

# Mpox Vaccine: Public Health Strategies

**Rebecca Dillingham MD/MPH**  
**January 31, 2024**



# Mpox Vaccine - Overview

# Available Vaccines

- Two [vaccines](#) for preventing smallpox and mpox
- JYNNEOS™
  - Replication deficient attenuated live *vaccinia* virus vaccine
  - FDA approved for smallpox, mpox in people aged  $\geq 18$  years
  - FDA [EUA](#) for people aged  $< 18$  years

Vaccine used in current outbreak

ACIP recommended routine 2-dose JYNNEOS for people aged  $\geq 18$  years who are at risk of mpox in October 2023

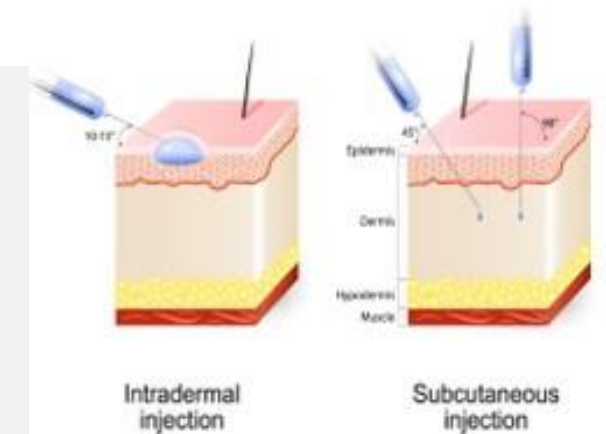
- ACAM2000®
  - Replication competent live *vaccinia* virus vaccine

Licensed in 2007 for people at high risk for smallpox

Not currently being used in outbreak

# JYNNEOS™

- Intradermal (ID) or subcutaneous (SQ) injection
- 2-dose series, separated by 28 days
- Considered vaccinated 14 days after second dose
- If 2nd dose not given during recommended interval, give as soon as possible  
**Don't restart series even if 1st dose was given months or even a year ago**
- No visible “take”
- Healthcare workers do not need to be vaccinated before administering
- Safe for most immunocompromised persons
- Can give at same time as other vaccines
  - **Adolescents, young adult men might consider waiting 4 weeks between mpox and COVID-19 vaccines**



# JYNNEOS™

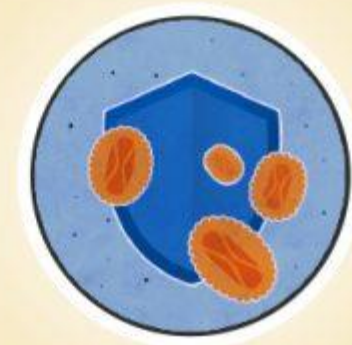
Two doses  
provide the  
best protection



DOSE 1



DOSE 2



Max protection

# Intradermal JYNNEOS Administration

**MONKEYPOX**

**How to administer a JYNNEOS vaccine intradermally**



**STEP 1**

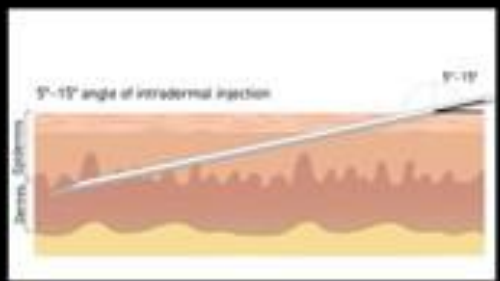
Locate and clean a site for injection in the inner (volar) surface of the forearm.



[www.cdc.gov/monkeypox](http://www.cdc.gov/monkeypox)

**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.



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**STEP 3**

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



[www.cdc.gov/monkeypox](http://www.cdc.gov/monkeypox)

**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.



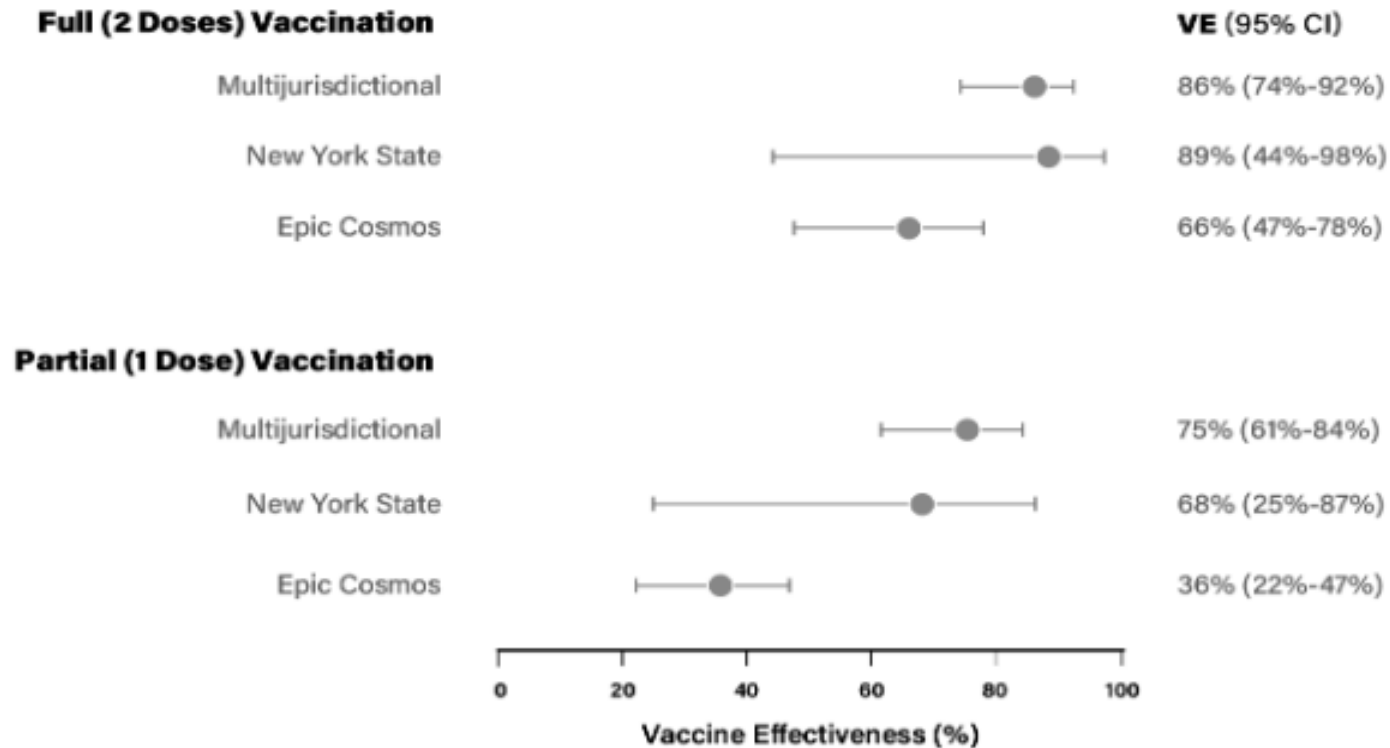
[www.cdc.gov/monkeypox](http://www.cdc.gov/monkeypox)

# Vaccine Administration

- People with suspected or confirmed mpox should be seen by a clinician for testing and treatment (if indicated), not vaccinated
- Vaccination given after the onset of signs or symptoms of mpox is not expected to provide benefit
- SQ and ID dosing regimens are interchangeable
- People of any age with a history of developing keloid scars and individuals <18 years of age should receive vaccine via the SQ route
- **Patients with concerns about ID administration due to potential stigma or other personal reasons should be offered SQ doses**
- CDC recommends clinicians have both SQ and ID vaccine administration options available on site
- Clinicians should discuss which route of administration each patient prefers (for patients  $\geq 18$  years)

# JYNNEOS Vaccine Effectiveness

## Adjusted vaccine effectiveness (VE) of JYNNEOS vaccine against mpox by study and number of doses



[CDC Vaccine Effectiveness](#) and [ACIP Meeting October 25, 2023](#)



# Vaccine Effectiveness

- Infections after vaccination can occur, but are milder and less likely to result in hospitalization
- Key questions remain

**Effectiveness in people with immunocompromising conditions**

**Duration of protection or if protection decreases over time**

- People who are vaccinated are encouraged to continue to protect themselves
  - **Avoid close, skin-to-skin contact with people who have a rash that looks like mpox**
  - **Avoid contact with objects that a person with mpox has used**
  - **Wash hands often**

# Post-Exposure Prophylaxis (PEP)

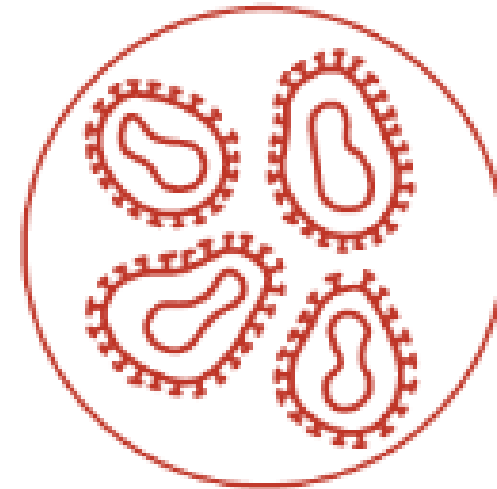
PEP for both people with a *known* or *presumed* Mpox exposure.

Timing: ASAP after exposure

**Ideally within 4 days**

**Administration 4-14 days may still provide some protection and should be offered**

## MPOX PREVENTION



# Vaccine Eligibility in Virginia

VDH and CDC recommend [vaccinating against mpox](#) if:

**You had known or suspected exposure to someone with mpox**

**You had a sex partner in the past 2 weeks that was diagnosed with mpox**

PEP

**You are a gay, bisexual, or other man who has sex with men or a transgender, nonbinary, or gender-diverse person who in the past 6 months has had:**

- A new diagnosis of 1 or more sexually transmitted diseases (e.g. chlamydia, gonorrhea, or syphilis) OR
- More than 1 sex partner

**You have had any of the following in the past 6 months:**

- Sex at a commercial sex venue (like a sex club or bath house)
- Sex related to a large commercial event or in a geographic area (like a city or county, for example) where mpox transmission is occurring

You have a sex partner with any of the above risks

You anticipate experiencing any of the above scenarios

# Vaccine Eligibility (Continued)

You work in settings where you may be exposed to mpox:

You work with orthopoxviruses in a laboratory

You are part of an orthopoxvirus and health care worker response team

Individuals may attest to meeting one or more eligibility criteria for vaccination, but should not be required to attest to a specific criterion nor should they be asked details about their eligibility

Refer to [VDH Healthcare clinicians Vaccine Guidance webpage](#) for latest guidance

# Vaccination by Non-LHD clinicians

- As of October 2022, non-LHD, trusted clinicians can order and administer JYNNEOS

**Trusted partners were compiled with LHD input**

Instructions for ordering and administering vaccine available on the [VDH Healthcare clinicians Vaccine Guidance webpage](#)

[VDH Healthcare clinician Vaccine Guidance](#)

# CDC Mpox Vaccine Locator

CDC has developed an mpox vaccine locator tool to help people find a location closest to them

[CDC Mpox Vaccine Recommendations webpage](#)

**MPOX | VACCINE LOCATOR**

**FIND AN  
MPOX VACCINE SITE  
NEAR YOU**

Enter your ZIP code below to find an mpox vaccine.

Search within

25  miles of

22903  **Find**

**The mpox vaccine is free.**

**You need two doses of the vaccine for the best protection. You should get the second dose four weeks after the first dose.**

**MPOX | VACCINE LOCATOR**

**FIND AN  
MPOX VACCINE SITE  
NEAR YOU**

**Results** **Close** ✕

Miles	Info.
14.72	<a href="#">Central Virginia Health Services</a> <a href="#">↗</a> 2256 Irish Rd, Esmont, VA 22937 US PH: (434) 286-3602

# VDH Vaccine Administered Dashboard

Dashboard Updated: 1/30/2024

- Launched August 2022
- **13,139** first doses and **9,856** second doses given to date

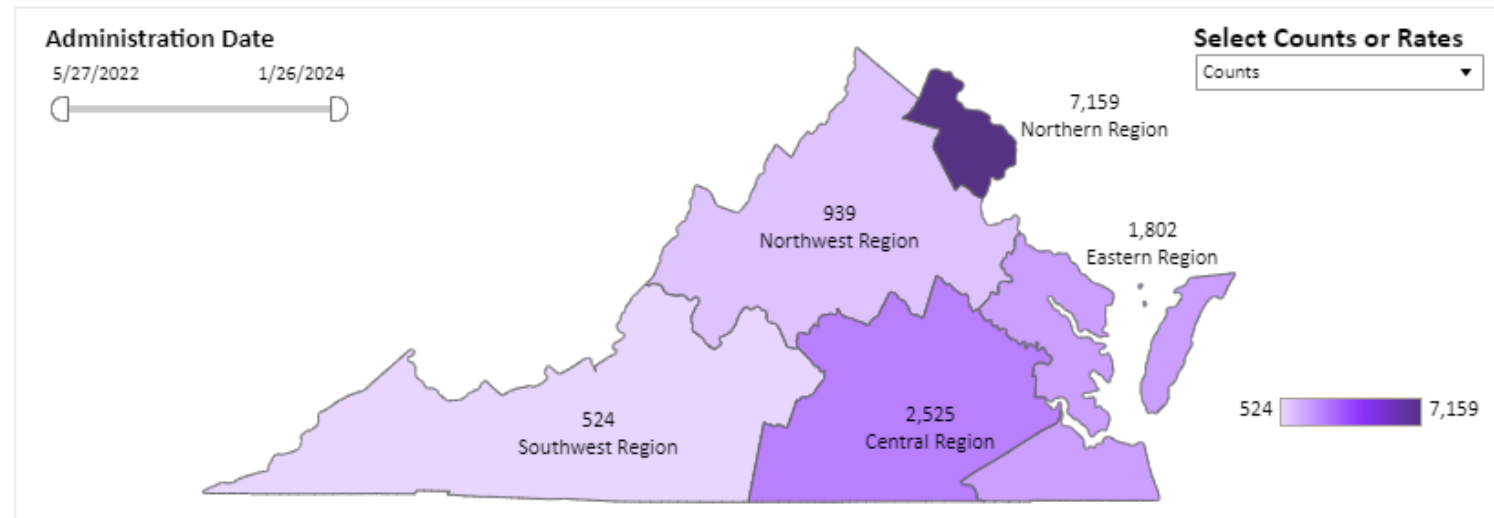
First Dose  
**13,139**

Second Dose  
**9,856**

The CDC recommended interval is for the second dose of JYNNEOS vaccine to be given 28 days after the first dose.  
Visit the website for more information: <https://www.cdc.gov/poxvirus/monkeypox/interim-considerations/jynneos-vaccine.html>

## People Vaccinated By Health Region

As initial JYNNEOS vaccine supply has been limited, it has been allocated throughout Virginia by case counts and close contacts; different areas of the state have had varying levels of Monkeypox activity which has a large effect on vaccine counts regionally and demographically.



Source:

[VDH Vaccine Administration Data](#)

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POLITICS FEBRUARY 17, 2022

# LGBT Identification in U.S. Ticks Up to 7.1%

BY JEFFREY M. JONES





# Health Equity

Mpox outbreak has disproportionately affected gay, bisexual and other men who have sex with men, also people of color, people with HIV, transgender and gender-diverse adults

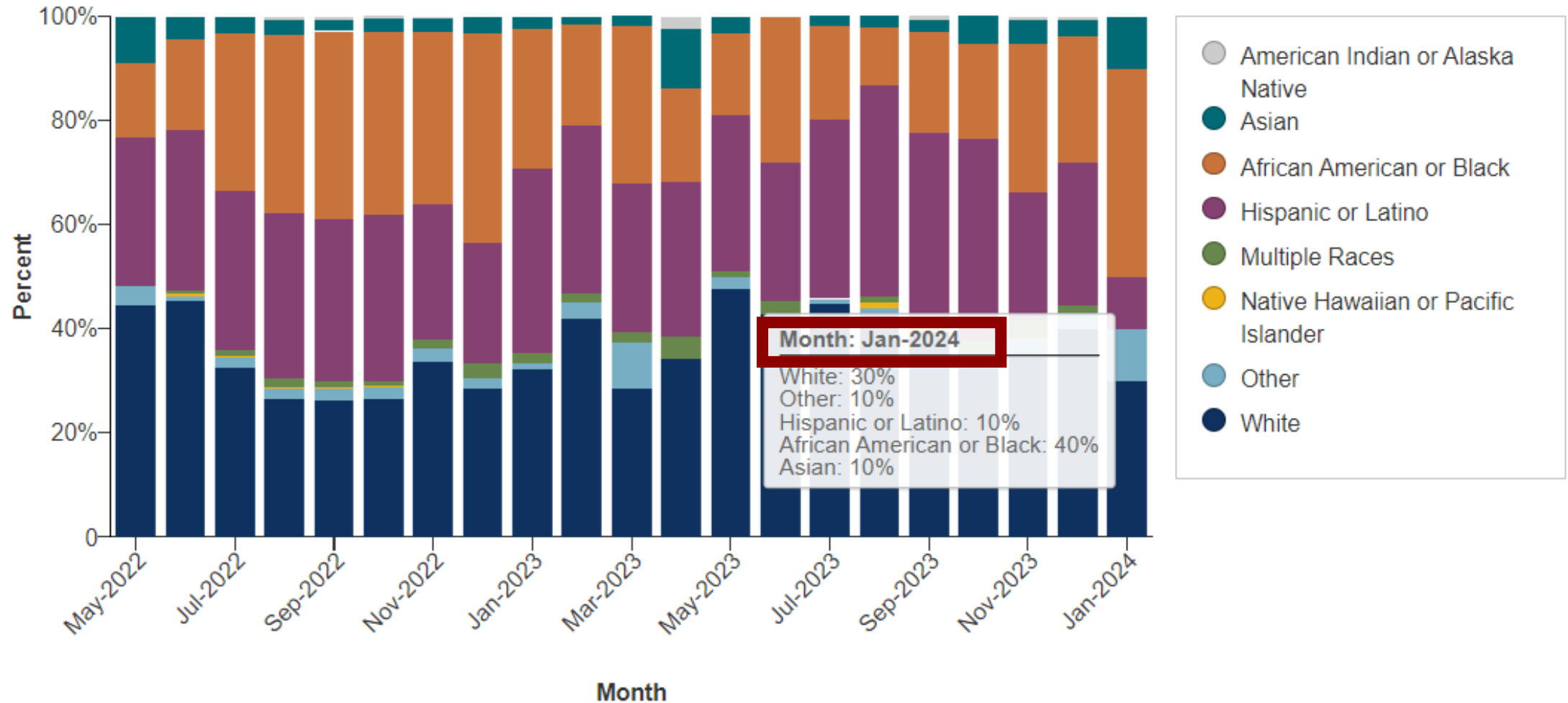
- **Critical to ensure equity in treatment and vaccination**
- **Recent publications and data report racial and ethnic disparities in vaccination rates, especially among Black and Latino men**

CDC MMWR published in April 2023

**JYNNEOS vaccination rates higher in Black and Hispanic males than White males, but not high enough to offset the disproportionate incidence of mpox**

**Sustained equity-based strategies, such as tailored messaging and expanding vaccination services to reach racial and ethnic minority groups, are needed to prevent disparities in future mpox outbreaks**

## Proportion of All Cases by Race and Ethnicity by Month



# Sexual History Taking

## In general, please avoid:

QUESTIONS	DOWNSIDES
Are you sexually active?	No timeframe, vague
Do you have a girlfriend, husband, etc?	Assumes heterosexuality
Do you have sex with men, women, or both?	What about trans and/or non-binary people?
Do you use protection?	Protection is more than condoms – PrEP, OCPs, etc.
You haven't had other partners, right?	Conveys a judgement and leads to a "correct" answer
Have you had insertive/receptive anal intercourse?	Patients may not understand these terms

Source:  
<https://fenwayhealth.org/wp-content/uploads/6.-Taking-an-Affirming-Sexual-History.pdf>

# CLINICAL INTERVIEW: THE 8 “P”S

	“P”	Example Questions
1	Preferences ★ ★	<ul style="list-style-type: none"> <li>• Do you have preferred language that you use to refer to your body (i.e., genitals)?</li> <li>• Are you currently sexually active?</li> <li>• What kinds of sex do you engage in?</li> </ul>
2	Partners ★	<ul style="list-style-type: none"> <li>• Are you sexually active with one partner or more than one?</li> <li>• Are you dating anyone or sexually active?</li> <li>• Do you have any outside partners?</li> <li>• How would your partners identify themselves in terms of gender?</li> </ul>
3	Practices ★	<ul style="list-style-type: none"> <li>• Do you use toys inside your [insert preferred language for genitals] or anus, or do you use them on your partners?</li> <li>• Do you have any other types of sex that hasn't been asked about?</li> </ul>
4	Protection from STIs	<ul style="list-style-type: none"> <li>• Are there some kinds of sex where you do not use barriers? Why?</li> </ul>
5	Past history of STIs	<ul style="list-style-type: none"> <li>• If yes... Do you remember the site?</li> </ul>

<https://fenwayhealth.org/wp-content/uploads/6.-Taking-an-Affirming-Sexual-History.pdf>

# Representation and Outreach:

<https://www.youtube.com/watch?v=g4RkrH8ux3A&list=PLrUEfESHf4hgiLs34jUZwK1hUoHTXcd1v&index=3>



Questions?

Thank you for your attention.