

Emergency Medical Services (EMS)

Guide to Conduct Hand Hygiene Reviews



2021 Alberta Health Services

If you have questions about this guide or about hand hygiene reviews in general, you can email hand.hygiene@ahs.ca or contact your zone [Project Manager](#).



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The healthcare provider (HCP) category for Emergency Medical Services (EMS) includes:

- Emergency Medical Responders (EMR)
- Emergency Medical Technicians (EMT)
- Emergency Medical Technologist Paramedics (EMT-P)

EMS students are not included in the EMS HCP category. Instead, they are entered into the Clean Hands Portal under Students-Other. The EMS HCP category includes both AHS staff and contracted staff members.

While observing EMS, there may be moments of high activity where patients in a medical crisis are being treated (e.g. cardiac arrest, major trauma, or airway intervention). During these times it is important for the reviewer not to be performing observations.

Observation Point: The EMS reviewer will only be reviewing EMS staff and no other healthcare providers, police staff, fire staff, or bystanders. Reviewers cannot record observations associated with their own patient interactions; self-reviewing is not acceptable.

Observations for hand hygiene compliance can be obtained while on scene, in the ambulance, and in an AHS facility or contracted facility (hallways, emergency department, and nursing unit/ward). It is expected that EMS staff comply with the 4 Moments of Hand Hygiene.

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Ambulance Environment

The ambulance has both a healthcare environment and patient environment. It is important to minimize the transmission of microorganism between these two environments. The table below outlines what is considered patient environment and healthcare environment.

Patient Environment	Healthcare Environment
<ul style="list-style-type: none"> • stretcher with a patient on it including linens, patient care equipment and patient belongings • monitor used during patient care • paper/electronic patient care report • surfaces contacted within the ambulance during patient transport • transfer documents • door handles within the interior of the patient compartment 	<ul style="list-style-type: none"> • front cab of the ambulance • door handles within the interior of the cab • any clean or sterile supplies located within the ambulance compartments including, gloves, clean linens, the EMS bag and portable oxygen (O₂) bag • any clean or sterile supplies located within the facility (this includes clean linens, PPE (gloves) and any patient care supplies) • portable radios and crew phones

Observation Point: EMS are not required to do hand hygiene before entering the patient’s home, but are required to do hand hygiene before contacting the patient or anything inside the patient’s home.

The following are some examples of EMS interactions that reviewers may observe; the list is not intended to be all-inclusive:

Moment 1 (BEF-PAT/ENV)

- after contacting the patients door knob, before contacting the patient
- before physical assessment (e.g. chest auscultation, abdominal palpation, taking vitals)
- before contacting the patient or items in their environment (stretcher, wheel chair, IV pole, bed, personal belongings)
- before assisting or moving a patient

Moment 2 (BEF-ASP)

- before accessing clean linens or supplies from the ambulance cupboards or facility supplies (applies to both in-facility and out-of-facility)
- before accessing clean supplies stored in the EMS bags with the monitor or with the O₂ tank
- before an invasive procedure (catheter insertion, BGL testing, IV/IO start, suctioning)

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- before moving from a dirty task to a clean task on the same patient (e.g. removing their shoes and then performing wound care)
- before preparing and giving medications (includes oral and subcutaneous, intramuscular or intravascular injections, eye drops)
- before donning PPE including gloves to contact the patient or the patient's environment

Moment 3 (AFT-BFL)

- after suctioning secretions
- after contact with blood and/or bodily fluids
- after wound care/dressing changes
- after an invasive procedure (e.g. catheter insertion, BGL testing, IV/IO start)
- after contact with linens covered in blood and/or body fluids
- after doffing PPE that has come into contact with blood and/or bodily fluids

Moment 4 (AFT-PAT/ENV)

These examples only apply if they are the last point of contact with the patient/patient environment

- after contact with a patients environment, before contacting the door knob before leaving, if not transporting patient
- after a physical assessment (e.g. chest auscultation, abdominal palpation, taking vitals)
- after touching the patient or items in their environment (stretcher, wheel chair, IV pole, bed, personal belongings)
- after assisting or moving a patient
- after contact with soiled linens

In-Facility versus Out-of-Facility

When performing reviews, the EMS reviewer may collect observations in and out of a facility (see chart below).

The Clean Hands portal reflects these two options in the drop down menu under Unit. It is important that observations are separated and entered into the correct option (in or out-of-facility).

Observation Point: In-facility observations will have to be entered into the portal as a separate entry (unit). For example, if the reviewer observed an in-facility observation and an out-of-facility observation during the same review the reviewer will need to be able to differentiate in-facility vs out-of-facility observations on the paper tool.

The following table outlines the criteria for in-facility and out-of-facility.

In-Facility	Out-of-Facility
<ul style="list-style-type: none"> • Acute Care • Long Term Care (LTC) / SL4(D)* • Emergency department • Urgent Care Centre • provincial program (e.g. Cancer Centers and Dialysis) • Diagnostic Imaging • in-hospital specialist visits / medical consults 	<ul style="list-style-type: none"> • ambulance • Supportive Living (i.e. SL1, SL2, SL3)* • patient's home • in the field • patient's vehicle • office building • clinic setting (e.g. physicians' office, lab, community rehab center)

*Long Term Care (LTC), SL4(D) – **care is provided 24 hours a day** by RNs or LPNs. Hand hygiene infrastructure is established (e.g. education, posters, and access to ABHR).

Support Living: SL1, SL2, SL3 (i.e. lodges) – RNs and LPNs **do not provide care 24 hours a day. There is limited access to hand hygiene infrastructure.

If unsure if you are in a LTC or Supportive Living facility, ask if there is an RN or LPN there 24hours.

In the following EMS scenario's the term EMS staff refers to both the driver and the attendant unless otherwise specified.

Note: The EMS reviewer is third in the ambulance for the purpose of reviews.



The ambulance has both a healthcare environment **and** patient environment. When recording observations for EMS you will be required to identify if it is an **in-facility** or **out-of-facility** observation.

EMS - Scenario 1 (Picking up the Patient at a Healthcare setting)

The reviewer observes two EMS staff (driver and attendant) entering a unit pushing a stretcher for patient transfer. The EMS staff performs hand hygiene before entering the patient room. The EMS staff starts preparing the patient for transfer by lowering bed rail/stretcher and proceeds to assist the patient onto the stretcher. The EMS staff exit the patient's room, pushes the stretcher into the ambulance bay, and loads the patient into the back of the ambulance. The driver performs hand hygiene, closes the ambulance doors then enters the cab of the ambulance.



Unit – Inside facility

HCP – Emergency Medical Services (EMS Driver)

Moment 1 (wash/ABHR); Moment 4 (wash/ABHR)

HCP – Emergency Medical Services (EMS Attendant)

Moment 1 (wash/ABHR)

Rationale:

EMS Driver

- Moment 1 (BEF-PAT/ENV) is recorded as compliant when the driver performs hand hygiene then contacts the patient's bed rail.
- Moment 4 (AFT-PAT/ENV) is recorded as compliant when the driver performs hand hygiene after loading the patient in the ambulance. Hand hygiene is necessary after contact with the stretcher (patient's environment) and before contact with the ambulance doors (healthcare environment).

EMS Attendant

- Moment 1 (BEF-PAT/ENV) is recorded as compliant when the attendant performs hand hygiene then contacts the patient's bed rail.

Exploring Possibilities:

- If the EMS staff wore gloves before contacting the patient, a Moment 2 (BEF-ASP) would be recorded because gloves are considered a clean supply. This would be recorded as a combined moment with Moment 1 above (see Section 3.4 Combined Moments).
- If the EMS staff had to contact the healthcare environment (e.g. elevator buttons, auto door controls, etc.) an additional Moment 4 (AFT-PAT/ENV) and additional Moment 1 (BEF-PAT/ENV) would be recorded.

For example, if the EMS staff had to access the auto door control, hand hygiene would be required before contacting the healthcare environment (door control); Moment 4 (AFT-PAT/ENV). EMS staff would then need to perform hand hygiene after contacting the healthcare environment (door control) and before contacting the patient environment (stretcher); Moment 1 (BEF-PAT/ENV).

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Take Away Messages:

- The clean stretcher becomes patient environment once it comes into contact with the patient or patient's environment.
- The cab of the ambulance is considered healthcare environment.
- Any handles in the patient compartment area should be cleaned between patients as per EMS protocols; therefore, hand hygiene does not need to be done before opening the doors while with the patient.
- Gloves are considered clean supply; Moment 2 (BEF-ASP).

EMS - Scenario 2 (Dropping off the Patient at a Healthcare setting)

The ambulance pulls into the bay; the reviewer observes the driver exit the cab of the ambulance and opens the back doors. The driver performs hand hygiene and unloads the patient from the ambulance. The two EMS staff enters the unit pushing the stretcher for patient drop off, they transfer care to receiving hospital staff. They push the empty stretcher back to the ambulance bay, strip the dirty linens, perform hand hygiene and don gloves, wipe down the stretcher.



Unit – Inside facility

HCP – Emergency Medical Services (EMS Driver)

Moment 1 (wash/ABHR); Moment 4 (wash/ABHR); Moment 2 (wash/ABHR), gloves

HCP – Emergency Medical Services (EMS Attendant)

Moment 2 (wash/ABHR), gloves; Moment 4 (wash/ABHR)

Rationale:

EMS Driver

- Moment 1 (BEF-PAT/ENV) is recorded as compliant when the driver performs hand hygiene then contacts the patient environment (stretcher).
- Moment 4 (AFT-PAT/EVN) is recorded as compliant when the driver performs hand hygiene after tossing used linen.
- Moment 2 (BEF-ASP) is recorded as compliant when the driver performs hand hygiene before accessing the gloves.
- No moments can be recorded that are associated with cleaning used patient equipment, (i.e. stretcher).

EMS Attendant

- Moment 2 (BEF-ASP) is recorded as compliant when the attendant performs hand hygiene before accessing the gloves.
- Moment 4 (AFT-PAT/EVN) is recorded as compliant when the attendant performs hand hygiene after handling the used patient stretcher.
- No moments can be recorded that are associated with cleaning used patient equipment, (i.e. stretcher).
- No Moment 1 (BEF-PAT/ENV) will be observed for the attendant is still with the patient in the back of the ambulance.

Exploring Possibilities:

- If the EMS staff had to contact the healthcare environment (nursing station) during patient hand-off and move between the patient environment and healthcare environment an additional Moment 4 (AFT-PAT/ENV) and Moment 1 (BEF-PAT/ENV) may apply.
- If the EMS staff had contact with their personal cell phone, portable radio or crew phone during the patient transfer, it would be considered self-contamination and hand hygiene would need to be performed before re-contacting the patient or patient's environment (stretcher). See Section 3.6 Healthcare Provider Self-Contamination.

Take Away Messages:

- Although additional hand hygiene opportunities may be required during the cleaning/disinfecting process of patient care equipment, stretchers, monitors, back of ambulance, etc. these are outside the scope of the hand hygiene review process and are therefore non-recordable moments. See Section 3.1 - the 4 Moments of Hand Hygiene.
- Gloves and clean linens are considered clean supplies; Moment-2 (BEF-ASP).

EMS - Scenario 3 (Responding to a Medical Call)

The reviewer observes two EMS staff (driver and attendant) dispatched for a chest pain call while in the hospital hallway. The EMS staff enters their ambulance and drives to the scene.

When the EMS staff arrives on scene, they retrieve the treatment bag, monitor and stretcher. The EMS staff enters the patient's home and performs hand hygiene before starting their physical exam and vital signs. The attendant performs hand hygiene before accessing the Aspirin (ASA) from the treatment bag and giving it to the patient to take. The driver accesses IV supplies from the treatment bag (including gloves) and starts an IV. When the driver has completed the IV, they discard the sharp into the sharps container, dispose of the used IV supplies, doff their gloves and perform hand hygiene. The EMS staff then loads the patient onto the stretcher and into the ambulance. The driver closes the ambulance doors then enters the cab of the ambulance to transport the patient to the hospital.



Unit – Outside facility

HCP – Emergency Medical Services (EMS Driver)

Moment 1 (wash/ABHR); Moment 2 (miss), gloves; Moment 3 (wash/ABHR), gloves;
Moment 4 (miss)

HCP – Emergency Medical Services (EMS Attendant)

Moment 1 (wash/ABHR); Moment 2 (wash/ABHR)

Rationale:

EMS Driver

- Moment 1 (BEF-PAT/ENV) is recorded as compliant when the driver performs hand hygiene before contacting the patient for a physical exam and vital signs.
- Moment 2 (BEF-ASP) is recorded as a miss when the driver does not perform hand hygiene before accessing clean supplies from the treatment bag and starting an IV.
- Moment 3 (AFT-BFL) is recorded as compliant when the driver performs hand hygiene after completing the IV.
- Moment 4 (AFT-PAT/ENV) is recorded as a miss when the driver does not perform hand hygiene after contacting the patient environment (stretcher).

EMS Attendant

- Moment 1 (BEF-PAT/ENV) is recorded as compliant when the attendant performs hand hygiene before contacting the patient for a physical exam and vital signs.
- Moment 2 (BEF-ASP) is recorded as compliant when the attendant performs hand hygiene before accessing Aspirin (ASA) from the treatment bag.
- No Moment 4 will be recorded as the attendant is still with the patient during transport.

Exploring Possibilities:

- Additional moments will apply if the driver was diverted to another task (e.g. taking vitals and responding to radio communications) while preparing IV supplies or starting IV.
- If EMS staff accidentally contaminated supplies during patient care (e.g. drop needle on the floor) and is immediately required to retrieve the item hand hygiene would be required before resuming the IV start.

Take Away Messages:

- Hand hygiene must be performed immediately before a clean or aseptic procedure; Moment 2 (BEF-ASP).
- Contacting the treatment bag is not considered a recordable moment. Moment 2 (BEF-ASP) is recorded when the clean and sterile supplies are accessed from within it.

EMS - Scenario 4 (Responding to a Trauma Call)

The reviewer observes two EMS staff (driver and attendant) dispatched for a trauma call while in the station. The EMS staff enters their ambulance and drives to the scene.

When the EMS staff arrives on scene with Fire backup, EMS staff retrieves the treatment bag, monitor and stretcher. EMS staff approaches the patient at a skating rink and notices blood soaked clothing with obvious deformity to the lower limb. EMS staff immediately performs hand hygiene and dons gloves from the treatment bag. The driver starts vital signs as the attendant performs a physical assessment.

Fire staff is delegated to stabilize and splint patient's lower limb. The driver doffs gloves and performs hand hygiene before accessing IV supplies from the treatment bag (including gloves) and starts an IV. When the driver has completed the IV, he discards the sharp into the sharps container, disposes of the used IV supplies, doffs his gloves and performs hand hygiene. The attendant accesses the treatment bag for pain management medication and administers medication into patient's IV port (IV site). EMS staff and Fire staff load the patient onto the stretcher and into the ambulance.



Unit – Outside facility

HCP – Emergency Medical Services (EMS Driver)

Moment 2 (wash/ABHR), gloves; Moment 1 (ABHR); Moment 2 (wash/ABHR); Moment 3 (wash/ABHR)

HCP – Emergency Medical Services (EMS Attendant)

Moment 2 (wash/ABHR), gloves; Moment 1 (wash/ABHR); Moment 2 (miss), gloves;
Moment 3 (miss), gloves

HCP - Fire staff – no recordable moments

Rationale:

EMS Driver

- Moment 2 (BEF-ASP) is recorded as compliant when the driver performs hand hygiene before retrieving gloves from the treatment bag.
- Moment 1 (BEF-PAT/ENV) is recorded as compliant when the driver performs hand hygiene before contacting the patient for a physical exam and vital signs.
- Moment 2 (BEF-ASP) is recorded as compliant when the driver performs hand hygiene after removing gloves and before accessing IV supplies/gloves from the treatment bag.
- Moment 3 (AFT-ASP) is recorded as compliant when the driver performs hand hygiene after disposing of IV supplies and removing gloves.

EMS Attendant

- Moment 2 (BEF-ASP) is recorded as compliant when the attendant performs hand hygiene before retrieving gloves from the treatment bag.

- Moment 1 (BEF-PAT/ENV) is recorded as compliant when the attendant performs the physical assessment.
- Moment 2 (BEF-ASP) is recorded as a miss because no hand hygiene was performed before accessing the treatment bag for pain management medication.
- Moment 3 (AFT-ASP) is recorded as a miss because no hand hygiene was performed after administering the medication into the IV port.

Fire Staff

- Are not included in hand hygiene reviews.

Exploring Possibilities:

- If the patient became unstable and there were moments of high activity such as a medical crisis (e.g. cardiac arrest, major trauma, or airway intervention), no moments would be recorded.
- If there was, no Fire support on scene and EMS staff had to provide care for the open fracture, hand hygiene moments would be recorded accordingly.
- If the reviewer observed the driver perform hand hygiene after loading the patient and before entering the cab of the ambulance a Moment 4 (AFT-PAT/ENV) would be recorded.

Take Away Messages:

- RCMP, fire staff and bystanders who may assist with patient care are not included in reviews.
- Hand hygiene must be performed **immediately** after exposure or risk of exposure to blood and/or bodily fluids; Moment 3 (AFT-BFL).
- Hand hygiene moments must be observed to be recorded.