

# **Proposed Guidelines on Infection Control related to Acupuncture**

**Draft**

**Centre for Health Protection**

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# Proposed Guidelines on Infection Control related to Acupuncture

## Contents

Introduction .....	3
1. Environmental hygiene of the workplace.....	5
2. Disinfection / sterilization and storage of instruments and equipment.....	6
3. Preparation of acupuncture practitioners and disinfection.....	7
4. Preparation of clients .....	9
5. Aseptic acupuncture techniques .....	10
6. Clinical waste disposal .....	11
7. Prevention and management of infection at acupuncture sites .....	12
8. Prevention and management of sharp injury in health care workers .....	12
Appendix I: Use of bleach.....	13
Appendix II: Disinfection-sterilization methods.....	16
Appendix III: WHO recommended five moments for hand hygiene.....	17
Appendix IV: Hand hygiene techniques – 7 parts for 20 seconds .....	18
References .....	19

## Introduction

Acupuncture refers to "needling" and "moxibustion". It produces preventive and therapeutic effects by applying pressure, inserting needles into or burning moxa herb above various human body acupuncture points. It has a long history which is originated from China.

Under good management by a qualified acupuncture practitioner, acupuncture-associated infections are extremely rare. However, like any invasive medical procedures, acupuncture can damage the intact skin. Therefore, to avoid potential risk of infection, acupuncture practitioners should always be vigilant, maintain hand hygiene and environmental hygiene of the workplace, disinfect acupuncture sites and equipment appropriately, ensure aseptic techniques during the procedure, manage carefully and dispose of medical waste properly.

In view of increasing attention and wide adoption of acupuncture in various countries and regions, a Working Group, comprising members of the Centre for Health Protection (CHP) and relevant professional organizations, was established in September 2010 to develop guidelines on infection control related to acupuncture. After in-depth discussion and public consultation with the profession, this set of guidelines was developed as a reference for acupuncture practitioners.

We would like to express our gratitude to the following professional organizations for their generous and valuable advice during preparation of the guidelines.

Hong Kong Registered Chinese Medicine Practitioners Association

Association of Hong Kong and Kowloon Practitioners of Chinese Medicine

The Hong Kong Federation of China of Traditional Chinese Medicine

Hong Kong Acupuncturists Association

Hong Kong Physiotherapy Association

Hong Kong Physiotherapists' Union

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Remark: In the guidelines, acupuncture practitioners cover professionally trained and qualified Chinese medicine and acupuncture practitioners, and other qualified professionals who have received acupuncture training including physiotherapists.

## **1. Environmental hygiene of the workplace**

- a)** The workplace for acupuncture should be clean, dry, well-ventilated and well-lit.
- b)** There are sufficient facilities for hand hygiene in the workplace.
- c)** All working surfaces should be smooth and impervious so that they could be cleaned and disinfected thoroughly.
- d)** To keep the linen clean, soiled linen should be replaced immediately. Another option is to cover the treatment bed with single-use paper towel.
- e)** Appropriate disinfectants should be chosen for environmental cleansing and disinfection. For details regarding use of bleach, please refer to Appendix I.

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## **2. Disinfection / sterilization and storage of instruments and equipment**

- a)** Use pre-packaged, disposable sterile acupuncture needles whenever possible.
- b)** Check the expiry dates of sterile items before use and make sure the packages are intact.
- c)** Package should be opened just before use to prevent contamination.
- d)** Unopened sterile items, e.g. alcohol pads, sterile needles, sterile cotton wool balls and sterile cotton wool sticks, etc. should be stored in cabinets and their expiry dates should be checked regularly. Already opened items should be used as soon as possible.
- e)** Non-disposable items with patient contact, such as cuppings, scraping plates, dressing cylinders, sterile containers and forceps, should be cleaned and disinfected after each use.
- f)** Reusable items should be processed according to the principles of “Cleansing before disinfection”.
- g)** Items should be cleansed in designated sinks.
- h)** Re-used acupuncture needles should be strictly disinfected to meet sterility standard (Appendix II).
- i)** Both sterilized and disinfected items should be stored properly to prevent contamination.
- j)** Storage areas should be maintained clean and dry to prevent growth of bacteria or fungi.

### **3. Preparation of acupuncture practitioners and disinfection**

- a)** Acupuncture practitioners should put on working clothes while staying in the workplace, and take it off when they go out.
- b)** Alcohol-based hand rub or alcohol pads should be available at the working place or in the pocket of working clothes.
- c)** All cuts or breaks on hands or fingers should be covered with water-proof dressing.
- d)** Fingernails of acupuncture practitioners should be trimmed short and artificial fingernails are not permitted.
- e)** While suffering from hand infection, acupuncture practitioners should not perform acupuncture.
- f)** Hand hygiene should be performed in the following situations (Appendix III):
  - 1.** Before touching a patient
  - 2.** Before a clean/ aseptic procedure
  - 3.** After body fluid exposure risk
  - 4.** After touching a patient
  - 5.** After touching patient surroundings
- g)** Strictly observe hand hygiene before aseptic procedure.
- h)** Clean hands with liquid soap and water when visibly soiled or likely contaminated with blood or body fluid. Steps are as follows:
  - 1.** Wet hands under running water.
  - 2.** Apply liquid soap and rub hands together to make a soapy lather.
  - 3.** Away from the running water, rub the palms, back of hands, between fingers, backs of fingers, thumbs, finger tips and wrists (Appendix IV). Do this for at least 20 seconds.
  - 4.** Rinse hands thoroughly under running water.

5. Dry hands thoroughly with a clean cotton towel, a paper towel or a hand dryer.
  6. The cleaned hands should not touch the water tap directly again.
- i) When hands are not visibly soiled, hand hygiene could be performed by using 70-80% alcohol-based hand rub. Steps are as follows:
    1. Apply a palmful of alcohol-based hand rub and cover all surfaces of the hands.
    2. Rub the palms, back of hands, between fingers, back of fingers, thumbs, finger tops and wrists (Appendix IV).
    3. Rub for at least 20 seconds until the hands are dry.
  - j) Gloves should be worn whenever acupuncture practitioners may be exposed to blood, mucous membranes, broken skin or other potentially infectious materials.
  - k) A pair of gloves should not be used for more than one client.
  - l) Hand hygiene can never be replaced by wearing gloves.
  - m) Hand hygiene should be performed before putting on and after taking off gloves.



#### 4. Preparation of clients

- a) Thoroughly review the client's information\* and pay attention to the potential risk factors:
  1. Medical history: skin infection, infectious disease (e.g. viral hepatitis, HIV infection), chronic illness (e.g. diabetes mellitus, renal disease, epilepsy), cancer and bleeding tendency
  2. Drug history: steroid or anticoagulant, e.g. warfarin
  3. Allergy history : drugs, alcohol or metal allergy
- b) Advise clients to observe good personal hygiene. If deemed necessary, advise them to have shower or wash hair (applicable for clients who require acupuncture on the scalp) before consultation.
- c) Advise clients to wear mask if they have respiratory symptoms such as cough or sore throat.

\* Remarks: If the client has provided laboratory investigation results such as microbiology and virology reports, international normalized ratio (INR) and platelet count, they can be taken as reference.

## 5. Aseptic acupuncture techniques

- a) Acupuncture practitioners should perform hand hygiene before the procedure to prevent infections.
- b) Prepare the skin prior to acupuncture: Use swab with 70-80% alcohol or povidone-iodine or chlorhexidine-in-alcohol to disinfect the penetration site by scrubbing in a rotary motion starting at the centre of the site.
- c) When using alcohol for disinfection, allow the alcohol to evaporate before insertion of acupuncture needles.
- d) Before touching disinfected skin, acupuncture practitioners should ensure their hands have been disinfected.
- e) Acupuncture practitioners should hold the handle of the needle so as to avoid touching the shaft of the needle that will penetrate into the skin. If grasping of the needle shaft is required, adequate disinfection should be done first.
- f) After removal of all needles, review and count against the insertion record to make sure that the number of needles removed is the same as inserted. Any missing needle should be recovered.
- g) Needles after removal should be discarded immediately into a sharps box and are disposed as clinical waste.

## 6. Clinical waste disposal

- a) Used disposable needles or sharps should be disposed directly into a sharps box labelled with clinical waste:
  1. The sharps box should be sealed when it is 3/4 full.
  2. Sealed sharps boxes should be put into a red plastic bag, securely tied by the swan-neck method, labelled as clinical waste and are collected by a licensed collector for incineration.
- b) Wastes with small volume of body fluids or blood stains can be disposed as domestic garbage. Dressings or wastes soaked with or containing large volume of body fluids or blood should be disposed in a red plastic bag, labelled as clinical waste, and are collected by a licensed collector for incineration.
- c) Disposal records of clinical waste should be kept for 12 months.

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## **7. Prevention and management of infection at acupuncture sites**

- a) Local blisters may occur after moxibustion or cuppings. They should be covered with sterile dressing to prevent infection.
- b) If the penetrated sites develop redness, abscess or signs of infection, appropriate management should be offered.

## **8. Prevention and management of sharp injury in health care workers**

- a) Before commencing health care related jobs, prospective workers are advised to check their hepatitis B immune status. For non-immune workers, they are advised to receive hepatitis B vaccinations for their protection.
- b) When being injured by used acupuncture instruments, the health care worker should:
  - 1. Clean the wound under running water immediately. Then, disinfect the wound and cover it with dressing.
  - 2. Perform risk assessment by checking the HBV, HCV and HIV status of the blood source. In case of doubt, immediately consult the nearest emergency department for blood testing and follow-up.

## Appendix I: Use of bleach

Among household disinfectants, bleach is strong and effective. Its major ingredient is sodium hypochlorite. It is able to destroy bacteria, fungi and viruses. Thus, diluted bleach is recommended for environmental disinfection.

However, bleach irritates mucous membranes, skin and airway. It decomposes under heat or light and reacts easily with other chemicals. Therefore, caution should be exercised during its use. Improper use of bleach not only reduces its effectiveness in disinfection but may also lead to accidents. Overuse of bleach will pollute the environment and disturb ecological balance.

- a) All non-metallic surfaces such as tables, desks, chairs and beds should be wiped with “1 in 99 diluted household bleach” by mixing 1 part of household bleach (containing 5.25% sodium hypochlorite) with 99 parts of water.
- b) 70-80% alcohol should be used for disinfecting metallic surfaces as bleach will corrode metal.
- c) Gloves should be worn for handling items contaminated with vomitus, excreta or body fluid.
  1. Use disposable strong absorbents to perform preliminary cleansing.
  2. Then, disinfect the surface with “1 in 49 diluted household bleach” by mixing 1 part of household bleach with 49 parts of water, allow the bleach on the surface for 15 to 30 minutes before rinsing with water.
  3. Items with rough and uneven surfaces are difficult to wipe, if possible, immersion cleaning will be more effective. These items should be soaked in bleach for a bit longer, at least 30 minutes. Then, rinse with water.
- d) Gloves should be worn for handling blood stains. When there is a pool of blood, use disposable strong absorbents to perform preliminary cleansing. Then, disinfect the surface with “1 in 4 diluted household bleach” by mixing 1 part of household bleach with 4 parts of water. Allow the bleach on the surface for 10 minutes before rinsing with water.
- e) Environmental cleansing during communicable disease outbreak in the community:
  1. Use higher concentration of bleach for environmental cleansing. For routine cleansing, “1 in 99 diluted household bleach” is used. During

an outbreak, “1 in 49 diluted household bleach” is used by mixing 1 part of household bleach with 49 parts of water.

2. Increase the frequency of environmental cleansing.
3. Pay special attention to toilets, kitchen and frequently-touched surfaces such as light switches, door handles and rail.

Methods to prepare diluted bleach and points to note when using bleach:

- a) Make all necessary items, cleansing tools and personal protective equipment ready, such as bleach, water, large and small measuring cups, rubber gloves, plastic aprons, goggles, brushes, mops, towels and buckets.
- b) Open windows to ensure good ventilation while diluting or using bleach, so as to reduce irritation to respiratory tract.
- c) Caution of bleach splashes during the dilution process. Operators should put on personal protection equipment (gloves, plastic aprons and goggles) to protect their mucous membranes and skin.
- d) Bleach should be diluted with cold water since hot water will decompose the bleach and make it lose efficacy.
- e) For bleach containing 5.25% sodium hypochlorite, the diluting methods are as follow:
  1. Prepare 1 in 99 diluted household bleach for usual cleansing by mixing 10ml bleach with 990 ml water (total 1000ml).
  2. Prepare 1 in 49 diluted household bleach for disinfecting items contaminated with vomitus, excreta and secretions by mixing 20ml bleach with 980 ml water (total 1000ml).
  3. Prepare 1 in 4 diluted household bleach for disinfecting items contaminated with blood by mixing 20ml bleach with 80 ml water (total 100ml).
  4. Adjust the required amount of bleach if the available bleach is not exactly containing 5.25% sodium hypochlorite.
  5. For example, when the currently available bleach contains only 5% sodium hypochlorite, first calculate the multiplier of the required amount of bleach. Dividing 5.25% by 5% (the concentration of the currently available bleach) gets the multiplier of 1.05. If 1 in 99 diluted household bleach is needed, multiplying 1.05 by 10 ml gets 10.5 ml which is the required amount for 5% bleach.

- f) The required amount of bleach should be accurately measured by a measuring cup.
- g) After disinfected by bleach, articles should be rinsed thoroughly with water.
- h) The used cleaning tools should be soaked in diluted bleach for 30 minutes, and then rinsed thoroughly with water.
- i) Points to note when using bleach:
1. Do not use bleach on metals, wool, nylon, silk, dyed fabric and painted surfaces.
  2. If bleach splashes into eye, immediately rinse with copious amount of water, and then consult a doctor.
  3. Bleach should not be used or mixed together with any detergent or acidic solution. Otherwise, its effectiveness of disinfection will be reduced and toxic gas will be produced which may cause accident. Therefore, whenever detergent has been used, rinse thoroughly with water before using bleach for disinfection.
  4. When exposed to sunlight, high concentrated bleach will liberate toxic gas. Thus, it should be stored in a shaded cool place which cannot be reached by children.
  5. Note the date of production when purchase as bleach (sodium hypochlorite) decomposes with time and loses its efficacy. Bleach recently manufactured is better. Over-stocking should be avoided.
  6. Diluted bleach should be used within 24 hours after preparation.

## Appendix II: Disinfection-sterilization methods

### 1. Steam sterilization (Preferred) :

- Special re-usable needles, e.g. silver needles and gold needles should be sterilized in an autoclave.
- Temperature should be maintained at 121°C for 15 minutes or at 134°C for 3 minutes. (WHO, 1999)
- Autoclave should be well-maintained and used in accordance with the recommendations of the user manual.

### 2. Boiling disinfection:

- This method is suitable for non-invasive items which are made of glass or metal. First, put the equipment into water. The water level should be at least one inch above the items. Maintain boiling for 20 minutes after water reaches the boiling point to meet the standard of high level disinfection. (WHO, 1999)

### 3. Chemical disinfection:

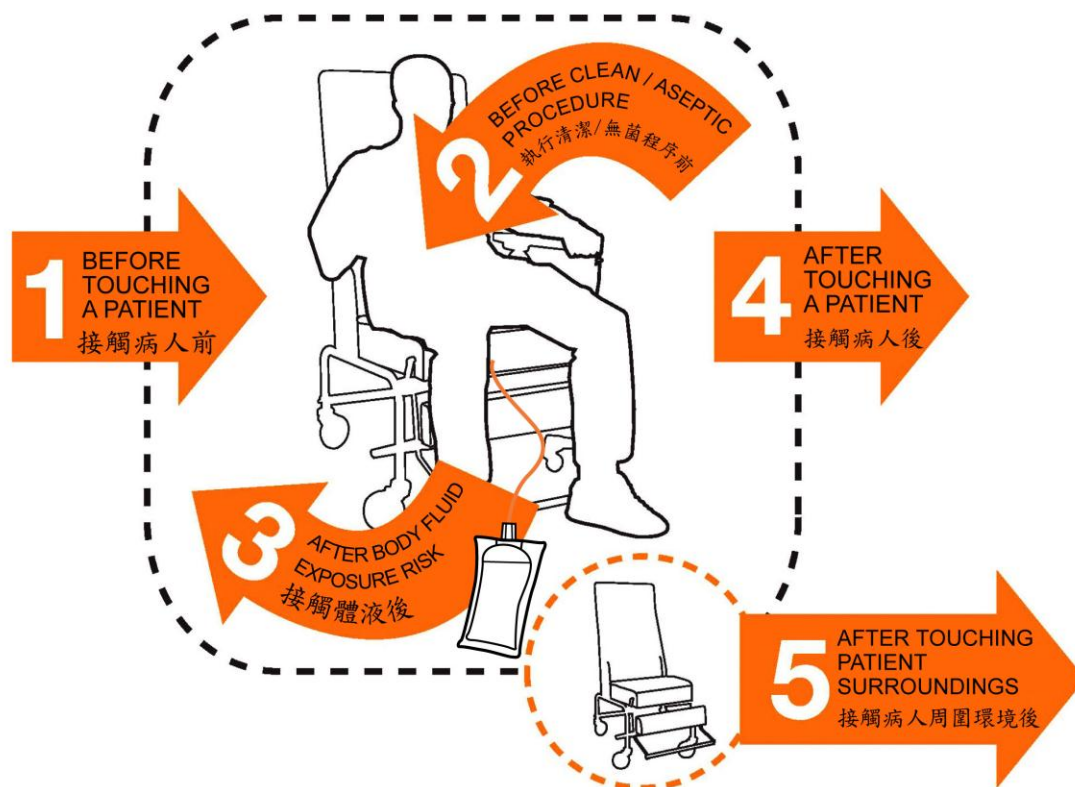
- This method is suitable for heat-sensitive items.
- Items should be dismantled or opened, and fully immersed in the solution.
- Check the expiry dates of disinfectants before use.
- Examples of metallic or glass items: cleanse the items first before immersing them into 70-80% alcohol (ethanol) for 10 minutes. After taking out, place in a dryer to blow dry or wipe dry with a clean towel.
- Examples of plastic or glass items: cleanse the items first before immersing them into the “1 in 99 diluted household bleach”. After 30 minutes, rinse thoroughly with water, then place in a dryer to blow dry or wipe dry with a clean towel.
- Chemical disinfectant should be changed every day.

Please note that among the above sterilization / disinfection methods, steam sterilization is the only method that can achieve the sterilization standard required in acupuncture needles.

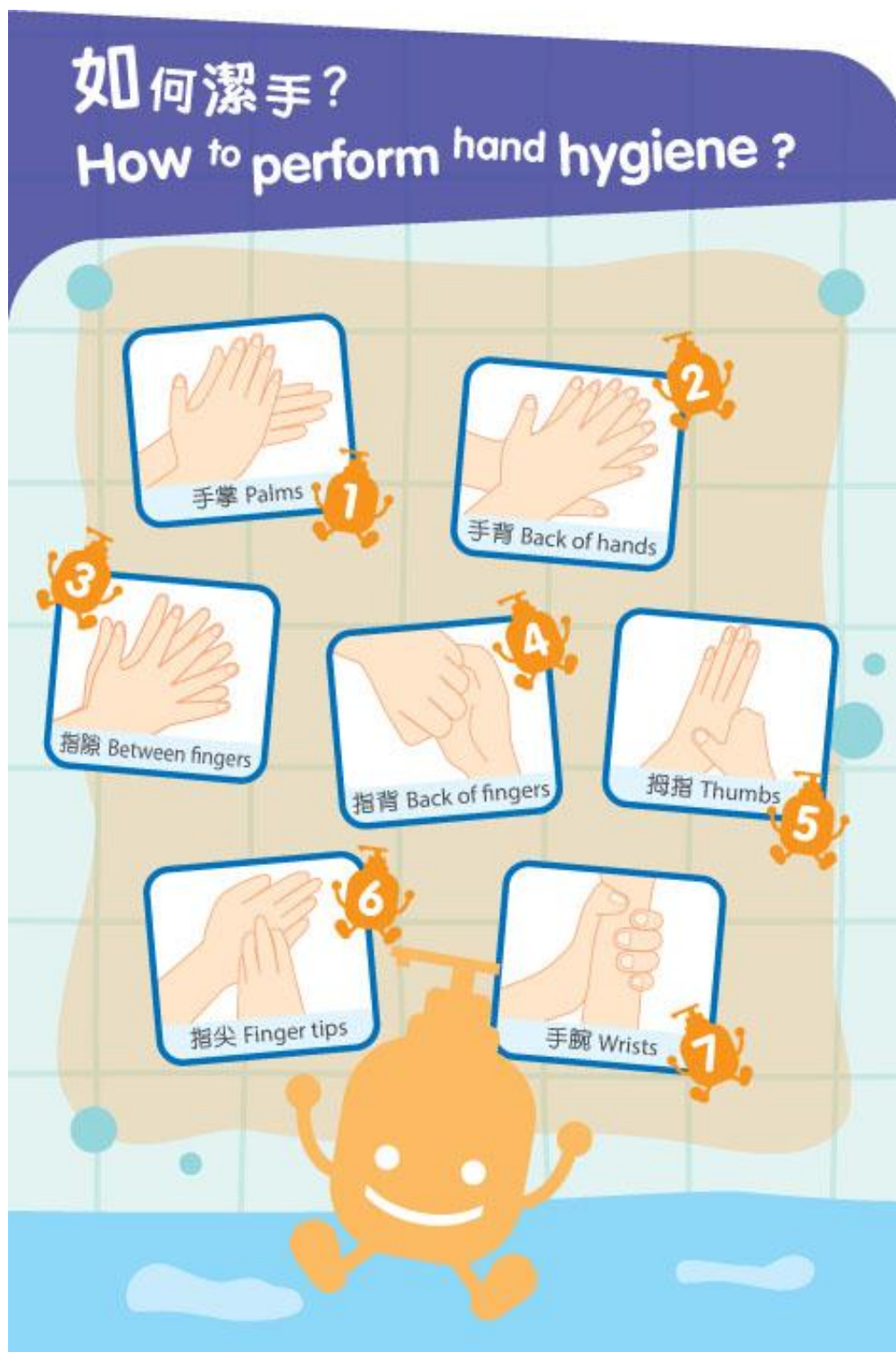


# 5 Moments for Hand Hygiene

## 潔手五時刻



Appendix IV: Hand hygiene techniques – 7 parts for 20 seconds



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