

Infection Control in Evacuation Shelters

How to prevent the spread of Covid-19 in evacuation shelters

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DRI was established to communicate practical disaster prevention measures and the importance of community ties to the world.



How Japan's evacuation shelter environment has changed



**Great Hanshin-Awaji Earthquake
in 1995**

Photo courtesy of the Library, DRI



East Japan Typhoon in 2019

Photo courtesy of the Research Department, DRI

Why the evacuation shelter environment needs to be changed greatly

- **Individuals tested positive for Covid-19 and those at high risk of infection may evacuate to evacuation shelters.**

- Covid-19 cases under home quarantine
- Close contacts
- Returnees from abroad



Individuals
placed under
health
monitoring
by public
health center

They may
evacuate to
shelters with
family
members.

It is important to prepare to accommodate individuals placed under health monitoring in dedicated evacuation shelters or residential treatment facilities in times of disaster.

- **Individuals unaware of having been infected with Covid-19 may evacuate to evacuation shelters.**

They may:

- Develop symptoms in the shelter.
- Transmit the virus to other evacuees.
- Cause a Covid-19 cluster in the shelter.



Evacuation shelters must be designed to prevent the spread of infection.

Development of infection control manual for evacuation shelters

● National government

- Issue notices and information
- Encourage separate evacuation
- Create manuals and videos for infection control

● Expert organizations

- Society for Disaster Shelter and Refuge Life
- JVOAD
- Japan Medical Association
- Research institutions and researchers specialized in disaster prevention
- Others

● Prefectural governments

Develop infection control guidelines

● Municipal governments

Develop infection control manuals

- Conduct evacuation drills for municipal staff

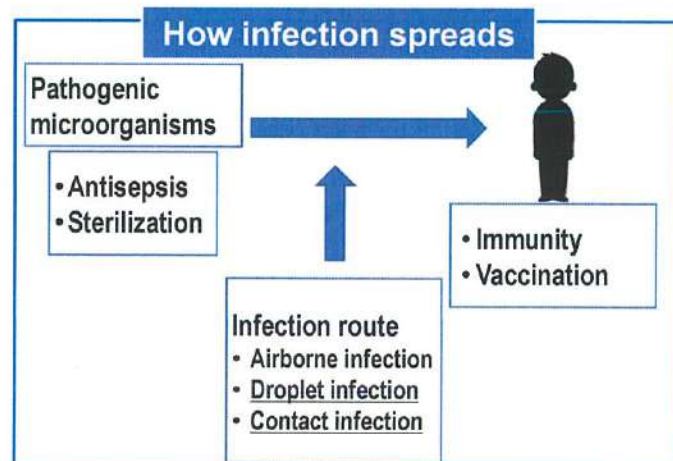
● How to make infection control measures known to the public

- Offer information on the website
- Offer information by video
- Conduct evacuation drills



A handbook and a simplified version of the preparedness checklist for preventing infection at the opening of evacuation centers", DRI Special Issue No1

Don't bring viruses, don't get infected, don't infect others.



● Don't bring viruses:

Prevent viruses from entering evacuation shelter by:

- Making clear where to evacuate in advance
- Conducting "triage" at the reception of evacuation shelter

● Don't get infected, don't infect others:

Prevent infection in evacuation shelter by:

- Ensuring sanitary procedures are practiced in the shelter
- Dividing the shelter space into separate zones
- Checking the health condition of evacuees

Evacuation shelter environment with less risk of infection

Protection of lives > Risk of infection

● Separate evacuation destinations in advance

- Existing residential treatment facilities
- Dedicated shelters
- Specify individuals who should evacuate to designated facilities.

Order of priority for infection control

● Conduct “triage” at the reception of evacuation shelter

- Identify suspected Covid-19 cases.
- Divide the shelter space into separate zones.



Disaster drill conducted jointly by Hyogo Prefecture and Hanshin area on September 20, 2020: “Establishment and management of an evacuation shelter” (Photo by Seiko Takaoka)

● Prevent droplet and contact infection in evacuation shelter

- Avoid closed spaces, crowded places and close-contact settings.
- Decide the order of priority to divide the shelter space into separate zones.
- Wash and sanitize hands.
- Provide sanitizer.
- Ventilate regularly.
- Provide makeshift beds.
- Install partitions.
- Ensure shelter operators follow the sanitary procedures.

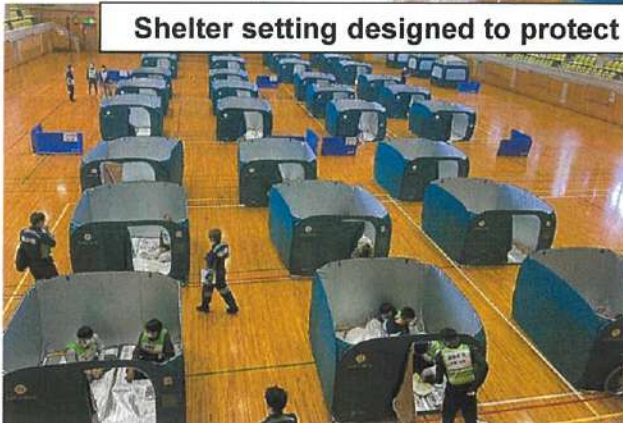
Evacuation shelter settings with infection control measures that suit the situation

Shelter setting designed to protect lives in an emergency evacuation situation



Disaster drill conducted jointly by Osaka Prefecture and Sakai City on July 22, 2020: “Management of an evacuation shelter during the Covid-19 pandemic” (Photo by Seiko Takaoka)

Shelter setting designed to protect lives in a long-term evacuation situation



General disaster drill conducted by Okayama Prefecture on Nov. 5, 2020: “Long-term management of an evacuation shelter” (Photo by Seiko Takaoka)



Disaster drill conducted by Kainan City, Wakayama Prefecture on Nov. 15, 2020: “Management of an evacuation shelter with Covid-19 control measures for long-term evacuation” (Photo by Seiko Takaoka)

Task 1: Coordinate in advance and cooperate with relevant organizations

● Public Health Centers

- Share information on individuals placed under health monitoring (e.g. individuals under home quarantine).
- Offer specialized guidance for the management of evacuation shelters.
- After evacuation shelters are opened:
Deal with suspected Covid-19 cases.
Conduct inspection tours of shelters.

● Local medical institutions

- Offer specialized guidance for the management of evacuation shelters.
- After evacuation shelters are opened:
Deal with suspected Covid-19 cases.
Provide medical treatment at first-aid station.



Disaster drill conducted by Kainan City, Wakayama Prefecture on Nov. 15, 2020: "Management of an evacuation shelter with Covid-19 control measures for long-term evacuation" (Photo by Seiko Takaoka)



Disaster drill conducted jointly by Osaka Prefecture and Sakai City on July 22, 2020: "Management of an evacuation shelter during the Covid-19 pandemic" (Photo by Seiko Takaoka)

Task 2: Ensure evacuees are aware of and comply with new rules

● How to make rules known to evacuees

- Use diverse media.

● Prevention of contact infection

- Wash and sanitize hands.
- Provide hand sanitizer at key locations.
- Regularly sanitize surfaces touched by many people.
- Ensure appropriate waste disposal.

● Prevention of droplet infection

- Wear a face mask.
- Install partitions.
- Ventilate regularly.

● Self-health management

- Measure body temperature and check health condition on a daily basis.

● Consideration for human rights



Wear a
face mask.



Wash
hands.



Sanitize
hands.

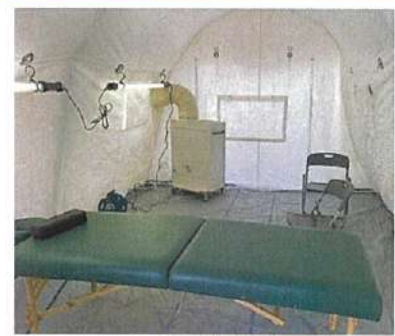
Cooperation of
evacuees is
indispensable.

Task 3: Design first-aid station in evacuation shelter

- When to open

- Where to open

- How to manage



Outdoor first-aid station
(Negative pressure tent)

Disaster drill conducted by Kainan City, Wakayama Prefecture on Nov. 15, 2020: "Management of an evacuation shelter with Covid-19 control measures for long-term evacuation" (Photo by Seiko Takaoka)



First-aid station in the shelter

Disaster drill conducted jointly by Hyogo Prefecture and Hanshin area on September 20, 2020: "Establishment and management of an evacuation shelter" (Photo by Seiko Takaoka)

Decision-making criteria for the management of an evacuation shelter

Each municipal government should have its own decision-making criteria.

- ✓ **First priority**

Protect people's lives and prevent health hazards.

- ✓ **Second priority**

Reduce infection risk and prevent outbreaks.

- ✓ **Third priority**

Minimize clusters of infection.

These priorities require:

Manpower,
supplies,
funds



Prior
coordination



Wisdom



Ingenuity



**Cross-organizational and cross-functional
cooperation and coordination in management of
evacuation shelter**