

Prehospital Injury Prevention

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EP KKH

Goal of Injury Prevention

To change in knowledge , attitude , and behavior of the society and EMTs

Strategies of Injury Prevention

1 Passive strategies , example

- Air bag
- Sprinkler systems
- Vehicle structure

2 Active strategies

- Manual seat belt
- Helmet
- Baby Car seat

Strategies Implementation

The 3 E's of injury prevention

1 Education

2 Enforcement legal requirement :

- Apply the seat belt , helmet , baby car seat
- Speed limit prohibition , Drunk-driving law , assault law
- Vehicle safety standard , swimming pool standard , highway standard
- etc.

3 Engineering : *The most effective for Injury Prevention*

- *Automatic sprinkler system in buildings*
- *Floatation hulls in the boat*
- *Backup alarms on ambulances*
- *etc.*

Public Health Approach

Single person or single agency can not provide a public safety prevention . EMS must join the other agency to provide Injury Prevention to achieve the success .

4 steps process of Public Health Approached

- 1 Surveillance
- 2 Risk factor identification
- 3 Intervention evaluate
- 4 Implementation

Surveillance for Risk Identification

Surveillance is the process of collecting data within communication for discovered the injury effect on the community

- Mortality data
- Hospital admission and discharge statistic
- Medical records
- Trauma registries
- Police report
- EMS run sheets
- Insurance report

Unique surveillance data collected to study the risk

Intervention evaluate for Implementation

The final step in public health approach is Implementation the Intervention

goal -

- Chang the skill , attitude , and judgement
- Change the behavior
- the changes lead to favorable outcome

Role of EMS in Injury Prevention

1 One-on-One intervention

Use the role model to change behavior

2 Community-Wide interventions

- Teaching by Emergency Physician or Nurse
- Use the injury data to provide injury prevention in EMS person

3 Injury Prevention for EMS Providers

- Well trained or experience level
- Limit degree of fatigue , Adequate sleep
- Trained to operated vehicle safely
- In-house injury prevention program implementation
- Violence safety program implementation
- Prevention of occupational injury program implementation
- etc.

Prehospital Infection Control

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Attempt to limit spread the infectious disease refers to **the infection control measure**

1 Personal safety

- Risk management
- Risk profile

2 Patients safety

- Infectious is a two-way street

3 Family safety

- Carrier can be a cause of infection spread

transmission Disease

- 1 Contact transmission
- 2 Airborne transmission
- 3 Ambulance transmission
- 4 Vector Transmission

Common organism and Infection

Organism and Illness	Sign and Symptom	Mode of Transmission
Adenovirus (Common cold)	Runny nose, cough, sore throat, congestion	Contact with droplet
Varicella virus (Chicken pox)	Fever , pain full rash	Contact with open lesion , air borne
Mycobacterium Tuberculosis	Cough , fever , fatigue , weight loss	Air borne
Hepatitis virus type A	Fever , nausea ,vomiting , yellow skin	Contaminated food and water
Hepatitis virus type B,C,D	Fever , nausea ,vomiting , yellow skin Abdominal pain	Contact with blood or other body fluid
HIV	Multiple infection ,fever ,weight loss	Contact with blood or other body fluid
Neisseria Meningitidis	Fever ,rash, headache , stiff neck	Air borne respiratory infection
Influenza virus	Cough , fever , myalgia, vomiting, diarrhea	Air borne

Clinical Syndrome	Potential Pathogen	Empiric Precaution
Adult with Diarrhea	Clostridium Difficile	Contact
Fever and altered mental status	Neisseria Meningitidis	Droplet
Generalized rash of unknown etiology	Neisseria Meningitidis Varicella Rubeola (measles)	Droplet, Airborne (N-95 mask) and Contact
Cough, fever and hemoptysis	Mycobacterium Tuberculosis	Airborne (N-95 mask)
Cough, fever in an HIV patient	Mycobacterium Tuberculosis	Airborne (N-95 mask)
Skin abscess or draining wound	Staphylococcus Aureus	Contact
History of drug-resistant infection	MRSA, Vancomycin Resistant Enterococcus	Contact

Defense against of infection

1 Skin

2 Mucous membrane

3 Immunization

But not all disease have immunization available *also we have to use*

4 Standard precaution

5 Hand hygiene

6 Personal Protective Equipment

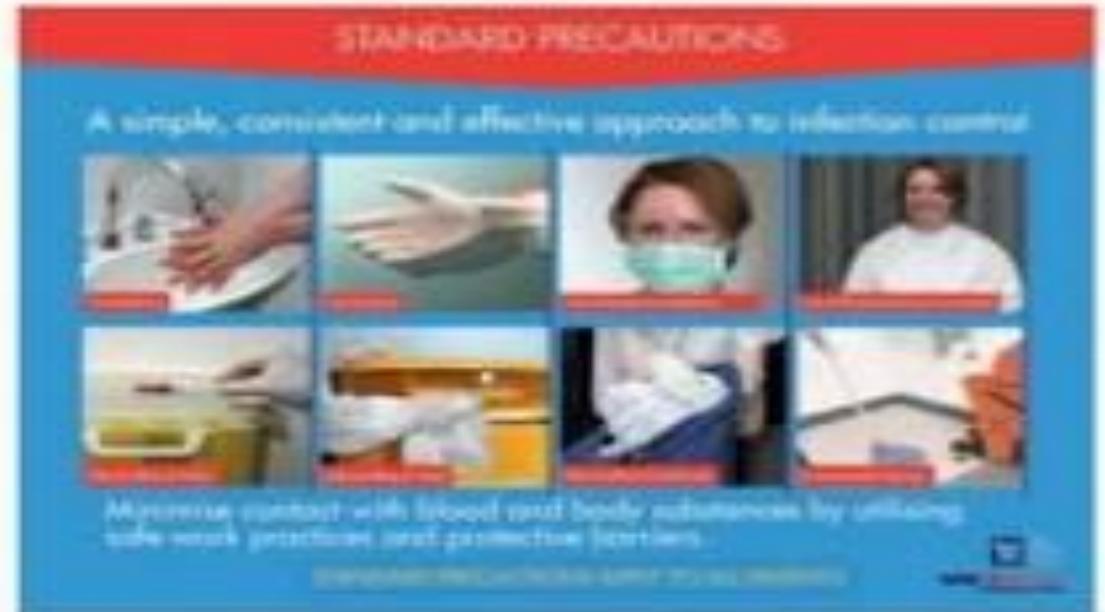
Standard precaution

The guideline require for EMT personal to protect against the transmission of disease included -

- Protocol
- check list
- SOP
- Equipments provided

Universal/Standard Precautions For Infection Control

1. Hand Hygiene
2. Personnel Protective Equipments
3. Safe Handling and Disposal of Sharps
4. Follow needle stick injury protocol
5. Safe Handling and Disposal of Wastes
6. Managing Blood and Body Fluids
7. Disinfection of the Equipments
8. Environmental Disinfection
9. Immunization
10. Isolation



To prevent the spread of infection,
ANYONE ENTERING THIS ROOM MUST

*Para prevenir el esparcimiento de infecciones,
TODAS LAS PERSONAS QUE ENTREN EN ESTA HABITACION
TIENEN QUE:*



Hand Hygiene
Higiene De Las Manos



Surgical Mask
Mascara Quirurgica



Gloves
Guantes



Gown
Bata



N-95 Respirators should not be used for personal protection for patients on droplet precautions.

Los Respiradores N-95 no se deben utilizar para la proteccion personal de pacientes con precauciones contra praticulas o gotitas.

Isolation shall not be discontinued without the **notification** of Infection Prevention & Control.

La insolacion no debe de ser descontinuada sin antes notificar a Prevencion y Control de Infecciones.

() _____ - _____

() _____ - _____

Standard Precaution for infection Control

Items	Details
Wash hands	<ul style="list-style-type: none">-Before and after touch the patients or after every time that touch the body fluid- Immediately after remove the glove
Wear gloves	<ul style="list-style-type: none">- Just before touching the body fluid , mucous membrane or nonintact skin- Change glove after contact the procedure that high concentrate of organism and before other procedure- Change glove after contact with high concentrate of organism environment
Wear mask and Eye protection or Face shield	<ul style="list-style-type: none">- Protect the face and eye from splashes or spray of body fluid
Wear Gown	<ul style="list-style-type: none">- Protect skin from splashes or spray of body fluid or high concentrate organism environment
Patient care Equipments	Appropriated cleaned before and after reprocess
Linen	Appropriate disposing the material in waste bag or container

Hand hygiene

- Unwashed hand contributed to food borne illness trans

mission ; Salmonella , E. coli

- The type of soap not importance to washing technique

- Scrub : hand washing technique by vigorous scrubbing in the running water with soap for 20 seconds

Hand washing steps



1 Palm to palm



2 Between fingers



3 Back of hands



4 Base of thumbs



5 Back of fingers



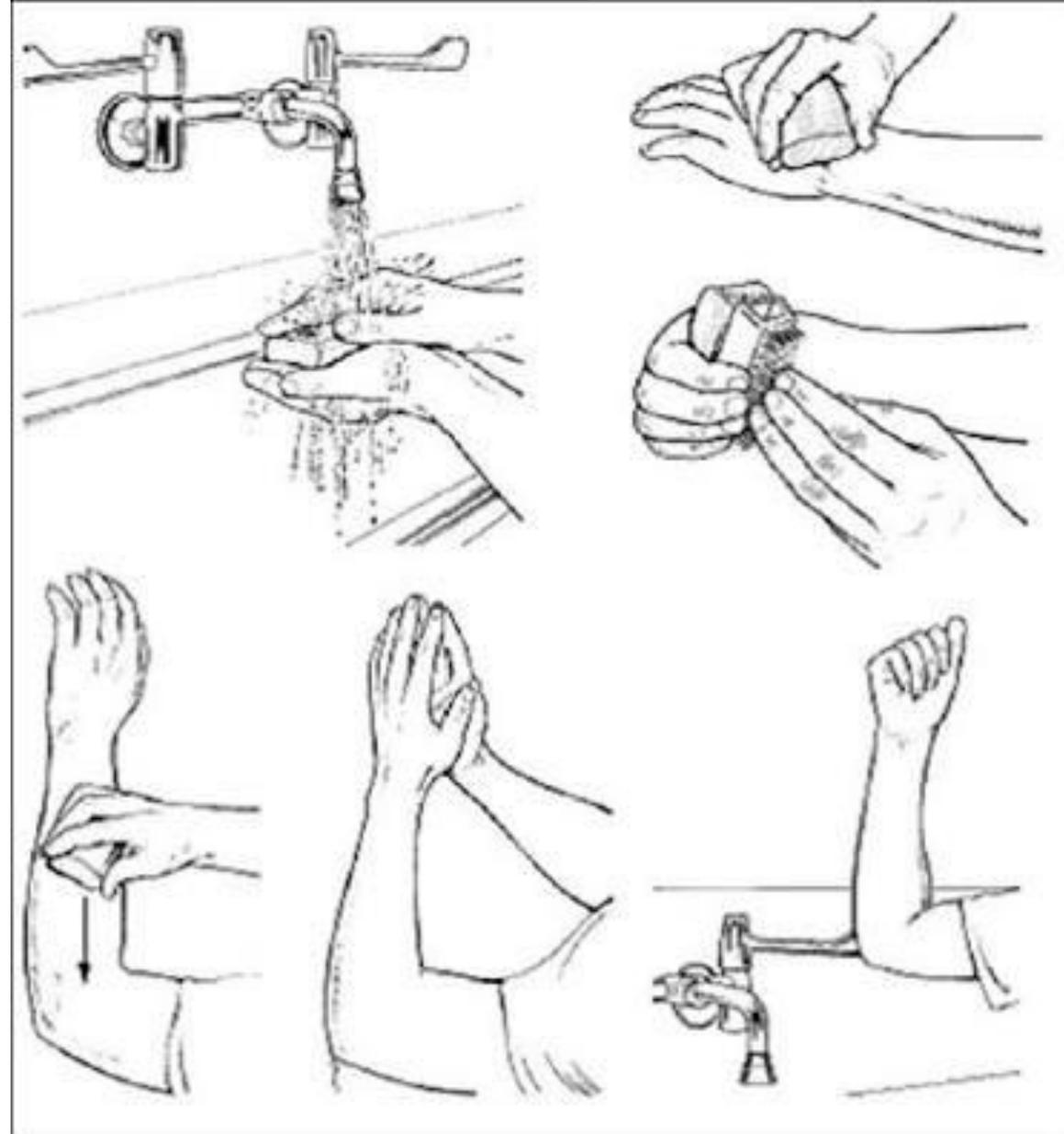
6 Fingernails



7 Wrists



8 Rinse and wipe dry



Personal Protective Equipment : PPE

The first rule : treat all body fluid as if there are potentially infectious

The EMTs use dispatch information and time before arriving the scene to don the PPE upon arrival

PPE : Barrier devices

- ▶ Gloves
- ▶ Goggles
- ▶ Masks
- ▶ Pocket mask
- ▶ Gowns
- ▶ Etc?

Levels of PPE

Hazardous Materials: Levels of PPE



Level A



Level B



Level C



Level D



Level A

Level A protection must be used when the highest level of skin, eye, and respiratory protection is required based on measured levels or potential for high concentrations of atmospheres, vapors, gases or particulates, or when a high potential for skin contact with harmful materials exists.



Level B

Level B protection must be used when the highest level of respiratory protection is required (as in Level A), but a lesser degree of skin protection is required.



Level C

Level C protection must be worn when airborne contaminants are known and the criteria for using air purifying respiratory is met. Level C equipment includes:

- Gloves - outer and inner, chemical resistant;



Level D

Level D is the basic work uniform that should be used whenever necessary. It provides only minimal protection. Level D equipment, used as appropriate, includes:

- Boots - chemical resistant, steel toe and shank;
- Gloves;
- Safety glasses; and
- Hard hat.



OSHA Levels for Hazardous Waste Operations and Emergency Response PPE

To protect:	Level D	Level C	Level B	Level A
Skin (dermal)	Inner Barrier: Street clothes Outer barrier: Coveralls, scrubs or other protection	Inner Barrier: Environmental temperature dependent Street clothes/scrubs to insulated coveralls Outer barrier: Hooded chemical-resistant clothing		Inner Barrier: Totally-encapsulating chemical-protective suit Outer barrier: Disposable protective suit (if warranted)
Skin - specifically hands	Disposable gloves	Disposable gloves, Chemical-resistant outer & inner gloves		Chemical-resistant outer gloves over encapsulating suit
Respiratory		Air purifying respirator (APR) • Full-mask for unknown hazards & zoonoses • Half-mask for non-zoonotic	Self-contained breathing apparatus (SCBA)	
Eyes		See above	SCBA	
Footwear	Boots or shoes appropriate to perform duties		Chemical-resistant steel toe boots	Chemical-resistant steel toe boots over encapsulating suit

Known hazard
 No risk of skin contamination
 No risk of inhalation
 No risk of hazardous material contact

Unknown hazard
 Skin contamination imminent
 Respiratory exposure imminent
 Eye exposure imminent

Infection Control Preparation

- 1 Response to a call
- 2 On the scene
- 3 Transport infection control
- 4 After the call
- 5 Documentation
- 6 Clean up

Infection Control Preparation

1 Response to a call

- Use pre arrival instruction from CCC to prepare PPE

Common Chief Concern and PPE

Chief Concern	Gloves	Mask	Eyewear	Gown
Fever	Yes	Yes		
Rash	Yes	Yes		
Seizure	Yes	Yes		
Coughing	Yes	Yes	Yes	
Bleeding wound	Yes	Yes (if spurting)	Yes (if spurting)	Yes (if spurting)
Neck stiffness	Yes	Yes		
Vomiting	yes	yes	yes	

Infection Control Preparation

2 On the scene

- During Procedure
- Disposal of waste

During Procedure

- Discover the sign of disease during patients assessment for example ; rash , coughing , salivation , bleeding , fever , etc.
- Then take appropriate PPE and standard precaution for the procedures

Common Sign/Symptom and PPE

Chief Concern	Gloves	Mask	Eyewear	Gown
Fever	Yes	Yes		
Rash	Yes	Yes		
Seizure	Yes	Yes		
Coughing	Yes	Yes	Yes	
Bleeding wound	Yes	Yes (if spurting)	Yes (if spurting)	Yes (if spurting)
Neck stiffness	Yes	Yes		
Vomiting	yes	yes	yes	

Common Procedure and PPE

Procedure	Gloves	Mask	Eyewear	Gown
Taking pulse rate	Yes			
Measuring blood pressure	Yes			
Control bleeding (Minimal visible blood)	Yes			
Giving an injection	Yes			
Insert oropharyngeal or Nasopharyngeal airway	Yes	Yes	Yes	
Suctioning	Yes	Yes	Yes	
Intubation	Yes	Yes	Yes	
Arterial bleeding control	Yes	Yes	Yes	Yes
Assisting childbirth	Yes	Yes	Yes	Yes
Disinfecting equipments	yes	yes	Yes	yes

Appropriate Disposal the waste

Item	Regular waste (white bag)	Biohazard waste (red bag)	Sharp container (plastic box)
Airway equipment	yes		
Tissues		Yes	
Nasal cannula	Yes		
Oxygen mask	Yes		
Bag-valve mask	Yes		
Plastic wrap	Yes		
Glove	Yes (if no blood)		
Paper gown	Yes		
Filled emesis basin		Yes	
Bloody dressing		Yes	
Vaginal pad		Yes	
Absorbent pads		Yes	
Soiled adult undergarment		Yes	
IV needles			Yes
Injection needles			Yes
Blood filled glass tube			Yes

Infection Control Preparation

3 Transport infection control

- Use appropriate Standard precaution and PPE for the transported patients
- Optimized vehicle's ventilation for increase volume of air exchange during transport

PATIENT ISOLATION GUIDE FOR EMS TRANSPORT

Actions to Take	Contact Precautions	Droplet Precautions	Airborne Precautions
All persons Entering Room <i>(healthcare workers and parents/visitors)</i>	Hand Hygiene Gown Gloves	Hand Hygiene Mask	Hand Hygiene N95 respirator
Patient <i>In preparation for transport and during transport</i>	CLEAN patient gown Clean sheet <i>(not the sheet off the bed)</i>	CLEAN patient gown Clean sheet <i>(not the sheet off the bed)</i> Mask <i>(cover patient's nose/mouth with sheet if unable to wear a mask; can be removed in the ambulance)</i>	CLEAN patient gown Clean sheet <i>(not the sheet off the bed)</i> Mask <i>(procedural mask, not N95, or cover patient's nose/mouth with sheet if unable to wear a mask; can be removed in the ambulance)</i>
Healthcare Worker <i>During transport</i>	Hand Hygiene Use Gloves for patient contact	Hand Hygiene Wear Mask if patient unmasked	Hand Hygiene Wear appropriate mask or respirator if patient unmasked
Family	Ask to wash or gel hands; no need to wear any equipment		
All persons Entering Room at Destination <i>(healthcare workers and parents/visitors)</i>	Hand Hygiene Gown Gloves	Hand Hygiene Mask	Hand Hygiene N95 respirator

- Contact Isolation for *C.difficile* or *Norovirus* = Infection Prevention and Control staff will assist with directions
- Droplet Isolation for *Pertussis* = Infection Prevention and Control staff will assist with directions
- Airborne Isolation and Airborne/Contact Isolation = Infection Prevention and Control staff will assist with directions
- Call Infection Prevention and Control with any questions.

Special situation during transport

1 Resistant Infection Disease

- Multidrug-resistant organism
- Transmission through direct person-to-person
- always use standard infection procedure (Body substance isolation)

2 Pandemic Precaution

- For example Avian flu , SAR , Influenza , etc .
- Require transport to health care facility (Depended local protocol)

PPE for Influenza patients transport

Item	Influenza -Like illness <u>with</u> Patient Screening	Suspected Influenza <u>without</u> Patient Screening
PPE for the Patient	1 Symptomatic : Place a surgical mask to all patients (if tolerated) with container of droplet expel during cough 2 Asymptomatic : Cover the patients mouth and nose by tissue or mask when coughing	Consider use of surgical mask during transport (if pandemic Influenza)
PPE for EMTs	EMTs should use respirators mask (N-95 or better) use surgical mask if not available	EMTs should use respirator mask ZN-95 or better) use surgical mask if not available

Infection Control Preparation

4 After the call

- Remove any contaminated clothes and Place to proper bin for laundry
- wash the hand
- put on a clean change of clothes
- Wash the hand

Infection Control Preparation

5 Documentation

- A critical part of EMTs
- Record and report the patients condition (chief concern , sign and symptom) , the cared procedure , number and name of caring EMTs

Infection Prevention & Control **Transport Tool**

Patient Name *(please print)*: _____ Date: _____

ISOLATION PRECAUTIONS

- | | |
|---|---|
| <input type="checkbox"/> Contact (gown/glove) | <input type="checkbox"/> Airborne (N95 Mask) |
| <input type="checkbox"/> Droplet (Procedure mask) | <input type="checkbox"/> No Isolation Precautions |
-

Infection Prevention & Control **Transport Tool**

Patient Name *(please print)*: _____ Date: _____

ISOLATION PRECAUTIONS

- | | |
|---|---|
| <input type="checkbox"/> Contact (gown/glove) | <input type="checkbox"/> Airborne (N95 Mask) |
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Infection Prevention & Control **Transport Tool**

Patient Name *(please print)*: _____ Date: _____

ISOLATION PRECAUTIONS

- | | |
|---|---|
| <input type="checkbox"/> Contact (gown/glove) | <input type="checkbox"/> Airborne (N95 Mask) |
| <input type="checkbox"/> Droplet (Procedure mask) | <input type="checkbox"/> No Isolation Precautions |

Infection Control Preparation

6 Clean up

- Emergency Equipment Cleanup
- Cleaning areas
- Cleaning the ambulance

Equipments cleanup

- Depended on intended use of equipments
- Categorize as a Low , Intermediate , high risk for decontamination
 - 1) Low level : Running water disinfection
 - 2) Intermediate level : Bleach-and -water solution
 - 3) High level : Sterilization by Autoclave

Decontamination Equipments

Item	Low	Intermediate	High
Stretcher		/	
Linen	/	/	
Surface	/		
Benches	/		
Stethoscope		/	
Blood pressure cuff		/	
Splints		/	
Cervical collars		/	
Back boards		/	
Intubation Equipments			/

Cleaning Area

All ED and EMS area are the ' Special room ' that dangerous to contamination (both infection or Chemical)

Area decontamination item -

- Well light and ventilated
- Regular decontaminated portable equipments
- Regular disinfection of floor , bedpans , backboards , sinks , bowl , bin , etc.

Abulance cleanupm

After remove contaminated equipments and waste , clean the vehicle

The rule for cleaning an ambulance are the same as cleaning equipments

- 1) No blood or body fluid
 - Cleaning by hospital disinfectant and dry up
- 2) Blood or other Biohazard visible
 - Soak up by absorbant towel , and proper disposed
 - Scrub the surface by soap and water and follow by decontaminate with disinfectants such as bleach-water solution
 - Air out the vehicle until dried

CHECKLIST FOR THE CLEANING AND DISINFECTION OF AN AMBULANCE

Cleaning Following Each Patient Transport	
Completed	Action
<input type="checkbox"/>	Place potential infected medical waste in a clearly marked biohazard waste receptacle or bag per OSHA standards.
<input type="checkbox"/>	Carefully dispose of sharps into a sharps container.
<input type="checkbox"/>	Clean and disinfect all equipment used during the patient encounter following your agency's policies (<i>See Appendix B – Cleaning Standards for Ambulance Equipment</i>).
<input type="checkbox"/>	Clean and disinfect the cab and patient compartment, as required.
<input type="checkbox"/>	Restock vehicle as required.
<input type="checkbox"/>	If the vehicle is heavily contaminated, it should be taken out of service and cleaned following your agency's policies.
Routine Scheduled Cleaning	
Completed	Action – Patient Compartment
<input type="checkbox"/>	Remove all equipment and sweep out the compartment; clean and disinfect.
<input type="checkbox"/>	Remove stretchers; clean and disinfect all components including mattress and belts.
<input type="checkbox"/>	Remove wall suction; clean and disinfect.
<input type="checkbox"/>	Remove the contents of cabinets and shelves; clean and disinfect all surfaces.
<input type="checkbox"/>	Clean, disinfect, and dry all hard surface items before returning them to the cabinet or shelf; inspect for damage and expiration dates; repair/replace as needed.
<input type="checkbox"/>	Sweep, vacuum, clean, and disinfect floor.
<input type="checkbox"/>	Clean and disinfect all chairs, bench seats, and seat belts.
<input type="checkbox"/>	Clean and disinfect all interior surfaces, including ceiling and walls.
<input type="checkbox"/>	Empty, clean, and disinfect waste containers.
<input type="checkbox"/>	Clean interior windows.
Completed	Action – Driver's Compartment
<input type="checkbox"/>	Remove all equipment from the front of the vehicle.
<input type="checkbox"/>	Clean and vacuum floor.
<input type="checkbox"/>	Clean and disinfect all interior surfaces, including walls, doors, radio equipment, windows, and the dashboard.

CLEANING STANDARDS FOR AMBULANCE EQUIPMENT

According to OSHA standards, every EMS agency is required to have an exposure control plan for their EMS providers. This plan must clearly state how the EMS vehicle and each piece of equipment is to be cleaned, including the brand name of the cleaning products to be used, and how often it is to be cleaned (McCallion, 2012).

Vehicle Equipment – Patient Contact			
Equipment	Standard	Cleaning Frequency	Additional Considerations
Stretchers	All parts should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	After every patient use	
Spinal Boards/ Head Blocks	All parts should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	After every patient use	
Transport Chair and Other Manual Transfer Equipment	All parts should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	After every patient use	
All Reusable Medical Equipment (e.g., cardiac monitor, defibrillator, resuscitation equipment, etc.)	All parts should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	After every patient use	
Stretcher Mattresses	Should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	After every patient use	
Pillows	Should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	After every patient use	
Linens	Should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	After every patient use	
Passenger Seat - Upholstered	All parts, including seatbelts and the underneath, should be visibly clean with no blood, body substances, dust, dirt, stains, or spillages	After every use	Replace seatbelts if heavily contaminated with blood or body fluids Torn or damaged seat covers should be replaced Vacuum and/or shampoo if necessary

Vehicle Equipment – Non-Patient Contact

Equipment	Standard	Cleaning Frequency	Additional Considerations
Response Kits and Bags	All surfaces, including the underside, should be visibly clean with no blood, body substances, dust or dirt	<p>Bags regularly taken into patient care areas must be wiped clean after every use, with special attention given if contaminated with blood or body fluid</p> <p>Heavily used bags should be laundered weekly or monthly</p> <p>Lesser used bags should be cleaned every other month</p>	<p>All bags placed on ambulances should be made of wipeable material</p> <p>Any bag heavily contaminated with blood or body fluids should be disposed</p>
Hand Sets <i>(e.g., radios and mobile phones)</i>	All parts should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	Daily and when contaminated	
Sharps Container	The external surfaces should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	Weekly or when contaminated	

Vehicle – Internal and External Fixed Features

Equipment	Standard	Cleaning Frequency	Additional Considerations
Overall Appearance - Exterior	The vehicle exterior should be clean at all times. Any presence of blood or body substances is unacceptable	Routine cleaning should be performed weekly, or as necessary due to weather conditions	If operational pressures prevent thorough cleaning of the exterior, the minimum cleaning standards to comply with health and safety laws should be met (<i>i.e. windows, lights, reflectors, mirrors, and license plates</i>)
Overall Appearance - Interior	The area should be tidy, ordered, and uncluttered, with well-maintained furniture appropriate for the area being used Any presence of blood or body substances is unacceptable	Clean between patients, daily, and deep-clean weekly	Clean all surfaces in contact with the patient and that may have been contaminated Crews should routinely clean the vehicle floor Remove all detachable equipment and consumables
Ceiling	All surfaces should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	Weekly	If contaminated, clean as soon as possible
Cabinets, Drawers, and Shelves	All parts, including the interior, should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	Weekly	If contaminated, clean as soon as possible
Product Dispensers	All parts of the dispenser, including the underside, should be visibly clean with no blood, body substances, dust, dirt, debris, or spillages	Daily or as soon as possible, if contaminated	Liquid dispenser nozzles should be free of product build-up, and the surrounding areas should be free from splashes of the product
Electrical Switches, Sockets, and Thermostats	All surfaces, including the undersides, should be visibly clean with no blood, body substances, dust, dirt, or adhesive tape	Weekly or as soon as possible, if contaminated	
Equipment Brackets	All parts of the bracket, including the undersides, should be visibly clean with no blood, body substances, dust, or dirt	Weekly or as soon as possible, if contaminated	

Fire Extinguisher	All surfaces, including the underside, should be visibly clean with no blood, body substances, dust or dirt	Weekly or as soon as possible, if contaminated	
Floor	The entire floor, including all edges, corners, and main floor spaces, should be visibly clean with no blood, body substances, dust, dirt, debris, stains or spillages	Daily and when heavily soiled or contaminated with blood and/or body fluids.	
Floor Mounted Stretcher Locking Device/Chair Mounting	All surfaces, including the undersides, should be visibly clean with no blood, body substances, dust, dirt, or debris	Weekly or as soon as possible, if contaminated	
Hand Rails	All parts of the rail, including the underside, should be visibly clean with no blood, body substances, dust, dirt, stains, or spillages	Clean rails that have been touched after every patient Clean all rails weekly	
Heating/Ventilation Grills	The external part of the grill should be visibly clean with no blood, body substances, dust, dirt, or debris	Weekly or as soon as possible, if contaminated	
Walls	All wall surface should be visibly clean with no blood, body substances, dust, dirt, adhesive tape, or spillages	Weekly or as soon as possible, if contaminated	
Windows	All interior glazed surfaces should be visibly clean and smear free with no blood, body substances, dust, dirt, debris, or adhesive tape A uniform clean appearance should be maintained	Weekly or as soon as possible, if contaminated	
Work Surfaces	All surfaces should be visibly clean with no blood, body substances, dust, dirt, stains, or spillages	After every patient	
Waste Receptacles	The waste receptacle, including the lid, should be visibly clean and smear free with no blood, body substances, dust, dirt, stains, or spillages	Daily or as soon as possible, if contaminated	

Legal Obligations

1 Safety Officer

2 Reporting Exposure

3 Disease Surveillance and Notification

Hope you be a smart EP

**Thank you for your attention
and**

Hope you develop Thailand EMS