Evidence Based Hygiene Strategies

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SKIN

- FIRST LINE OF DEFENSE

- LARGEST ORGAN OF BODY
LAYERS

- EPIDERMIS
  - protecting the body from the environment, particularly the sun
  - preventing excessive water loss from the body
  - protecting the body from infection
  - Does not contain blood vessels – relies on deeper layers for nutrients
DERMIS

- Mechanical protection (collagen)
- Provides oxygen and nutrients to the living part of the epidermis
- Removes waste products of metabolism from the epidermis
- Provides shape and form to the body, by holding all its structures together
- Contributes to skin color, particularly in people with little melanin in the epidermis.
- Regulates body temperature through control of blood flow and sweating
- Skin sensations of touch, pain, heat and cold.
Natural Line of Defense

- Natural layer of oil-in-water emulsion on the skin
- First barrier against invasion by micro-organisms
- Stratum corneum provides the next level of defense.
- White blood cells in the skin can capture and destroy bacteria invading the epidermis
- If a “battle” ensues – it may result in pus (dead bacteria and WBCs)
- Langerhans cells
  - Mop up invading foreign substances
  - Migrate to special white cells (*lymphocytes*) in the lymph glands.
SKIN FUNCTIONS

- Surface Barrier
- Provides Sensory Perception - touch
- Temperature Regulation
- Role in Body Image and Personal Perception
What Systems Interact with Skin?

- **Cardiovascular system** and the **nervous system**.
  - Rich network of blood vessels in the dermis
  - Rich nerve supply (sensory and motor) to skin structures.

- **Digestive System:**
  - Vitamin D is synthesized in the skin by the action of ultra-violet light on precursor molecules.
  - Vitamin D helps the digestive system by encouraging the uptake of calcium from our diet.
What Systems Interact with Skin?

- **Kidneys**
  - Fluid balance in the body (by sweating)

- **Endocrine System**:
  - Sweat glands respond to antidiuretic hormone (ADH) in a similar way to the nephrons in the kidneys
    - As ADH levels rise, the volume of sweat produced will have a tendency to fall unless this effect is overruled by another control mechanism such as the autonomic nervous system

- **Reproductive system** has interactions with the skin, since sensory stimuli received by the skin can influence sexual behavior and processes
Touch Receptors

- Touch receptors are located in clusters around skin.
  - Resemble onions or jelly material.
- When they are squeezed, such as a massage, the layers rub against each other stimulating electrical nerves.
- The most sensitive touch receptors are located at your face, back of your neck, chest, arm (upper), fingers, soles of your feet, and between your legs.
Sensory receptors in your skin
SKIN ASSESSMENT
SKIN ASSESSMENT

- Observe Patient
- General Appearance
- Patient’s reactions to food, pets, drugs, insects, bites, environment
- Exposure to UV light (natural or artificial)
- Medication and drug use history
- Reaction to touch
ASSESSING SKIN

- Type:
  - Primary or Secondary
- Color and Consistency
- Size
- Shape
- Location
- Type of Drainage:
  - serosanguinuous, purulent, clear
- Distribution
PRIMARY LESIONS

- MACULE
- PAPULE
- NODULE
- VESICLE
- PUSTULE
- WHEAL
SECONDARY

- SCALES
- FISSION
- SCAR
- EROSIONS
- ULCERS
- ATROPHY
- LICHENIFICATION (Thick, leathery skin, usually the result of constant scratching and rubbing)
PRESSUR ULCERS

- Pressure ulcer prevalence varies by setting,
  - as high as 17% in acute care
  - 28% in long-term care
  - 29% in home care settings.

# Braden Scale for Predicting Pressure Sore

<table>
<thead>
<tr>
<th>SENSORY PERCEPTION</th>
<th>Patient's Name</th>
<th>Evaluator's Name</th>
<th>1. Completely Limited Unresponsive (does not moan, flinch, or grasp) to painful stimuli, due to diminished level of consciousness or sedation. OR limited ability to feel pain over most of body</th>
<th>2. Very Limited Responds only to painful stimuli. Cannot complain of discomfort except by crying, moaning, or restlessness OR has a sensory impairment that limits the ability to feel discomfort over ½ of body</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOISTURE</td>
<td></td>
<td></td>
<td>1. Constantly Moist Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned.</td>
<td>2. Very Moist Skin is often, but not constantly moist. Linen must be changed once a shift.</td>
</tr>
<tr>
<td>ACTIVITY</td>
<td></td>
<td></td>
<td>1. Bedfast Confined to bed.</td>
<td>2. Chairfast Ability to walk several feet, weight is non-existent. Cannot sit in chair or wheelchair.</td>
</tr>
<tr>
<td>MOBILITY</td>
<td></td>
<td></td>
<td>1. Completely Immobile Does not make even slight changes in body or extremity position without assistance</td>
<td>2. Very Limited Makes occasional slight changes in body or extremity position, but unable to make frequent significant changes in position</td>
</tr>
<tr>
<td>NUTRITION</td>
<td></td>
<td></td>
<td>1. Very Poor</td>
<td>2. Probably Inadequate</td>
</tr>
</tbody>
</table>
Wound Healing Phases

**Inflammatory**
- 1) Immediate to 2-5 days
- 2) Bleeding stops (haemostasis)
  - i) Constriction of the blood supply
  - ii) Platelets start to clot
  - iii) Formation of a scab
- 3) Inflammation
  - i) Opening of the blood supply
  - ii) Cleansing of the wound

**Proliferative**
- 1) 5 days to 3 weeks
- 2) Granulation
  - i) New collagen tissue is laid down
  - ii) New capillaries fills in defect
- 3) Contraction
  - i) Wound edges pull together
- 4) Epithelialization
  - i) Cells cross over the moist surface
  - ii) Cell travel about 3 cm from point of origin

**Maturation**
- 1) Collagen forms which increases tensile strength to wounds
- 2) Scar tissue is only 80 percent as strong as original tissue
- 3) 3 weeks to 2 years
NURSING MANAGEMENT

- WET DRESSINGS
- OCCLUSIVE WOUND THERAPY
- BATHS
  - Water baths – change water frequently – store basin dry
  - Aloe “bath in a bag”
  - Antiseptic baths (CHG) with impregnated cloths or antiseptic onto facecloth for application during bathing
- TOPICAL MEDS
- PREVENTION OF INFECTION SPREAD
  - Confine and contain – make area occlusive to exogenous contamination
  - Precautions Technique
- SPECIFIC SKIN CARE
  - Incontinent care, products to keep skin healthy during care
- PSYCHOLOGICAL EFFECTS
SURGICAL SITE INFECTION
PATIENT’S SKIN AND SSI

- Exposure to the endogenous bacteria of the patient’s skin, mucous membranes, or hollow viscera, when skin and/or mucous membranes are incised.

- When introduced into body tissues by surgery or by medical devices such as intravenous catheters, the pathogenic potential of endogenous flora increases.

SKIN CONTAMINANTS

- Two major groups of microorganisms are found on the skin
  - organisms that normally reside in the superficial layers of the skin (resident flora)
  - temporary contaminants (transient flora)
SKIN BACTERIAL COUNTS

(colony-forming units per square centimeter)

Vary by anatomic location:
Scalp: $1 \times 10^6$
Groin: $1 \times 10^5$
Axilla: $5 \times 10^5$
Foot: $1 \times 10^{2-5}$
Abdomen: $4 \times 10^4$
Forearm: $1 \times 10^4$
SKIN FLORA BY SITE

- **Head and Neck**
  - more sebaceous glands and, therefore harbor higher populations of lipophilic organisms (e.g., *Propionibacterium* species)

- **Face, Hands**
  - tend to have higher populations of transient flora

- **Axillae and Groin**
  - can be heavily colonized with gram-negative rods and *Staphylococcus aureus*

- **Auditory canal**
  - frequently colonized with *Pseudomonas aeruginosa*, which can cause infection at nearby surgical sites.
# Most Common Microorganisms Isolated from SSIs

<table>
<thead>
<tr>
<th>Organism</th>
<th>1986-1989(percent)</th>
<th>1990-1996(percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Staphylococcus aureus</em></td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Coagulase-negative staphylococci</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td><em>Enterococcus species</em></td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td><em>Escherichia coli</em></td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em></td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td><em>Enterobacter species</em></td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td><em>Proteus mirabilis</em></td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td><em>Klebsiella pneumoniae</em></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Other <em>Streptococcus</em> species</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><em>Candida albicans</em></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Group D streptococci</td>
<td>----</td>
<td>2</td>
</tr>
<tr>
<td>Other gram-positive aerobes</td>
<td>----</td>
<td>2</td>
</tr>
</tbody>
</table>
Incision sites closed primarily should be protected with a sterile dressing for 24 to 48 hours postoperatively.

When incision dressings are changed, hands should be washed before and after and sterile technique should be used.

The patient and his or her family should be educated regarding proper incision care, SSI symptoms, and the importance of reporting these symptoms.
Antiseptic agents
  - Alcohol
  - Chlorhexidine
  - Iodophors
- New combination products, containing 2 or more active agents, have recently been approved for use as preoperative skin preparations.
  - CHG/Alcohol, Iodophor/Alcohol
ANTISEPTICS

- Ethyl alcohol, 60% to 95% by volume in an aqueous solution
- Isopropyl alcohol, 50% to 91.3% by volume in an aqueous solution.
  - Alcohol is readily available, inexpensive, and remains the most effective and rapid-acting skin antiseptic.
- Iodophors are a combination of iodine and a solubilizing agent that liberates free iodine.
  - Problem: Iodophors may be inactivated by blood serum or proteins and low residual action
CHLORHEXIDINE

- Chlorhexidine gluconate (CHG) has been noted as a highly effective antimicrobial
  - chlorhexidine gluconate achieves greater reductions in skin microflora than povidone-iodine
  - Chlorhexidine gluconate is not inactivated by blood or serum proteins
  - Chlorhexidine has the primary advantages of residual activity, superior efficacy, and less skin irritation.
COMBINATION PRODUCTS

- 2% chlorhexidine gluconate/70% isopropyl alcohol prep provides rapid and persistent antimicrobial activity
  - Tinted green and orange available
- 0.7% iodine/74% isopropyl iodine combination provides alcohol for fast kill and fast drying (2 to 3 minutes on skin), and an iodophor for persistence in a water-insoluble film.
Post-op Skin Care Challenges
Blisters, Tape Tears, Pressure
Skin Issues in Orthopedic Surgery
Obesity and Surgical Incision

- Incision collects fluid – serum, blood - growth medium for organisms
- Spine incisions - close to the buttocks
- Perspiration - diaphoresis
- Body fluid contamination from bedpans/commodities
- Friction and sliding - skin tears and blisters
- Itchy skin - due to pain medications - skin breakdown
CELLULITIS
Infectious or Chemical?
Surgical Site Infection After Orthopedic Surgery: Devastating!
STRATEGIES TO PREVENT SSI
Incisional Adhesive

- SEAL THE INCISION
- Incisions may be closed faster
- More secure than regular stitches
- Eliminates contaminated steri-strips
- Forms a strong, flexible bond and protective barrier for incision
- Seals out common infection-causing bacteria, including certain *Staph, Pseudomonas* and *E.coli*
- Patient can shower or bathe - disappears naturally ~10 d
- Bandages and dressings are usually not needed – therefore incision can be visually assessed
Silver Antimicrobial Dressings

- Absorbing silver gauze as primary dressing after spine and shoulder surgery (if incisional adhesive not used)
- Absorbs 22 times its weight in fluid
- Covered by a transparent dressing to protect incision from exogenous contamination
Antimicrobial Dressing
Silver Foam Dressing

Silver Foam Dressing

Absorbs 96 grams of fluid

Does not adhere to steri-strips or skin

Silicone makes it easy to lift for inspection and will not tear skin layers
CHG Use For Surgery

- 4% chlorhexidine preop showers
- 2% CHG/70% alcohol skin preparation (tinted orange)
- Antimicrobial dressing material for primary and secondary dressings ("AMD")
Surgical Incise Drapes and Bacitracin/Polymixin Irrigation

- Continued use of Iodophor-impregnated incise barrier drapes
  Cost: > $60,000/year
  - No data to support these drapes reduce SSI – surgeon preference based on adhesion to skin

- Stopped routine use of Bacitracin/Polymixin Irrigation (cost: > $110,000/year in Feb 07)
  - Only for revisions, allografts and infected cases
INCONTINENCE CARE AND
INDWELLING FOLEYS
DEFINITIONS – URINARY INCONTINENCE (UI)

- Involuntary loss of urine – transient or chronic
- Types of UI include:
  - 1. Stress UI: involuntary loss of urine associated with increase intra-abdominal pressure.
  - 2. Urge UI: characterized by an involuntary urine loss associated with a strong desire to void (urgency) or overactive bladder (OAB)
  - 3. Mixed UI: usually defined as a combination of 1 & 2.
  - 4. Overflow UI: an involuntary loss of urine associated with over-distention of the bladder - under-active detrusor muscle or outlet obstruction
  - 5. Functional UI: caused by non-genitourinary factors, such as cognitive or physical impairments that result in an inability for the individual to be independent in voiding
CAUSES OF INCONTINENCE

- Immobility
- Uropathy - blocked urethra, such as from an enlarged prostate.
- Caffeine use
- Certain medicines and herbs used to treat high blood pressure or used weight loss
- Certain conditions: multiple sclerosis, Parkinson disease, or dementia.
- Hormone or weight changes in women, such as pregnancy or menopause.
- Constipation
- Kidney stones.
- Overactive bladder and weak bladder muscles
- Urinary tract or vaginal infections
- Urinary sphincter muscles
INCONTINENCE CARE

- Good and consistent skin care
  - Cleansing disposable wipes with skin protectants
  - Skin protecting barrier creams and moisturizers
  - Disposable Protective Underwear
  - Pant & Liner System
  - Bladder Control Pads, Underpads, Adult Diapers
URINARY CATHETERS

- Indwelling catheter and condom catheters
  - Should be last choice!
  - Use silver impregnated
- Indications
  - Fluid Measurement
  - Urinary Retention
  - Uropathy in urethra
  - Open wounds or pressure sores around your genitals or buttocks
  - Frequently soiled with urine and skin breakdown
  - Severe illness or disability (intensive care)

Reduction in catheter-associated urinary tract infections (CAUTIs) using a silver-coated 100% silicone Foley catheter verses a silver-coated latex Foley catheter in a Northeastern U.S. acute care hospital: Abstract ID 50571: Monday, June 20. APIC 2005 AJIC:

CATHETER CARE

- Wash hands before and after doing catheter care
- Keep skin and catheter clean
  - Clean around catheter at least each day
  - Clean skin area after every bowel movement
- Always keep bag below the level of bladder
- Increase fluid intake
- Secure catheter to leg with securement device
- Secure tubing in a downward flow when in bed
- Place the catheter tubing so it does not kink or loop
ORAL CARE

- Oral health - oral microbial flora, which are concentrated in dental plaque.
- Dental plaque provides a micro habitat for organisms
- In critically ill patients, potential pathogens can be cultured from the oral cavity and colonize the lung, resulting in ventilator-associated pneumonia.
- Some studies indicate reduction in rates of ventilator-associated pneumonia
  - Oral decontamination with chlorhexidine reduces the incidence of ventilator-associated pneumonia
  - Prophylactic chlorhexidine oral rinse decreases ventilator-associated pneumonia in surgical ICU patients
    - Surg Infect 2001 Spring;2(1):5-18
MRSA and Staph aureus Eradication Program

Prescreening Process
Topical Decolonization Protocol
Vancomycin for MRSA
February 2006
Anonymous Nares Cultures

133 patients
Obtained nasal cultures
Purpose: to determine pre-op MRSA and MSSA colonization rates

Results:
38 – Staph aureus (29%)
*5 - MRSA (4%)
*all undiagnosed and no precautions used in OR or postop nursing unit
Treatment Protocol

• 5-day application of intranasal 2% mupirocin - applied twice daily - for MRSA and MSSA positive patients.

• Daily body wash with 4% chlorhexidine

• MRSA Patients - Vancomycin surgical prophylaxis.

• Re-screen positive MRSA before surgery
NEBH STAPH AUREUS AND MRSA ERADICATION PROGRAM

PRESCREENING UNIT (PASU)

Patient is screened for Staph aureus and Methicillin-resistant Staph aureus (MRSA)

Staph aureus

Treated with 2% mupirocin (Bactroban) for five days and five days of body bathing with chlorhexidine (e.g., Hibiclean)

No further screens or precautions are necessary

MRSA +

Flagged in Meditech as MRSA-SCR
Placed on the MRSA list on N Drive

Treated with 2% mupirocin (Bactroban) for five days and five days of body bathing with chlorhexidine (e.g., Hibiclean)

Second nasal screen obtained before surgery

MRSA –

MRSA-SCR flag is removed from Meditech

Vancomycin administered as surgical prophylaxis – prepared in Bond Center one hour before surgery

No precautions or additional nasal screens are necessary

MRSA +

MRSA-SCR flag changed to MRSA

Vancomycin administered as surgical prophylaxis – prepared in Bond Center one hour before surgery

Contact Precautions are implemented and used throughout the hospitalization

Three negative cultures required to be removed from precaution list
What were the outcomes?
MRSA/MSSA Eradication Program Results

From July 17, 2006 through September 30, 2008

13,345 patients screened

- 3268 (24%) positive for *Staph aureus*
- 601 (4.5%) positive for MRSA
- Repeat nasal screens on MRSA patients revealed 78% eradication
## MRSA and *Staph aureus* Infection Rates

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Inpatient surgeries</th>
<th>Surgical Infections</th>
<th>Infec. Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY06</td>
<td>10/01/05-07/16/06</td>
<td>5293*</td>
<td>24</td>
</tr>
<tr>
<td>FY07</td>
<td>07/17/06-09/30/07</td>
<td>7019**</td>
<td>13</td>
</tr>
<tr>
<td>FY08</td>
<td>10/01/07-08/31/08</td>
<td>5689**</td>
<td>7</td>
</tr>
</tbody>
</table>

*historical controls

**screened inpatient surgeries
Creative Hand Hygiene Strategies
Social Learning Techniques

- Role Modeling
- Self-Efficacy
- Reinforcement
- Contracting
- Reciprocity
Infection Control Liaisons

- Unit and Department-based liaisons
  - Role Models
  - Responsibilities enhance self-efficacy
  - Participate in educational activities
  - Hand hygiene observations
  - Precaution Carts and direct care observations
  - Communicate information to staff
  - Assist in implementing practice change at bedside
  - “Call-out” breaks in techniques
  - Attend monthly meetings
  - Contribute to an annual “Bug Beat Fair”
  - Participate in Performance Improvement Studies
  - Clinical ladder for professional advancement
Unit-Based Bulletin Board
Staff Participation in Hand Hygiene Posters

got soap?

Amy Harrington, RN, CNI

Linda Braune RN, BSN, CNOR, CNIV

Raquel A. Amoldoni, RN, CNI

Deborah Mulloy, RN, MSN, CNOR, PeriOperative CNS

Routine Handwashing - use Soft N Sure soap, wet skin, apply soap and wash for 10-15 seconds.

Antisepctic Hand rub - use Cal Stat alcohol-based hand rub, apply and rub until hands are dry.

Lotion - use Lotion Soft Skin Conditioner to keep hands in good condition.
Participation in the Annual Bug Beat Fair
Examples of Creative Hand Hygiene Programs
Partners in Hand Hygiene  Nov 2005

NEBH & You

Creating a partnership between patients and staff to promote good hand hygiene practices.

Partners in Hand Hygiene

Educational displays in the Cafeteria
November 28th and 29th
11:30am - 2pm

“Did you wash your hands or use Cal Stat?”

Raffles and prizes, including the “adopt a bug” campaign.

Participating staff will receive a small stuffed “bug” with a bottle of Cal Stat.

Patients will receive an educational brochure and “bug gift” in Patient Access.
Hand Sanitizer Bugs

- Sanitizer bottles affixed with poseable “bugs”

- Highlights dispensers, catches the eye, visitors and staff enjoy them
Facts about hand hygiene...

- Hand hygiene is the single most important procedure performed at NEBH to prevent the spread of infection to you, the patient.

- Germs that cause infections can be spread in a number of ways. The most common is through hands. Hand hygiene removes germs from the hands and helps protect YOU from infections.

Don’t be shy!
Your healthcare workers are interested in your care and encourage you to ask them about hand hygiene!

A former Hand Hygiene Campaig designed to educate healthcare workers on the CDC Guideline for Hand Hygiene and implement the use of alcohol-based handrub product included creative posters around the theme of “Got Soap” with soap mustached nurses and doctors.
Who?
New England Baptist Hospital is a leader in providing excellent care to patients, and now we would like YOU to join our team as a partner in your care. So ask: "Did you wash your hands or use Cal Stat?"

Why?
Hand hygiene is the single most important procedure that is performed in the hospital for preventing the spread of infection to you, the patient. It is important because nationwide, 2.5 million patients annually develop infections. Also, the Centers for Disease Control in Atlanta reported 30,000 deaths directly caused by infections and an additional 70,000 patients had infections that contributed to their death. Hand hygiene is so important that several governmental and professional agencies list hand hygiene in their guidelines.

How?
Become a partner with your doctor, nurse, and all the healthcare workers that enter your room by asking them the question...

“Did you wash your hands or use Cal Stat?”

When & where?
Ask the question any time your doctor, nurse, or healthcare worker is about to make direct physical contact with you or touch things that are used in your care. This may be in your room or anywhere else in the hospital.
Skin Care Fair

- Department of nursing presented a skin care fair
- Infection Control participated with the Let it S.N.O.W. educational program
- Presented hand hygiene and precautions
June, 2006 – Bug Beat Fair

F.I.E.S.T.A.

Fight Infection, Everyone Should Take Action
November 2006
Cruise on the L.U.A.U.

All Aboard!
Cruise with us on the
L.U.A.U.
Let Us Always Use Good Hand Hygiene

Wednesday, November 8
11:30 a.m. - 1:30 p.m.
Cafeteria
Raffles and Gifts!
The captain will greet you at the cruise ship entrance (Cafeteria entrance) and apply alcohol-based hand rub to all coming aboard!
M.R.S.A. Fair
Make Resistance Stay Away

M.R.S.A. Fair
Make Resistance Stay Away

Friday November 10
11:30 a.m. - 2:30 p.m.
Courtyard Conference Room

Take a journey through the departments
and learn how they prevent infection.

- Patient Access
- Operating Room
- Microbiology Lab
- Central Transport
- Radiology
- PACU
- Nursing Units
- Environmental Services

M. R. S. A.
Because Everyone Assures Clean Hands

New England Baptist Hospital

Please Join Us for the Infection Control Liaisons’ Annual Bug Beat Fair

B.E.A.C.H. PARTY
Because Everyone Achieves Clean Hands

Friday, June 8, 2007
11:30 am - 1:30 pm
Courtyard Conference Room

Games, prizes, raffles, limbo contest, food, beverages, desserts and gifts!
B.E.A.C.H. Party
October 2007

B.O.O. – Bug Off Organisms

October is Infection Control Month

BOO!
Bug Off Organisms!
December 2007
Happy Fingers
February 2008
Sanitize Your Hands
D.O.G. Gone it
(Dirt and Organisms Gone)

Sanitize Your Hands
D.O.G. Gone It!
(Dirt & Organisms Gone)

February 27, 2008
11:30 a.m. – 1:30 p.m.
Cafeteria

Presented by the
Infection Control Liaisons
Foam In - Foam Out

F.O.A.M. - Fight Organisms And Microbes

I am CLOSTRIDIUM DIFFICILE. I cause colitis.

Call me Beta STREPTOCOCCI Group A. I can give you a sore throat.

I am KLEBSIELLA. I can cause wound infections.

Hi! I am STAPHYLOCOCCUS. I cause skin infections and can get resistant (MRSA).

I'm PSEUDOMONAS AERUGINOSA. I infect wounds and produce blue-green pus.

My name is NOROVIRUS. I cause diarrhea.

Boo! I am E. coli - short for ESCHERICHIA coli. I can cause diarrhea or urinary tract infections.

I'm known as INFLUENZA. I love to give you pneumonia.

Don't spread these germs to others.
Wash hands often.
Wash after going to the bathroom.
Wash before eating.
Washing your hands is the single most important thing you can do to stop the spread of infection.
Hand Hygiene Data

Volume use

Direct Observations
Volume Use Data
No Longer Using This For Our Measurement

Overall Hand Hygiene Activity

- Soap
- Sanitizer
- Soap + San combined

HH events/patient bed day

0 5 10 15 20 25 30 35

0 1 2 3 4 5 6

Intervention period (Baseline = period 0)
Data current to February 2007
Direct Observations

Before Patient Contact

After Patient Contact

June-Aug
September-Nov
December-February
March-June
June-Aug
September-Nov
December-February
March-June
Conclusions

- Skin is our first line of defense
- Nurses assume that line of defense in Care of the patient’s skin and portals of Entry (mucous membranes)
- Skin care, surgical skin prep, incontinence care, foley catheter care, oral care and decolonization protocols reduce HAI's
- Hand Hygiene is one of the most important control measures – simple yet powerful!