

AROs at Home – What Do YOU Need to Know?

October 21, 2011
Community Series



Objectives

- Define and describe MRSA, VRE, (CA-MRSA) (and *Clostridium difficile*)
- Review the PIDAC Best Practice Guidelines for Antibiotic Resistant Organisms (MRSA, VRE and others) as they apply to the community setting (home care and clinics)

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What are “AROs”?

Antibiotic Resistant Organisms are microorganisms that have developed resistance to the action of several antimicrobial agents and/or are of special clinical or epidemiological significance.



AROs

- MRSA
- VRE
- VISA
- VRSA
- ESBL
- CREs
- More!

Staphylococcus aureus

- A common skin bacteria
- Lives on the skin and mucous membranes of healthy adults (>60%)
- May cause skin and soft tissue infections (e.g., impetigo) or invasive disease
- Most common cause of healthcare associated infections in acute care

Methicillin Resistant Staphylococcus aureus (MRSA)

- A resistant form of the common skin bacteria, *Staphylococcus aureus*
- Many people carry it in their nasal passages or on their skin
- Can be either healthcare associated or community associated (CA-MRSA)
- Can cause serious infections



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Preventing the Spread of CA-MRSA

- Cover wounds/lesions with clean dry bandages
- Perform frequent hand hygiene
- No sharing of personal items (towels, sports equipment)
- Wash soiled linens, utensils/dishes in hot water
- Avoid skin-to-skin contact, including contact sports until lesions healed
- Ensure cleaning of communal bathing facilities

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Comparing HA-MRSA and CA-MRSA

	Traditional MRSA	Community Acquired MRSA
Typical patient	Elderly, debilitated Chronically/critically ill, recent surgery, dialysis Recent hospitalization	Young, healthy people, professional/ amateur athletes No significant medical history
Infection site	Catheter related UTI Intravascular device infections Surgical site infections Colonization common	Skin: cellulitis, abscesses, Soft tissue infections Necrotizing pneumonia Colonization rare
Transmission	Nosocomial Little spread among household contacts Community spread rare	Community-acquired May spread in families, sports teams Spreads easily in community
Virulence factor	No PVL gene	PVL gene present

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Risk Factors for VRE

Definite Risk Factor

- Previous colonization or infection with VRE
- >12 hours in any health care facility (including this one) in the past 12 months
- Recent exposure to unit/area of a health care facility having a VRE outbreak
- Health care in another country

Possible Risk Factor

- Recent exposure to second and third generation cephalosporins

Colonization

- The presence and growth of a microorganism in or on a body with growth and multiplication but without tissue invasion or cellular injury
- The patient will be asymptomatic

Infection

- The entry and multiplication of an infectious agent in the tissues of the host
- Symptomatic or clinical infection is one resulting in clinical signs and symptoms (disease)

Remember: whether colonized or infected, the infection prevention and control precautions will be the same.

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Status - Ontario

MRSA
In Ontario there were 21,002 patients identified with MRSA colonization or infection in 2010, an 8% increase over 2009.
Data on 94% of these patients indicated that 41% acquired MRSA in an acute care hospital, 17% in a nursing home and 42% in the community

VRE
In Ontario, the incidence of VRE decreased by 15% in 2010, with 5,567 patients colonized or infected with VRE compared to 6,541 patients in 2009
The majority of patients were thought to have acquired VRE in acute-care hospitals (86%), 5% were thought to have acquired VRE in nursing homes and there was an increase in VRE acquired in the community (10%)

PIDAC, 2011

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Clients Need to Know....

- The highest risk of acquiring an ARO is during a hospital stay
Low risk of acquiring an ARO if go on home care when discharged

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Community Health Care Workers are calledthe "travelling germs"

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Transmission of AROs

Most commonly spread by the hands of healthcare workers

- Contaminated surfaces and equipment
Survival on surfaces:
MRSA - 7 days to 7 months*
VRE - 5 days to 4 months*
Providing direct care



* Kramer et al. BMC Infectious Diseases 2006, 6:130

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Why are AROs Important?

Impact on Individuals:

- Increased length of stay in hospitals
Decreased quality of life
Stigma
May cause serious complications, including death

Impact on Healthcare System:

- Increased cost
Decreased ability to provide quality care
Slows the health system

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Decolonization

• *Current evidence does not recommend widespread or prolonged antibiotic therapy for decolonization of MRSA as this may promote antibiotic resistance, long-term efficacy is poor and systemic therapy may lead to adverse events*

- Depends on the instructions from the hospital
 - Often the MRP doesn't even know the patient was in hospital
 - Continuity of care is a challenge

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Infection Prevention and Control

- Hand Hygiene
- Routine Practices
- Contact Precautions
 - Use in addition to routine practices
 - Institute as soon as indicated

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Hand Hygiene



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Signage – Home Care and Clinics

- Flag the chart

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PPE – Home Care and Clinics

- Gloves and gowns
 - For direct care

Direct Care: Providing hands-on care (e.g., bathing, washing, turning client/patient/resident, changing clothes, continence care, dressing changes, care of open wounds/lesions, toileting).

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Equipment and Items in the Environment

Home Care	Clinics
As per Routine Practices	As per Routine Practices Clean and disinfect shared items (e.g., chair, examination table) or cover with a sheet before use

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Equipment and Items Cleaning Routine Practices

Cleaning of equipment that is being used by more than one client/patient/resident between uses according to the recommendations found in *Best Practices For Cleaning, Disinfection and Sterilization in All Health Care Settings*, available at:
<http://www.oahpp.ca/resources/pidac-knowledge/best-practice-manuals/cleaning-disinfection-and-sterilization.html>

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Environmental Cleaning

Home Care	Clinics
No special cleaning requirements	VRE and <i>C. difficile</i> rooms require special cleaning Routine cleaning for all other rooms

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Environmental Cleaning Routine Practices

Cleaning of the health care environment, including safe handling of soiled linen and waste (e.g., sharps) to prevent exposure and transmission to others, as detailed in *Best Practices for Environmental Cleaning in All Health Care Settings*, available on the PHO website at:
<http://www.oahpp.ca/resources/pidac-knowledge/best-practice-manuals/environmental-cleaning-for-prevention-and-control-of-infections.html>

Transport

- Not applicable

Current Challenges

- ARO clients moving from hospital to home and back
 - Finding out results. Infected? Colonized?
 - What to do about swabbing?
 - PPE: Initiate? What to use? When to stop?
- MDs in the community – interest, knowledge
- Education for HCWs re PIDAC BPGs

Methicillin-Resistant and -Susceptible *Staphylococcus aureus* Infections in Dogs

Meredith C. Faires, Michelle Traverse, Kathy C. Tater, David L. Pearl, and J. Scott Weese

Emerging Infectious Diseases • www.cdc.gov/eid • Vol. 16, No. 1, January 2010

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Environmental Challenges

People have "the right to "live rough"

"There's naught funnier than folk"

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Antibiotic Stewardship

- Education to clients regarding:
 - Taking as ordered
 - Completing the course
 - Not demanding to receive



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Future

- ARO working group
- ?Scandinavian model: search and destroy?

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Do I need to do any special precautions with my laundry?

- No need to separate
- Use hot, soapy water (or use cold water detergent as per manufacturer's directions)

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Do I do anything special with dishes?

- No
- Dishwashing as usual

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Conclusion

- Community care needs to be aware of the evidence based literature
- Application of best practice is important; PIDAC is learning more about the unique needs of the community setting
- Consider joining the Community Health Care Interest Group of CHICA-Canada www.chica.org
 - Questions and answers
 - Website links
- Remember: the “travelling germ” could be you!

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References

Regional Infection Control Networks

www.ricn.on.ca

Provincial Infectious Diseases Advisory Committee (PIDAC)

<http://www.oahpp.ca/services/pidac/index.html>

Public Health Ontario

<http://www.oahpp.ca/index.html>

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