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COVID-19 Prevention and Control Manuals & Guidelines: Nursing

Knowledge

(Trial)

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Preface

Since December 2019, a cluster of unknown pneumonia cases has occurred in Wuhan, and as the epidemic spread, other provinces and cities in China and other countries in the world have also seen cases. A novel coronavirus was found to cause the outbreak, which was named 2019-nCoV by the World Health Organization and was named COVID-19, NCP for short by members of COVID-19 Joint Outbreak Prevention and Control Mechanism Group set up by the State Council.

The CPC Central Committee and the State Council attach great importance to the epidemic. Xi Jinping, general secretary of the Communist Party of China Central Committee, has issued important instructions on many occasions, stressing the need to give top priority to the safety of people's lives and health, organize all forces to carry out prevention and control, and take effective measures to resolutely block the spread of the epidemic. To implement the spirit of important instructions of the Central Party Committee, to popularize knowledge of prevention and control, and to improve self-awareness and health management level of nurses, we have currently written this COVID -19 Prevention and Control manuals & guides - nursing version (trial), according to the national, provincial, municipal and hospital issued orders.

This manual is aimed at clinical nurses.



1. What is Standard Prevention?

Standard Prevention refers to a group of preventive measures for all hospital patients and staffs. It mainly includes (a) hand hygiene; (b) isolation, (c) environmental cleaning and disinfection; (d) cleaning, disinfection and sterilization of medical equipment; (e) safe injection and (f) other measures. Standard Prevention is based on the principle that a patient's blood, body fluids, secretions (excluding sweat), incomplete skin and mucous membranes may contain infectious agents.

2. How to wash hands properly?

- (1) Rinse your hands with running water.
- (2) Use hand sanitizer (or soap) to clean your hands.
- (3) Wash your hands carefully for at least 20 seconds.

TIPS: 7-step hand-washing method (internal, external, cross, bow, thumb, fingertips, wrist)

Step 1, wash your palms. Rub palms together.

Step 2, wash the back of hands. Rub the backs of both hands.

Step 3: wash the fingers. Interlace fingers and rub hands together.

Step 4: wash the back of fingers. Interlock fingers and rub the backs of fingers of both hands.

Step 5: wash the thumbs. Rub thumb in a rotating manner followed by the area between index finger and thumb for both hands.

Step 6: wash the fingertips. Rub fingertips on palm for both hand.

Step 7: wash the wrists. Rub both wrists in a rotating manner.

- (4) Rinse hands with running water.

(5) Use water to clean the faucet, then turn off the faucet (if it is an induction faucet, you do not have to do this step).

- (6) Dry your hands with a clean towel or tissue, or with a hand-dryer.

3. Range of using Quick-Drying Hand Disinfectant?

Quick-Drying Hand Disinfectant should be used all over the hospital during the staff's daily work when no obvious pollutants are found. Preview Triage, Fever Clinic, Isolation Observation Unit (room), Isolation Unit (room) and Intensive Care Unit (room) must be equipped with Quick-Drying Hand Disinfectant.



4. Range of wearing latex gloves?

Latex gloves should be used in the areas of pre-visit triage, fever clinic, isolation observation unit (room), isolation unit (room) and isolation intensive care unit (room), but they should be properly worn and removed, and gloves should be replaced in time. It is not allowed to wear gloves to leave relevant medical area. Wearing gloves is no substitute for hand hygiene.

5. Range of wearing a mask?

(1) Disposable medical mask: to be worn by medical staff during daily work and during non-epidemic period.

(2) Surgical mask: to be used in the treatment area of the hospital, and to be worn correctly during the outbreak of novel coronavirus,

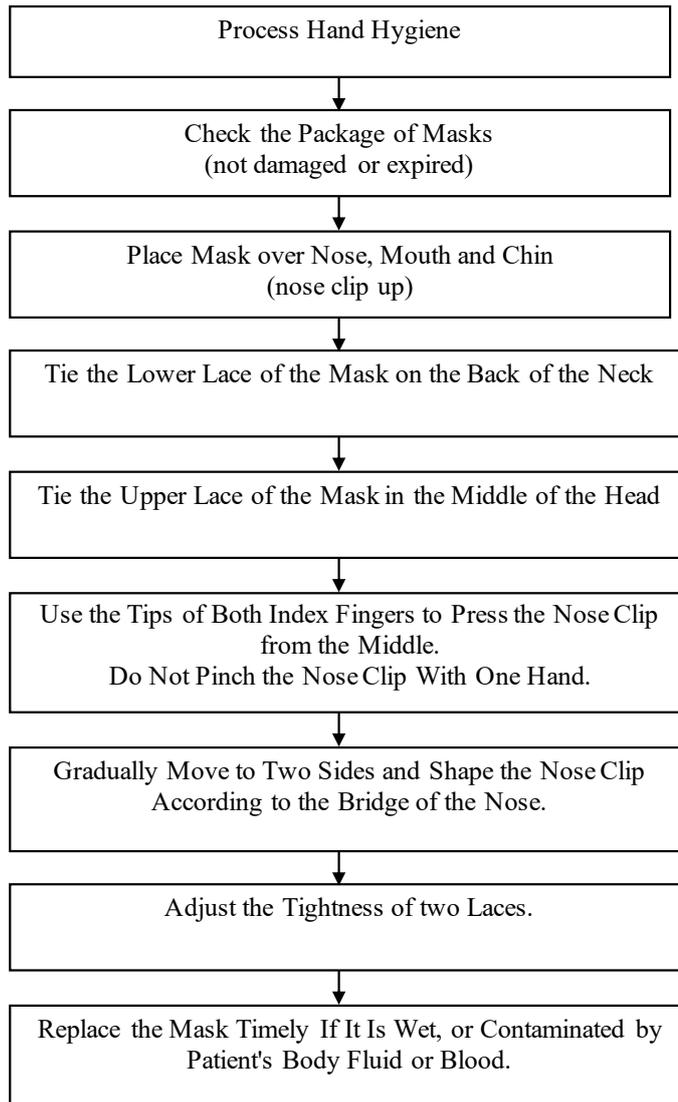
(3) Medical protective mask (such as N95): in principle, it should be used in areas like fever clinic, isolation observation unit (room), isolation unit (room) and isolation intensive care unit (room), as well as when collecting respiratory tract specimens, endotracheal intubation, tracheotomy, non-invasive ventilation, sputum aspiration and other operations that may produce aerosol.

Generally, the mask should be replaced within 4 hours, and replaced at any time when polluted or humid. In other areas of the medical activities, in principle, do not use masks.

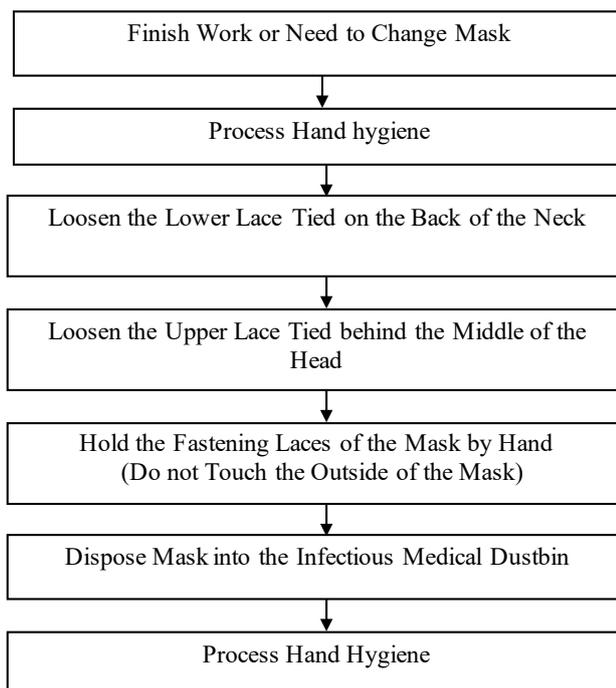
6. What is the process of wearing and removing the mask?



Mask wearing process:



Mask removal process:





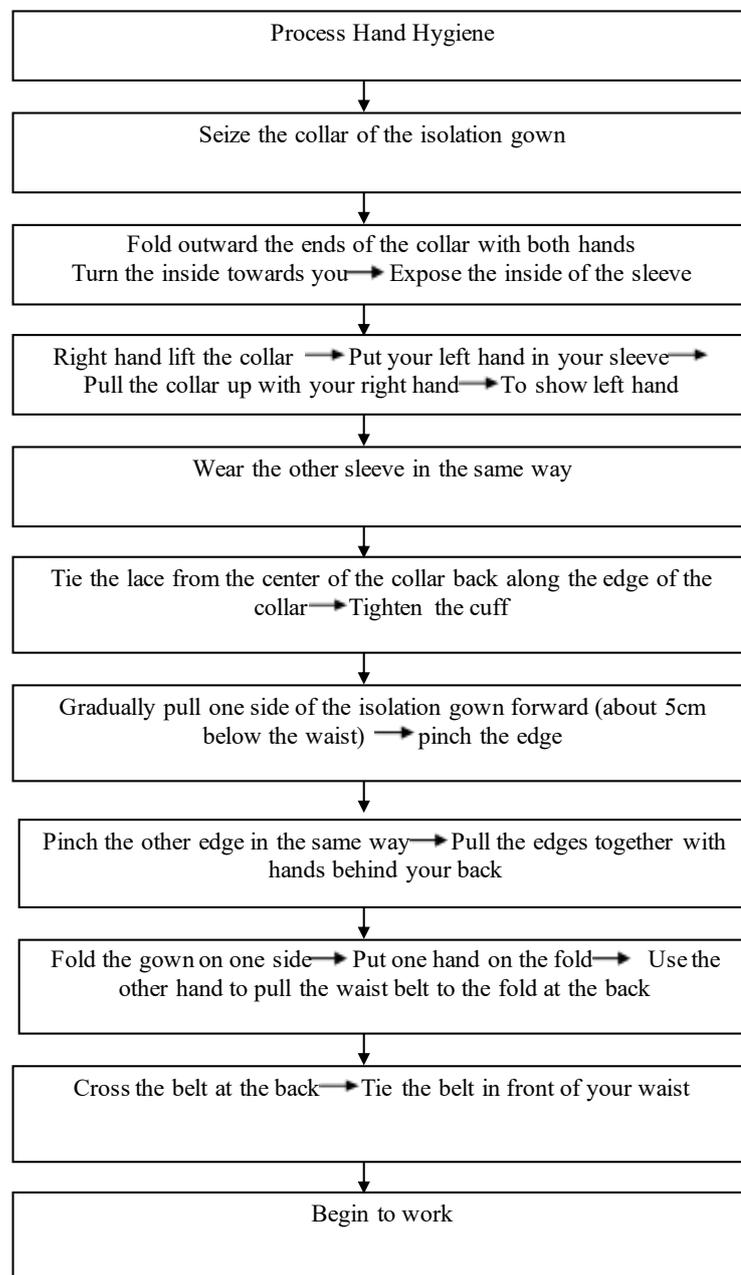
7. Range of using isolation gown?

Ordinary isolation gown is used in areas of pre-visit triage, fever clinic.

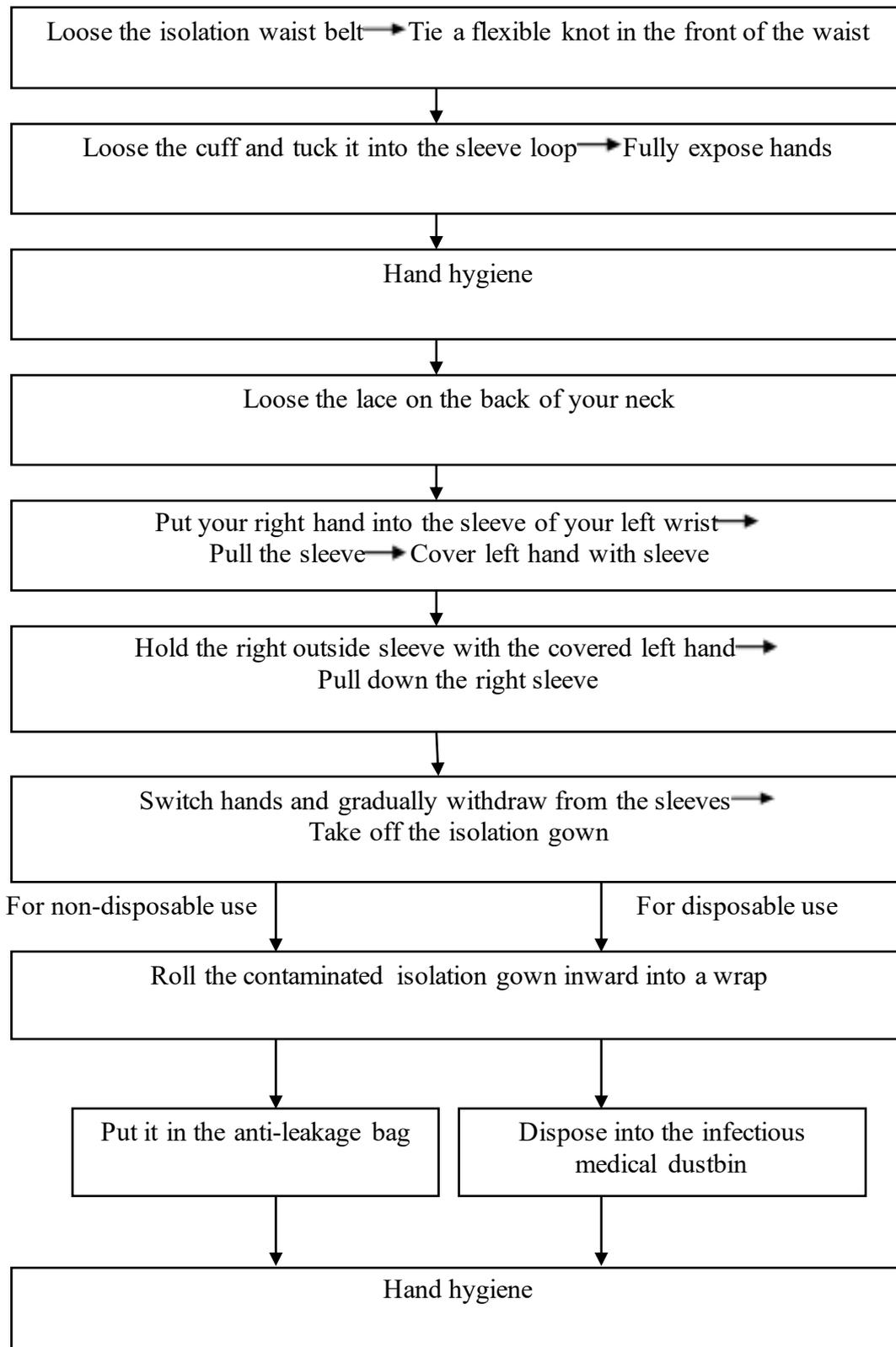
Anti-seepage disposable isolation gown is used in isolation observation unit (room), isolation unit (room) and isolation intensive care unit (room). Other units or regions shall use the anti-seepage gown according to whether they have contact with patients. Disposable isolation gown should not be reused. If you use reusable isolation gown, disinfect after using it according to the standard. Do not leave above area with isolation gown.

8. What is the process of wearing and removing the isolation gown?

Process of wearing isolation gown:



Process of removing isolation gown:

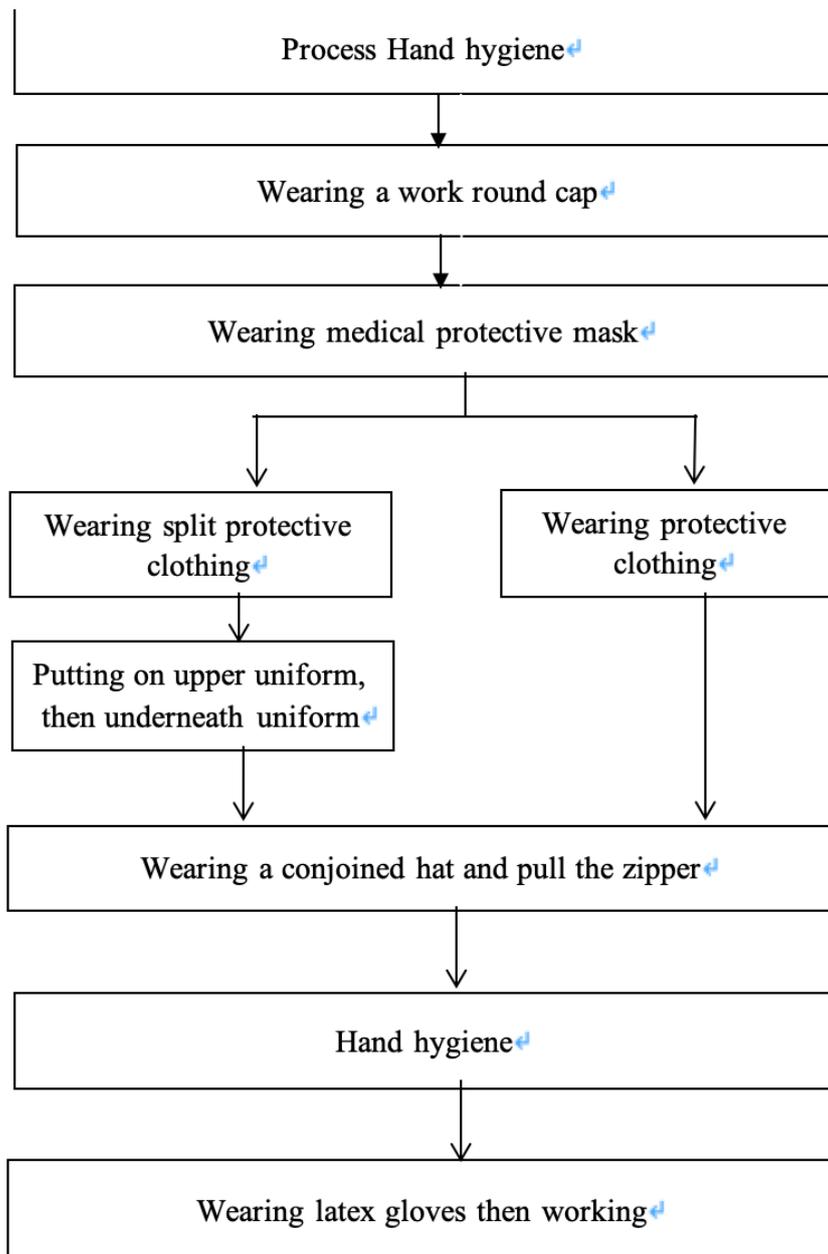


9. Range of using protective clothing?

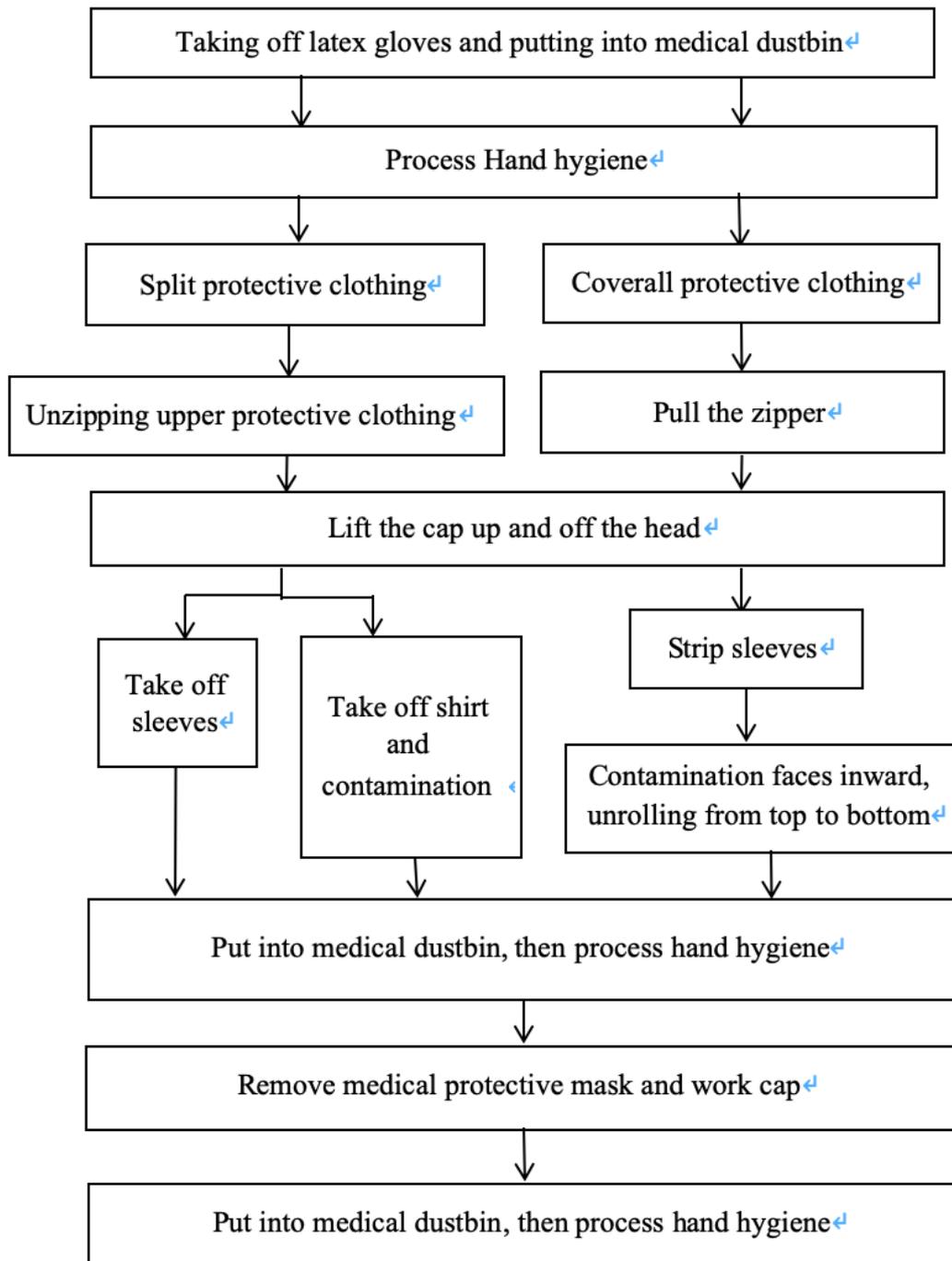
Isolation and observation unit (room), Isolation unit (room) and isolation intensive care unit (room) use. Protective clothing must not be reused. It is forbidden to leave medical areas with medical protective masks and protective clothing. Protective clothing should not be used in other areas (including medical operation) in principle.

10.What is the process of wearing and removing protective clothing?

Wearing protective clothing process:



Removing protective clothing process:



11. Range of using goggles or protective screens?

They should be used in isolation unit (room), Areas such as isolation unit (room) and isolation intensive care unit (room), as well as when collecting respiratory tract specimens, endotracheal intubation, tracheotomy, non-invasive ventilation, sputum aspiration and other operations that may produce aerosol. It is not allowed to wear gloves to leave the medical area. If the goggles are reusable, they should be disinfected before reuse. In emergencies when disposable goggles are in short supply, they can be reused



after strict disinfection. Goggles should not be used in other areas (including medical operation) in principle.

12. What is the principle of using protective equipment during epidemic?

(1)Fever clinic: Wear the uniform, isolation gown, medical hat, medical protective mask (N95); Wear goggles or protective screens, latex gloves, cloth isolation gown and disposable isolation gown when taking airway samples.

(2)Emergency room: Wear the uniform, medical hat, surgical mask. Prepare latex gloves, medical protective mask (N95), isolation gown, goggles or protective screen.

(3)Preview triage station: Wear the uniform, medical hat, surgical mask, isolation gown.

13. What are the protection requirements for preview triage?

Must prepare: uniforms, medical hats, surgical masks; prepare goggles and gloves when fever patients increase significantly.

14. Do the staffs in preview triage MUST wear surgical masks when protective equipment is in short?

They can use ordinary masks, keep at least one meter away from the consultant, and in a well-ventilated area. When fever patients increases significantly, the preview triage area can be placed outdoor.

15. What are the protection requirements for fever clinic?

Fever clinic protection requirements: wear the uniform, isolation gown, medical hat, medical protective masks (N95);Wear goggles or protective screens, latex gloves, cloth isolation gown and disposable isolation gown when taking airway samples.

16. Is it needed for someone to help you to wear and remove your protective equipment?

It is better to have someone check it out and remind you when wearing it. There should be a mirror during the removal process so that medical staff can see for themselves whether they are careful to avoid contamination.

17. If there are confirmed patients in negative pressure wards, do nurses outside the buffer room of negative pressure ward need to wear protective clothing?

They don't need, but they can wear when they go into the buffer room.



18. What protective equipment is needed in extra for emergency surgeons when they face suspected or confirmed patients?

Round hats, N95 mask, protective clothing and goggles / protective face screen are needed.

19. What protective equipment should medical staff use when collecting swabs for suspected cases?

Round hats, N95 mask, protective clothing, goggles / protective face screen and latex gloves.

20. What protective equipment should medical staff use when collecting swabs for a planned operation patient?

Medical hat, N95 mask, protective clothing with cloth, goggles / protective screen and latex gloves.

21. How to manage preview triage in outpatient and emergency department?

(1) Preview triage is an effective way for medical institutions to screen the medical staff in outpatient and emergency department, guide medical treatment reasonably, discover the risk of infectious diseases timely, use medical resources and improve work effectively.

(2) For fever patients in the preview triage department, they should wear masks immediately, further improve the simple consultation and physical examination, ask the epidemiological history in detail, and judge the possibility of infection. For those who may suffer from infectious diseases, they should be transferred to fever clinic immediately. For those who have no fever but have obvious symptoms such as respiratory tract and have a high probability of suffering from an infectious disease, they should also further inquire about the epidemiological history and transfer to fever clinic.

(3) Preview triage department and fever clinic should be connected in the medical area effectively. Patients who need to be transferred to fever clinic for further treatment after triage should be accompanied by a special person and follow the designated route. The delineation of the designated route should comply with the principle of the shortest outdoor distance and the least contact with people.

22. How does the fever clinic work?

(1) Outpatient clinics establish relatively independent "fever clinic". The preview triage nurses at the fever clinic are responsible for distributing disposable surgical masks and medical instructions, guiding and promoting basic protective knowledge for fever patients and accompanying person.



(2) The preview triage nurses are responsible for inquiring the fever patients who come to the clinic for a detailed history of contact with influenza and other infectious diseases, conducting epidemiological investigations and physical examinations to make a preliminary register carefully.

(3) For each fever patient, detailed epidemiological data collection and careful examination must be performed first. Make a clinical diagnosis based on comprehensive judgment of epidemiological data, symptoms and signs, laboratory tests and pulmonary imaging tests to avoid missing diagnosis. In case of any difficult and complicated disease which should be consulted and treated in time to avoid delay.

(4) Adhere to the first-responsibility system, once infectious diseases such as bird flu, influenza A, and COVID-19 infection are diagnosed, patients will be admitted to the respiratory department or ICU according to their condition. When necessary, refer to the infectious hospital, and implement protective measures during the referral process strictly. Disinfect items that may be contaminated by the patient as required.

(5) Strictly implement the epidemic reporting system. Once suspicious patients appear, conduct quarantine observation and treatment as soon as possible; report to the Preventive Health Care Department and the Medical Department immediately. At the same time, the Preventive Health Care Department reports to the CDC.

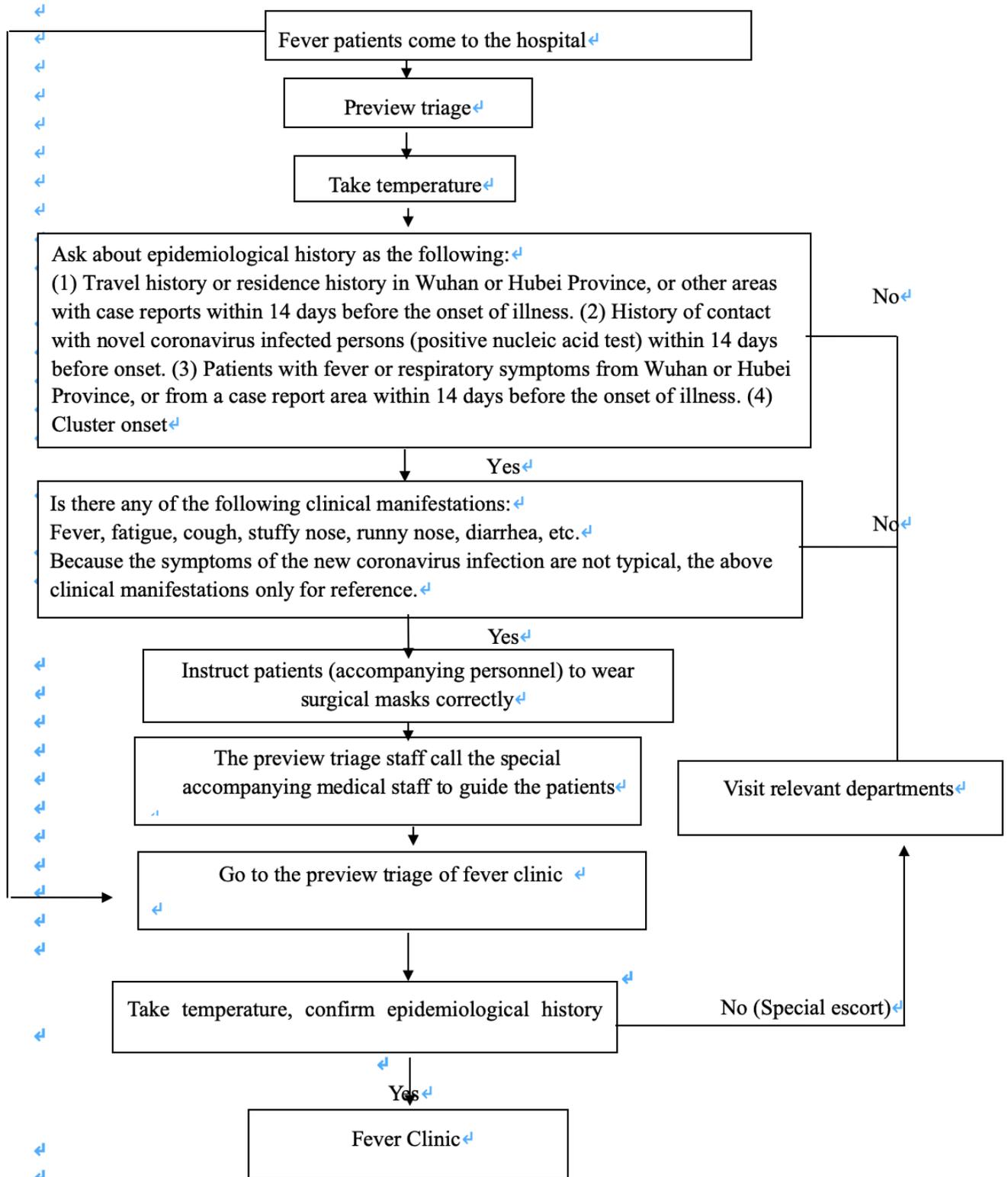
(6) Check the temperature, pulse, breath and blood pressure of patients comprehensively and systematically. If they meet the diagnostic criteria for "fever infectious disease" and diagnostic criteria for suspected patients issued by the health department, they shall be reported to the CDC immediately; also report to the superior agency on time.

(7) The doctor on duty should make a record of daily work, disinfect the clinic with ultraviolet twice a day, and wipe the ground and the surface of articles with 1000ml / L chlorine-containing disinfectant. Keep the fever clinic clean and tidy.

(8) The medical staff must be dressed in strict accordance with the standard prevention system and the protection requirements. The medical staff working in the fever clinic should wear protective clothing, work cap and surgical mask as required. Leave the fever clinic according to the relevant isolation requirements to avoid infection. Hand hygiene.

23. How to preview triage the patients with fever?

Preview triage process for fever patients:



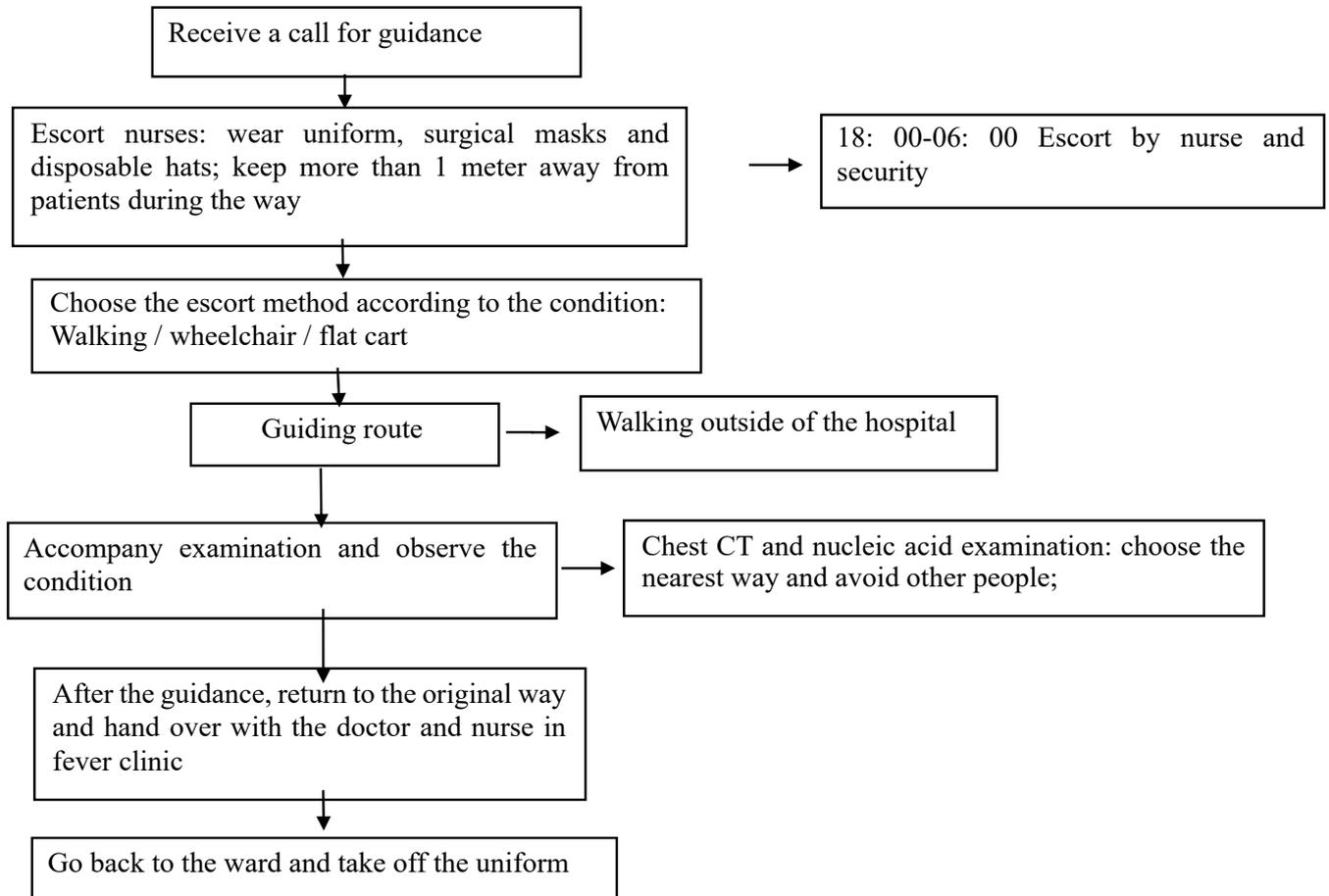
Remarks: After the preview triage of the fever clinic, patients need to go to the corresponding department for consultation. Preview triage staff must call a medical staff to take the patient to the



designated department till the end.

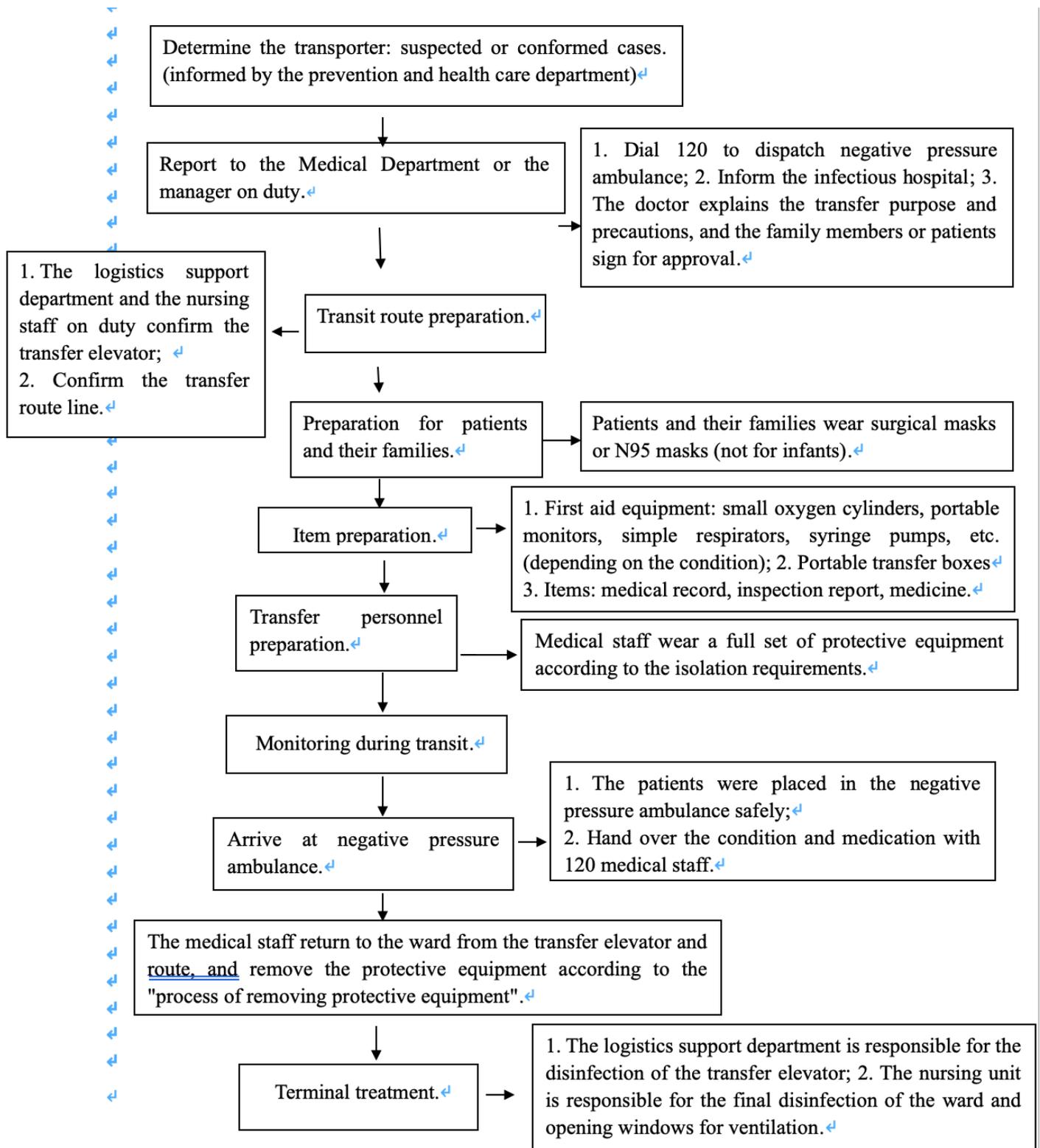
24. How to escort fever patients in hospital?

In-hospital guidance process for fever patients:



25. How to transfer coronavirus pneumonia cases?

The transport process of coronavirus pneumonia cases:



26. How to send a throat swab specimen?

Pharyngeal swab specimen → put it in a special plastic bag, and then add a layer of plastic bag → put it in the refrigerator for preservation → call the professional staff of the prevention and health care



department → when the professional staff comes to collect it, the nurse should send the pharyngeal swab specimen and hand it to the them by herself.

27. How to manage the visitors?

- (1) Visit-time: 14:00-16:00 every afternoon. Please do not visit at other times.
- (2) Only one person per bed is allowed to visit each time, with guest card and mask.
- (3) Visitors and caregivers are healthy and have no epidemiological history. The elderly people, children and fever people are forbidden to visit.
- (4) Shorten the visit- time and encourage relatives to use wechat for condolences.
- (5) Visitors and caregivers stay with patients and minimize unnecessary walking.
- (6) Visitors and caregivers should pay attention to patients and self-protection, hand hygiene and ventilation. In case of cough, fever and other symptoms, report to the doctor and nurse immediately.
- (7) Visitors and caregivers should understand, cooperate in the hospital. Those who don't cooperate should be legally responsible.
- (8) The hospital will strengthen patrol and inspection with the help of nearby police stations.

28. How to carry out training and supervision of workers during the epidemic?

Pay attention to the localized management of the logistics workers (health care assistant, pantry man, cleaner, escort staff, etc.). The head nurse shall train staff one-to-one about the prevention and control knowledge of novel coronavirus, and supervise them. It must be carried out according to the standard to prevent cross infection in the hospital. The nursing department will continuously supervise nursing unit.

29. How to disinfect the ward?

- (1) Strengthen ventilation in the ward, and irradiate ultraviolet rays for 30min if necessary.
Circulating air type air disinfection machine can be used for air disinfection.
- (2) The virus is sensitive to 75% ethanol and heat, and can be inactivated at 56 °C for 30 minutes.
The ground and surface are wiped with 500 mg/L chlorine-containing disinfectant daily. The thermometers should be soaked and disinfected with 1000 mg/L chlorine-containing disinfectant for 30min; Equipment such as blood pressure monitors and stethoscopes should be wiped and disinfected with 75% ethanol. **Note that chlorhexidine is not effective for this virus.**

30. Do we need to disinfect the air in each ward every day during epidemic?



It is not recommended for air disinfection in hospitals. Spray disinfection air is mainly used in the terminal disinfection of wards. Using the disinfectant according to the standard to achieve the action effect. The air disinfection in the wards cannot achieve the air disinfection effect. During epidemic, the most appropriate way is to open windows for ventilation.

31. How to disinfect outpatient and emergency elevator?

The simple solution is to park the elevator on an empty floor, open the door and let the air flow. Also can use 3% hydrogen peroxide or 500mg/L chlorine dioxide for 30 minutes; 5000mg/L peroxyacetic acid disinfectant, for 60 minutes, or spray disinfection at 20ml/m³.

The elevator surface, especially the elevator buttons, should be cleaned with alcohol or 500mg/L chlorine-containing disinfectant. When using 500mg/L chlorine-containing disinfectant, it should be cleaned with water 30 minutes later.

32. Can the air conditioner be used in the hospital?

It depends. Single air conditioner can be used. We need to pay attention to the return air condition when using the central air-conditioning system. The ventilation and air-conditioning system for fever clinic should be separated. Special attention should be paid to ventilation in the emergency department, where the highest risk is located.

33. How to disinfect the fever clinic?

(1) Medical personnel should wear surgical masks when contact with patients closely (distance <1 meter), and wash hands or disinfect hands carefully before and after contacting with patients. For consultation, if the distance > 1 meter, doctors can wear uniform, if distance < 1 meter, doctors should wear isolated clothing. When perform operations which produce aerosols (throat swabs, sputum aspiration, tracheal tubes, etc.), doctors must wear N95 masks, isolated clothing or protective clothing.

(2) Natural ventilation should be maintain in the clinic, air disinfection should be carried out by ultraviolet radiation or circulating air sterilize for 60min every day.

(3) The clinic should be kept clean, wiped twice a day with 1000mg/L chlorine-containing disinfectant, ground should be swept with 1000mg/L chlorine-containing.

(4) The thermometers should be sterilized for single use, then soaked with 1000mg/L chlorine-containing disinfectant for 30min immediately. Before and after using stethoscope or blood pressure monitor, they must be wiped with 75% ethanol. Use a disposable tongue depressor.



(5) Strengthen occupational protection to prevent occupational exposure. The staff should follow the "fever clinic protective dressing procedure". Implement primary protective measures. If necessary, implement secondary or tertiary rank protection.

(6) Medical staff should follow the hand hygiene. In case of contamination of blood or other body fluids, hand washing should be carried out before rapid hand disinfection. Wear latex gloves if necessary, and do not wear gloves for treatment of multiple patients. Wearing gloves is not a substitute for hand hygiene.

34. Does the disposal room of fever clinic need to be labeled with 5 types of clinical medical waste?

Not necessary, infective and injury waste need to. All the waste in fever clinic is infectious waste.

35. How to pack the waste from the fever clinic?

In fever clinic, medical dustbin should be covered, and with a yellow bag in. The bag should be sealed firstly when collecting waste, then added another layer of yellow bag outside before taking out of the contaminated area, sealing again.

36. How to dispose the excreta of patients in the fever clinic and isolation ward?

Reminder: all people should cover the toilet seat before flushing to reduce the aerosol generated. This is very important. It is recommended to post a reminder on the toilet. If the hospital sewage treatment system is in operation, use the toilet directly. If there is no sewage treatment system or cannot be used normally, the excreta should be disinfected. Then pour into the toilet after using bleach powder or chlorine-containing disinfectant, or use double-layer bags as medical waste.

37. How to dispose the room after the suspected patients used?

(1) Room air: use ultraviolet light or air circulation disinfection machine to disinfect >30 minutes, then open the window for ventilation.

(2) Ground and surface: wipe with 1000mg/L chlorine-containing disinfectant, then use water to wipe 30 minutes later.

(3) Replace the high performance filter after using the negative pressure ward.

38. How to clean and disinfect the sheet of suspected or confirmed patients?

(1) Use ultraviolet light or air circulation disinfection machine to disinfect the wards >30 minutes, then



opening the window ventilated.

(2) The staff prepares implements and then hand hygiene.

(3) Wear work cap, surgical mask, medical protective clothing and latex gloves.

(4) Take the towel and soak with 1000mg/L chlorine-containing disinfectant; Wipe the respirator and buttons, folding towel and equipment belt; Replace the towel to wipe infusion rack; Replace towel to wipe bedside table (drawer and inter layer, table wall, desktop, handle and outer wall); Replace towel to wipe the whole bed; Wipe with water 30 minutes later.

(5) Soak the towel with 1000mg/L chlorine-containing disinfectant for 30min, then keep clean, dry and store it.

(6) At last, remove the gloves, surgical mask, round hat and medical protective clothing in order. Put them into a medical dustbin. Hand hygiene.

39. How to dispose the sheets used by the isolated patients?

The clothes and bed covers of isolated patients are directly packed in orange bags for washing. The laundry should be washed with 70°C water for 30 minutes or disinfected. After the patient is discharged from the hospital, the cotton tire and mattress should be sterilized by confidential close disinfection, or ultraviolet lamp irradiation disinfection, or pressure steam sterilization.

40. What are the medical wastes of COVID-19 patients and how to dispose them?

All waste generated from fever clinics of suspected or confirmed patient is belonged to, including all the things that the patients have been in contact with or used. High risk wastes such as culture medium, specimen and preservation solution of pathogen produced in clinical, teaching, research and other medical activities related to COVID-19 infection.

Add a yellow bag with a red "highly infectious waste" label before disposing.

41. Is it necessary to disinfect the waste from COVID-19 patients?

(1) All waste generated from confirmed patients should be disposed as medical waste;

(2) Put the medical waste into a double-layer medical waste bag, seal the bag with cable ties.

42. What are the special requirements for the waste from the people who are isolated collectively at specified areas?

Close contacts refer to people who live, study, work or have close contact with the case; medical staff,



family members or other people who have similar close contact with the case without taking effective precautions when treating, nursing or visiting the case; other patients and caregivers in the same ward with the case; people who take the same vehicle and have close contact with the case; and people who are evaluated as the qualified by the field investigators.

The medical waste from the medical staff, such as gloves, isolation clothing, etc., should be put into yellow bag and brought back to the fixed location;

If there are confirmed cases, the living room is treated as the epidemic area for disinfection, and the waste is taken back as "COVID-19" waste by the disinfection staff.

43. Are there any new requirements for the waste form the people who are isolated collectively at the specified area?

There are not any new requirements. But all people should cover the toilet seat before flushing to reduce the aerosol generated. This is very important. It is recommended to post a reminder on the toilet of the room for intensive medical observation.

44. Are there any new requirements for the waste from the confirmed patient with mild clinic symptoms?

At present, all the confirmed patients are admitted to the designated hospital. Although there is no such isolation room, the confirmed patient with mild clinic symptoms can be isolated near the hospital. All the waste from these isolated areas should be disposed as medical waste; all the waste should be stored separately at a fixed location.

45. What are the special requirements for the transportation of medical waste in the isolation areas?

Put the packed waste into a medical dustbin, attach a special infection label, fully enclose and transfer it.

Put the medical waste into a double-layer medical waste bag, seal the bag with cable ties. Put sharp objects into a special plastic box. When transporting the medical waste, the staff should prevent the damage to these special plastic boxes.

Transfer the waste to a temporary storage area for medical waste along a specified route at a fixed time and store the waste separately at a fixed location.

All the medical waste should be sprayed with 1000 mg/L chlorine-containing disinfectant everyday.



When transportation tools are contaminated with infectious medical waste, they should be disinfected timely.

46. Are there any new requirements for medical waste storage area?

There should be strict closure measures and staff management to prevent non-staff from contacting medical waste.

Medical waste should be stored in a separate area in the temporary storage area and handed over to the medical waste disposal unit as soon as possible. Disinfect the floor of the medical waste storage area with 1000mg / L chlorine-containing twice a day.

Disinfect the floor and walls with 1000 mg/L chlorine-containing disinfectant. The medical waste generation department, transportation personnel, temporary storage staff, and medical waste disposal unit transshipment personnel should all register the transfers, and sign that they originated from suspected or confirmed COVID-19 patients.

47. In the fever clinic, wearing a protective mask, but not with protective clothing, Is it necessary for the doctor to be isolated who contacted with a patient confirmed later?

There is no need for isolation. Because there is no aerosol-generating operation, the possibility of contamination of clothes is minimum.

48. Do the medical staff need to be isolated after contacting with a confirmed patient?

The medical staff using the respiratory protection do not need to be isolated. Those without respiratory protection should be monitored.

49. What are the psychological skills of the medical staff during epidemic?

- (1) Ensure correct information; eliminate the fear of "rumors".
- (2) Have enough rest and nutrition.
- (3) Have a regular work and rest.
- (4) Divert your attention from "novel corona virus" to something you are really interested in.
- (5) Exercise: moderate exercise can relieve psychotic symptoms, such as: Tai Chi, yoga, walking, skipping, running, etc.
- (6) Listen to the music: music can keep you calm.
- (7) Show emotions: release your depressed emotions to the right people, and restore your emotions to



calmness.

(8) Try something new and get some new skills, such as cooking, making cakes or practicing a new song.