

Guidance for Carbapenemase-producing Organism (CPO) Colonization Specimen (Non-rectal Source) Collection, Packaging, and Shipping

Background

This document is for non-rectal sources only. Refer to Guidance for Carbapenemase-producing Organism (CPO) Colonization Specimen (Rectal or Perirectal Source) for information about testing rectal and perirectal swab specimens.

Carbapenemase-producing organism (CPO) colonization testing of non-rectal sources (e.g., axilla/groin, wound, tracheal aspirate, sputum, stool, etc.) is performed by culture-based methods utilizing specific selective media followed by real-time PCR (RT-PCR) and, if positive, species identification. This method will detect the “big-5” carbapenemase genes KPC, NDM, OXA-48, VIM, IMP, and/or the typically *Acinetobacter*-specific OXA-23, OXA-24, OXA-58, and OXA-235. Indicate on the submission form what specific testing is needed.

NOTE: Please be aware of the deadline for FedEx pick-up in your area.

Prior approval from AR Lab Network Central Region Lab is required for point prevalence surveys before collection and shipping of specimens. Send email to arlnmn@state.mn.us. No prior approval is needed for admission screenings.

Specimen Collection

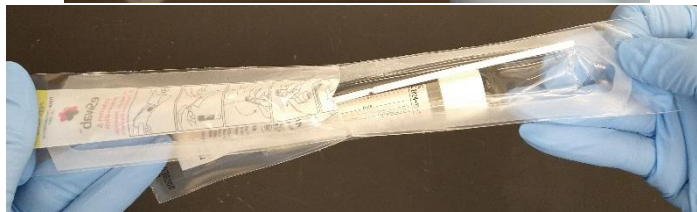
CPO Colonization kit, provided by Minnesota Department of Health Public Health Laboratory (MDH PHL).

Contents of the Kit:

- Nylon-flocked swab(s) with liquid Amies transport medium (BD ESwab™ collection and transport system; Becton Dickinson and Company, Sparks, MD, or equivalent) **OR**
- Dual rayon swab(s) with liquid Stuart medium (Copan Transystem™ Sterile transport system; Copan Diagnostics, Murrieta, CA, or equivalent)
- Saf-T-Pak box(es) **or** Saf-T-Pak box(es) with Styrofoam cooler insert (pre-assembled so that “Biological Substance, Category B” signage is facing outward)
- Saf-T-Pak white Tyvek® envelope(s)
- Saf-T-Pak clear bag(s) **or** Fisherbrand Specimen bag(s)
- Absorbent pad(s)
- Parafilm square(s) to seal cap to tube if Nylon-flocked swab(s) (Eswab)
- Ice pack(s) if shipping by cooler
- Guidance for Carbapenemase-producing (CPO) Colonization Specimen (Non-rectal Source) Collection, Packaging, and Shipping (this document)

Procedure for Collecting the Specimen

1. Before initiating collection, perform hand hygiene and don appropriate personal protective equipment (PPE) as indicated by the patient’s or resident’s clinical care team (e.g., gloves, gown, mask).
2. **Collection of Axilla/groin and Wound:**
 - a. Open the ESwab™ package by grasping the plastic at the opposite end from the soft tip where it states “PEEL HERE”.



- b. Carefully remove the tube from the plastic packaging and label the tube. Leave the swab enclosed in the plastic packaging to prevent contamination.
 - i. Specimens must be clearly labeled with:
 1. A minimum of 2 patient identifiers. Acceptable identifiers include:
 - a. Patient’s full name
 - b. Date of birth
 - c. Medical record number
 - d. Sample ID number
 2. Date of specimen collection
 3. Site of collection (e.g., axilla/groin)



- c. Pull the swab from its package, being careful not to touch the soft tip.



- d. Firmly rub the soft end of the collection swab across the indicated site at least 3-5 times.

i. Single swab axilla and groin combined collection method:

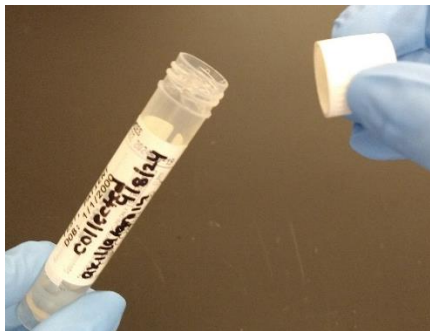
1. Rub both sides of the swab tip over the left axilla skin surface and then the right, targeting the crease in the skin where the arm meets the body (i.e., swab both armpits, swiping back and forth 3-5 times per armpit).
2. With the same swab used on each axilla, rub both sides of the swab tip over the left groin skin surface, targeting the inguinal crease in the skin where the leg meets the pelvic region and repeat with the right side (i.e., swab the skin of both inguinal creases swiping back and forth 3-5 times per inguinal crease).

ii. Wound collection method:

1. Rinse the wound with sterile water or saline prior to collection to remove topical treatments.
2. Firmly rub both sides of the swab tip over the advancing margins of lesion 3-5 times.

- e. Remove the cap from the swab collection tube, then place the soft end of the collection swab into the tube. Be careful to keep the cap from touching any materials that may contaminate the sample. ****DO NOT REMOVE THE LIQUID IN THE TUBE.**

- i. If liquid medium in the ESwab™ collection tube is accidentally spilled, the specimen must be recollected with a new ESwab™.
- ii. Do not add liquid medium into the ESwab™ collection tube or attempt to retrieve spilled liquid medium.



- f. Snap off the end of the swab at the marked line by bending the plastic handle against the edge of the transport medium container.



- g. Screw on the tube cap, the snapped end of the swab should slide into place in the center of the cap.
- h. Seal with parafilm (included in supplies) by stretching and wrapping the closed tube cap tightly in the parafilm material. ****MAKE SURE THE TUBE CAP IS SCREWED ON FIRST.**



3. Collection of Sputum, Tracheal Aspirate, or Stool:

- a. Using aseptic technique, collect the sputum, tracheal aspirate, or stool in a sterile collection container (not provided), per facility standard operating procedures.
- i. Diapered infants: Copan Transystem™ Sterile Transport Swab may be used to collect the stool present in a soiled diaper, if not enough to scrape into a sterile collection container.
- b. Apply patient/resident identification label or clearly write specimen information on the tube/container.
- i. Specimens must be clearly labeled with:
1. A minimum of 2 patient identifiers. Acceptable identifiers include:
 - a. Patient's full name
 - b. Date of birth
 - c. Medical record number
 - d. Sample ID number

2. Date of specimen collection
3. Site of collection (e.g., axilla/groin)

4. Collection of Ostomy:

- a. Open the outer packaging of the Copan Transystem™ Sterile Transport Swab on the end that says, “PEEL HERE” (the opposite end from the swab tips).



- b. Carefully remove the tube from the plastic packaging and label the tube, either by hand or with a printed label. Leave the dual swab enclosed in the plastic packaging to prevent contamination.

i. Specimens must be clearly labeled with:

1. A minimum of 2 patient identifiers. Acceptable identifiers include:
 - a. Patient’s full name
 - b. Date of birth
 - c. Medical record number
 - d. Sample ID number
2. Date of specimen collection
3. Site of collection (e.g., stoma)



- c. Pull the dual swab from the plastic packaging, being careful not to touch the swab tips.



- d. Use the swab to obtain specimen from the stoma site.
- e. Remove white cap from tube by twisting.



- f. Insert dual swab into tube and firmly close red cap by pressing down.



- 5. Complete an AR Lab Network submission form for each specimen and include with shipment. See **Submission Form** instructions (page 7).
- 6. Package and ship immediately to MDH-PHL, AR Lab Network Central Region laboratory.

***If a delay in shipment cannot be prevented, store the specimens at 2-8°C until shipment.**

	Test	Storage Temp.	Shipping Temp.	Acceptance window after collection
NON-RECTAL (axilla/groin; wound; sputum; tracheal aspirate; stool; ostomy)	CRAB* (OXA-23, -24, -58, -235)	refrigerated (2-8°C)	refrigerated (2-8°C)	5 days optimal; contact MDH if longer
	IMP detection	refrigerated (2-8°C)	refrigerated (2-8°C)	5 days optimal; contact MDH if longer
	CRO (KPC, NDM, OXA-48, VIM)	refrigerated (2-8°C)	refrigerated (2-8°C)	5 days optimal; contact MDH if longer

CRAB – Carbapenem-resistant *Acinetobacter baumannii*

IMP – metallo-beta-lactamase gene *bla_{IMP}* encodes the imipenemase enzyme

CRO – carbapenemase-resistant organism

Labeling

Specimens must be clearly labeled with:

1. A minimum of 2 acceptable patient identifiers:
 - a. Patient's first and last name
 - b. Date of birth
 - c. Medical record number
 - d. Sample ID number
2. Date of specimen collection
3. Site of collection (e.g., right leg wound)

Submission Form

1. Fill out **ARLAB Central Region Clinical Testing and Submission Form (PDF)** for each specimen located under the "Forms" section of the following website:
<https://www.health.state.mn.us/diseases/idlab/arln.html>
 - Ensure all fields marked with an asterisk (*) are filled out.
 - For specimen, check the appropriate source type/site. If the swab site is not present, check "Other (specify)" and specify the body site in the "Specify Additional Source Type/Site Information" box.
 - Specimen Test Requested
 - Check the box for "Carbapenem Resistant Organism Colonization Screening by Culture (CPOCX)."
 - Check the box for "CRAB culture testing" if detection of the OXA-23, -24, -58, or -235 gene targets is desired.
 - Check the box for "IMP culture testing" if detection of only IMP gene targets is desired.
 - Check the box for "CRO non-rectal source testing" if detection of KPC, NDM, OXA-48, VIM, and IMP gene targets is desired.

Packaging

1. Place the ESwab™ tubes, specimen containers, or Copan dual swab tubes in the clear Saf-T-Pak or Fisherbrand Specimen bag(s) along with the absorbent pad(s) provided in the kit. Place one swab per bag if Eswabs, up to 10 if Copan dual swabs. See photos.

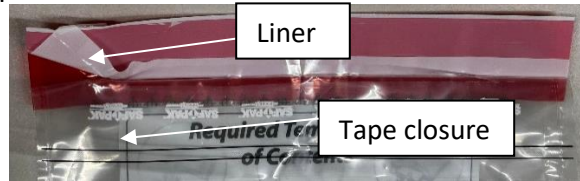


Eswab bag types



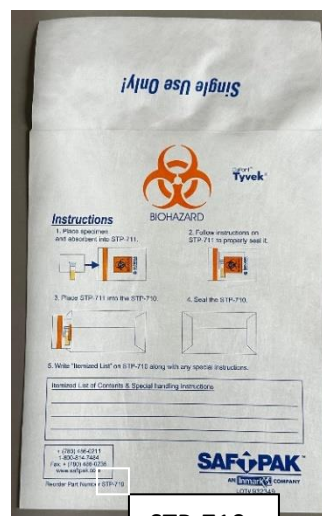
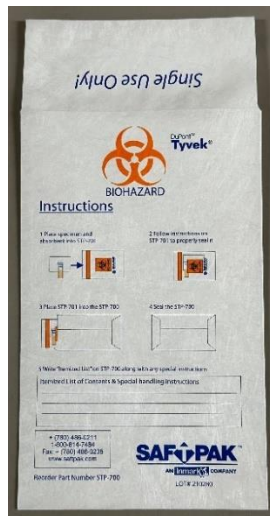
Copan Dual swab bag type

2. If Fisherbrand Specimen bag(s), press and close the zipper to seal.
3. If Saf-T-Pak bag(s), fold tape closure over so that the white liner is visible, then remove the liner to expose adhesive.



4. Gently lay tape closure over the bag opening and smooth with fingers to seal tightly.
5. Place clear Saf-T-Pak or Fisherbrand Specimen bag sealed with its contents into white Saf-T-Pak envelope. See photo.

NOTE: One Saf-T-Pak bag or Fisherbrand Specimen bag can be inserted into the white Saf-T-Pak envelope (left image), while up to 10 clear Saf-T-Pak bag or Fisherbrand Specimen bags can be inserted into one medium white Saf-T-Pak envelope (right image; STP-710).

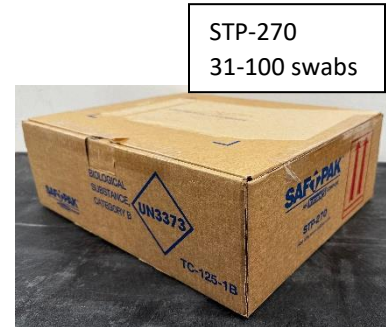
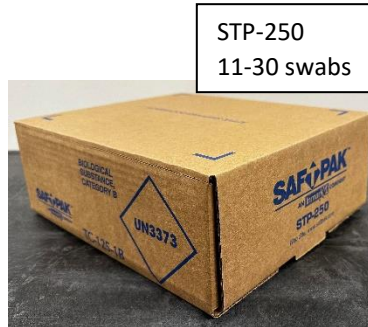
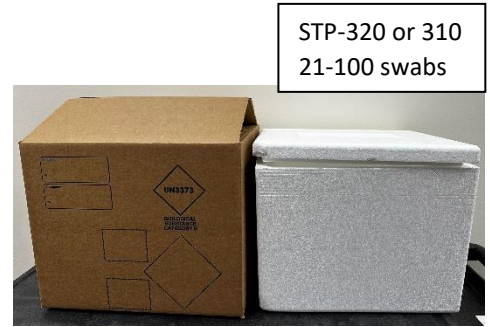


STP-710

6. On the Saf-T-Pak flap, remove the liner to expose adhesive.



7. Gently fold the Saf-T-Pak flap over the bag opening and smooth with fingers to seal tightly.
8. Place white Saf-T-Pak envelope(s), sealed with its contents into the provided box with no ice packs or box with cooler insert and add the ice packs. Confirm the “Biological Substance, Category B” label is outwardly showing. See photos below for sizes and capacity.



9. Neatly fold and place Antimicrobial Resistance (AR) Laboratory Network Central Region Lab submission form(s) inside the cardboard box on top of the cooler insert, or inside the box on top of the white Saf-T-Pak envelope(s).
10. Close flap of box and seal with tape.
11. Ship by courier. If there is no courier, ship via FedEx by contacting arlnmn@state.mn.us for account information.

Questions? Contact:

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