

# Infection Prevention FUNdamentals!

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2013





# FUN FACT



Florence Nightingale

- English social reformer, 1800s
- Founder of modern nursing
- FIRST INFECTION PREVENTION CHAMPION!**
- Research into hospital sanitary problems made her a firm believer in pure air, water, light, etc.
- Firm belief in preventative medicine led to an established standard of formalized cleanliness and sanitation in hospitals.
- Also believed that respiratory secretions were potentially dangerous, especially among the sick and that the sick should be isolated.



# TODAY'S CHAMPIONS



# Infection Prevention

## **What Do We Do?**

Reduce the risk of transmission of healthcare-associated infections (NPSG 7)

## **How Do We Do It?**

SURVEILLANCE & Exposure control

- Hand hygiene
- Transmission-Based Precautions
- PPE
- Ensure proper streams: waste, linen
- Maintain a clean environment (EVS!)
- Evaluate products and safety devices

# Surveillance Starts with U!

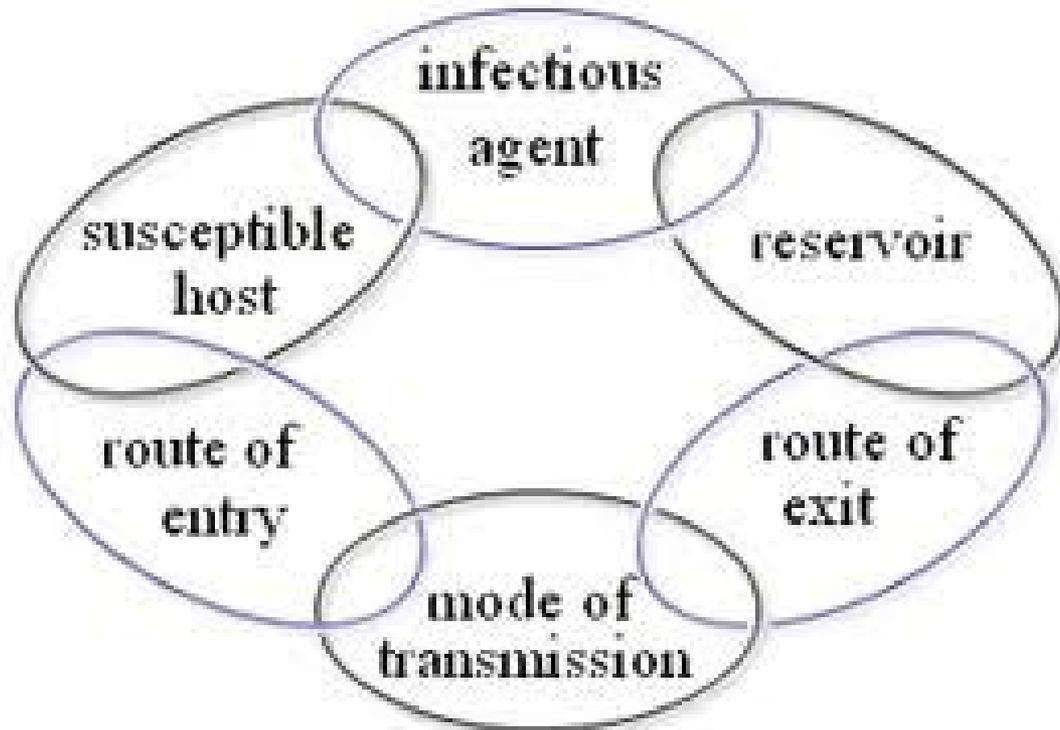


**sur·veil·lance** [ser-vey-luhns]

- \* noun
- \* 1. a watch kept over a person, group, etc., especially over a suspect, prisoner, or the like: The suspects were under police surveillance.
- \* 2. supervision or superintendence.

***Keeping an eye on the institution – who is coming and going? What are we doing that could be adding to the risk of transmission?***

# The Chain of Transmission



# How Can We Break the Chain?

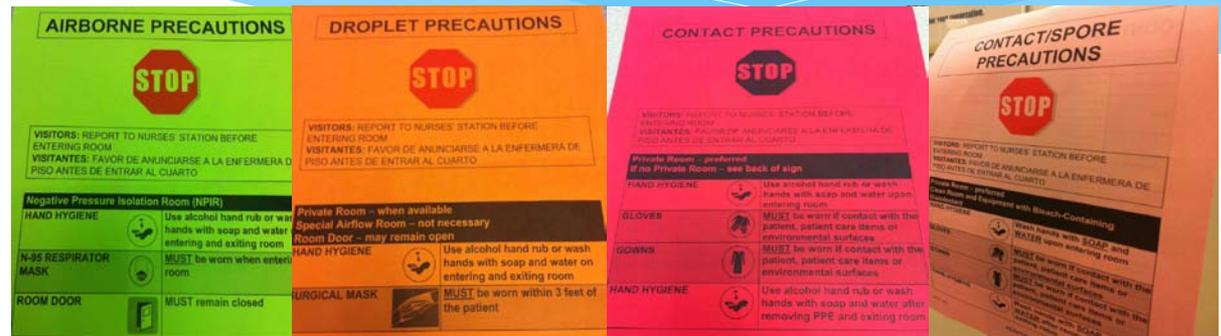
- \* Standard Precautions
- \* Transmission-Based Precautions
- \* Environmental hygiene

# Standard Precautions

- \* **Standard Precautions** are designed to reduce the risk of spreading organisms from both recognized and unrecognized sources in hospitals and are used on all patients regardless of diagnosis.
  - \* Hand Hygiene
  - \* PPE
  - \* Respiratory Etiquette

# Transmission-Based Precautions

- \* AIRBORNE
- \* DROPLET
- \* CONTACT
- \* CONTACT/SPORE



- \* Used in addition to Standard Precautions
- \* At UCLA, patients can be put on precautions without a doctor's order for 24 hours.

# Case Study

What Would YOU do?

Pt. presents to ED with fever, chills, cough and 30 lb weight loss in the last month. Patient is homeless with recent release from jail.

# The Environment

## Where do Organisms Live?



# General Cleanliness



# Cleaning and Disinfection

- \* EVS Services
  - \* Daily cleaning
  - \* Discharge cleaning
  - \* Trash pick-up
- \* Spot disinfection
- \* Cleaning equipment between patient use



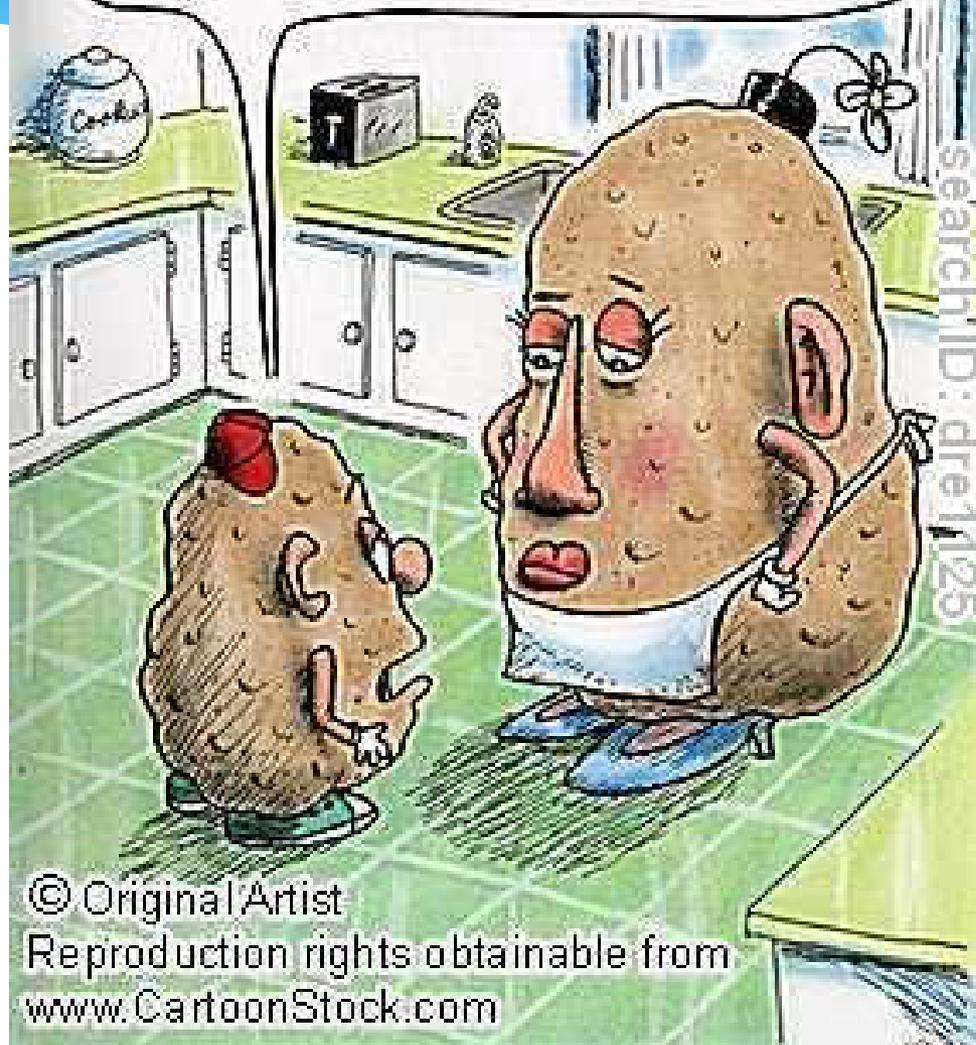
# Construction and Repairs

- Dust generated by construction and repairs can be harmful to patients and staff.
- Minimize dust in patient care areas by:



- Keeping closed windows and doors
- Keeping dust and debris contained
- Keeping work sites clean and dust-free

Yeah, Mom, I KNOW... you have eyes  
on the back of your head. It's  
kind of a family trait.



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# C. difficile



## Clostridium difficile

- Gram positive spore-forming bacillus
- Pathogen of significance in hospitals & community
- Transmission via contact
- Lives on hard surfaces for months
- Environment is HUGE source of transmission
- Use bleach for cleaning
- Place patient on isolation at onset of loose stool

# C. diff

Thank you for your cooperation.

## CONTACT/SPORE PRECAUTIONS



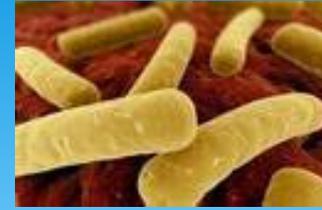
VISITORS: REPORT TO NURSES' STATION BEFORE ENTERING ROOM  
VISITANTES: FAVOR DE ANUNCIARSE A LA ENFERMERA DE PISO ANTES DE ENTRAR AL CUARTO

Private Room - preferred  
Clean Room and Equipment with Bleach-Containing Disinfectant

HAND HYGIENE	
GLOVES	Wash hands with <u>SOAP</u> and <u>WATER</u> upon entering room
GOWNS	<b>MUST</b> be worn if contact with the patient, patient care items or environmental surfaces
HAND HYGIENE	<b>MUST</b> be worn if contact with the patient, patient care items or environmental surfaces
	Wash hands with <u>SOAP</u> and <u>WATER</u> after removing

ADDITIONAL:

# C. difficile



## A two-hit system:

- Transmission via fecal-oral route
- Gut must be primed by antibiotics



Toxin production  
Toxic megacolon  
Colectomy  
Death (age > 65 yrs)



# HOW LAB TESTING IMPACTS ISOLATION

In 2011, the lab brought on a new, more sensitive test  
The test can pick up on colonizers.  
Colonizers are not treated or isolated.

Therefore, only those with presumed, active infection (i.e., new onset diarrhea) should be tested

Reason why lab will not accept formed stool.

Believe the result!

**NO CLEARANCE PROCESS.**

## Tips on *C. difficile* testing & treatment

- ✓ Only patients with diarrhea should be tested for *C. difficile*!  
Patients may be colonized with toxin-producing *C. difficile* strains that are not causing illness.
- ✓ The new *C. difficile* molecular test is highly sensitive!  
>96% sensitivity means far fewer false-negative test results and no need to perform frequent repeat testing.
- ✓ Empiric therapy is to be avoided!  
Treating patients with negative tests does not prevent development of *C. difficile* infection and may increase the subsequent risk of illness.

# Isolation MYSTERIES!

## **‘Clearing’ up confusion**

For each of the following scenarios, does the patient need isolation?

- \* HISTORY from past hospitalization
- \* Ongoing, active infection
- \* Positive on admission, now negative
- \* Has diarrhea, but test is negative. This is the only test done so far during the hospitalization.

# Recap

Preventing infections requires rigorous SURVEILLANCE!

Continuously assessing your environment for RISK.

Utilize standard and transmission-based precautions to break the chain of transmission.



Thanks for All You Do!!