



Bending The Rules Without Breaking the Principles

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Disclaimer

Jim is employed by Diversey. His expenses to attend this meeting (travel, accommodation, and salary) are paid by this company. Diversey has had no input into this presentation from a commercial interest.

Objectives

Talk about what we do for a living

Discuss Standards, Guidelines, Best Practices!

Some 'sort of real' stories (the names have been changed...)

Offer suggestions!

Infection Prevention and Control

Who are we?

- Nurses
- MLT
- Public Health
- Epidemiologists
- ID Physicians
- Microbiologists

Why Do We Do What We Do?

Ain't the money, Honey

Keen, inquiring minds?

Save lives?

Fixation on feces, or other filth?

Love auditing performance?

Always wanted to be the 'hygiene police'?"



Infection Control

Art

Or

Science

?

Art vs. Science

Science becomes art when you exceed the boundaries of set rules or explicit instructions and run on instinct

Anyone can follow a set of rules, it takes an artist to make that object or action artful and graceful

Gut Instinct

Going for a walk

Checking e mails before going home

Not saying anything and letting them work it out

Breaking the Rules

Definition – Regulation

A rule that we must follow

Rules that the government make under an Act



CANADA

CONSOLIDATION

CODIFICATION

Human Pathogens and Toxins
Act

Loi sur les agents pathogènes
humains et les toxines

S.C. 2009, c. 24

L.C. 2009, ch. 24

Food and Drug Act



CANADA

CONSOLIDATION

CODIFICATION

Natural Health Products
Regulations

Règlement sur les produits de
santé naturels

SOR/2003-196

DORS/2003-196

Code of Federal Regulations (CFR)

The codification of the general and permanent rules and regulations (administrative law) published in the *Federal Register* by the executive departments and agencies of the federal government of the United States

Divided into 50 titles

Definition - Standard

Document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose

Standard

Typically refer to how to do a job

Not written by government

Have no authority on their own, but may be adopted into regulations making them legal requirements

- Think Canadian Standards Association (CSA)



Government
of Canada

Gouvernement
du Canada

CANADIAN BIOSAFETY STANDARD

for Facilities Handling or Storing Human
and Terrestrial Animal Pathogens and Toxins



- The CBS sets out the physical containment, operational practice, and performance and verification testing requirements for the safe handling or storing of human and terrestrial animal pathogens and toxins.
- ...support the full implementation of the HPTA
- The CBS will be used by the PHAC and the CFIA to verify the ongoing compliance of regulated facilities with the applicable legislation.

‘Shall’

Is used to express a requirement, i.e. a provision that the user is obliged to satisfy in order to comply with the standard

‘Should’

Is used to express a recommendation or that which is advised but not required

'May'

Is used to express an option or that which is permissible within the limits of the standard

'Can'

Is used to express possibility or capability

Guideline

Any document that aims to streamline particular processes according to a set routine

By definition, following a guideline is never mandatory (protocol would be a better term for a mandatory procedure).

ROUTINE PRACTICES AND
ADDITIONAL PRECAUTIONS FOR
PREVENTING THE TRANSMISSION
OF INFECTION IN HEALTHCARE
SETTINGS

HAND HYGIENE PRACTICES IN
HEALTHCARE SETTINGS



CLOSTRIDIUM DIFFICILE INFECTION

INFECTION PREVENTION AND CONTROL
GUIDANCE FOR MANAGEMENT IN
ACUTE CARE SETTINGS

Best Practice

Are generally-accepted, informally-standardized techniques, methods, or processes that have proven themselves over time to accomplish given tasks.

Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment/Devices

In All Health Care Settings, 3rd edition

Routine Practices and Additional Precautions

In All Health Care Settings, 3rd edition

Best Practices for Hand Hygiene

In All Health Care Settings, 4th edition



Provincial
Infections
Disease
Advisory
Committee
(PIDAC)

PIDAC Best Practice Disclaimer

The best practices in this document reflect the best evidence and **expert opinion** available at the time of writing. As new information becomes available, this document will be reviewed and updated.

PIDAC Best Practice 2012

PIDAC-IPC's work is guided by the best available evidence and updated as required. Best Practice documents and tools produced by PIDAC-IPC reflect consensus positions on what the committee deems prudent practice and are made available as a resource to public health and health care providers.

PIDAC Best Practice 2014

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PHO assumes no responsibility for the results of the use of this document by anyone.

Ministry of Labour

Ontario

- “an employer shall take every reasonable precaution to protect...”

Saskatchewan

- “ensure, insofar as is reasonably practicable,”

Ministry of Labour

Much of Infection Prevention is basis of reasonable precautions

Common sense NOT a defense

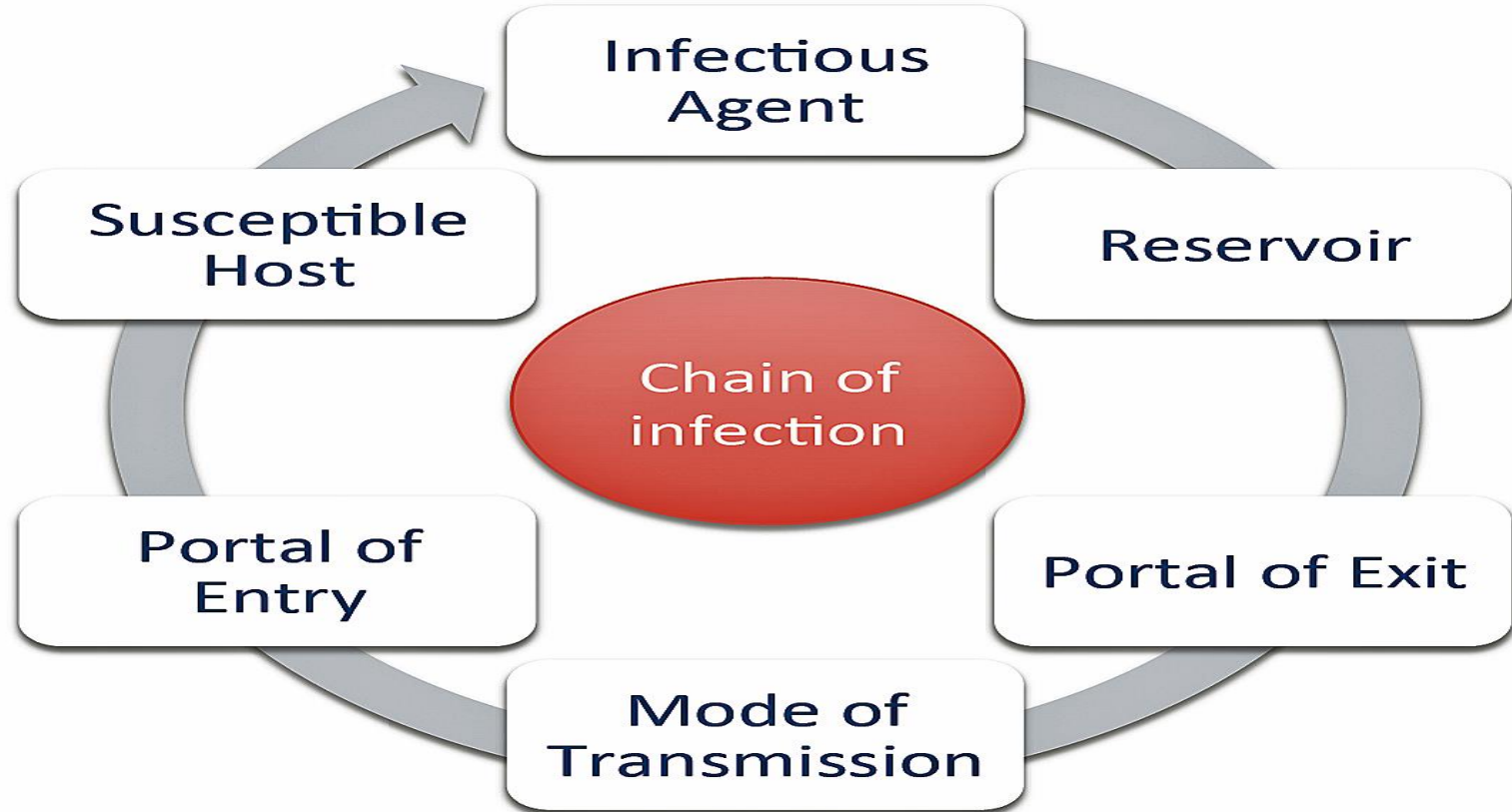
- Needs to be elevated in healthcare

PPE – needs to be available

Guiding Principle – Infections

What is our cornerstone?

Chain of Transmission

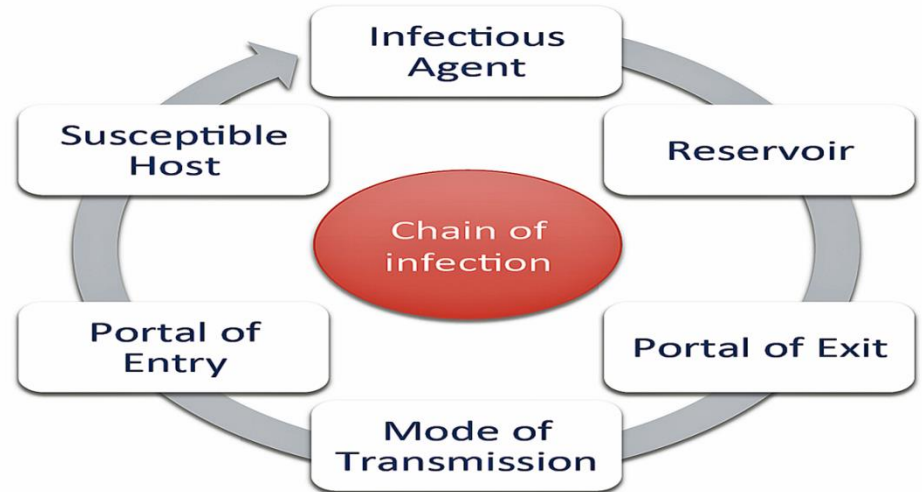


Questions

Are all the links there?

- Need all six, remember!

Chain of Transmission



Questions?

Would it be easy to break one link, or more?

- Hand Hygiene
- PPE
- Cleaning and Disinfection



Examples – Outbreaks

Etiologic Agent

- Asymptomatic
- Symptomatic
- Incubation Period
- Prodromal Period

Risks

To themselves

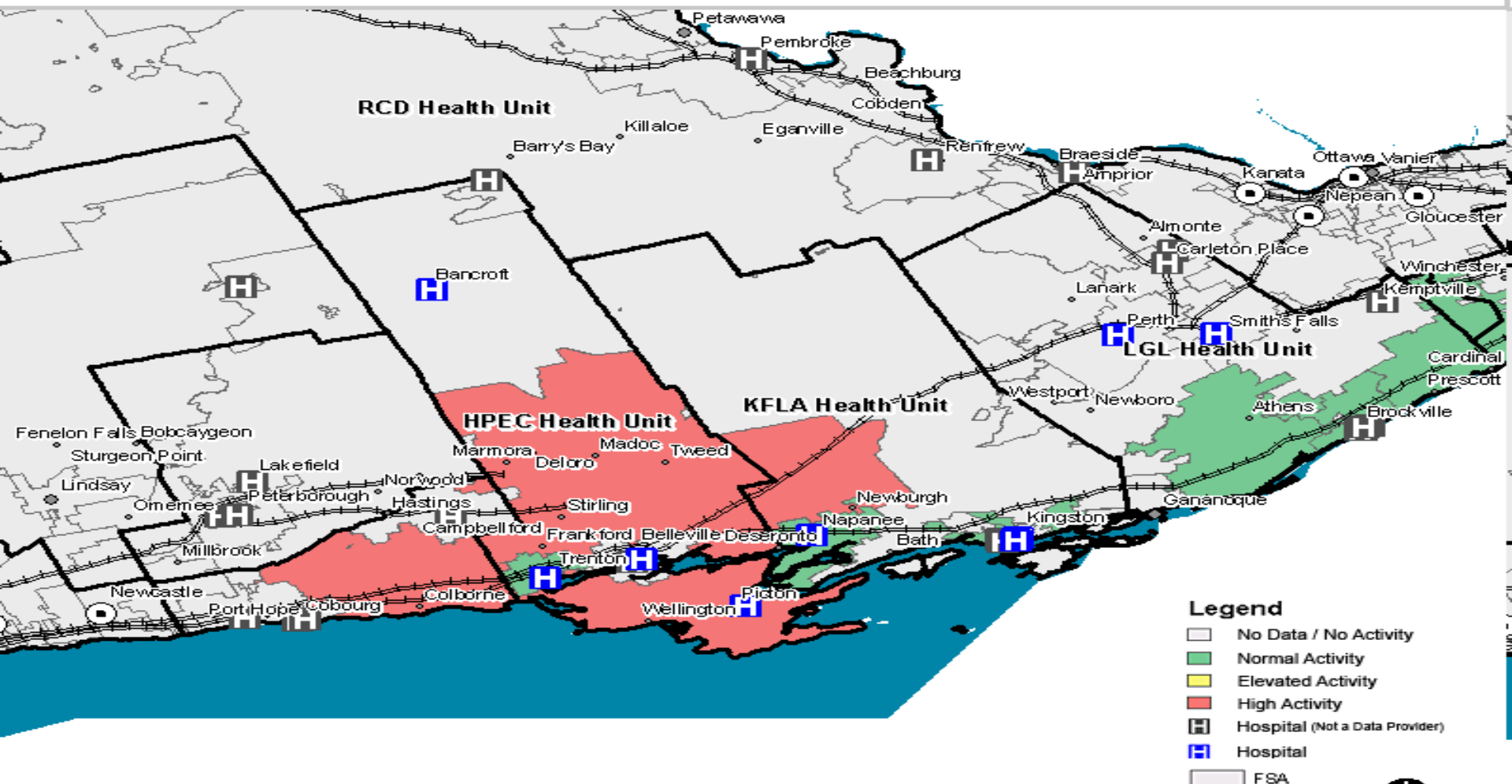
To others on the wards

To other wards (off the ward)

Norovirus

Outbreak at Long Term Care facility

- Traditionally limit the movement of patients/residents and staff
- Exposed, asymptomatic
- 60th wedding anniversary
- Tommy Hunter in town!



Legend

- No Data / No Activity
- Normal Activity
- Elevated Activity
- High Activity
- Hospital (Not a Data Provider)
- Hospital
- FSA



Risks

To themselves

- Pick up community Norovirus

To others

- Become symptomatic in community with Norovirus

Mental Health Considerations

Isolation and Mood Issues

- Norovirus-ish
- Possibly environmental odor sensitivities
- Patients very aware of their grouping for getting off ward
- Borderline Code White

Long Term Care

Norovirus outbreak

Second Incubation period

St. Patrick's Day!



Risks - MRSA

Continent, Compliant, Competent

Other patients/staff

Future discharge issues

Let's Bend Some Rules!



A New Study with Improved Hydrogen peroxide (IHP)

Yale
NewHaven
Health

Yale New Haven
Hospital



John M. Boyce, MD

Study Design

- 12-month prospective trial with cross-over design conducted on two campuses of a university-affiliated hospital
- The 4 study wards included
 - An MICU and its step-down unit on one campus
 - Two general medical wards on the other campus

Study Design

On each campus, 2 wards were randomized to have EVS perform routine daily cleaning/disinfection of surfaces

- Quat disinfectant, applied using meltblown polypropylene and bleach for CDI rooms
- IHP disinfectant wipes containing 0.5% IHP ONLY

After the initial 6 months, ward assignments were changed

Results

- Mean Aerobic Colony Count / surface after cleaning
 - On IHP wards (14.0 CFUs/surface)
 - On Quat wards (22.2 CFUs/surface)
- (p = 0.003)

Results

- Logistic regression analysis revealed that the proportion of surfaces yielding no growth after cleaning
 - On IHP wards (240/501 [47.9%])
 - On Quat wards (182/517 [35.2%])($p < 0.0001$)

Both microbiological outcomes favored IHP over Quat

Results

Healthcare Outcome	IHP Wards (10,741 Pt. Days)	Quat Wards (11,490 Pt. Days)
	Cases (Rate per 1000 pt. days)	Cases (Rate per 1000 pt. days)
VRE Acquisitions + BSIs	59 (5.49)	75 (6.52)
MRSA acquisitions + BSIs	21 (1.95)	32 (2.78)
<i>C. difficile</i> infection	6 (0.56)	12 (1.04)
Composite Outcome	86 (8.0)	119 (10.4)

23% fewer cases/1000 Pt-days on IHP wards

Confounders

Hand hygiene compliance rates comparable on study wards

Antibiotic usage: Non-*C. difficile* agent use was 10.8% higher on IHP wards which would be expected to lead to more VRE, MRSA and CDI outcomes, not fewer as observed

Routine Practices

Our Rule

Our Principle

Our guiding light

Do we need to remind people?

WARNING!!

This patient has:

- Skin!
- Feces!
- Mucous Membranes!

PERFORM HAND HYGIENE AFTER CONTACT WITH THIS PATIENT OR THEIR ENVIRONMENT!

Hi Healthcare Person

I have

**Skin, Feces and
Mucous Membranes!**

Please sanitize your
hands after contact
with me or my
surroundings

Contact Precautions

Principles

- Sound or not?
- Heightened awareness when we KNOW!
- Medical student comment:
 - “If I do Routine Practices the way you indicate, why do we need Contact Precautions?”

CONTACT PRECAUTIONS

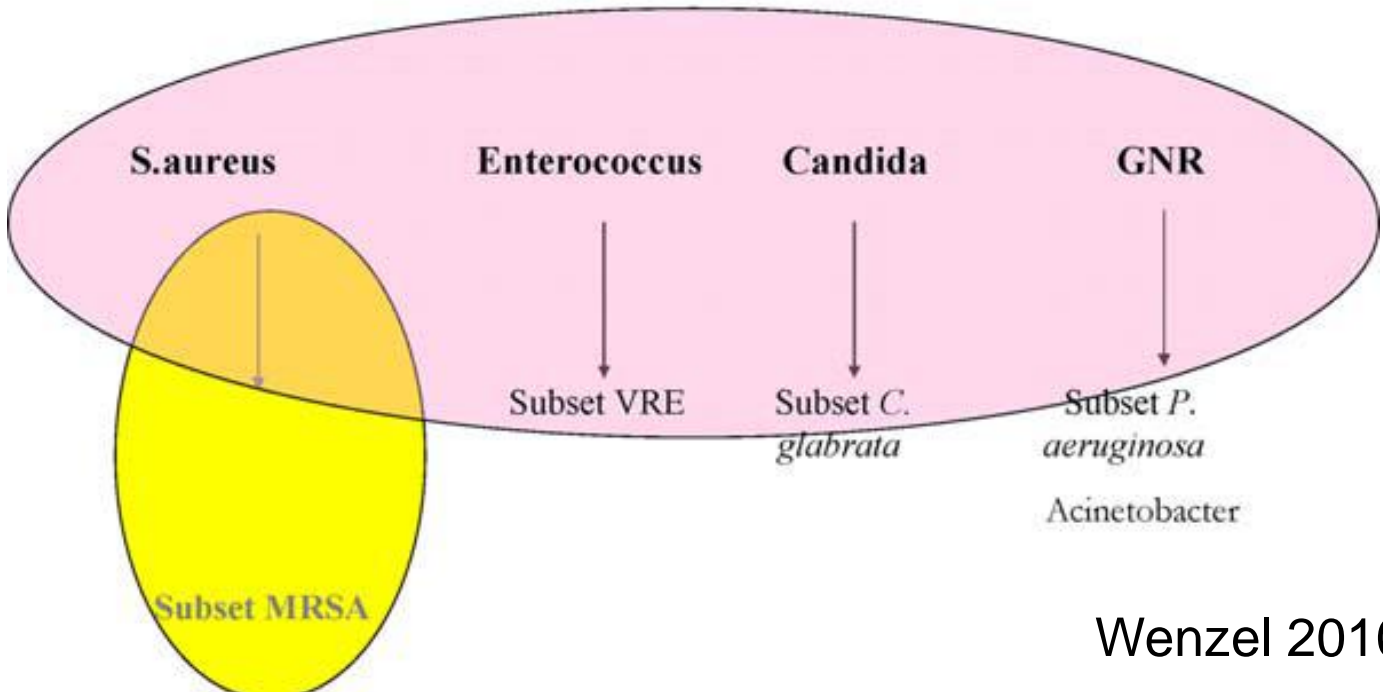
WE JUST FOUND OUT THAT THIS PATIENT HAS A BUG THAT COULD BE CARRIED TO THE NEXT PATIENT.

NOW WE REALLY MEAN YOU HAVE TO PERFORM HAND HYGIENE AND TRY NOT TO SOIL YOUR UNIFORM!

WE ARE NOT SURE ABOUT THE GUY NEXT DOOR, YET, SO DO WHATEVER YOU WANT!

Horizontal vs Vertical Infection Control

Controlling Healthcare Associated BSI: Vertical vs Horizontal Approach



Jim's Theorem of Isolation

The degree of attention to precautions is directly proportional to the mystique or fear of the organism

- MRSA - SARS
- Pandemic H1N1 - CRE
- MERS-CoV - Ebola

SARS



Ebola



Jim's Addendum

The mystique of the organism is inversely proportional to the amount of information staff retain about Routine Practices!

In a Nut Shell

If they are leaking, protect yourself and limit their movement

It if is dirty or you used it, clean it!

20 Words!

Leaking

Vomit

Diarrhea

Uncontrolled nasal secretions

Wound drainage with frequent dressing changes required

Limit Their Movement

Isolation or Additional Precautions

Contact

Droplet

Airborne

In my opinion, really the only precaution we need

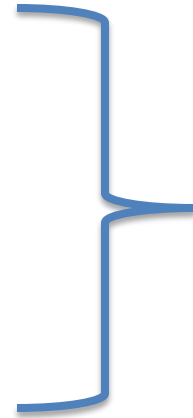
N95 Respirator

Airborne Infection Isolation Room (AIIR)

Protect Yourself

Gloves

- Blood
- Body Fluids
- Excretions
- Secretions
- Equipment that is soiled by above



Exposure or
Potential
Exposure

Protect Yourself

Face Protection

Mask, Mask with attached eye shield, Visor

- Risk of splash or spray
 - Irrigation
 - Cough
 - Trach care



Protect Yourself

Gowns

- Risk of splash or spray
- Bathing patients
- Anything to do with feces



If it is Dirty or You Used It

Hands

Equipment

- Vital tower
- Bladder Scanner



Clean It!

Point of Care Disinfection

- Readily available
- To all staff
- 000 HMIS rating



Summary

What do you think? Art or science?

Case by case is always necessary, in some cases!

Keep the Chain of Transmission in your mind's eye

Get people to understand simple Routine Practices

- Are 20 words easier to remember?

Summary

I think it is okay to bend...without breaking the previous thoughts!



Questions?

