



Mongolian Emergency Service Hospital Hygiene Project

MeshHp.mn

Hand disinfection: Dispensers and products

Situation at the moment



At the moment, very often in healthcare facilities in Mongolia the situation is like in the 3 photos:
Often only cold water available,
pieces of soap,
empty or missing hand disinfection bottle,
no towels or only textile towels.



How it should be

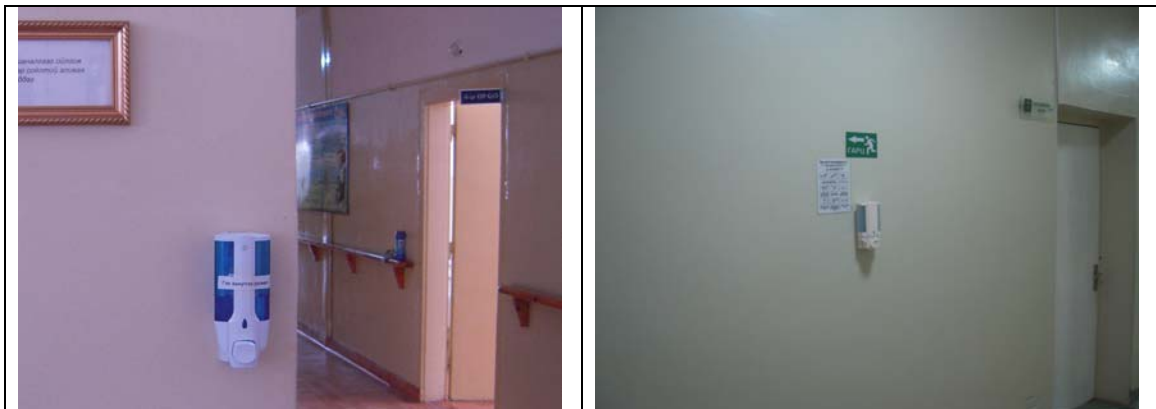
Aim	Why
Sink with dispensers for alcoholic handrub, fluid soap, paper towels. Skin cream	
Why warm water?	Higher chance of hand washing – who will wash hands if water is ice cold?
Why alcoholic handrub?	Recommended from WHO. Rather broad activity against germs,

	especially also HIV and hepatitis B and C virus. No skin damage – but washing hands too often may damage skin.
Why fluid soap?	No contamination – pieces of soap may be contaminated and bacteria may grow on them.
Why paper towels	No contamination.
Why skin cream	To protect skin from dryness. Don't use a can – risk of contamination. Use tubes.

Improve step by step

Very often you may not have enough money to start with the very best situation. Therefore, you should try to go step by step.

First distribute dispensers:



Also at the beginning, you can use multiple-use bottles. But you should wash and dry them regularly, also all pipes in them.

You can produce your own alcoholic handrub, best of all in pharmacy. Do it according to formulations of WHO (see below).

If you use textile towels, they have to be washed at least daily or if visibly dirty (that means that you change them more than once daily).

WHO-recommended handrub formulations

WHO has published handrub formulations based on alcohol which can be produced in your pharmacy:

<i>Formulation I</i>	<i>Formulation II</i>
To produce final concentrations of ethanol 80% v/v, glycerol 1.45% v/v, hydrogen peroxide (H ₂ O ₂) 0.125% v/v.	To produce final concentrations of isopropyl alcohol 75% v/v, glycerol 1.45% v/v, hydrogen peroxide 0.125% v/v:
Pour into a 1000 ml graduated flask:	Pour into a 1000 ml graduated flask:
a) ethanol 96% v/v, 833.3 ml b) H ₂ O ₂ 3%, 41.7 ml c) glycerol 98% ,14.5 ml	a) isopropyl alcohol (with a purity of 99.8%), 751.5 ml b) H ₂ O ₂ 3%, 41.7 ml c) glycerol 98%, 14.5 ml
Top up the flask to 1000 ml with distilled water or water that has been boiled and cooled; shake the flask gently to mix the content.	Top up the flask to 1000 ml with distilled water or water that has been boiled and cooled; shake the flask gently to mix the content.
	Only pharmacopoeial quality reagents should be used (e.g. <i>The International Pharmacopoeia</i>) and not technical grade products.

What you should aim for

Multiple-use bottles are not really safe because they have to be washed very thoroughly and also despite of this a biofilm might develop in them with good chances for bacteria to grow protected by the biofilm.

Also fluid soap is much more safe than pieces of soap, the use of multiple-use bottles for fluid soap is not safe, too.

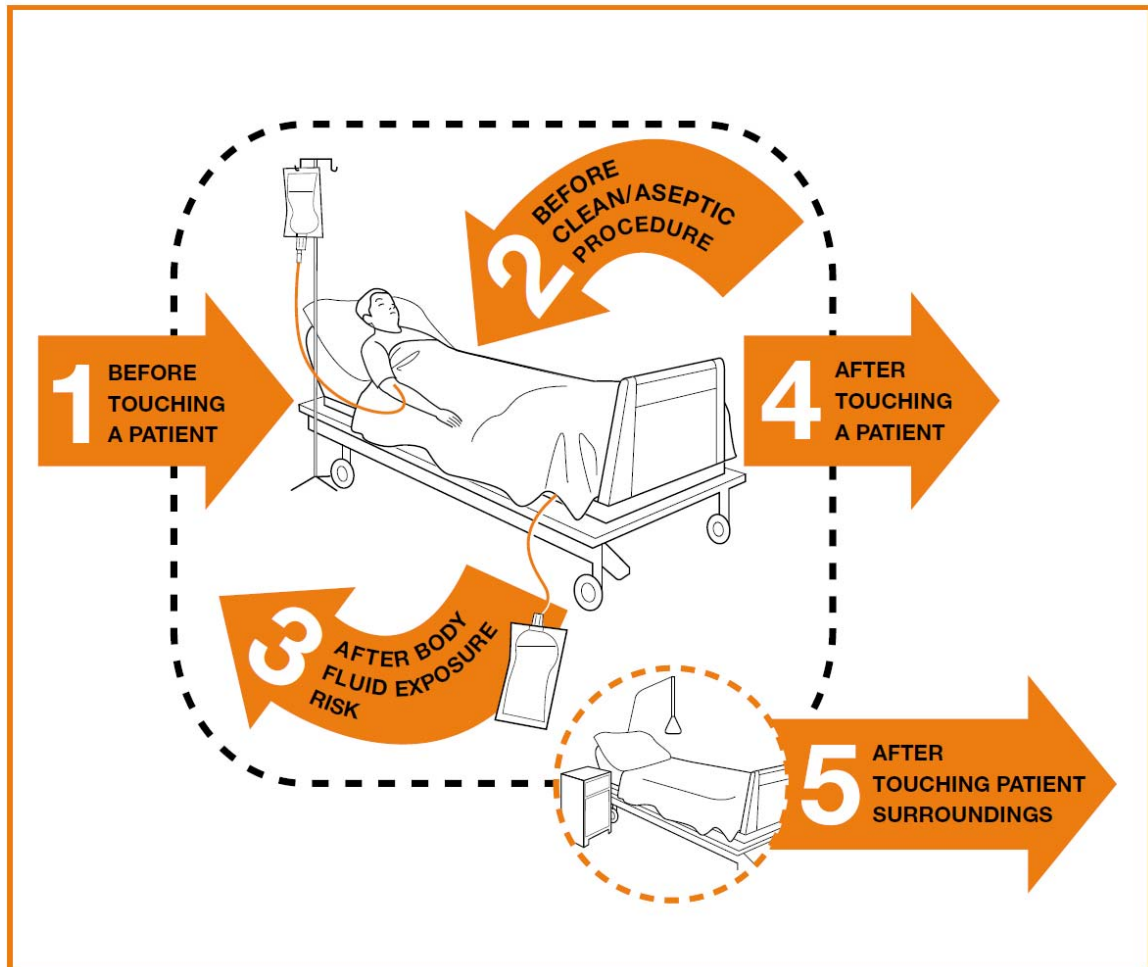
Of course, on textiles towels which are used by different people very often bacteria might grow and can be transferred by staff´ hands to patients.

Therefore, your aim should be to use only single-use bottles of alcoholic handrub and fluid soap and also only (single-use) paper towels:



When is hand disinfection necessary?

Unified visuals for "My five moments for hand hygiene"




The *patient zone*, *health-care area*, and *critical sites* with inserted time-space representation of "My five moments for hand hygiene" (Figure 1.21.5b).

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How to disinfect hands?

Hand Hygiene Technique with Alcohol-Based Formulation

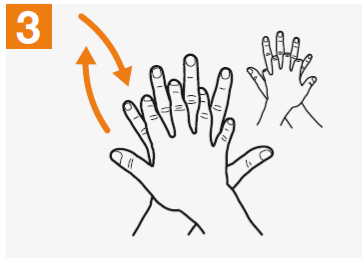
 Duration of the entire procedure: 20-30 seconds



1a Apply a palmful of the product in a cupped hand, covering all surfaces;



2 Rub hands palm to palm;



3 Right palm over left dorsum with interlaced fingers and vice versa;



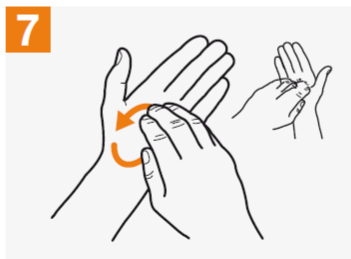
4 Palm to palm with fingers interlaced;



5 Backs of fingers to opposing palms with fingers interlocked;



6 Rotational rubbing of left thumb clasped in right palm and vice versa;



7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



8 Once dry, your hands are safe.