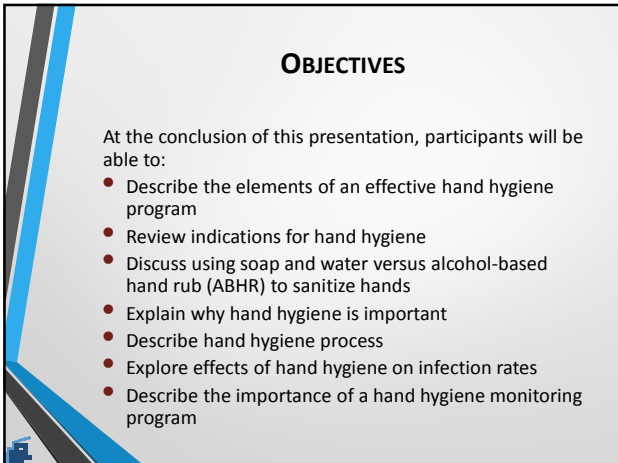


Hand Hygiene



HAND HYGIENE

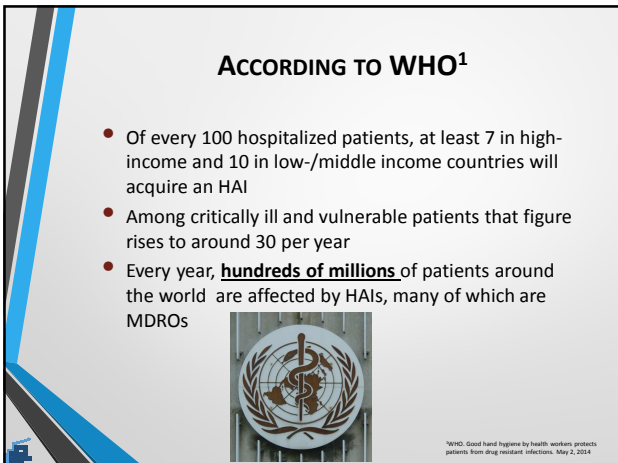
Infection Prevention & Control
Boot Camp For Long-Term Care Facility
Infection Preventionists



OBJECTIVES


At the conclusion of this presentation, participants will be able to:

- Describe the elements of an effective hand hygiene program
- Review indications for hand hygiene
- Discuss using soap and water versus alcohol-based hand rub (ABHR) to sanitize hands
- Explain why hand hygiene is important
- Describe hand hygiene process
- Explore effects of hand hygiene on infection rates
- Describe the importance of a hand hygiene monitoring program



ACCORDING TO WHO¹

- Of every 100 hospitalized patients, at least 7 in high-income and 10 in low-/middle income countries will acquire an HAI
- Among critically ill and vulnerable patients that figure rises to around 30 per year
- Every year, **hundreds of millions** of patients around the world are affected by HAIs, many of which are MDROs



WHO. Good hand hygiene by health workers protects patients from drug resistant infections. May 2, 2014



Hand Hygiene

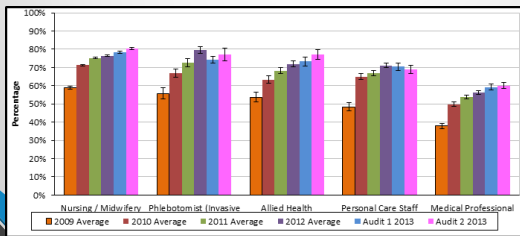
ACCORDING TO CDC

- Poor hand hygiene contributes to the country's 1.7 million annual health-care associated infections (HAIs)
- Approximately 99,000 patients die each year from these preventable infections



HOW DO WE MEASURE UP WITH HAND HYGIENE?

Most HCW believe they are already practicing appropriate and effective hand hygiene



WHAT IS HAND HYGIENE?

- The process in which we clean our hands with a product in order to remove or kill microorganisms
 - Soap and water: physical removal of germs
 - Does not need to be an anti-microbial soap (may be used in high-risk settings like ICU or OR)
 - Requires actual scrubbing, adequate time
 - Alcohol based hand rubs: kills germs
 - 60-90% alcohol
 - Requires adequate product and air drying



Hand Hygiene

WHY IS HAND HYGIENE SO IMPORTANT?

- Hand hygiene is the most important way to prevent the spread of germs
- Hand hygiene helps keep you healthy by reducing the number of germs on your hands and thereby helps reduce spread of germs to your residents, coworkers, family and friends
- By using hand hygiene you can prevent contamination of the resident's environment
- Remember: You are the vehicle for the microorganisms in your facility!



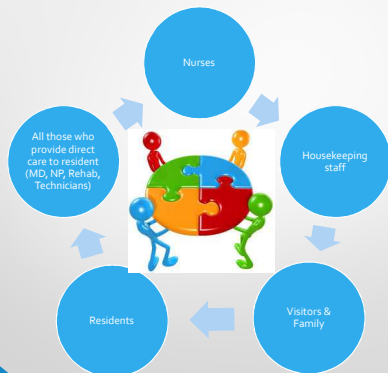
BARRIERS TO HAND HYGIENE

- Poor adherence due to:
 - "Agents cause irritation & dryness"
 - "Sinks are inconveniently located" (or lack of)
 - "Too busy" or forgetfulness
 - "Resident needs take priority"
 - Think requirements are excessive and time could be better spent
 - Lack of soap & paper towels (not regularly filled)
 - Understaffing
 - No consequences for not performing hand hygiene²



©PRISM, D Infection Control Hosp Epidemiol 2000

WHO SHOULD PRACTICE HAND HYGIENE?





Hand Hygiene

POINTS OF CARE

- HCWs need access to hand hygiene products where resident or resident environment contact takes place
- Hand hygiene availability at the point of care is an important system to support and improve hand hygiene compliance
- Consider opportunities for hand hygiene for residents too!

POINTS OF CARE



MOMENTS FOR HAND HYGIENE

- Before & after contact with each resident and their environment
 - This includes before taking vitals, after touching equipment i.e., wheelchair, walkers etc.
- Before & after donning and doffing gloves
- Before handling clean linen and after handling soiled linen
- Before mealtime or handling or preparing food (as well as assisting residents with their meal)



Hand Hygiene

MOMENTS FOR HAND HYGIENE (continued)

- Before and after going to bathroom (and assisting resident to toilet)
- After coughing or sneezing
 - Be sure to follow Respiratory Etiquette as well
- At the beginning of a shift
- At the end of the day before going home
- Before performing invasive procedures
- Before handling of dressings or touching open wounds
- After body fluid exposure

SOAP & WATER VS. ALCOHOL-BASED HAND RUB (ABHR)

SOAP & WATER

- Soap & water is probably the cheapest yet the easiest way to prevent spread of microorganisms
- Sink not always conveniently located
- Anti-bacterial soap can be used during an outbreak

ALCOHOL-BASED HAND RUB

- A great adjunct to soap and water
- Can buy some time until you can get to a sink
- May have easier access
- **NOT AN OPTION:**
 - When hands are visibly soiled
 - During food prep or handling food
 - When dealing with residents who have diarrhea i.e., *Clostridium difficile* or *Norovirus*

SOILED HANDS AND NO WATER???

What do you do when hands are visibly soiled and no water?

- When access to hand washing sink is limited and running water is not available, use a moist towelette to remove visible soil from hands, followed by alcohol-based hand rub



- As soon as sink with soap and water is available, wash again



Hand Hygiene

HOW TO PERFORM HAND HYGIENE

- Don't assume your staff knows the correct procedure for hand hygiene
- Without proper technique, HCW can still spread microorganisms
- Allow staff opportunities to demonstrate their hand hygiene technique



HOW TO USE ABHR

- Use a 60-90% Alcohol-based-hand-rub
- Apply a dime-sized amount (2-3 ml) of product into palms of dry hands
- Palm to palm
- Rub fingertips of each hand in opposite palm
- Between and around fingers
- Rub each thumb clasped in opposite hand
- Rub back of each hand with opposite palms
- Rub hands until dry before performing task
- DO NOT WIPE OFF!



AMERICANS' HAND HYGIENE HABITS

A majority of Americans are getting caught dirty-hands when it comes to the handwashing habits. A survey of 1,000 U.S. adults by SCA, a global hygiene company, uncovered that consumers understand the importance of hand hygiene but their practices may be grossly exaggerated.



On average, you come in contact with 500 surfaces every 30 minutes, exposing you to 840,000 germs*

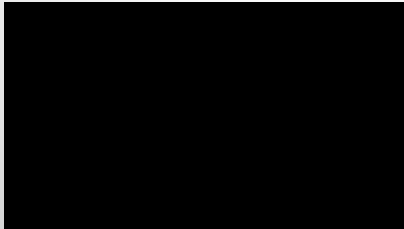
*According to EPA's "How Many Surfaces You Touch Every Day" (2011).
On Average, You Come in Contact with 500 Surfaces Every 30 Minutes, Exposing You to 840,000 Germs*
© 2012 SCA Hygiene Products. All rights reserved. SCA Hygiene Products is a subsidiary of SCA Hygiene Products. SCA Hygiene Products is a global hygiene company.



Hand Hygiene

IN ADDITION . . .

- Finger nails
 - Keep nail tips <1/4 inch in length
 - No artificial nails or extenders when having direct contact with residents
 - Nail polish can be worn but should be removed when chipped
- Bling
 - Keep rings to a basic minimum (avoid if possible)
 - Wash around rings rather than remove and replace after washing



ENHANCED STANDARD PRECAUTIONS

- Hand Hygiene process
- Education
 - Use a variety of methods, e.g., videos, games, glow-germ demonstration
- System/process in place to monitor compliance
 - Document findings
 - Report to stakeholders and to IC committee
 - Post findings of each unit, department
- Frequent audits of ALL staff members and ancillary providers



Hand Hygiene

AUDIT

- Enhanced Standard Precautions has an audit tool
- iscrub lite for iphone and ipad use
- Develop your own tool
 - Include hand washing, use of PPE

INFECTION CONTROL COMPLIANCE CHECKLIST

OBSERVATION DATE:

EVALUATOR:

NAME OF PERSON OBSERVED	ROLE IN FACILITY*	OBSERVATION # ROOM NUMBER	STANDARD PRECAUTIONS USED PPE USED?	HAND HYGIENE USED SOAP & H2O OR ALCOH	APPROPRIATE TRANSMISSION BASED ISOLATION PRECAUTIONS USED (IF APPLICABLE)	GLOVES & LINEN USED APPROPRIATELY (IF NO, LIST CATEGORY OF NON-COMPLIANCE)	PROPER POSITIONING OF ISOLATION SIGNS	100% COMPLIANCE WITH ISOLATION	
								Yes	No

*ROLE IN FACILITY CODE: RN = PHYSICIAN, N = NURSING ASSISTANT, A = RT, S = RENAL, E = DIETARY, H = HOUSEKEEPING, & OTHER HCW, V = VISITOR
 **ISOLATION VARIANCE: NON-COMPLIANCE TO NOTE IN THE "NO" COLUMN - GLOVES, GOWNS, MASK, OR GOGGLES NOT USED WHEN INDICATED.

BASELINE COMPLIANCE RATES³

OBSERVED COMPLIANCE	NURSES NUMBER (%) OF	PHYSICIANS (N=45)	OTHER HCW (N=45)	TYPE OF HCW UNKNOWN
<20%	1 (2)	8 (18)	7 (16)	4 (11)
20-30%	7 (17)	8 (18)	3 (7)	9 (25)
31-40%	7 (17)	14 (31)	7 (16)	8 (22)
41-50%	9 (22)	6 (13)	7 (16)	6 (17)
51-60%	9 (22)	3 (7)	8 (18)	5 (14)
61-70%	2 (5)	2 (4)	6 (13)	2 (6)
71-80%	3 (7)	2 (4)	5 (11)	2 (6)
>80%	3 (7)	2 (4)	2 (4)	No data

³Systematic Review of Studies on Compliance of Hand Hygiene Guidelines in Hospital Care. Vicki Eassey, MSc; Thea J. Duhaime, MSc; PhD et al. Infection Control and Hospital Epidemiology, Vol 33, No 3 (March 2008) pp. 283-294



Hand Hygiene

FINDINGS OF STUDIES

Data from previous slide come from 96 empirical studies (majority in ICUs)

- Overall median compliance rate for HCWs 40%
 - Lower in ICU (30-40%)
 - Lower for Physicians (32%)
 - Nurses- 48%
- Before resident contact (21%)
- After resident contact (47%)

FINDINGS OF STUDIES (continued)

- Situations associated with higher compliance with hand hygiene were⁴:
 - Tasks considered “dirty” tasks
 - Introduction of ABHR or gel
 - Performance feedback
 - Accessibility of materials

⁴Systematic Review of Studies on Compliance with Hand Hygiene Guidelines in Hospital Care, Vicki Braithwaite, MSc; Tracey J. Duke-Borg, PhD; Jan Hendrik Richardus, MD, PhD, et al. ICHE, Vol. 31, No. 3 (March 2010) pp. 283-294

OTHER CONSIDERATIONS

- Install more ABHR stations
- Provide individual ABHR to HCW
- Audit:
 - Amount of soap used
 - Amount of hand sanitizer used
 - Hand towel usage





Hand Hygiene

MEASURING HAND HYGIENE COMPLIANCE

- Direct observation-has been the gold standard
- High tech systems of monitoring compliance which employ scanning technology to perform automated collection and reporting of hand hygiene measurements across an organization
 - Real-time systems
 - Ultrasound emitting tags worn by staff which vibrate when within 7 feet of sensor attached to bed
 - Mechanical switches installed on gel dispensers to track when they are used
 - Hand-hygiene sensing device detects alcohol in the gel used to wash hands and sends an infrared signal to a badge to record the event (e.g., HyGreen system)

WHO SHOULD AUDIT?

- “Secret Shopper” or “Surrogate Observer”
- Peer review hand hygiene audits
- Designate a champion for hand hygiene
 - Champion can assign different personnel to be “auditors of the day”
- Rotate auditors
 - Allows for shared responsibility and at the same time effects each auditor’s own hand hygiene practices when they are not auditing someone else

IS YOUR AUDIT PROCESS EFFECTIVE?

- Consistent review of hand hygiene practices of all staff
 - Audit outside vendors and ancillary service providers
 - Train auditor to look for key practices (correct product, duration, etc.)
- Adequate time allowed for observation
 - Should be done on a regular schedule
- Communication of results of audits
 - Report back to staff on findings
 - Post findings for staff to see
 - Report to IC Committee on compliance rates
- Correlate to your infection rate
 - As HAI events are reviewed correlate to audit findings
 - Review mapping for clusters of infections



Hand Hygiene

HOW SHOULD HAND HYGIENE AUDITS GUIDE YOU

- Identification of trends of infections
- Poor Compliance rates of hand hygiene
 - Review how this may have impacted your infection rates
- When an outbreak is suspected, review hand hygiene audits and re-audit staff
 - Do root cause analysis (RCA) when infection rates climb (often tracks back to hand hygiene compliance)

CONSEQUENCES OF NON-COMPLIANCE

- Give “tickets” with strong wording to STOP and remember to sanitize hands
- Consider giving tickets (randomly) to those who are compliant
 - Creates a positive environment rather than punitive
 - Consider giving a prize to the HCW at end of month with the most positive tickets

TICKET

Good Job



Thank you for washing your hands!



You forgot to wash!
Hand Hygiene saves lives!



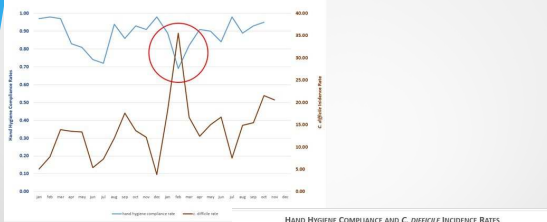
Hand Hygiene

HAND HYGIENE VS. INFECTIONS

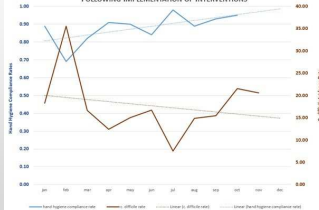
Key studies assessing effect of hand hygiene on infection

YEAR/COUNTRY	SETTING	EFFECT ON HH COMPLIANCE AND/OR ABHR CONSUMPTION	IMPACT ON MDROS	REFERENCE
2000 Switzerland	Hospital-wide	Significant ↑ in HH from 48-66%. Increased consumption of ABHR from 3.5-15.4 L per 1000 resident Days	Significant ↓ in annual prevalence of HAI (42%) & MRSA cross transmission rates (87%. Continuous ↑ in ABHR use, stable HAI rates & cost savings in I/U costs (not sure word is)	Pittet D et al
2009 USA	Hospital-wide 7 ACH	Significant ↑ of HH compliance from 49% to 98% with sustained rates greater than 90%	Significant ↓ of MRSA rates from 0.52 to 0.24 episodes /1000 resident Day	Lederer JW et al
2010 USA	2 acute hospitals	Significant ↑ of HH compliance from 65% to 82%	51% ↓ in HAI MRSA cases during 12 month period	Carboneau C et al
2011 Australia	Nationwide 521 hospitals	In areas not previously exposed to campaign, ↑ of HH compliance went from 43.6% to 67.8%	Significant ↓ of overall MRSA BSI but not of hospital-onset MRSA BSI	Grayson ML et al
2013 Spain	Hospital-wide	Significant HH ↑ from 57% to 85%	Significant ↓ of MRSA infections & colonization/10,000 days	Mestre G et al

HAND HYGIENE COMPLIANCE AND C. DIFFICILE INCIDENCE RATES



HAND HYGIENE COMPLIANCE AND C. DIFFICILE INCIDENCE RATES FOLLOWING IMPLEMENTATION OF INTERVENTIONS



BEWARE OF HAWTHORNE EFFECT⁵

- What is it?
 - First described in 1950 at Western Electric Co. in Illinois
 - Based on analysis of experiments on worker productivity
 - Due to attention received in the experiment/observation phase itself, results can be altered or misleading
 - This effect can inflate HH compliance rates
- What can you do?
 - Utilize secret shopper concept
 - Track usage of HH products
 - Increase signage throughout facility
 - Major education campaign
 - Must be ongoing monitoring of HH



⁵The Hawthorne Effect in measurement of HH compliance: a definite problem, but also an opportunity. Hester Sarah MD, Tufts University School of Medicine. BMC Qual Saf 2014,13:190-197



Hand Hygiene

