

Infection Control 101

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"Now, don't panic, but I'd like you to take off all your clothes so we can burn them."

THE FAR SIDE





Florence Nightingale: Notes on Hospitals, 1863

“It may seem a strange principle to enunciate as the very first requirement of a hospital that it do the sick no harm”

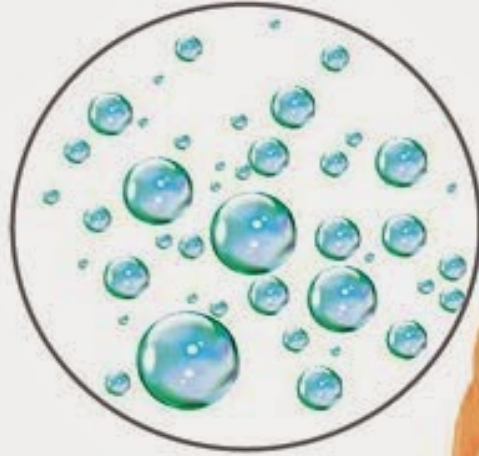
What is Infection Control?

Infection Control is the prevention of the spread of clinically significant micro organisms that cause infection; or the prevention of the spread of pathogenic micro organisms that have the potential to cause disease.



Human pathogen transmission

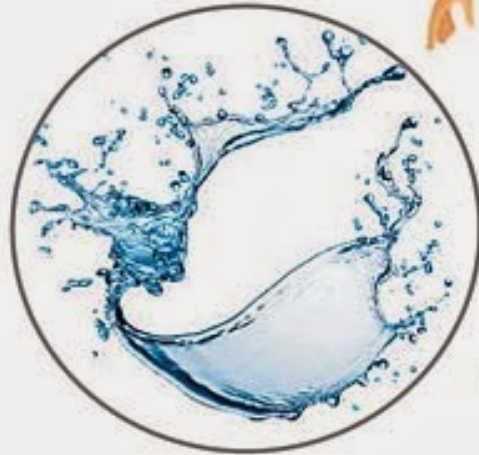
Infection caused by
airborne transmission



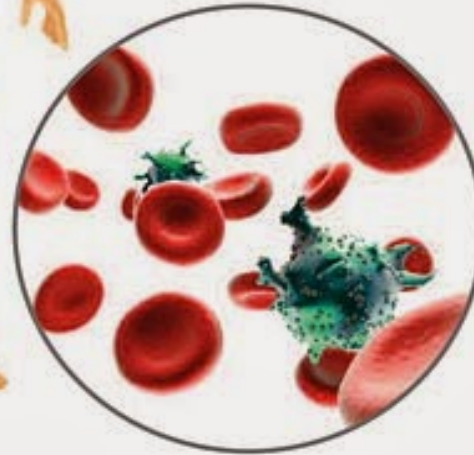
Infection caused by
contact and faeces




Infection caused by
contaminated water



Infection caused by
pathogens in blood-
stream and tissues





Up to 80% of
infectious
diseases are
transmitted by
touch



CLEAN HANDS SAVE LIVES

Protect patients, protect yourself



Alcohol-rub or wash
before and after EVERY contact.



www.cdc.gov/handhygiene

Germ Farm



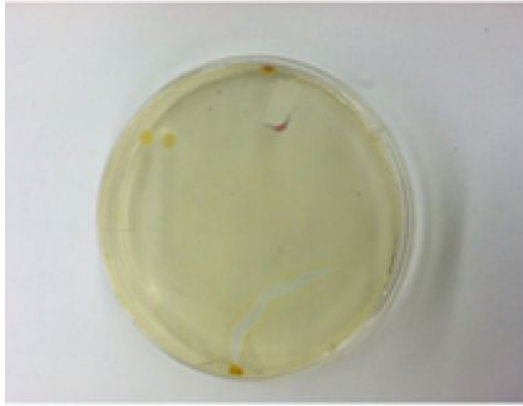
Scrub'em!

www.tst-in-handwashing.com

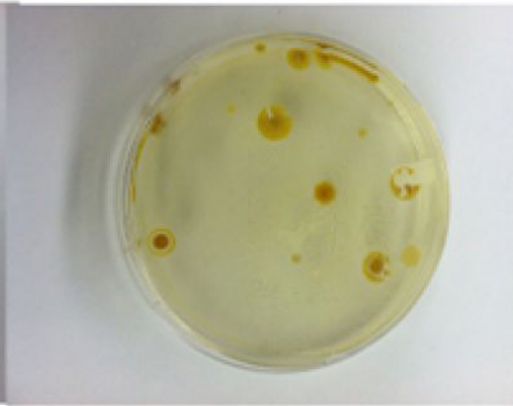
Which is More Clean ?



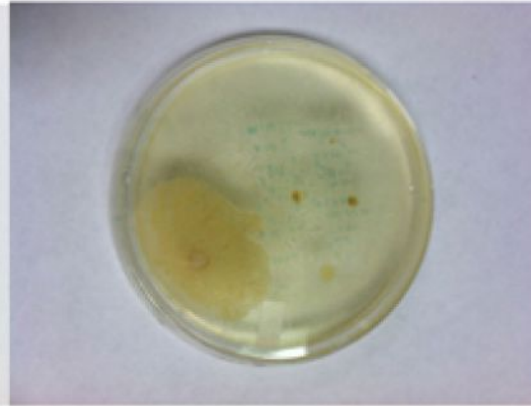
Toilet Handle



Door Knob



Toilet Seat

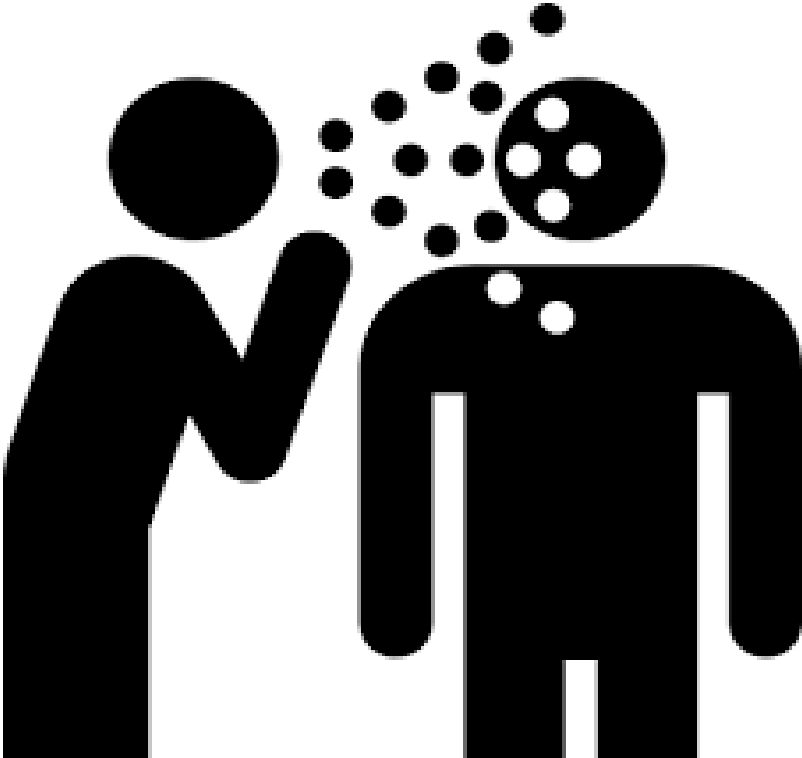


Cell Phone



Cell Phone





Vector-borne Disease



Infection Control Practices Cont'd

- Universal Precaution- Consider all patients, patient samples and any object that has come into contact with the patient infected.
- PPE (Personal Protective Equipment) – Safety Goggles, Face Shield, Gloves, Lab Coat, and Rubber Shoes
- Hand Hygiene- Cleansing hands with an alcohol based foam, gel or wipe that is approved by your healthcare facility before and after direct contact with a patient, patient sample or any object that has come into contact with the patient is a **MUST DO!**

Infection Control Practices Cont'd

- Wash hands for 15-30 seconds under warm flowing water if they are visibly contaminated with blood or any type of body fluid
- Change gloves between patients and also when the glove has been compromised
- Clean phones, keyboards and any surface that may have come into contact with biohazard material



INFECTION CONTROL OVER THE PAST DECADE

Parameter	Rate		Reference(s)
	Then	Now	
CRBSIs	5.0/1000 catheter days	1.7/1000 catheter days	a,b
VAP	9.5/1000 ventilator days	2.0/1000 ventilator days	a,b
CAUTIs	5.4/1000 catheter days	3.1/1000 catheter days	a,b
C. difficile infection	5.5 cases/ 10,000 discharges	11.2 cases/ 10,000 discharges	c,d

Abbreviations: CRBSIs, catheter-related bloodstream infections; VAP, ventilator-associated pneumonia; CAUTIs, catheter-associated urinary tract infections.

^a *Am J Infect Control* 2000; 28:429–48 ^c *Emerg Infect Dis* 2009; 15:122–5

^b *Am J Infect Control* 2009; 37:783–805 ^d <http://hcupnet.ahrq.gov>

Adapted from Patterson et al, *Crit Care Med* 2010; 38(8):265-8.

ISOLATION CATEGORIES ARE BASED ON MODES OF TRANSMISSION

	Hand Hygiene	Private Room	Gloves	Gown	Mask	Eye Protection
Standard	Yes	PRN	PRN	PRN	PRN	PRN
Droplet	Yes	Yes*	PRN	PRN	W/in 3 ft	PRN
Contact	Yes	Yes*	Yes	Yes	PRN	PRN
Airborne	Yes	All	PRN	PRN	N95	PRN

* When possible; cohort if not possible. Avoid rooming with immunosuppressed or high risk patients. All = Airborne Infection Isolation: negative pressure with no air recirculation (unless HEPA-filtered); 6-12 ACH.

ISOLATION PRECAUTIONS – EXAMPLES OF INDICATIONS

- Standard – All patients
- Droplet – Bacterial meningitis, pertussis, mumps, seasonal flu
- Contact – MDRO's, infectious diarrhea, localized shingles
- Airborne – TB, chickenpox/disseminated shingles, measles

PREVENTING VENTILATOR-ASSOCIATED PNEUMONIA AND OTHER COMPLICATIONS

- Hand hygiene for HCW's
- Aseptic care of equipment
- Elevation of head of bed to 30-45 degrees
- Daily “sedation vacation” and assessment of readiness to extubate
- Oral decontamination with CHG
- PUD prophylaxis
- DVT prophylaxis

INFECTION CONTROL IN HOMECARE

- Emerging field of study
- Guidelines not as well developed yet compared to acute care in-patient facilities
- Hand hygiene
- PPE
- Equipment cleaning
- Not all of the “vent bundle” applicable to home care

ORAL CARE IN LONG TERM VENTILATED PATIENTS

- Reduce incidence of LRTI's by reducing bacterial load in oropharynx
 - Oral suctioning
 - Deep suction before major patient position changes and before deflating trach cuff to limit entry of secretions into the lungs
 - Swab mouth and tongue with CHG
 - Keep mouth and lips moisturized

CLEANING RESPIRATORY EQUIPMENT

- Have to thoroughly clean prior to disinfection
- Use detergent or enzymatic cleaner to remove organic matter
- Get into all small surfaces and lumens
- Critical, semicritical, and noncritical equipment
- High-level versus low-level disinfection



VACCINES SAVE LIVES

