


Infection Prevention and Control

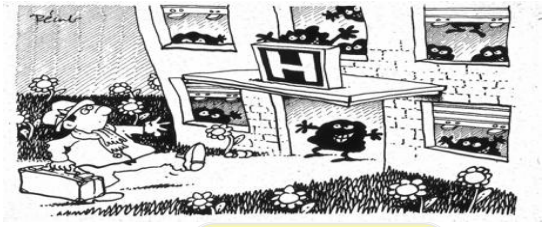
A Foundation Course

Update on recent Guidelines and Recommendations

Ros Cashman
Cork University Maternity Hospital, Cork
2014

A TRADITION OF INDEPENDENT THINKING

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh



The very first requirement in a hospital is that it should do the sick no harm !!!!

UCC

	Title (Most recent)	Published by	Date	Recent Update
MRSA	Prevention and Control of MRSA National Clinical Guideline No 2	HPSC	1995 2005	**2013**
Clostridium difficile	Surveillance, Diagnosis and Management of *Clostridium difficile* infection in Ireland National Clinical Guideline No 3	HPSC	2008	**2014**
Hand Hygiene	Guidelines for Hand Hygiene in Irish Health Care Settings WHO Guidelines on Hand Hygiene in Health Care	HPSC WHO	2005 2009	
Multi Resistant organisms (MDRO's)	Updated guidelines for the Prevention and Control of MDRO's excluding MRSA in the healthcare setting	RCPI HSE	2012	**2014**
epic Guidelines	epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England	NHS	2001 2007	**2014**

epic3: National Evidence-Based Guidelines




UCC

epic = evidence-based guidelines for preventing healthcare associated infections

- A set of **standard principles**
- Preventing infections
- **Reviews** of experimental and non-experimental **research** and **expert opinion** as reflected in systematically identified professional**, national and international guidelines**

- **Hospital environmental hygiene**
- **Hand hygiene**
- **Personal protective equipment (PPE)**
- **Safe use and disposal of sharps**
- **Preventing infections associated with the use of short-term indwelling urethral catheters**
- **Preventing infections associated with central venous catheters**

UCC

epic 3
Hand Hygiene

Alcohol based hand rub should be **made available at point of care in all healthcare facilities**

Class C

- ***Consider what defines "point of care"***
- ***Flammability of alcohol***
- ***Electrical equipment and alcohol***
- ***Accessibility to children and "confused" to alcohol***

UCC

epic 3
Hand Hygiene

Local Programmes of education, social marketing, and audit and feedback should be refreshed regularly and **promoted by senior managers and clinicians to** maintain focus, engage staff and produce sustainable levels of compliance

New Recommendation Class C

UCC

epic 3 2014
Hand Hygiene

Patients and relatives should be provided with **information** about the need for hand hygiene and how to keep their own hands **clean**

New Recommendation Class C

Consider
1."Information", education, signage, leaflet ?
1. Who provides this ?

epic 3 2014
Hand Hygiene

Patients should be offered the opportunity to clean their hands

1. Before meals
2. After using the toilet, commode or bedpan/urinal
3. And at other times as appropriate

New Recommendation Class D

Patient Experience
Study in an acute hospital in Scotland

"64% of nurses" reported having offered patients facilities to decontaminate their hands during the observational period, but only **"14% of patients" agreed with this.**

Observations
- **Before mealtimes** (43 opportunities)
- **After commode at bedside** (16 opportunities)
- **After urinal use** (9 opportunities)
- **After visiting the toilet** (4 opportunities)
- **After vomiting/expectorating sputum**

The only 1 occasion, following use of commode, was hand hygiene facilities offered to a patient.

Burnett E et al 2008

UCC

epic 3 2014
Personal Protective Equipment (PPE)

Personal protective equipment should be removed in the following sequence to minimise the risk of cross/self contamination

1. Gloves
2. Apron
3. Eye protection (when worn)
4. Mask/respirator (when worn)

New Recommendation Class C

UCC

PPE Ebola

UCC

epic 3 2014
Asepsis

- Organisations should **provide education** to ensure that healthcare workers are **trained and competent** in performing the aseptic technique

  New Recommendation Class C

- The aseptic technique should be used for any **procedure that breeches the body's natural** defences including
- **Insertion and maintenance** of invasive devices
- **Infusion** of sterile fluids and medication
- **Care of wounds** and **surgical incisions**

  New Recommendation Class C

epic 3 2014
Urethral Catheter

No patient should be discharged or transferred with a short term indwelling urethral catheter without a **plan documenting**

(Immaculate catheterisation !)

1. **Reason for catheter** *(Nursing/medical documentation)*
2. **Clinical indications for continuing catheterisation** *(Nursing/medical documentation)*
3. **Date for removal or review by an appropriate clinician overseeing their care** *(Nursing/medical documentation)*

- *Discharge packs*
- *Catheter clinic*
- *Access to urology CNS*

New Recommendation Class D

epic 3 2014
Urethral Catheter

Assess patients needs prior to catheterisation in terms of

- **Latex allergy** *(Chlorhexidine allergy)*
- **Length** *(and size)* of catheter
- Type of sterile drainage bag and sampling port or catheter valve
- **Comfort and dignity** *(Bag supports)*

- *Thigh bag above the knee*

New Recommendation Class D

epic 3 2014
Urethral Catheter

- **Change short term** indwelling urethral catheters and/or drainage bags when **clinically indicated** and in line with **manufacturers instructions**

New Recommendation Class D

Urethral Catheter Note !

CAUTI USA

- In USA this is seen as a reflection on patient care and insurance companies not covering this event

- **CARE BUNDLES**

epic 3 2014
Intravascular Access Devices

Healthcare workers should be aware of the **manufacturers advice** relating to individual catheters, connection and administration set **dwell time**, and **compatibility** with antiseptics and other fluids to ensure the safe use of devices

New Recommendation Class D

Refer :Prevention of Intravascular Catheter-related Infection in Ireland SARI Prevention of Intravascular Catheter-related Infection Sub-Committee 2009/2010

epic 3 2014
Intravascular Access Devices

PVC

Decontaminate the skin <u>at insertion</u> site with a **single-use application** of 2% chlorhexidine gluconate in 70% isoproply alcohol (or providone iodine in alcohol for patients with sensitivity to chlorhexidine) and **allow to dry** before inserting a peripheral vascular access device

New Recommendation Class D

epic 3 2014
Intravascular Access Devices

PVC

Use a **single-use** application of 2% chlorhexidine gluconate in 70% isopropyl alcohol (or providone iodine in alcohol for patients with sensitivity to chlorhexidine) **to clean** the peripheral venous catheter **insertion site during dressing changes** and allow to air dry

New Recommendation Class D

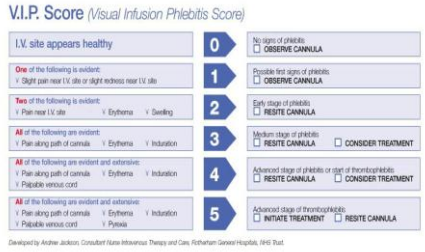
epic 3 2014
Intravascular Access Devices

PVC

Peripheral vascular catheter sites should be **inspected at a minimum during each shift**, and a visual Infusion Phlebitis (**VIP**) score should be recorded.

New Recommendation Class D

Visual Infusion Phlebitis (VIP) Score
The Visual Infusion Phlebitis Score is based on recognised numeric phlebitis scores. It assists in accurately recording the condition of the cannula sites and gives some guidance on actions to be taken when phlebitis is observed



epic 3 2014
Intravascular Access Devices

PVC
Peripheral vascular catheters should be **re-sited when clinically indicated and not routinely**, unless device specific recommendations from the manufacturer indicate otherwise ??
New Recommendation Class B

epic 3 2014
Intravascular Access Devices

CVC
Consider the use of **daily cleansing with chlorhexidine** in adult patients with a **central venous catheter** as a strategy to reduce catheter–related bloodstream infection
New recommendation Class B

Consider the use of **chlorhexidine impregnated sponge dressing** in adult patients with a **CVC**
New recommendation Class B

MDRO

- Microorganisms, predominately bacteria that are resistant to one or more classes of antimicrobial agents
- Highly resistant

ESBL

(Gram negative bacteria(E.Coli/Klebsiella pneumoniae, Acinetobacter) that have **E**xtended **S**pectrum **B**eta **L**actamases that can break down commonly used antibiotics, such as penicillin and cephalosporins)

CRE

(**C**arbapenem (imipenum/meropenum)**R**esistant **E**nterobacteriaceae)

VRE (**V**ancomycin **R**esistant **E**nterococci)

MDRO

- **Ideally** every patient who is colonised or infected with MDRO should be isolated in a **single room with en-suite facilities**. Contact precautions should be applied.
- If limited isolation facilities are available, a **local risk assessment** should be undertaken in conjunction with the Infection Prevention and Control Team, **Lewisham isolation prioritising scoring system (LIPS) 1999/2009**

	Isolation/ Contact Precautions	Decolonisation protocols	Screening
ESBL	Yes	Not recommended insufficient evidence	Dependent on local resistance patterns Patients admitted to critical care areas on admission and weekly thereafter Patients from long-term residences
CRE	Yes	Not recommended insufficient evidence	Patients admitted from healthcare facilities reporting a CRE outbreak in last 12 months Patients admitted from or who has been, in the last 12 months, a patient in foreign healthcare facilities Ward patients linked to CRE case (rectal surveillance) Patients admitted to critical care areas on admission and weekly thereafter Patients from long-term residences
VRE	Yes	No	Patients admitted to critical care areas on admission and weekly thereafter VRE +ve on each admission Patients transferred from another Irish hospital or hospital abroad

Risk Assessment If single rooms not available a risk assessment **(e.g LIPS)** needs to be carried out and patients with diarrhoea, faecal/urinary incontinence, respiratory secretions and draining wounds given priority

	Isolation Contact Precautions	Decolonisation protocols	Critical Care Areas	Long term	HCF where CRE	From HCF abroad	New case
ESBL	Yes	Not recommended insufficient evidence	✓ And weekly after	✓			
CRE	Yes	Not recommended insufficient evidence	✓ And weekly after	✓	✓	✓ If patient last 12 month	✓ Ward linked pts
VRE	Yes	No	✓ And weekly after			✓	

Risk Assessment If single rooms not available a risk assessment **(e.g LIPS)** needs to be carried out and patients with diarrhoea, faecal/urinary incontinence, respiratory secretions and draining wounds given priority

UCC

Criteria	Classification	Score	Comment
ACDP Advisory Commission Dangerous Pathogens	2 3 4	5 10 40	
Route	Airborne Droplet Contact Blood borne	15 10 5 0	
Evidence of transmission	Published or strong Consensus or moderate Poor Nil	10 5 0 -10	
Significant Resistance	Yes No	5 0	Such as MRSA/VRE
High susceptibility of other patients with serious consequences	Yes No	10 0	
Prevalence	Sporadic Endemic Epidemic	0 -5 -5	
Dispersal	High risk Medium low	10 5 0	This includes diarrhoea, projectile vomiting, coughing, infected patients, confused wandering patients
Total Score			

Prioritisation Lewisham

UCC

MDRO

- Patients should be **informed** of their status for colonisation or infection with MDRO upon laboratory confirmation
- The patient should be provided with an **information leaflet**
- **The responsibility for informing** patients of their MDRO status and documenting this in the healthcare records **lies with the clinical team caring for the patient.**
- The patients healthcare records should be "**flagged**" to highlight positive MDRO status

UCC

MDRO HCW SCREENING

Screening of healthcare workers for carriage of MDRO is **generally not appropriate**

MRSA

	1995	2005	2013	
Previous MRSA positive	✓	✓	✓	
Transfer long stay facility	✓	✓	✓	
International transfer	✓	✓	✓ +	Or if the patient has been **in an international hospital** in previous 12 months
At discretion IPCT	✓ Hospital transfer ITU	✓		
Non intact skin, wounds/ulcers	✓	✓	✓ +	Including exfoliative conditions, PEG's, urinary catheters, CVC's
High risk surgery		✓ Cardiothor Ortho	✓ +	Vascular surgery,
On admission to ICU		✓ Weekly	✓ +	On transfer to critical care areas At least weekly thereafter SCBU/Transplant Unit
Renal Dialysis			✓	
Admission HCW			✓	

MRSA Screen sites

	1995	2005	2013
Nares	✓	✓	✓
Axilla	✓		
Perineum or groin	✓	✓	✓
Throat	✓		✓
Wound/ abnormal skin	✓		
Skin lesions e.g. Surgical wounds		✓	✓
Sputum if present	✓		✓
CSU if catheterised			✓
Medical devices		✓	✓

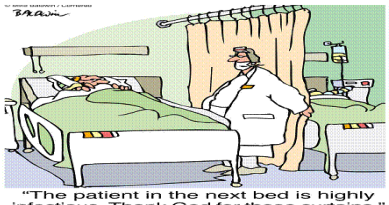
MRSA Informing the patient

- **In Patient - The responsibility of informing patients of their MRSA status lies with the clinical team (i.e. consultant) caring for the patient during their in-patient stay.**
- **Outpatient clinic** - Where a new MRSA case is diagnosed following patient discharge or when a patient is attending an **outpatient clinic**, it is the clinical team's responsibility (i.e. consultant) to inform the patient's general practitioner of his/her MRSA status and to follow up as required.
- **An information leaflet (e.g. HPSC leaflet) should be given to all patients** colonised or infected with MRSA and this should be documented in the patient's clinical notes.

Remember

- **Guidelines are updated regularly as research becomes available**
- **Read and interpret correctly**
- **Read and interpret for local use**
- **Ask specialist advice if necessary**
- **Ensure circulation to your staff**

Questions ?



"The patient in the next bed is highly infectious. Thank God for these curtains."

References

MRSA

- Control and Prevention of MRSA in the Irish Health Care Setting Department Of Health(DOH) 1995
- The Control and Prevention of MRSA in Hospitals and in the Community (SARI Subcommittee), Health Protection Surveillance Centre (HPSC) 2005
- Prevention and Control MRSA, National Clinical Guideline No.2, DOH December 2013

Clostridium difficile

- Surveillance, Diagnosis and Management of *Clostridium difficile* infection in Ireland, Health Protection Surveillance Centre (HPSC) 2008
- Surveillance, Diagnosis and Management of *Clostridium difficile* infection in Ireland , National Clinical Guideline No.3, DOH June 2014

Hand Hygiene

- Guidelines for Hand Hygiene in Irish Health Care Settings (SARI Subcommittee), Health Protection Surveillance Centre (HPSC) 2005
- WHO Guidelines on Hand Hygiene in Healthcare 2009

MDRO's

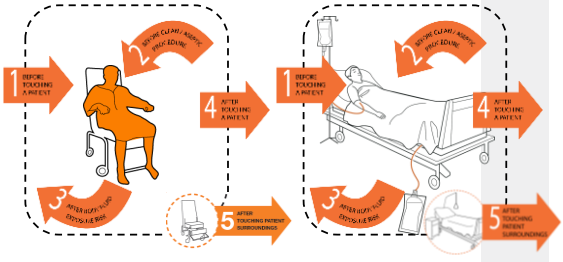
- Guidelines for the Prevention and Control of MDRO's excluding MRSA in the healthcare setting RCPI,HSE 2012

epic

- epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England, 2001,2007,2014

- Lewisham Isolation Priority System (LIPS) Jeanes A and Rao G
- Prevention of Intravascular Catheter-related Infection in Ireland SARI 2009/2010

The 5 Moments apply to any setting where health care involving direct contact with patients takes place



Sax H, Allegranzi B, Uçkay I, Larson E, Boyce J, Pittet D. *J Hosp Infect* 2007;67:9-21

A TRADITION OF INDEPENDENT THINKING

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh