

# APPE TRAILS

Official Newsletter for P3 and P4 Students at Manchester University College of Pharmacy, Natural and Health Sciences

## Trovinger Returns to OEE

BY DR. SARA TROVINGER

Hello! I know you all thought you had gotten rid of me, but I'M BACK! While I am so sad that Dr. Ades is leaving Manchester, I'm so excited to work with you all more closely. I have been deeply entrenched in experiential education full time since July of 2015 and I worked part-time in EE before that. I actually hired Dr. Ades, so I kind of know what is going on with APPEs, although, I am sure there are changes that I will still be getting up to date with.

I wanted to reach out to you today to let you know that I am here for you. You, the student, are my number one priority. If you have a question, please ask me. If you have an issue, please let me know. If you run into trouble, reach out! My job is to support you. I am so proud of you as a Manchester student and I want to help you reach your career goals. As I tell people all the time, I can't fix problems if I don't know there is a problem, so please let me know if there is something I can do to help you.

So get back out there and keep being awesome!



## This issue:

Trovinger's Return to  
OEE  
PAGE 01

Monkeypox Vaccine  
PAGE 02

NAPLEX Practice  
Questions  
PAGE 03

Calculations Corner  
PAGE 03

P4 Showcase Attendance  
PAGE 04



# Monkeypox Vaccines

BY MIRANDA DEHART, PHARMD CANDIDATE 2023

Monkeypox is a zoonotic disease from the genus orthopoxvirus and the poxviridae family. There are four orthopoxviruses pathogenic to humans; monkeypox, variola virus (smallpox), cowpox virus, and vaccinia virus. The first outbreak of monkeypox was seen in the US in 2003 due to the import of infected prairie dogs from Ghana. Vaccination of smallpox has shown to decrease infection of other orthopox viruses such as monkeypox. The smallpox vaccine was discovered in 1796 by Edward Jenner. Once smallpox was eradicated in 1980, vaccination efforts declined, since, resulting in increased cases of monkeypox. This once thought to be only an animal-to-human transmittable disease has been able to mutate into a human-to-human transmittable disease. Monkeypox can be transmitted through direct contact with infectious sores, scabs or bodily fluids, shared bedding or clothing, or contact with respiratory secretions. The presentation of monkeypox includes a characteristic rash that is preceded by mild prodromal symptoms (fever, lymphadenopathy, flu-like symptoms). The lymphadenopathy is the distinguishing feature between monkeypox and smallpox. Monkeypox is also considerable less deadly than smallpox.

In order to be prepared for bioterrorism attacks, the Strategic National Stockpile (SNS) contains enough smallpox vaccine to vaccinate every person in the US. There are two FDA approved vaccines for smallpox, JYNNEOS and ACAM2000. JYNNEOS is also FDA-approved for monkeypox. ACAM2000 can be used for monkeypox under an expanded access IND. Both vaccines are currently being used to vaccinate against the current monkeypox outbreak.

JYNNEOS	Live, replication incompetent(non-replicating) vaccinia virus
	FDA-approved in 2019 for smallpox and monkeypox, age≥18
	2, 0.5 mL SQ injections, 28 days apart
	ADEs: injection site reaction, headache, fatigue, muscle pain
	CI/Precautions: severe anaphylaxis to first dose; small amounts of ciprofloxacin and gentamicin are used in the vaccine; made in chicken embryo fibroblast cells
	Not contraindicated in immunocompromised populations or pregnancy/breastfeeding
ACAM2000	Live, replication competent vaccinia virus
	FDA-approved in 2007 for smallpox
	1 percutaneous dose, multiple puncture technique with a bifurcated needle
	ADEs: injection site reactions, fever, rash, lymph node swelling, myocarditis, pericarditis
	CI: Children less than 12 months, immunocompromised populations (HIV, skin conditions), pregnancy, cardiac disease, eye diseases treated with topical steroids

References:

- 1.Sklenovska N and Van Ranst M. Emergence of Monkeypox as the Most Important Orthopox Virus Infection in Humans. Front. Public Health. 2018; 6(241). Doi: 10.3389/fpubh.2018.00241.
2. Rizk JG, Lippi G, Henry BM, et al. Prevention and Treatment of Monkeypox. Drugs. 2022; 82: 957-963. Doi: 10.1007/s40265-022-01742-y.
3. Considerations for Monkeypox Vaccination. Centers for Disease Control and Prevention. Available at: <https://www.cdc.gov/poxvirus/monkeypox/considerations-for-monkeypox-vaccination.html>. Updated July 28, 2022. Accessed August 9, 2022.



## NAPLEX Practice Questions

Select the toxicity that has been associated with the administration of both trastuzumab and bevacizumab?

- a. Myelosuppression
- b. Gastrointestinal (GI) perforation
- c. Alopecia
- d. Infusion reactions

Select the factor that may affect the bioavailability of an oral anti-infective.

- a. A medication that is a substrate of the CYP-450 system
- b. Dosage formulation of the anti-infective
- c. A patient that has peripheral vascular disease
- d. A patient that has renal dysfunction

JC is a 36-year-old pregnant woman with an active DVT. She takes no other medications and has no significant past medical history. Which agent is the best choice for the initial treatment of her DVT?

- a. Enoxaparin
- b. Aspirin
- c. Warfarin
- d. Dabigatran

## Calculations Corner

BY MIRANDA DEHART, PHARMD CANDIDATE 2023

Review of Isotonic Solutions

Answer the questions below to make the following ophthalmic solution:

Proparacaine hydrochloride	0.5%
Sodium chloride	qs
Purified water ad	15 mL
Make isotonic solution	
Sig. for the eye	

- a. What is the E-value of proparacaine hydrochloride (m.w. 331;  $i = 1.8$ ). Round to the nearest hundredth.
- b. How much sodium chloride, in milligrams, is represented by the amount of proparacaine needed to prepare this prescription?
- c. How much sodium chloride, in milligrams, would be needed for an isotonic solution at the specified volume?
- d. How much sodium chloride, in milligrams, should be added to make this solution isotonic?

Calculate the sodium chloride equivalent of tetracaine hydrochloride (m.w. 301;  $i = 1.8$ ). Round to the nearest hundredth.



## P4 Showcase Attendance

BY THE OFFICE OF EXPERIENTIAL  
EDUCATION

I hope you are having a great day. I wanted to let you know that we will be having a job/residency fair here at Manchester University in conjunction with our Preceptor Showcase on September 20th from 3-4:30.

This is an OPTIONAL opportunity and would constitute an excused absence if you choose to attend. We will be taking attendance at this event and will inform preceptors if you attend. If you do choose to attend, you will need to make up your missed hours. If you have any questions about this, please let me know.

Dr. Trovinger

SEPTEMBER

PRECEPTOR  
SHOWCASE!

SAVE THE DATE

20



Lunch & Preceptor Awards 11:30-12:30  
Continuing Education 12:45-2:45  
Showcase Set-up 2:45-3:00  
Show time! 3:00-4:30

Contact the Office of Experiential Education with questions or comments! [CRElder@manchester.edu](mailto:CRElder@manchester.edu)

Save the Date!

## Contact the Office of Experiential Education



**DR. SARA TROVINGER**  
Interim Director, Experiential Education  
[SNTrovinger@manchester.edu](mailto:SNTrovinger@manchester.edu)  
260-470-2654



**DR. SARA THOMPSON**  
Assistant Director, Experiential Education  
[SAThompson@manchester.edu](mailto:SAThompson@manchester.edu)  
260-470-4078



**DR. RAYLENE ROSPOND**  
Associate Dean of Clinical Affairs and Outreach  
Professor of Pharmacy Practice  
[RMRospond@manchester.edu](mailto:RMRospond@manchester.edu)  
260-470-2653



**KAREN FAILOR**  
Operations Specialist  
[KFailor@manchester.edu](mailto:KFailor@manchester.edu)  
260-470-4064



**CELIA ELDER**  
Communications Specialist,  
International Services Coordinator  
[CRElder@manchester.edu](mailto:CRElder@manchester.edu)  
260-470-2715



**Manchester**  
University

**COLLEGE of PHARMACY,  
NATURAL & HEALTH SCIENCES**