

The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance.

MONKEYPOX

DR. ARASH SEIDABADI . M.D

ASSISTANT PROFESSOR
SHAHRUD MEDICAL UNIVERSITY

MONKEYPOX

- MONKEYPOX VIRUS WAS *SO NAMED* BECAUSE IT WAS FIRST DETECTED IN CAPTIVE MONKEYS
- MONKEYPOX WAS FIRST RECOGNIZED BY VON MAGNUS IN COPENHAGEN IN *1958*
- *1970* THE FIRST CASE IN AFRICA AND *2003 NONENDEMIC* CASES IN U.S
- MPOX (MONKEYPOX) IS A VIRAL ILLNESS CAUSED BY THE MONKEYPOX VIRUS, A SPECIES OF THE GENUS *ORTHOPOXVIRUS (SUBTYPE OF POXVIRIDEA)*
- *VARIOLA & MPOX* ARE IN THE SAME SPECIES

MONKEYPOX

- SEROSURVEYS AND VIROLOGIC INVESTIGATIONS IN THE 1980S BY *SPORADICALLY INFECTED*
- WHO INDICATED THAT MONKEYS ARE SPORADICALLY INFECTED , AS ARE HUMANS
- *THREE-FOURTHS OF* CASES, MAINLY IN CHILDREN YOUNGER THAN *15 YEARS* RESULTED FROM ANIMAL CONTACT

MONKEYPOX

- HUMAN MONKEYPOX HAS A *SECONDARY ATTACK RATE OF 9%* AMONG UNVACCINATED CONTACTS WITHIN HOUSEHOLDS
- *IN 2003 MONKEYPOX* INFECTION OF HUMANS WAS IDENTIFIED IN THE *UNITED STATES* AS A RESULT OF EXPOSURE TO ILL DOGS, PROBABLY INFECTED AFTER EXPOSURE TO INFECTED WEST AFRICAN SMALL MAMMALS IMPORTED AS EXOTIC PETS

TRANSMISSION

- ***PERSON-TO-PERSON TRANSMISSION*** OF MPOX CAN OCCUR THROUGH DIRECT CONTACT WITH INFECTIOUS SKIN , MOUTH OR GENITALS; THIS INCLUDES CONTACT WHICH IS:
 - FACE-TO-FACE (TALKING OR BREATHING)
 - SKIN-TO-SKIN (TOUCHING OR VAGINAL/ANAL SEX)
 - MOUTH-TO-MOUTH (KISSING)
 - MOUTH-TO-SKIN CONTACT (ORAL SEX OR KISSING THE SKIN)
 - RESPIRATORY DROPLETS OR SHORT-RANGE AEROSOLS FROM PROLONGED CLOSE CONTACT

TRANSMISSION

- ***ANIMAL TO HUMAN TRANSMISSION*** OF MPOX OCCURS FROM INFECTED ANIMALS TO HUMANS FROM BITES OR SCRATCHES, OR DURING ACTIVITIES SUCH AS HUNTING, SKINNING, TRAPPING, COOKING



TRANSMISSION

- ***PEOPLE CAN CONTRACT*** MPOX FROM CONTAMINATED OBJECTS SUCH AS CLOTHING OR LINENS, THROUGH SHARPS INJURIES IN HEALTH CARE, OR IN COMMUNITY SETTING SUCH AS TATTOO PARLORS



TRANSMISSION


- THE PATHOGENESIS OF HUMAN MONKEYPOX IS SIMILAR TO SMALLPOX (*IN CYTOPLASM OF CELL AND VIREMIA*)
- AN ACUTE FEBRILE EXANTHEM WITH AN INCUBATION PERIOD OF ABOUT *12 DAYS*.
- DURING THE INCUBATION PERIOD, THE VIRUS IS DISTRIBUTED INITIALLY TO INTERNAL ORGANS AND THEN TO THE SKIN
- THE MAIN DIFFERENCES ARE A GREATER DEGREE OF *LYMPHADENOPATHY* AND A *LOWER CAPACITY FOR HUMAN CASE-TO-CASE SPREAD*.

SIGNS AND SYMPTOMS

- MPOX CAUSES SIGNS AND SYMPTOMS WHICH USUALLY BEGIN *WITHIN A WEEK* BUT CAN START 1–21 DAYS AFTER EXPOSURE (12 DAYS).
- SYMPTOMS TYPICALLY *LAST 2–4 WEEKS* BUT MAY LAST LONGER IN SOMEONE WITH A WEAKENED IMMUNE SYSTEM
- MORTALITY RATE : *3-6%*



SIGNS AND SYMPTOMS

- *COMMON SYMPTOMS* OF MPOX ARE:
 - RASH
 - FEVER
 - SORE THROAT
 - HEADACHE
 - MUSCLE ACHES
 - BACK PAIN
 - LOW ENERGY
 - SWOLLEN LYMPH NODES.
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SIGNS AND SYMPTOMS

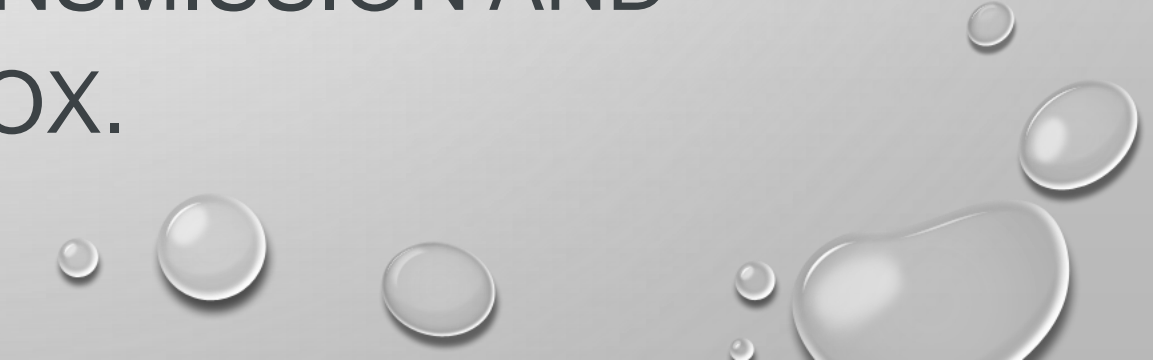
- IN SOME CASES, *THE FIRST SYMPTOM* OF MPOX IS A RASH, WHILE OTHERS MAY HAVE DIFFERENT SYMPTOMS FIRST.
- THE *RASH BEGINS AS* A FLAT SORE WHICH DEVELOPS INTO A BLISTER FILLED WITH LIQUID AND MAY BE ITCHY OR PAINFUL.
- AS THE RASH HEALS, THE LESIONS DRY UP, CRUST OVER AND *FALL OFF*.

SIGNS AND SYMPTOMS

- SOME PEOPLE MAY HAVE *ONE OR A FEW* SKIN LESIONS AND OTHERS HAVE *HUNDREDS OR MORE*. THESE CAN APPEAR *ANYWHERE* ON THE BODY SUCH AS THE:
 - PALMS OF HANDS AND SOLES OF FEET
 - FACE, MOUTH AND THROAT
 - GROIN AND GENITAL AREAS
 - ANUS



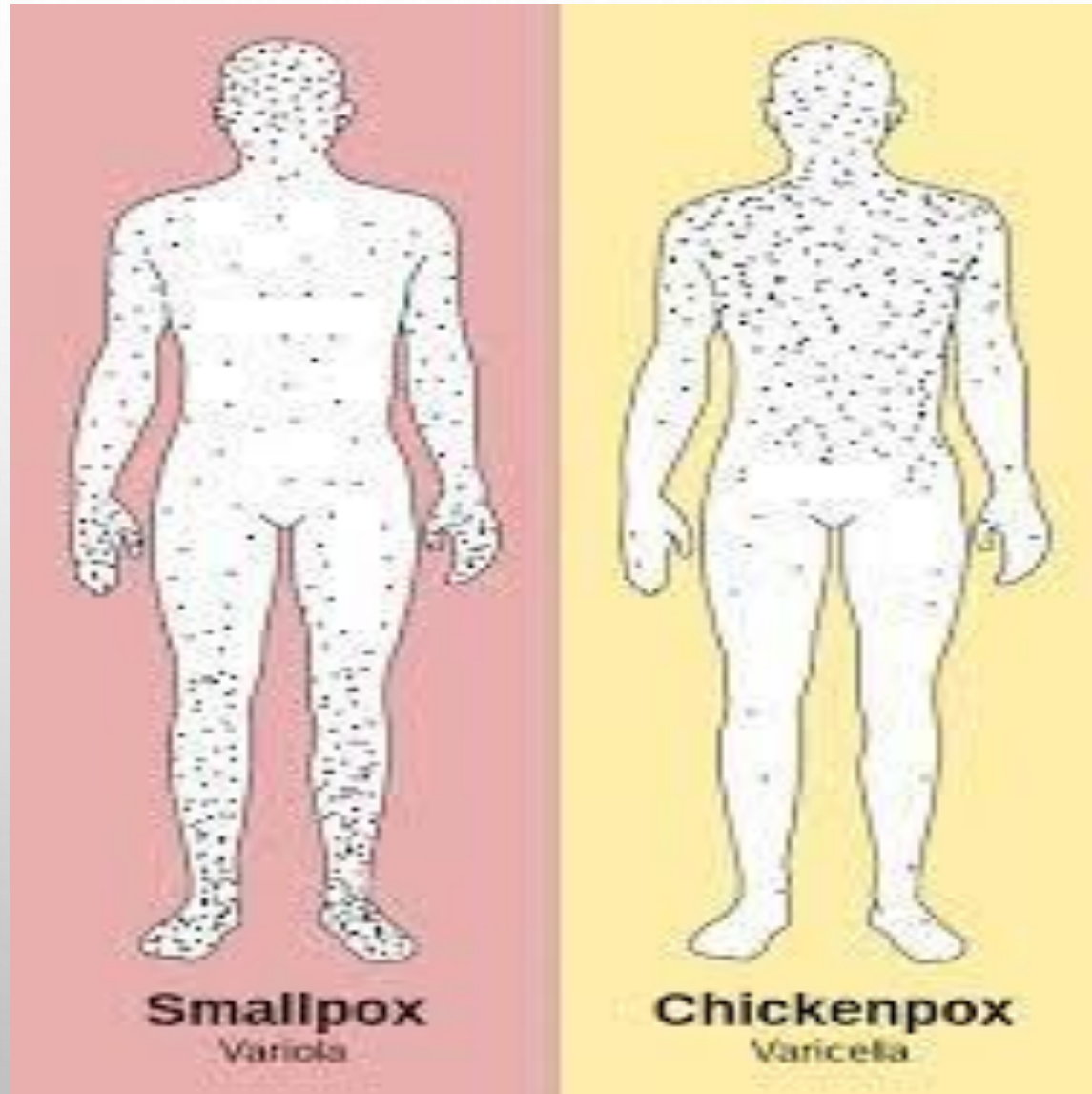
SIGNS AND SYMPTOMS

- PEOPLE WITH MPOX *ARE INFECTIOUS* AND CAN PASS THE DISEASE ON TO OTHERS *UNTIL* ALL SORES HAVE *HEALED AND A NEW LAYER OF SKIN HAS FORMED.*
 - *CHILDREN, PREGNANT PEOPLE , PEOPLE WITH WEAK IMMUNE SYSTEMS AND MULTI PARTNERS* ARE AT RISK FOR MOR TRANSMISSION AND COMPLICATIONS FROM MPOX.
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SIGNS AND SYMPTOMS

- *TYPICALLY FOR MPOX, FEVER, MUSCLE ACHES AND SORE THROAT APPEAR FIRST.*
- *THE MPOX RASH BEGINS ON THE FACE AND SPREADS OVER THE BODY, HOWEVER ITS POSSIBLE TO BEGIN IN OTHER SITES*
- *OVER 2-4 WEEKS IN STAGES : MACULES, PAPULES, VESICLES, PUSTULES , CRUSTED AND FALL OFF*
- *LESIONS DIP IN THE CENTER BEFORE CRUSTING OVER ,SCABS THEN FALL OFF.*
- *LYMPHADENOPATHY (SWOLLEN LYMPH NODES) IS A CLASSIC FEATURE OF MPOX. (LYMPHADENOPATHY, WHICH INVOLVES THE SUBMANDIBULAR, CERVICAL, AND SUBLINGUAL REGIONS)*

MONKEYPOX



MONKEYPOX

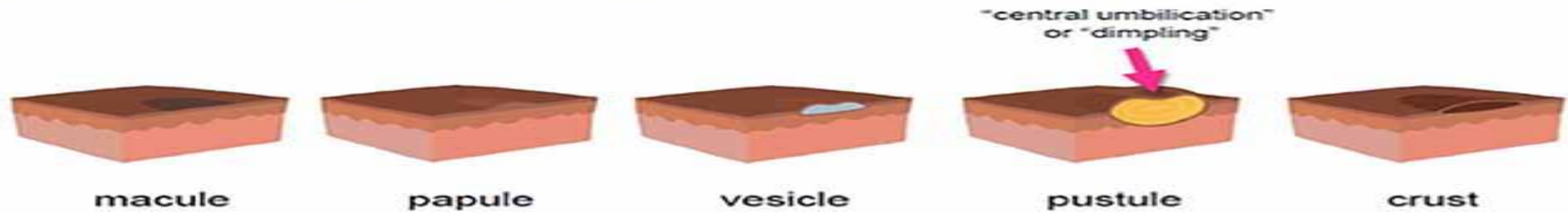
STAGE:	Macules	Papules	Vesicles	Pustules	Scabs
Darker skin pigmentation					
Lighter skin pigmentation					
DAY:	1-2	1-2	1-2	5-7	7-14

Clinicians should be aware of how lesions may present on the spectrum of skin pigmentation.

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MONKEYPOX

Progression of monkeypox lesions

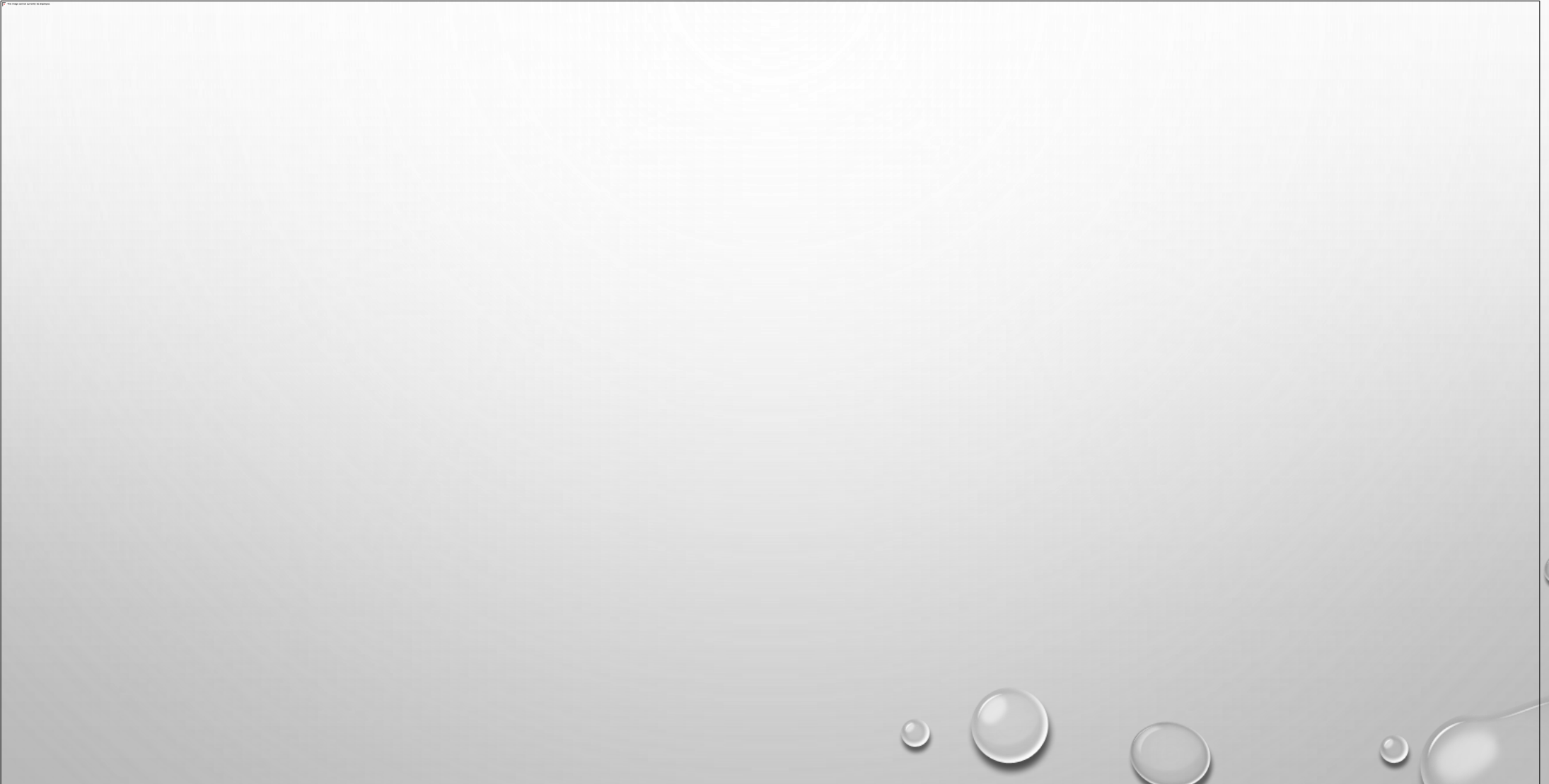


Rapid evolution from macule to scab



Days since first symptom(s) appeared

MONKEYPOX



SIGNS AND SYMPTOMS

- SKIN CAN BECOME INFECTED WITH BACTERIA LEADING TO *ABSCESSSES OR SERIOUS SKIN DAMAGE.*
- *OTHER COMPLICATIONS* INCLUDE *PNEUMONIA*, *CORNEAL INFECTION* WITH LOSS OF VISION; PAIN OR *DIFFICULTY SWALLOWING, VOMITING AND DIARRHEA ; SEPSIS*; INFLAMMATION OF THE BRAIN (*ENCEPHALITIS*), HEART (*MYOCARDITIS*), RECTUM (*PROCTITIS*), GENITAL ORGANS (*BALANITIS*) OR URINARY PASSAGES (*URETHRITIS*), OR *DEATH.*



SIGNS AND SYMPTOMS


- PERSONS WITH *IMMUNE SUPPRESSION* ARE AT HIGHER RISK OF SERIOUS ILLNESS AND DEATH
 - PEOPLE LIVING WITH *HIV* THAT IS NOT WELL-CONTROLLED OR TREATED MORE OFTEN DEVELOP SEVERE DISEASE.
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TABLE 132.1 Differential Diagnosis of Febrile Vesicular Pustular Rash Illnesses That May Be Confused With Smallpox

DISEASE	CLUES
Varicella	Most common in children younger than 10 years; children do not usually have a viral prodrome
Disseminated herpes zoster	Immunocompromised or elderly persons; rash looks like varicella, usually begins or erupts in dermatomal pattern
Impetigo (<i>Streptococcus pyogenes</i> , <i>Staphylococcus aureus</i>)	Honey-colored crusted plaques with bullae are classic but may begin as vesicles
Drug eruptions	Exposure to medications
Erythema multiforme minor	Target or bull's-eye lesions; often follows systemic viral infections such as herpes simplex virus; may include palms and soles
Erythema multiforme (including Stevens-Johnson syndrome)	Involves conjunctivae and mucous membranes

Enteroviral infections (especially hand-foot-and-mouth disease)

Seasonal—summer and fall

Disseminated herpes simplex virus

Similar to varicella

Scabies and insect bites

Pruritus; patient not febrile

Molluscum contagiosum

May disseminate in immunosuppressed individuals

Generalized vaccinia

History of vaccination with smallpox vaccine or contact with vaccinated individual

Monkeypox

Travel to endemic area; animal exposure

DIAGNOSIS

- IT IS IMPORTANT TO DISTINGUISH MPOX FROM CHICKENPOX, (*DDX*)
- CHICKEN POX
- MEASLES,
- BACTERIAL SKIN INFECTIONS,
- SCABIES,
- HERPES,
- SYPHILIS,
- OTHER SEXUALLY TRANSMISSIBLE INFECTIONS,
- MEDICATION-ASSOCIATED ALLERGIES

DIAGNOSIS

- DETECTION OF VIRAL DNA BY POLYMERASE CHAIN REACTION (*PCR*) IS THE *PREFERRED* LABORATORY *TEST* FOR MPOX.
- THE *BEST DIAGNOSTIC* SPECIMENS ARE TAKEN DIRECTLY FROM THE *RASH – SKIN, FLUID OR CRUSTS* – COLLECTED BY VIGOROUS SWABBING.
- IN THE ABSENCE OF SKIN LESIONS, TESTING CAN BE DONE ON *OROPHARYNGEAL, ANAL OR RECTAL SWABS*.
- TESTING BLOOD *IS NOT RECOMMENDED*.
- *ANTIBODY* DETECTION METHODS MAY *NOT BE USEFUL* AS THEY DO NOT DISTINGUISH BETWEEN DIFFERENT ORTHOPOXVIRUSES.

TREATMENT AND VACCINATION

- *THE GOAL OF* TREATING MPOX IS TO TAKE CARE OF THE RASH, MANAGE PAIN AND PREVENT COMPLICATIONS. *EARLY AND SUPPORTIVE CARE* IS IMPORTANT
- GETTING AN *MPOX VACCINE* CAN HELP PREVENT INFECTION. THE VACCINE SHOULD BE GIVEN *WITHIN 4 DAYS OF CONTACT* WITH SOMEONE WHO HAS MPOX (*OR WITHIN UP TO 14 DAYS IF THERE ARE NO SYMPTOMS*). (*IN 2 DOSES*)

TREATMENT AND VACCINATION

- THE VACCINE IS RECOMMENDED FOR PEOPLE AT HIGH RISK TO GET VACCINATED, ESPECIALLY DURING AN OUTBREAK. *THIS INCLUDES:*
 - I. HEALTH WORKERS AT RISK OF EXPOSURE
 - II. MEN WHO HAVE SEX WITH MEN
 - III. PEOPLE WITH MULTIPLE SEX PARTNERS
 - IV. SEX WORKERS.



TREATMENT AND VACCINATION

- PERSONS WHO HAVE MPOX SHOULD BE CARED FOR *AWAY FROM OTHER PEOPLE.*
- SEVERAL *ANTIVIRALS*, SUCH AS *TECOVIRIMAT*, ORIGINALLY DEVELOPED TO TREAT SMALLPOX HAVE BEEN USED TO TREAT MPOX AND FURTHER STUDIES ARE UNDERWAY

SELF-CARE AND PREVENTION

- MOST PEOPLE WITH MPOX WILL RECOVER WITHIN 2–4 WEEKS.
- DO
- STAY HOME AND IN OWN ROOM IF POSSIBLE
- FACE MASK AND COVER LESIONS IN CLOSE CONTACT UNTIL RASH HEALS
- KEEP SKIN DRY AND UNCOVERED (UNLESS IN A ROOM WITH SOMEONE ELSE)
- AVOID TOUCHING ITEMS IN SHARED
- USE SALTWATER RINSES FOR SORES IN THE MOUTH
- TAKE SITZ BATHS OR WARM BATHS WITH BAKING SODA OR EPSOM SALTS FOR BODY SORES
- TAKE OVER-THE-COUNTER MEDICATIONS FOR PAIN LIKE PARACETAMOL (ACETAMINOPHEN) OR IBUPROFEN.