequent reconciliation, and meticulous record keeping are necessary.

How do I manually add monkeypox vaccines to my facility's WAIS inventory?

1. Log in to your organization and facility in the WAIS. Click the blue **Lot Numbers** menu tab on the left of the page. Choose **Search/Add**.



[PrepMod: Washington State's Mass Vaccination System | Washington State Department of Health](#)

[348-903-MonkeypoxVaccineManagementWAIS.pdf](#)

Resources

- [Monkeypox \(MPV\) Provider FAQs and Resources | Washington State Department of Health](#)
- [Alert: Monkeypox Vaccination Changes \(govdelivery.com\)](#)
- [Clinical Guidance | Monkeypox | Poxvirus | CDC](#)
- [Infection Control: Healthcare Settings | Monkeypox | Poxvirus | CDC](#)
- [Fact Sheet for Healthcare Providers Administering Vaccine: Emergency Use Authorization of Jynneos \(Smallpox and Monkeypox Vaccine, Live, Non-Replicating\) for Prevention of Monkeypox Disease in Individuals Determined to be at High Risk for Monkeypox Infection \(fda.gov\)](#)
- [Monkeypox Vaccination Program Provider Agreement | Monkeypox | Poxvirus | CDC](#)
- [Vaccine Administration Errors and Deviations | Monkeypox | Poxvirus | CDC](#)

JYNNEOS Intradermal Administration

MONKEYPOX

How to administer a JYNNEOS vaccine intradermally

STEP 1

Locate and clean a site for injection in the inner (volar) surface of the forearm.



MONKEYPOX

How to administer a JYNNEOS vaccine intradermally

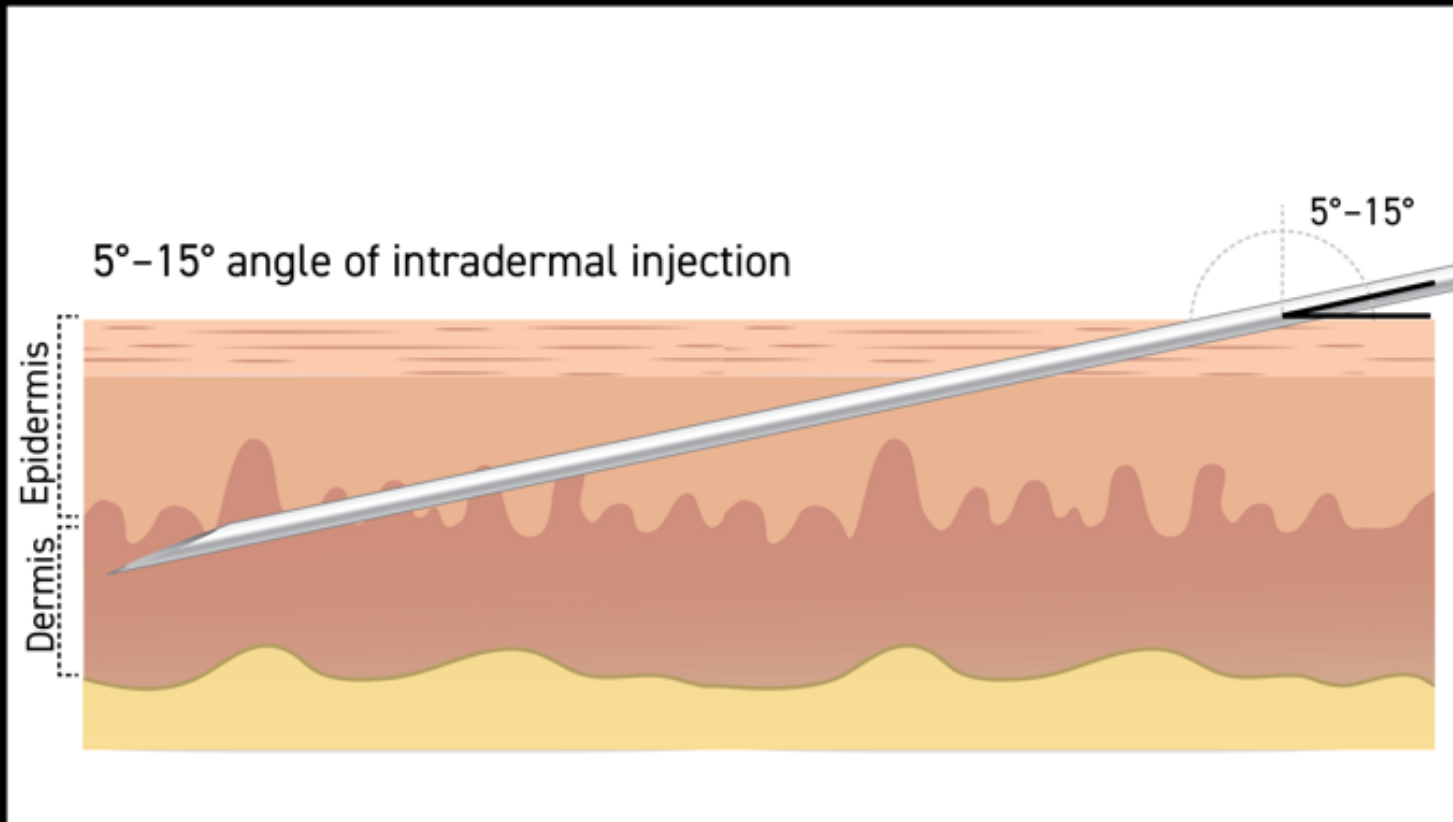


STEP 2

While pulling the skin taut, position the needle with the bevel facing up and insert the needle at a 5- to 15-degree angle into the dermis.

MONKEYPOX

How to administer a JYNNEOS vaccine intradermally



STEP 2

While pulling the skin taut, position the needle with the bevel facing up and insert the needle at a 5- to 15-degree angle into the dermis.

MONKEYPOX

How to administer a JYNNEOS vaccine intradermally

STEP 3

Slowly inject 0.1mL intradermally. This should produce a noticeable pale elevation of the skin (wheal).



MONKEYPOX

How to administer a JYNNEOS vaccine intradermally

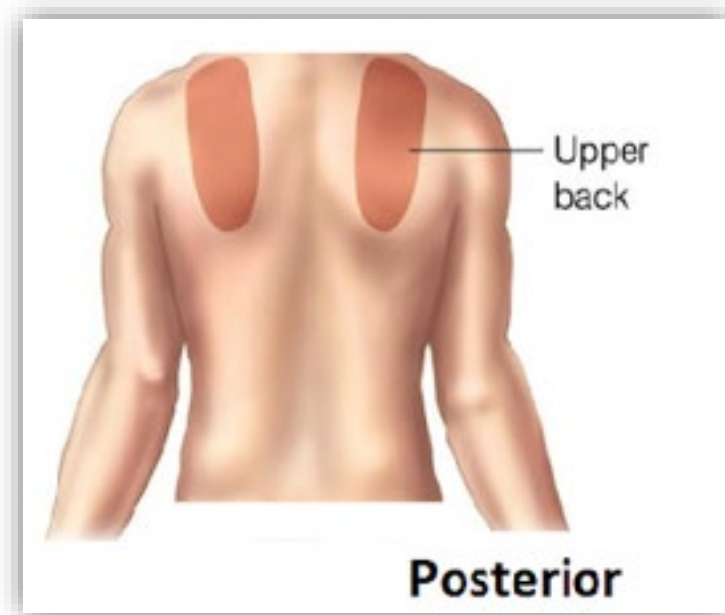
STEP 4

Observe patients for 15 minutes after vaccination or 30 minutes if they have a history of anaphylaxis to gentamicin, ciprofloxacin, chicken or egg protein.



Sites of Intradermal Administration

- Volar aspect of forearm (preferred)
- Alternate site based on patient preference include:
 - Upper back under shoulder blade (scapular region)



[Sites of Intradermal Injection
\(Medilogbiohealth\)](#)

Adverse Reactions - Intradermal Administration

Source: [Fact Sheet for Healthcare Providers Administering Vaccine: Emergency Use Authorization](#)

Clinical study of smallpox vaccine-naïve subjects, sponsored by the National Institutes of Health (NIH):

- Frequencies of systemic and local adverse reactions reported in greater than 10% of subjects within 15 days of vaccination
- Erythema at the injection site was reported by 81.4% and 99.5% of participants in the SC and ID (intradermal) groups
- 44% of those who had ID administration still had erythema at the end of 14 days
- Reactions lasted longer in the ID subjects: at day 180, more than a third of subjects continued to have minimal induration or erythema
- A few subjects developed small nodules or discoloration at the injection site lasting 6 months or longer

Adverse Reactions - Intradermal Administration

Source: [Fact Sheet for Healthcare Providers Administering Vaccine: Emergency Use Authorization](#)

Table 2. Adverse reactions reported in >10% of individuals within 15 days following any dose

Reactogenicity event	SC (%) N=166	ID (%) N=190
Feeling Tired	49.7	51.3
Muscle Aches	41.3	30.4
Headache	43.1	41.4
Nausea	21.6	23.0
Change in Appetite	15.0	20.4
Chills	12.6	14.7
Joint Pain	9.0	17.8
Pain at injection site	91.0	65.4
Erythema at injection site	81.4	99.5
Induration at injection site	69.5	99.5
Itchiness	48.5	89.0
Underarm pain	18.0	20.9
Underarm swelling	6.0	10.5

The vaccinating provider is required to report adverse reactions to [Vaccine Adverse Event Reporting System \(VAERS\)](#)

Clinical consults - Clinicians or Health Departments

- For urgent clinical consults, please contact CDC's Emergency Operations Center (770-488-7100)
- For non-urgent clinical consults, please email the clinical team at: eocevent482@cdc.gov

ID Administration Resources

- [How to administer a JYNNEOS vaccine intradermally – YouTube](#)
- [How to administer subcutaneous vaccine - YouTube](#)
- [JYNNEOS Preparation and Administration Summary \(Intradermal route\)](#)
- [JYNNEOS Preparation and Administration Summary \(Subcutaneous\)](#)
- [JYNNEOS Interim Clinical Considerations](#)



Inventory Management



ADDING MPV TO
INVENTORY



RECEIVING MPV
TRANSFER



MANAGING MPV
INVENTORY



MPV Vaccine Management in the IIS

Once Monkeypox vaccines are delivered to your clinic via transfer or direct order, the first step to managing inventory in the IIS is to add or receive the vaccine into your facility's inventory.

Monkeypox Vaccine Management in the WAIS

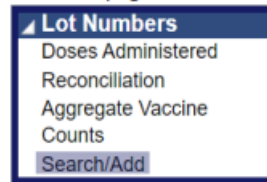
The *JYNNEOS monkeypox vaccine* is coming to WA state through non-traditional ordering methods. A limited number of organizations will initially receive monkeypox vaccines. Organizations that receive vaccine allotment directly should manually add their facility's monkeypox vaccine inventory into the Washington State Immunization Information System (WAIS). After adding the vaccine into the WAIS, the monkeypox vaccine product can be electronically transferred to other providers that participate in the WAIS.

When transferring vaccine inventory to another provider, an official transfer request should be created in the WAIS. Once the electronic transfer request is approved by the Department of Health, the physical transfer can occur. When the recipient physically receives the transferred vaccine, the provider should accept the official transfer in the WAIS.

JYNNEOS monkeypox vaccine, CVX 206, can be administered as either an intradermal injection of 0.1mL or a subcutaneous injection of 0.5mL. Both are a two-dose series with a 28-day interval between doses. Because the same product is being used for both types of injections, careful inventory management, frequent reconciliation, and meticulous record keeping are necessary.

How do I manually add monkeypox vaccines to my facility's WAIS inventory?

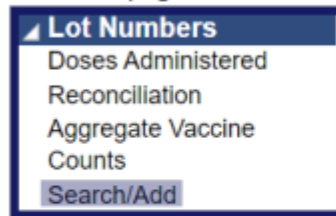
1. Log in to your organization and facility in the WAIS. Click the blue **Lot Numbers** menu tab on the left of the page. Choose **Search/Add**.



[348-903-MonkeypoxVaccineManagementWAIS.pdf](#)

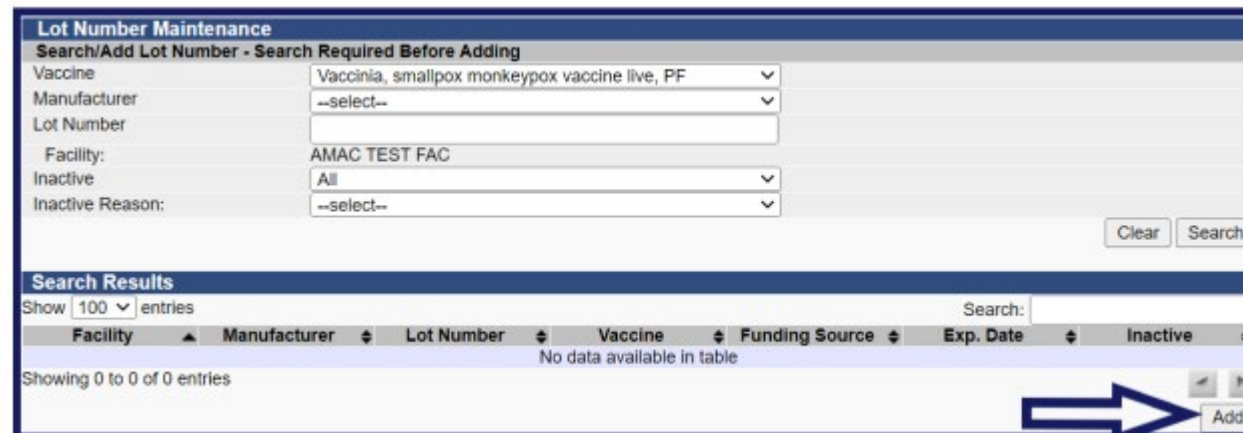
How to Manually add MPV to WAIS

1. Log in to your organization and facility in the WAIS. Click the blue **Lot Numbers** menu tab on the left of the page. Choose **Search/Add**.



NOTE: WAIS users that do not have access to the blue **Lot Numbers** or **Orders/Transfers** menu tab can contact the IIS Help Desk at 1-800-325-5599 or WAISHelpDesk@doh.wa.gov.

2. The **Lot Number Maintenance** screen will appear. Conduct a search before adding a product. Below the **Search Results**, click the **Add** button on the right.

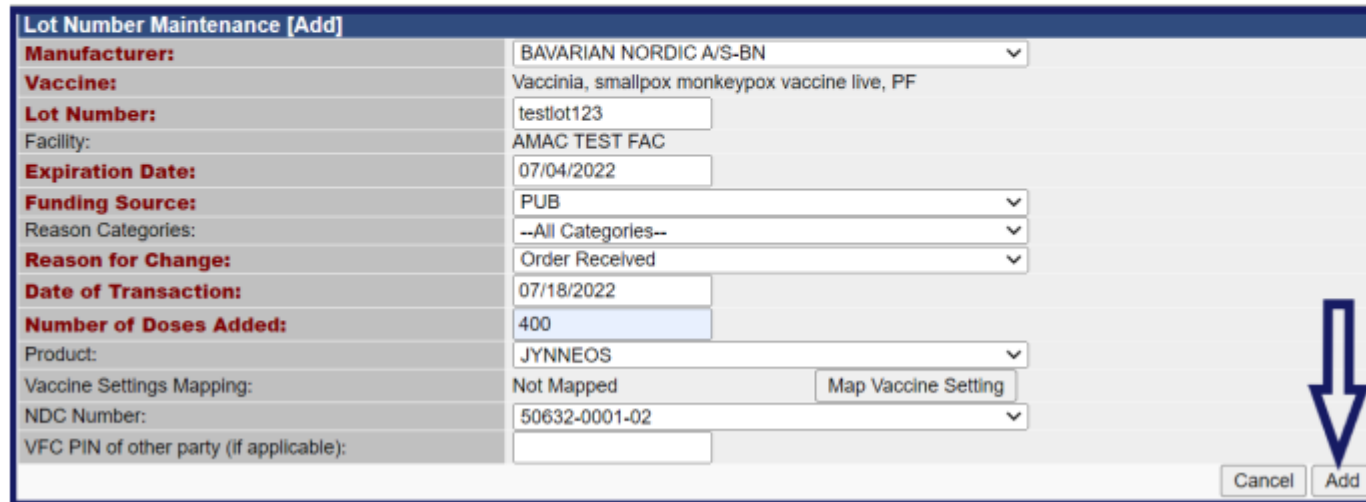
A screenshot of the "Lot Number Maintenance" screen in WAIS. The screen is divided into two main sections: "Search/Add Lot Number - Search Required Before Adding" and "Search Results".
The "Search/Add Lot Number" section contains several input fields:

- Vaccine: Vaccinia, smallpox monkeypox vaccine live, PF
- Manufacturer: --select--
- Lot Number: (empty text box)
- Facility: AMAC TEST FAC
- Inactive: All
- Inactive Reason: --select--

There are "Clear" and "Search" buttons at the bottom right of this section.
The "Search Results" section shows a table with columns: Facility, Manufacturer, Lot Number, Vaccine, Funding Source, Exp. Date, and Inactive. The table is currently empty, displaying "No data available in table". Below the table, it says "Showing 0 to 0 of 0 entries". A blue arrow points to the "Add" button at the bottom right of the screen.

How to Manually add MPV to WAIS

3. The **Lot Number Maintenance [Add]** screen will appear. Enter data for all required fields. Regarding **Reason for Change**, use the most appropriate selection based on how you acquired the vaccine product. Once this form is complete, click the **Add** button on the bottom right.
 - a. The monkeypox vaccine product currently being used in Washington state is JYNNEOS by Bavarian Nordic A/S. The description in the WAIS for this product is "Vaccinia, smallpox monkeypox vaccine live, PF".



The screenshot shows the 'Lot Number Maintenance [Add]' form with the following fields and values:

Manufacturer:	BAVARIAN NORDIC A/S-BN
Vaccine:	Vaccinia, smallpox monkeypox vaccine live, PF
Lot Number:	testlot123
Facility:	AMAC TEST FAC
Expiration Date:	07/04/2022
Funding Source:	PUB
Reason Categories:	--All Categories--
Reason for Change:	Order Received
Date of Transaction:	07/18/2022
Number of Doses Added:	400
Product:	JYNNEOS
Vaccine Settings Mapping:	Not Mapped <input type="button" value="Map Vaccine Setting"/>
NDC Number:	50632-0001-02
VFC PIN of other party (if applicable):	

Buttons:

A blue arrow points to the 'Add' button.

4. Click the blue **Lot Numbers** menu tab on the left of the page. Choose **Reconciliation**. Your facility's **Reconcile Inventory** page will appear, and you should see the newly added monkeypox vaccine product.





MPV Transfers



Complete MPV Vaccine Transfer Request

Transferring Facility

Creates a vaccine transfer in the Immunization Information System (IIS):

1. Log into the Washington State Immunization Information System (IIS).
2. Ensure the correct facility displays at the top of the screen under: Organization/Facility.
3. Go to the **Orders/Transfers** menu in the left menu, select **Create/View Orders** and then **Create Transfer**.

The screenshot displays the 'Orders/Transfers' menu on the left, with 'Create/View Orders' highlighted. The main content area shows a table of vaccine orders with columns for Order Number, PIN, Submit Date, Approval Date, and Status. Below the table are buttons for 'Create Order', 'Create Transfer', and 'Vaccine Return'. The 'Create Transfer' button is highlighted with a red box and a mouse cursor.

Current Order/Transfer List							
Inbound Orders							
Select	Order Number	PIN	Submit Date	Approval Date	Status		
Backordered Orders							
Select	Order Number	PIN	Submit Date	Backorder Date			
Denied Orders							
Select	Order Number	PIN	Submit Date	Denial Date			
Inbound Transfers							
Select	Transfer Number	PIN	Submit Date	Sending Organization/Facility	Status		
Outbound Transfers							
Select	Transfer Number	PIN	Submit Date	Receiving Organization/Facility	Status		
Rejected Transfers							
Select	Transfer Number	PIN	Submit Date	Receiving Organization/Facility	Reject Date	Rejected By	Status


Buttons: Create Order, **Create Transfer**, Vaccine Return

Complete MPV Vaccine Transfer Request

4. On the **Create Transfer** screen for the transferring facility:
 - a. Select the **Receiving Organization** from the drop-down menu and the **Receiving Facility**
 - b. Enter the **Transfer Quantity** (amount of CVP vaccine that will be transferred)
 - c. Enter **Transfer Reason**
 - d. Select **Create Transfer**

Create Transfer						
Sending Organization	BECKY'S TEST ORGANIZATION					
Sending Facility	BECKY'S TEST FACILITY TWO					
Submitter	NICOLE PENDER (NPENDER)					
Receiving Organization	BECKY'S TEST ORGANIZATION (10012)					
Receiving Facility	BECKY'S TEST FACILITY THREE					

Transfer Details						
Transfer Quantity	Vaccine	Funding Source	Lot Number	Quantity Available	Expiration Date	Transfer Reason
	COVID-19, mRNA, LNP-S, PF, 30 mcg/0.3 mL dose (Pfizer)	PUB	1637642	100	02/25/2022	
19	DTaP-Hep B-IPV (Pediarix)	PUB	TEST234	19	08/31/2021	Soon to expire
	DTaP-Hib-IPV (Pentacel)	PUB	TEST456	14	12/30/2022	

 **Create Transfer**

Complete MPV Vaccine Transfer Request

- Once **Create Transfer** is selected you will be directed back to the **Create/View Orders** page.
- Under the **Create/View Orders** page you will be able to view your **Outbound Transfers**.

Current Order/Transfer List							
Inbound Orders							
Select	Order Number	PIN	Submit Date	Approval Date	Status		
Backordered Orders							
Select	Order Number	PIN	Submit Date	Backorder Date			
Denied Orders							
Select	Order Number	PIN	Submit Date	Denial Date			
Inbound Transfers							
Select	Transfer Number	PIN	Submit Date	Sending Organization/Facility	Status		
Outbound Transfers							
Select	Transfer Number	PIN	Submit Date	Receiving Organization/Facility	Status		
-->	38673	159999	12/16/2020	BECKY'S TEST ORGANIZATION / BECKY'S TEST FACILITY TWO	In Manual Review		
Rejected Transfers							
Select	Transfer Number	PIN	Submit Date	Receiving Organization/Facility	Reject Date	Rejected By	Status
							Create Order Create Transfer Vaccine Return

- Once a transfer is approved by the state, the status will change from In Manual Review to Approved on the Outbound Transfers page and the coordinator will receive an email approval.

Outbound Transfers							
Select	Transfer Number	PIN	Submit Date	Receiving Organization/Facility	Status		
-->	38673	159999	12/16/2020	BECKY'S TEST ORGANIZATION / BECKY'S TEST FACILITY TWO	Approved		
Rejected Transfers							
Select	Transfer Number	PIN	Submit Date	Receiving Organization/Facility	Reject Date	Rejected By	Status
							Create Order Create Transfer Vaccine Return

Receiving Facility

1. Once the **Transferring Facility's** request is approved by the state, the transfer will then appear on the **Receiving Facility's Inbound Transfers** list.

Current Order/Transfer List							
Inbound Orders							
Select	Order Number	PIN	Submit Date	Approval Date	Status		
Backordered Orders							
Select	Order Number	PIN	Submit Date	Backorder Date			
Denied Orders							
Select	Order Number	PIN	Submit Date	Denial Date			
Inbound Transfers							
Select	Transfer Number	PIN	Submit Date	Sending Organization/Facility	Status		
-->	38673	193999	12/16/2020	BECKY'S TEST ORGANIZATION / BECKY'S TEST FACILITY ONE	Approved		
Outbound Transfers							
Select	Transfer Number	PIN	Submit Date	Receiving Organization/Facility	Status		
Rejected Transfers							
Select	Transfer Number	PIN	Submit Date	Receiving Organization/Facility	Reject Date	Rejected By	Status
					Create Order	Create Transfer	Vaccine Return

2. The **Receiving Facility** will enter in the **Receipt Quantity** and select **Receive**.
 - a. Two things will happen once the transfer is received in the IIS:
 - i. The vaccine will subtract from the **Transferring Facility's** reconciliation (inventory) page
 - ii. The vaccine will be added to the **Receiving Facility's** reconciliation page

Transfer Details										
Shipped Quantity	Receipt Quantity	Rejected Quantity	Vaccine	Funding Source	Manufacturer	Lot Number	Expiration Date	Reason	Inventory Action	Reason for Rejecting
19	<input type="text" value="19"/>	<input type="text"/>	DTaP-Hep B-IPV	PUB	SKB	TEST234	12/30/2022		Merging with Existing Lot	--select--



If Receiving Facility does not have a PIN

Please send email to WAAdultVaccines@doh.wa.gov . We will create a PIN and set the provider's IIS access to allow for vaccine transfers



Reconciling Inventory





How to manage inventory in the IIS for JYNNEOS

- Report **inventory as vials** in the IIS and reconcile daily.
 - This will help the state monitor usage and progress toward meeting the 85% threshold required for obtaining additional supply.
- Regardless of the volume or route of administration given to the patient, administered doses will decrement from your inventory in IIS as a dose.
- If the provider is administering vaccine using the ID route and drawing multiple doses from a vial, the quantity on hand may show a negative number. Additional vials should be added through manual reconciliation.
- **Daily inventory reconciliation required** (working days only)

Inventory Guidelines

Requirement: You must count, reconcile and save your inventory daily.

Reconciling: Making sure your inventory in the IIS matches the number of vials your clinic has in your physical inventory.

IIS Quantity on Hand

How many vials the IIS thinks you have

Reconcile Inventory				
Vaccine	Lot Number	Exp Date	Quantity on Hand	Physical Inventory
DTaP (Daptacel, Infanrix, Tripedia)	C5774BA	09/18/2022	9	
DTaP-Hep B-IPV (Pediarix)	7P2Y3	04/08/2023	10	
DTaP-Hib-IPV (Pentacel)	UJ466AAA	05/21/2022	3	

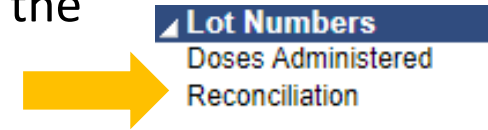
Physical Inventory

How many vials you have in your storage units.



Counting Your Physical Inventory

- Select **Lot Numbers** and then **Reconciliation** in the left menu to view your IIS inventory.



- Click the **Print** button at the bottom of the screen to print a reconciliation worksheet
- Count your **Physical Inventory** of MPV vaccine vials and note on the worksheet

Vaccine	Lot Number	Exp Date	Quantity on Hand	Physical Inventory	Adjustment	Reason	Funding Source	Inactive
DTaP (Daptacel, Infanrix, Tripedia)	C5774BA	09/18/2022	9				PUB	
DTaP-Hep B-IPV (Pediarix)	7P2Y3	04/08/2023	10				PUB	
DTaP-Hib-IPV (Pentacel)	UJ466AAA	05/21/2022	3				PUB	



Inventory Adjustments

It will be necessary to make adjustments to capture the number of vials vs doses in the IIS

- Entering the actual number of vials on hand in the **Physical Inventory** field.
- Select **Category “Order Received”** & **Reason “Dose Count Variance Multi-dose Vial”** for each lot number that needs to be adjusted.
- If you need to make multiple adjustments to the same lot number, click the **+** button to add another line.

Vaccinia, smallpox monkeypox vaccine live, PF (JYNNEOS)	FDP00009	05/31/2024	1,860	<input type="text" value="2000"/>	140.0	<input type="text" value="Order Received"/>	<input type="text" value="Dose Count Variance Multi-dose Vial"/>	PUB	<input type="checkbox"/>	<input type="button" value="+"/>
Vaccinia, smallpox monkeypox vaccine live, PF (JYNNEOS)	FDP00014	09/30/2024	1,105	<input type="text"/>	0.0	<input type="text" value="--No Category Required"/>	<input type="text" value="--No Reason Required--"/>	PUB	<input type="checkbox"/>	<input type="button" value="+"/>



Tools and Resources

- [MPV Vaccine Management in the IIS](#)
- [MPV Provider FAQs and Resources Webpage](#)
- [MPV Storage and Handling Summary](#)
- [CDC Vaccine Transport Guidelines](#)

MPV Inventory Questions:

WAAdultVaccines@doh.wa.gov



To request this document in another format, call 1-800-525-0127. Deaf or hard of hearing customers, please call 711 (Washington Relay) or email civil.rights@doh.