

**Assessment of a Dialysis Unit Compliance with the
Guidelines for Environmental Infection Control
Procedures in One of the Biggest Health Insurance
Hospitals, Egypt.**



High Institute of Public Health

Supplementary material 1

**Nurses' information evaluation form to maintain environmental health
in the dialysis unit at the main health insurance hospital in Alexandria**

Governorate

Code number

First: Personal and professional data:

- Name (if desired):

1. Age:

2. Marital status:

1-Married 2- Not married 3- Divorced 4- Widow

5- Other, mention.....

3. Academic qualification:

1-Three year nursing diploma

2- Health technical diploma

3-Bachelor's degree in Nursing

4- Other, mention.....

4. Years of experience in the dialysis unit:

**5. Have you received training courses on ways to maintain
environmental health:**

1-I did not receive any training

2- Yes, one

3-Yes two

4- Yes, three courses or more

**6. When was the last course you attended? Determined in
yearsNot applicable (-1)**

7. Was the training course before receiving work or during work:

1-Before receiving the work

2- While working

Not applicable (-1)

8. Does the hospital have rules or policies to maintain environmental health?

1-Yes 2- No 3- I don't know

9. Does the hospital have a team and a special committee to follow up on infection control work?

1-Yes 2- No 3- I don't know

Second: Evaluating nurses' information:

10. Are there diseases transmitted through an unhealthy environment Yes No I don't know () () ()

11. The causes of environmental pollution and the spread of infection in health facilities include the following:

1- Weak immunity of patients who

frequent health care () () ()

2- Patients who are hesitant about health care may have infectious diseases () () ()

3- Exposure to surgical procedures

inside the health facility () () ()

4- Lack of hospital staff () () ()

5- Misconceptions of health workers () () ()

6- Incorrect practices of patient

companions () () ()

7- Weak capabilities that help implement the infection control Program () () ()

12. What diseases can be transmitted from contamination of the dialysis unit environment? (More than one answer can be chosen)

- 1- Infection with oral transmitted microbes 2- Bacteremia (blood poisoning)
3- Infection entering the body 4- Peritonitis
5- I don't know

1-Correct answer 2- Incomplete correct answer 3- do not know

13. Is cleaning and disinfecting surfaces, appliances and floors important in maintaining a healthy laundry unit environment?

- 1-Yes 2- No 3- I don't know

14. What procedures are in place to keep the dialysis unit clean? (Choose one answer)

- 1- These are special instructions for dealing with patients suffering from infectious diseases
2- These are procedures for health workers who suffer from infectious diseases
3- It is a set of recommendations for practical practices that help reduce exposure to infectious substances such as various body fluids and consider them contagious in order to protect health care workers
4- I do not know

15. How often do dialysis machines inside the unit be cleaned and disinfected?

- 1-Once daily 2- Once I saw 3- Before and after the washing process

1-Correct answer 2- Incomplete correct answer 3- do not know

16. What disinfectant is used in the environmental cleaning and disinfection process inside the washing unit?

1-Soap water 2-Ethyl alcohol 3-Sodium chloride compound 4- 1 and 3

together

1-Correct answer 2- Incomplete correct answer 3- do not know

17. When should standard infection control precautions be applied?

(Choose one answer)

1-When dealing with a patient

2- For all patients and at all times

who has an infectious disease only

3- Only when cleaning the hospital

4- I do not know

Environment

18. What are the basic components of standard precautions to maintain environmental health?

1- Hand hygiene

2- Wear personal protective equipment

3- Reprocessing of medical instruments and machines

4- Cleaning and disinfecting the environment

5- Safe disposal of sharp tools and medical waste

6- Safe injection

7- Respiratory health precautions and cough etiquette

8- Precautions for storing, preparing and handling medicines

9- Correct use of antibiotics

10- Textile management

11- I do not know

1-Correct answer 2- Incomplete correct answer 3- do not know

19. What are the instructions for reprocessing tools and machines?

Yes No Don't know

- 1- It is not necessary to wash the machines well
before sterilizing them () () ()
- 2- Sterile gloves are worn before washing machines () () ()
- 3- The machines are immersed in water and a detergent
such as soap, then sent for sterilization () () ()
- 4- Contaminated machines are collected in a dry container
and then sent for sterilization () () ()

20. Any of the following sentences about environmental cleanliness in dialysis units are considered correct and agree with your opinion:

- 1- Dialysis units are considered high-risk areas () () ()
- 2- It is not necessary to clean beds and dialysis
machines after each patient () () ()
- 3- Disinfectants should be used to clean floors
and walls () () ()
- 4- Toiletries should not be kept dry and clean () () ()
- 5- It is necessary to change sheets between
each patient and another () () ()
- 6- Changes sheets only when they are contaminated with the patient's
blood during the washing session () () ()
- 7- Dirty sheets should be lifted very carefully
while reducing movement () () ()
- 8- Be careful not to touch dirty sheets
without using gloves () () ()

9- All dialysis unit sheets are considered

uncontaminated

() () () ☐

10- It is preferable to use special carts to transport

sheets to the sink

() () () ☐

21. What are the types of hospital waste?

1-Ordinary waste (semi-domestic)

2-Contaminated (infectious)

3- Acute

4- I do not know

☐

22. How to safely dispose of waste?

Yes No Don't know

1- It is necessary to place waste in the appropriate place according to its type

() () () ☐

2- Red bags are used for medical waste such

as dialysis filters

() () () ☐

3- Black bags are used for ordinary waste items such as syringes and scalpels

() () () ☐

4- Safety boxes are used for ordinary waste

() () () ☐

5- It is necessary to use anti-puncture and anti-leak containers to dispose of sharp and contaminated waste

() () () ☐

6- Containers in which bags are placed

must be cleaned to collect waste

() () () ☐

7- It is necessary to dispose of bags designated for waste when they reach a third of their size 1/3

() () () ☐

8- It is necessary to get rid of safety boxes before they are full (three-quarters of them) 3/4 their size

() () () ☐

9- Trying to cover used syringes reduces the possibility of infection

() () () ☐

10- It is necessary to wear thick gloves

when dealing with medical waste

() () ()

11- The necessity of handling sharp instruments in a safe manner reduces

the chances of infection occurring

() () ()

23. Is it possible for a dialysis machine to transmit diseases?

1-Yes 2- No 3- I don't know

1-Correct answer 2- Incomplete correct answer 3- do not know

24. What are the factors that hinder the application of standard precautions to maintain environmental health in dialysis units?

Yes No Don't know

1- Weak hospital resources

() () ()

2- Lack of required capabilities

() () ()

3- Increase the number of patients with
increased work pressure

() () ()

4- Shortage of nurses in the unit

() () ()

5- Family and social problems may be reflected
in performance at work

() () ()

6- Lack of correct guidance in the right way

() () ()

7- Psychological discomfort with working alone

() () ()

8- Lack of awareness among nurses

() () ()

9- Not convinced of the importance of infection control

() () ()

10- Certainty that infection and disease

are in the hands of Allah

() () ()

11- The large number of patients per nurse

() () ()

12- Salary is insufficient for work that hurts

() () ()

13- There is no system for collecting environmental waste () () ()

25. What is the role of the nurse to maintain environmental health and prevent the spread of infection in dialysis units?

1- She washes her hands when dealing with patients or their tools () () ()

2- The patient's arm must be disinfected before starting the dialysis session through the vestiola () () ()

3- Alcohol or betadine are used to disinfect the site of the venous connection () () ()

4- The patient is given health education on how to take care of the venous connection () () ()

5- You are obligated to wear personal protection when dealing with the patient () () ()

6- Treats the patient's blood as contaminated () () ()

7- Disinfect the washing machine after each patient () () ()

8- The nurse follows infection control precautions () () ()

9- Separating waste immediately after production in accordance with infection control guidelines () () ()

10- Read unit infection control instructions when necessary () () ()

11- Attend infection control training courses to learn about modern instructions () () ()

12- It places the infectious patient in a separate place from the rest of the patients () () ()

13- Supervising workers during the sterilization and environmental

disinfection process

() () ()

14- It treats all patients as having infectious diseases

() () ()

15- Do not use the same tools for

more than one patient

() () ()

16- Follow the environmental health system while getting rid of sharp

instruments

() () ()

Attitude scale:

Nursing attitude towards environmental infection control

Item	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
1- Hands of healthcare workers carry infection to the patient and the environment.					
2- Cleaning and disinfection reduce the chance of infection.					
3- Staff shortage and patient number increase work overload at the unit					
4- Presence of patient relatives and visitors hindering the application of infection control precautions					
5- Regular training and educational courses are needed during work					
6- High quality equipment and supplies needed for good practice.					
7- The proper protection of the environment at HD unit is solely the responsibility of health attitudes.					
8- I work to learn how to keep safe and clean environment at HD unit.					

9- Cleaning and disinfection of the dialysis machines is a must after every patient.					
10- Wearing PPE are essential to protect against infection.					

Supplementary material 2

Observation checklist for infection control practices

Serial number:

Observations on hand hygiene	Yes	No
I. Cleaning hands when soiled or visibly dirty		
II. Cleaning hands before connecting the patient to the dialysis machine through the fistula		
III. Hand washing performed before donning gloves		
1. Hands were washed with: 1- Soap and water () 2- Water only () 3- An antiseptic (soap, <u>alcohol</u>) ()		()
2. Hand washing technique:		
☒ Rings were removed before washing hands		
☒ Hands were rubbed and residual soap was removed under running water (20- 30 seconds)		
☒ Hands were washed without missing:		
- Webs between fingers		
- Fingers nails		
- Thumbs		
- Dorsum of fingers		
☒ Tap was turned off without touching it		
☒ Dries hands		
✓ Methods used for drying hands:		
1- Tissue/ disposable towel () 2- Multiple use towel () Do not dry his hands (-1)		()
IV. Cleaning hands after connecting the patient to the dialysis machine through the fistula		
V. Cleaning hands after leaving a particular patient dialysis station and before dealing with another pt.		
VI. Hand washing performed after removing gloves		
1. Hands were washed with: 1- Soap and water () 2- Water only () 3- An antiseptic (soap, <u>alcohol</u>) ()		()
2. Hand washing technique:		
☒ Rings were removed before washing hands		
☒ Hands were rubbed and residual soap was removed under running water (20- 30 seconds)		
☒ Hands were washed without missing any areas:		
- Webs between fingers		
- Fingers nails		
- Thumbs		
- Dorsum of fingers		
☒ Tap was turned off without touching it		

☒ Hand drying		
✓ Methods used for drying hands: 1- Tissue/ disposable towel () 2- Multiple use towel () Do not dry his hands (-1)	()	