AUCC Monkeypox Infection Control Plan

Contents

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I. Purpose

The purpose of this control plan is to establish safety and infection prevention guidance for the management of suspected and/or confirmed monkeypox patients.

II. Summary

- On June 1, 2022, The Georgia Department of Public Health (GDPH) announced the state's first suspected case of monkeypox virus. As of August 18, 2022, GDPH has confirmed over 1000 cases and according to the Centers for Disease Control and Prevention (CDC) 2022 U.S. Map & Case Count there are over 14,000 cases in 48 states, the District of Columbia, and Puerto Rico. These case counts include those who tested positive for either monkeypox virus (MPX) or orthopoxvirus (OPX).
- Georgia providers, especially those caring for patients presenting for evaluation of lesions or sexually transmitted infections, are advised to be vigilant for signs and symptoms consistent with monkeypox, including characteristic rash and fever, with or without lymphadenopathy or chills.
- There are two different clades of Monkeypox: The West African clade and the Central African clade. To date, the recently reported cases are caused by the West African clade. The West African clade has previously been associated with milder disease and fewer deaths when compared to the Central African clade.

III. Notifiable disease reporting

- Orthopoxvirus and monkeypox have been added to Georgia's notifiable disease list. All positive orthopoxvirus cases are presumed to be monkeypox at this time. Patients with a positive orthopoxvirus test will be considered a monkeypox case regardless of whether confirmatory testing has been performed at CDC.
- Providers are required to report any positive results immediately to GDPH by calling 1- 866-PUB-HLTH. This includes reporting the patient's name, date of birth, phone number, address and any relevant testing information.
- Facilities should gather information on healthcare workers that provided care during the patient's visit for orthopoxvirus and monkeypox positive cases. An exposure risk assessment will be performed to determine risk of exposure. Most healthcare workers will be considered low/uncertain risk indicating a minimal risk of developing monkeypox. Intermediate and High-Risk exposures in healthcare settings will be assessed for follow-up on a case-by-case basis in coordination with MHC and GDPH epidemiologist.

IV. Case definition

- Confirmed case: Patient with monkeypox virus detected from a clinical sample
- Probable case: Patient with orthopoxvirus detected from clinical sample
- Suspect case: Patient with an unexplained rash that is consistent with monkeypox (firm, well circumscribed, deep-seated, and umbilicated lesions; progression from macules to papules to vesicles to pustules to scabs) or patient that meets one of the epidemiologic criteria. (See Figure 1)
    - Clinicians should also consider and rule out, if possible, other more common etiologies of rash illness such as herpes simplex, varicella zoster, and syphilis.

- Epidemiologic criteria within 21 days of illness onset: 1). Reports having contact with a person with unexplained rash or who received a diagnosis of confirmed or probable monkeypox, 2). Close or intimate in-person contact with individuals experiencing symptoms consistent with monkeypox (this includes men who have sex with men) 3). Traveled outside the US to a country with confirmed cases of monkeypox or where Monkeypox virus is endemic 4). Contact with a dead or live wild animal or exotic pet that is an African endemic species or used a product derived from such animals.
- Exclusion Criteria case may be excluded as a suspect, probable, or confirmed case if: 1). An alternative diagnosis can fully explain the illness 2). An individual with symptoms consistent with monkeypox does not develop a rash within 5 days of illness onset 3). A case where high-quality specimens do not demonstrate the presence of Orthopoxvirus or Monkeypox virus or antibodies to orthopoxvirus.

V. Transmission

Monkeypox can spread to anyone through close, personal, often skin-to-skin contact, including:

- Direct contact with monkeypox rash, scabs, or body fluids from a person with monkeypox.
- Touching objects, fabrics (clothing, bedding, or towels), and surfaces that have been used by someone with monkeypox.
- Contact with respiratory secretions during prolonged, face-to-face contact.
- For more information refer to CDC guidance

VI. Clinical presentation

1. Incubation period: Infection with monkeypox virus begins with an incubation period. A person is not contagious during this period.
    - Incubation period is roughly 1-2 weeks.
    - A person does not have symptoms and may feel fine.
2. Prodrome: Persons with monkeypox will develop an early set of symptoms. A person may sometimes be contagious during this period.
    - The first symptoms include fever, malaise, headache, sometimes sore throat and cough, and lymphadenopathy (swollen lymph nodes).
    - Lymphadenopathy is a distinguishing feature of monkeypox from smallpox.
    - This typically occurs with fever onset, 1–2 days before rash onset, or rarely with rash onset.
    - Lymph nodes may swell in the neck, armpits or groin and occur on both sides of the body or just one.
3. Rash**:** Lesions progress through several stages before falling off. A person is contagious from the onset of the enanthem through the scab stage. (See Table 1)
4. Rash resolved: Pitted scars and/or areas of lighter or darker skin may remain after scabs have fallen off. Once all scabs have fallen off a person is no longer contagious.

VII. Isolation precautions

CDC recommends that people with monkeypox remain isolated for the duration of illness, which typically lasts 2-4 weeks. GDPH monkeypox home isolation guidance can be found

here. However, if a person with monkeypox is unable to remain fully isolated throughout the illness, they should do the following:

1. If symptomatic with a fever or any respiratory symptoms, including sore throat, nasal congestion, or cough:
    - Remain isolated in the home and away from others unless it is necessary to see a healthcare provider or for an emergency.
    - This includes avoiding close or physical contact with other people and animals.
    - Cover the lesions, wear a well-fitting mask and avoid public transportation when leaving the home as required for medical care or an emergency.
2. If rash persists but in the absence of a fever or respiratory symptoms
    - Cover all parts of the rash with clothing, gloves, and/or bandages.
    - Wear a well-fitting mask to prevent the wearer from spreading oral and respiratory secretions when interacting with others until the rash and all other symptoms have resolved.
    - Masks should fit closely on the face without any gaps along the edges or around the nose and be comfortable when worn properly over the nose and mouth.
3. Until all signs and symptoms of monkeypox illness have fully resolved
    - Do not share items that have been worn or handled with other people or animals.
    - Avoid close physical contact, including sexual and/or close intimate contact, with other people.
    - Avoid sharing utensils or cups. Items should be cleaned and disinfected before use by others.
    - Avoid crowds and congregate settings.
    - Wash hands often with soap and water or use an alcohol-based hand sanitizer, especially after direct contact with the rash

VIII. Personal Protective Equipment (PPE)

PPE used by healthcare personnel who enter the patient's room should include:

- Gown
- Gloves
- Shoe covers
- Eye protection (i.e., goggles or a face shield that covers the front and sides of the face)
- NIOSH-approved particulate respirator equipped with N95 filters or higher

1. Donning PPE:
    - Healthcare personnel should don all PPE before entering a suspected monkeypox patient's room.
2. Doffing PPE:
    - Healthcare personnel must remove and discard shoe covers, gloves, gown, and perform hand hygiene prior to leaving the patient's room.
    - Fit-tested N95 and eye protection should be removed and discarded outside of the patient's room after exiting every room. Place a trashcan outside of the patient's room to discard the N95s and if disposable, the eye protection.

- Healthcare personnel should not re-use or follow extended use of the N95s. If re-usable eye protection is worn, it must be cleaned with hospital-approved disinfectant after every room exit.

IX. Monitoring Exposures

- Healthcare personnel with direct or indirect contact to patients with monkeypox should review Exposure Risk Assessment to determine level of risk and proceed with appropriate recommendation (See table 2 and table 3).
- Healthcare personnel exposed should not be excluded from work duty if asymptomatic, but should undergo active surveillance for symptoms, which includes monitoring of temperature at least twice daily for 21 days following the exposure.
- Healthcare personnel developing symptoms after exposure should isolate immediately and call their provider for testing. See GDPH home isolation for guidance.

X. Hand Hygiene

Hand hygiene is essential, as monkeypox is primarily spread through contact with sores, scabs, or body fluids as well as fomites.

- Healthcare personnel must wash hands with soap and water or use alcohol-based hand sanitizer before exiting a patient room.
- Patients must also disinfect with soap and water or use alcohol-based hand sanitizer before exiting the room.

XI. Specimen Collection and Testing

Monkeypox test can be ordered from LabCorp and Georgia Public Health Laboratory (GPHL). CDC recommends full PPE during assessment and collection of specimens.

1. LabCorp
    - Monkeypox (Orthopoxvirus) DNA, PCR. Test code: 140230. CPT: 87593
    - Storage temperature stability: Refrigerated 7 days. Frozen 30 days
    - Specimen type: Lesion
    - Collection swab: Universal Transport Medium swab supply number 24674
    - LabCorp specimen collection guide can be found here.
2. Georgia Public Health Laboratory
    - Providers should contact 1-866-PUBHLTH (866-782-4584) and then proceed with recommendations
    - GPHL specimen collection guide can be found here.

XII. Treatment

TPOXX was developed to fight smallpox, but the U.S. Food and Drug Administration (FDA) has allowed the treatment to be used to treat monkeypox during the 2022 outbreak. TPOXX must be administered under an Investigational New Drug (IND) protocol. TPOXX can be considered for people with monkeypox with:

- Severe disease (e.g., sepsis, encephalitis, conditions leading to hospitalization)
- Risks for severe disease including immunocompromising conditions.
- Lesions involving eyes, mouth, or other anatomic areas the genitals or anus.
- For more information can be found here.

1. Request TXPOXX treatment
    - Providers can email TPOXXorders@dph.ga.gov to request treatment or
    - Include the provider's phone number and email address
    - DPH TPOXX on-call staff will collect:
        - Patient information (name, dob, weight)
        - Formulation requested (PO or IV)
        - Doses needed
        - Shipping information
2. Documents that must be completed to request the TPOXX treatment:
    - Informed Consent Form, must be completed and retained by the client and the treatment facility. CDC does not need a copy.
    - FDA Form, must be completed by a physician and **submitted to CDC within 3 days of starting treatment.**
    - Patient Intake Form, must be complete and **submitted to CDC within 3 days of TPOXX initiation.**
    - Clinical Outcome Form, completed during treatment via in-person or telemedicine visit and during last visit 7-10 days after treatment, document information on the same Clinical Outcome Form and **submit to CDC within 3 working days of the last follow up visit.**
3. Additional treatment guidance
    - Positive monkeypox test results are NOT required for patients to receive treatment.
    - 3 patient visits are required and can be provided via telemedicine: baseline, during treatment, and after completion of treatment.
    - IV TPOXX orders take 2-3 days to arrive; Oral TPOXX orders typically take 24 hours to ship when requested on weekdays.

XIII. Vaccination

Two vaccines are available in the U.S. Both are live, weakened viral vaccines designed originally to prevent human smallpox:

1. JYNNEOS
    - JYNNEOS is given as two doses administered at least four weeks apart. As of August 16, 2022, an alternative regimen (0.1mL) and route of administration (ID) was approved for people age ≥18 years under an Emergency Use Authorization. Individuals should be considered immune two weeks after receipt of the second dose. For instructions on administering intradermal (ID) view video here .
    - JYNNEOS may be administered without regard to timing of other vaccines. However, there are additional considerations if administering a COVID-19 vaccine. Review considerations here.
    - See Table 4 for dosing schedule and Table 6 for JYNNEOS vaccine contraindications
    - JYNNEOS vaccination appointment are schedule by GDPH here.
2. ACAM2000
    - ACAM2000 for people aged 1 year and is administered via a two-pronged (bifurcated) needle to prick the skin several times with a droplet of vaccine.

- Individuals should be considered immune four weeks after receipt of dose. For instructions on administering vaccine view video here.
- ACAM2000 can reproduce itself after vaccination. Some individuals are not recommended to get this version, including people with heart disease, eye disease being treated with topical steroids, congenital or acquired immune deficiency disorders, current or previous atopic dermatitis or eczema and pregnant women.
- When co-administer other vaccines with ACAM2000, the reactogenicity of ACAM2000 must be considered in balancing the benefits and risks of multiple vaccine administered at the same time. Live vaccines and ACAM2000 should be separated by at least 28 days. PPD skin test >1 month after ACAM2000 vaccination. COVID-19 vaccine. Review considerations here.
- See Table 5 for dosing schedule and Table 7 for ACAM2000 vaccine contraindications.

XIV. Environment cleaning

The U.S. Environmental Protection Agency (EPA) considers monkeypox to be a "tier 1-level emerging viral pathogen" (EVP). To check the effectiveness of different disinfectants against tier 1 EVP, review EPA list here.

- Standard cleaning and disinfection procedures should be performed using an EPA-registered hospital-grade disinfectant with an emerging viral pathogen claim.
- Soiled laundry should be handled in accordance with avoiding contact with lesion material that may be present on the laundry. Soiled laundry should be gently and promptly contained in an appropriate laundry bag and never be shaken or handled in manner that may disperse infectious material.
- Activities such as dry dusting, sweeping, or vacuuming should be avoided. Wet cleaning methods are preferred.
- Management of food service items should also be performed in accordance with routine procedures.
- For additional guidance review CDC Guidelines for Environmental Infection Control for Healthcare Facilities here.

1. Equipment cleaning
   - All equipment entering the patient room must be appropriately cleaned and disinfected using an approved hospital-approved disinfectant and appropriate wet time.
2. Waste Handling
   - U.S. Department of Transportation (DOT) Hazardous Materials Regulations (HMR) indicates that waste contaminated with the West African Clade (currently clade circulating in U.S) of monkeypox virus should be managed as UN3291 Regulated Medical Waste (RMW) in the same manner as other potentially infectious medical waste. For additional guidance review DOT here.

XV. Clinic workflow

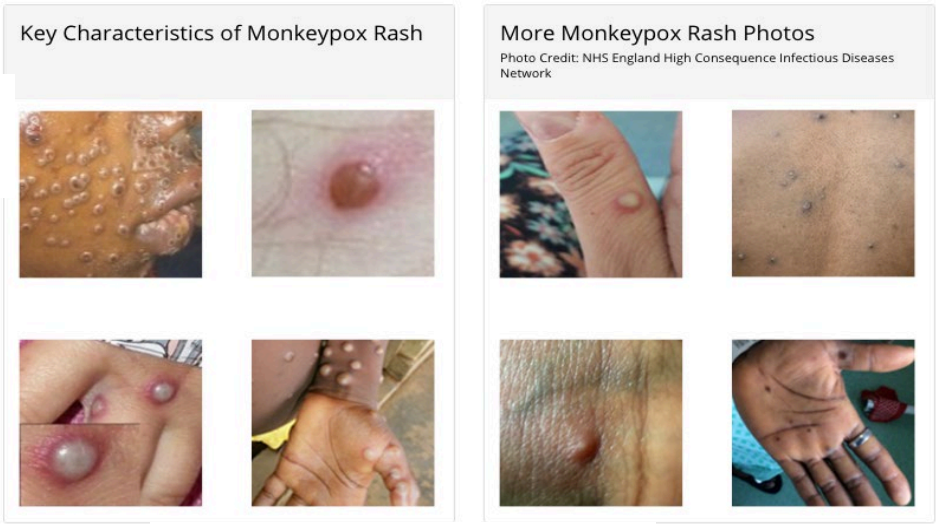
- Monkeypox patient triage (phone and in-person) see Figure 2: MHC clinic for workflow.
- For additional guidance contact GDPH at 1-866-782-4584.

Table 1: Enanthem Through the Scab Stage

Stage	Stage Duration	Characteristics
Enanthem		• The first lesions to develop are on the tongue and in the mouth.
Macules	1–2 days	• Following the enanthem, a macular rash appears on the skin, starting on the face and spreading to the arms and legs and then to the hands and feet, including the palms and soles. • The rash typically spreads to all parts of the body within 24 hours becoming most concentrated on the face, arms, and legs (centrifugal distribution).
Papules	1–2 days	• By the third day of rash, lesions have progressed from macular (flat) to papular (raised).
Vesicles	1–2 days	• By the fourth to fifth day, lesions have become vesicular (raised and filled with clear fluid).
Pustules	5–7 days	• By the sixth to seventh day, lesions have become pustular (filled with opaque fluid) – sharply raised, usually round, and firm to the touch (deep seated). • Lesions will develop a depression in the center (umbilication). • The pustules will remain for approximately 5 to 7 days before beginning to crust.
Scabs	7–14 days	• By the end of the second week, pustules have crusted and scabbed over. • Scabs will remain for about a week before beginning to fall off.

Source CDC

Figure 1: Monkeypox Rash



Source CDC

Table 2: Exposure Risk Assessment: High & Intermediate

Degree of Exposure: High

Recommendations

- Monitoring[§]
- PEP[¶] – Recommended

Exposure Characteristics

- Unprotected contact between a person's skin or mucous membranes and the skin, lesions, or bodily fluids from a patient (e.g., any sexual contact, inadvertent splashes of patient saliva to the eyes or oral cavity of a person, ungloved contact with patient), or contaminated materials (e.g., linens, clothing) -OR-
- Being inside the patient's room or within 6 feet of a patient during any procedures that may create aerosols from oral secretions, skin lesions, or resuspension of dried exudates (e.g., shaking of soiled linens), without wearing an N95 or equivalent respirator (or higher) and eye protection -OR-
- Exposure that, at the discretion of public health authorities, was recategorized to this risk level (i.e., exposure that ordinarily would be considered a lower risk exposure, raised to this risk level because of unique circumstances)

Degree of Exposure: Intermediate

Recommendations

- Monitoring[§]
- PEP[¶] – Informed clinical decision making recommended on an individual basis to determine whether benefits of PEP outweigh risks [¶¶]

Exposure Characteristics

- Being within 6 feet for 3 hours or more of an unmasked patient without wearing, at a minimum, a surgical mask -OR-
- Activities resulting in contact between sleeves and other parts of an individual's clothing and the patient's skin lesions or bodily fluids, or their soiled linens or dressings (e.g., turning, bathing, or assisting with transfer) while wearing gloves but not wearing a gown -OR-
- Exposure that, at the discretion of public health authorities, was recategorized to this risk level because of unique circumstances (e.g., if the potential for an aerosol exposure is uncertain, public health authorities may choose to decrease risk level from high to intermediate)

Source CDC

Figure 3: Exposure Risk Assessment: Low/No Risk

Degree of Exposure: Low/Uncertain

Recommendations

- Monitoring[§]
- PEP[¶] – None

Exposure Characteristics

- Entered the patient room without wearing eye protection on one or more occasions, regardless of duration of exposure -OR-
- During all entries in the patient care area or room (except for during any procedures listed above in the high-risk category), wore gown, gloves, eye protection, and at minimum, a surgical mask -OR-
- Being within 6 feet of an unmasked patient for less than 3 hours without wearing at minimum, a surgical mask -OR-
- Exposure that, at the discretion of public health authorities, was recategorized to this risk level based on unique circumstances (e.g., uncertainty about whether Monkeypox virus was present on a surface and/or whether a person touched that surface)

Degree of Exposure: No Risk

Recommendations

- Monitoring[§] – None
- PEP[¶] – None

Exposure Characteristics

- Exposure that public health authorities deemed did not meet criteria for other risk categories

Source CDC

Table 4. Vaccination Schedule and Dosing Regimens for JYNNEOS Vaccine

JYNNEOS vaccine regimen	Route of administration	Injection volume	Recommended number of doses	Recommended interval between 1st and 2nd dose
Alternative regimen				
People age ≥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

**The standard regimen involves a subcutaneous (Subcut) route of administration with an injection volume of 0.5mL. The standard regimen is the FDA-approved dosing regimen. August 16, 2022, an alternative regimen (0.1mL) and route of administration (ID) was approved for people age ≥18 years under an Emergency Use Authorization.*

Table 5. Vaccination Schedule and Dosing Regimens for ACAM2000 Vaccine

ACAM2000 regimen	Route of administration	Injection Volume	Recommended number of doses
People age ≥1 years	Percutaneous, delivered using a bifurcated needle	0.0025 mL droplet of reconstituted vaccine	1 (single dose)

Table 1 & 2 Source: CDC

Table 6: Contraindications for Use of **JYNNEOS** Vaccine

Medical condition or history	Interim guidance	Suggested action(s)
History of a severe allergic reaction (e.g., anaphylaxis) after a previous dose of JYNNEOS	Contraindication	Do not vaccinate. Referral to an allergist-immunologist should be considered to assess the risks versus benefits of administering a dose.
History of severe allergic reaction (e.g., anaphylaxis) following gentamicin or ciprofloxacin[1]	Precaution	Discuss risks and benefits with potential recipients. They may be vaccinated with a 30-minute observation period. Alternatively, vaccination can be delayed until an allergist-immunologist is consulted, but the impact of delaying vaccination should be considered.
History of severe allergic reaction (e.g., anaphylaxis) to chicken or egg protein **AND** are currently avoiding exposure to all chicken or egg products[1]	Precaution	Discuss risks and benefits with potential recipients. They may be vaccinated with a 30-minute observation period. Alternatively, vaccination can be delayed until an allergist-immunologist is consulted, but the impact of delaying vaccination should be considered.
Moderate or severe acute illness, with or without fever	Precaution	Consider deferring vaccination until the acute illness has improved.

Table 7: Contraindications for Use of ACAM2000 Vaccine

Medical condition or history	Interim Guidance	Suggested action(s)
History of a severe allergic reaction (e.g., anaphylaxis) after a previous dose of ACAM2000	Contraindication	Do not administer. Referral to an allergist-immunologist should be considered to assess the risks versus benefits of administering a dose.
History of a severe allergic reaction (e.g., anaphylaxis) to a component of ACAM2000	Contraindication	Do not administer. Referral to an allergist-immunologist should be considered to assess the risks versus benefits of administering a dose.
Three or more major cardiac risk factors (hypertension, diabetes, hypercholesterolemia, heart disease at age ≤50 years in a first-degree relative, or smoking)	Contraindication	Do not administer.
Eye disease treated with topical steroids	Contraindication	Do not administer.
Congenital or acquired immune deficiency disorders, including those taking immunosuppressive medications and people living with HIV (regardless of immune status)	Contraindication	Do not administer.
Atopic dermatitis/eczema and people with a history of atopic dermatitis/eczema or other acute or exfoliative skin conditions	Contraindication	Do not administer.
Infants age <12 months	Contraindication	Do not administer.
Pregnancy or breastfeeding	Contraindication	Do not administer.
Children and adolescents ages 1 through 16 years	Precaution	Assess risks versus benefits of administering a dose; safety and effectiveness of ACAM2000 have not been established in people under age 16 years.
Moderate or severe acute illness, with or without fever	Precaution	Consider deferring vaccination until the acute illness has improved.

Table 4 Source: CDC

Figure 2: MHC clinic workflow

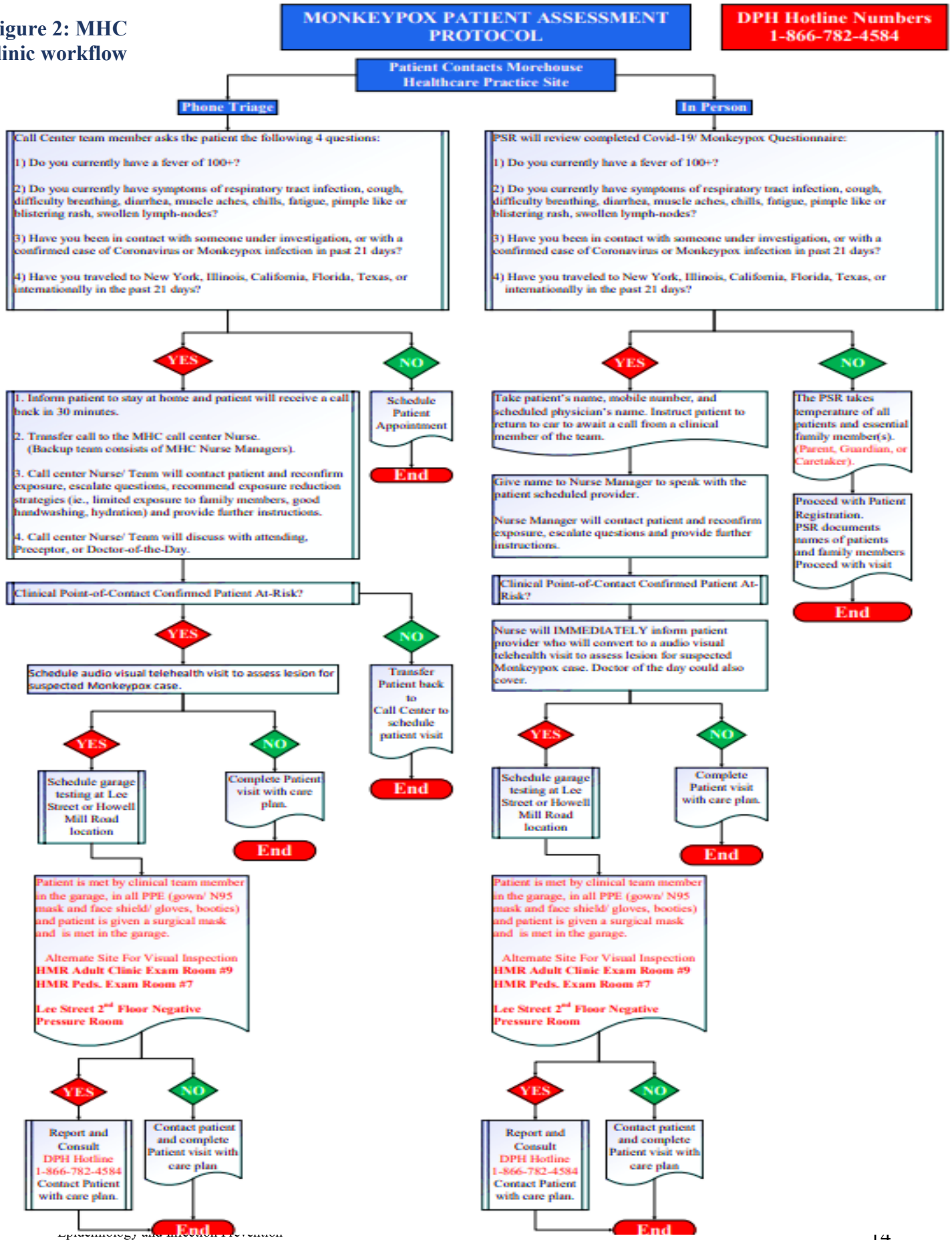


Figure 3: JYNNEOS Consent Form

GEORGIA DEPARTMENT OF PUBLIC HEALTH

Jynneos™ Vaccine
INFORMATION AND CONSENT FORM

Name (Last)	(First)	**Date of Birth:** _____/_____/_____	**Age:**
Address			
City	**State**	**ZIP**	**Daytime Phone Number**
Emergency Contact Name:	**Relation:**	**Phone Number:**	

Race:	Asian/Polynesian	Native Am/Alaskan	**Ethnicity:**	Not Hispanic	**Primary Language:**	**Gender:**	Male
	Black	White		Hispanic	English		Female
	Multiracial	Unknown		Unknown	Other _____		Other

Please answer the health questions below:	**Yes**	**No**	**Do Not Know**
1. Are you feeling sick today or have you had a fever in the past two days?			
2. Have you ever had a severe allergic reaction (e.g., anaphylaxis) to something: For example, a reaction for which you were treated with Epinephrine or EpiPen, or for which you had to go to the hospital? **People with a severe allergy to any component of the vaccine (gentamicin, ciprofloxacin, egg protein, etc.) should not receive this vaccine.**			
*Was the severe reaction after receiving another vaccine or another injectable medication?			
3. Have you received another vaccine or TB skin testing in the last 28 days? **If answer is yes, please document which vaccine has been administered:**			
4. Are you pregnant or breastfeeding?			
5. Is there a chance you could become pregnant during the next month?			
6. Have you had a seizure or other neurological problem?			
7. In the last year, have you received a transfusion of blood or blood products, or been given a medicine called immune globulin or an antiviral drug?			
8. Do you, or any person living with you or under your care, take cortisone, prednisone, other steroids, anti-cancer drugs, or x-ray treatments, or have cancer, leukemia, HIV (CD4 count below 200), or any immune system problems?			
9. Do you have a health problem with asthma or wheezing, lung, heart, kidney, or metabolic disease (diabetes), anemia, or a blood disorder?			

I agree that the person named below will get the vaccine listed above. I received or was offered a copy of the Vaccine Information Statement (VIS) for the vaccine listed above. https://www.cdc.gov/vaccines/hcp/vis/vis-statements/smallpox-monkeypox.pdf
I have been informed about the risks of the disease this vaccine prevents. I have been informed of the benefits and risks of the vaccine. I have had a chance to ask questions about the disease the vaccine prevents, the vaccine, and how the vaccine is given. I know that the person named above will have the vaccine put in their body to prevent the disease this vaccine prevents. I am an adult who can legally consent for the person named above to get the vaccine. I freely and voluntarily give my signed permission for this vaccine. If this is my first dose of the vaccine and a second dose is required, I intend to receive a second dose of the same vaccine in accordance with the timeframe specified in the Fact Sheet to complete the series. If I experience an adverse event, I will notify the clinic/health team which administered my vaccine. **My signature acknowledges that I was advised to remain on-site for 30 minutes after receiving the vaccine.**

Print Patient/Guardian Name	**Patient/Guardian Signature**	**Date of Consent**

FOR CLINIC/OFFICE USE ONLY

Clinic Name	**Office Address**

Vaccine Administrator Name **Title** **Signature**

Vaccine	**Dose**	**Dose in Series**	**Route**	**Manufacturer**	**Lot number**	**Expiration date**
Jynneos		First	SC – L Arm			
		Second	SC – R Arm			

Indication		**Date of Vaccine administered:**	**Date VIS Given:**
	Pre-exposure Prophylaxis		
	Post-exposure Prophylaxis		
	Expanded Post-exposure Prophylaxis		