Residential Aged Care Facilities
Infection Management

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Infection Control Legislation

• Public Health Act provides legislation where breaches of duty may be investigated.

• Centre for Healthcare Related Infection, Surveillance and Prevention (CHRISP) commenced 2000.
Legislation

• Person-in-charge of any business that performs invasive procedures must ensure all reasonable steps taken to minimise/ remove any risk of infection.

• Health care worker must not carry out any invasive procedure that causes/ likely to cause infection or disease unless all reasonable and practice measures are taken to prevent/ minimise risk to themselves, others, patients, public.
Who Sets the Standards?

- Australian Government National Health & Medical Research Council (NHMRC) – Australian Guidelines for the Prevention & Control of Infection Control in the Health Care Setting
- Australian Government - Department of Health and Ageing
- Queensland Health Centre for Healthcare Related Infection Surveillance and Prevention (CHRISP)
- Professional Association (ACIPC)
- Centers for Disease Control and Prevention (CDC, Atlanta USA)
Basic Microbiology

• Only be seen via microscope
• Found everywhere
• Most microorganisms, that cause infection in humans, belong to one of four major groups:
  • Bacteria
  • Viruses
  • Fungi
  • Protozoa
Bacteria

- Less than 1% of bacteria cause disease in humans
- Examples of bacterial infections:
  - *Staphylococcal* (‘staph’) infections of the skin such as boils and impetigo, wound infection, cellulitis and sepsis (infection of the blood)
  - *Streptococcal* (‘strep’) infections such as Group A ‘strep’ throat
Viruses

• Each virus is specific to the cell type it attacks
  e.g. hepatitis virus attacks the liver
• Several different outcomes to viral infections
• Examples of viral infections:
  • common cold (Rhinovirus & Coronavirus)
  • warts (or Papillomas)
  • cold sore (Herpes simplex)
  • chickenpox (Varicella-zoster)
  • measles (Rubeola)
Fungi

• Found in air, soil, water and on plants
• Yeasts and moulds
• Do not normally cause infections in healthy individuals
• Commonly cause skin infections but may cause more serious, life-threatening infections
• Examples of fungal infections:
  • athlete’s foot (Tinea pedis)
  • ringworm (Tinea corporis)
  • thrush (Candida albicans)
  • aspergillosis
Protozoa

• Single cell microorganisms
• Parasites which cause disease in humans
• Survive in the environment for long periods
• Enter the body through contaminated water, insect bites and sexual intercourse
• Examples of protozoal infections:
  • Malaria (transmitted by mosquitoes)
  • Toxoplasmosis (Toxoplasma gondii)
  • Giardiasis (Giardia intestinalis)
  • Amoebic dysentery (Entamoeba histolytica)
The spread of infection requires three elements

- Source/host infecting microorganism
- Susceptible host
- Mean/mode of transmission
Infection Management

• Employers have a responsibility:

  – to provide a safe working environment for workers & clients

  – to reduce the risk of transmission of infection

  – to comply with relevant Infection Management guidelines

  – to improve client care
Infection Management (continued)

• Employees have a responsibility:
  – Implementation of work practices that can prevent transmission of infection (Standard Precautions).
  – Conscientious hygiene, including appropriate handwashing and regular cleaning of the environment, equipment etc.
  – Immunising against preventable diseases.
  – Ongoing training and education for all levels of staff providing care.
Standard Precautions

Most basic level of infection management assumes **all blood and body fluid as potentially infectious** for management of all clients.

- To be used when handling:
  - blood, body fluids/ secretions/ excretions (except sweat),
  - non-intact skin, mucous membranes.

- Include:
  - Hand washing/ drying (good personal hygiene)
  - Personal protective equipment (PPE)
  - Handling/ disposal of wastes, sharps, blood spills
  - Staff health & vaccination preventable diseases
  - Protocols for NSI/ Occupational exposures
Predominant mode of cross contamination and spreading infection!
Handwashing

Removes soilage and transient organisms acquired by recent contact with infected/colonised equipment and clients

- **Routine**
  - performed before/after client contact, food handling, touching contaminated surfaces/objects
  - duration **10-20 seconds** using liquid soap with emollient
Handwashing (continued)

• **Clinical**
  - performed before invasive procedures (e.g. IV, IDC), caring for Immuno-comp patients, or those with significant organisms
  - duration: 60 sec using antiseptic or liquid soap

• **Surgical**
  - prior to invasive operations for 3-5 mins using 4% chlorhexidine or 7.5% Povidone iodine
How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDBRUSH

Duration of the handwash (steps 2-7): 15-20 seconds
Duration of the entire procedure: 40-60 seconds

0. Wet hands with water;
1. Apply enough soap to cover all hand surfaces;
2. Rub hands palm to palm;
3. Right palm over left dorsum with interlaced fingers and vice versa;
4. Palm to palm with fingers interlaced;
5. Backs of fingers to opposing palms with fingers interlocked;
6. Rotational rubbing of left thumb clasped in right palm and vice versa;
7. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;
8. Rinse hands with water;
9. Dry hands thoroughly with a single use towel;
10. Use towel to turn off faucet;
11. Your hands are now safe.

World Health Organization
Patient Safety
SAVE LIVES
Clean Your Hands

Based on the 'How to Handwash', URL: http://www.who.int/gpsc/5may/How_To_HandWash_Poster.pdf © World Health Organization 2009. All rights reserved

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Handwashing

- Pat dry hands using a disposable paper towel or clean hand towel
- Alcohol based hand rubs/ gel at point of use
- Hand care - moisturiser
When should we perform hand hygiene?
5 Moments for HAND HYGIENE

1. Before touching a patient
2. Before a procedure
3. After a procedure or body fluid exposure risk
4. After touching a patient
5. After touching a patient's surroundings
When should we perform hand hygiene?
5 Moments for HAND HYGIENE

<table>
<thead>
<tr>
<th></th>
<th>WHEN:</th>
<th>WHY:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>Clean your hands before touching a patient and their immediate surroundings</td>
<td>To protect the patient against acquiring harmful germs from the hands of the HCW.</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Clean your hands immediately before a procedure</td>
<td>To protect the patient from harmful germs (including their own) from entering their body during a procedure.</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Clean your hands immediately after a procedure or body fluid exposure risk</td>
<td>To protect the HCW and the healthcare surroundings from harmful patient germs</td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Clean your hands after touching a patient and their immediate surroundings</td>
<td>To protect the HCW and the health care surroundings from harmful patient germs</td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>Clean your hands after touching any objects in a patient’s immediate surroundings when the patient has not been touched</td>
<td>To protect the HCW and the health care surroundings from harmful patient germs</td>
</tr>
</tbody>
</table>
Personal Protective Equipment (PPE)

- **Anticipate** the risk of exposure
- **Choose** appropriate barrier(s)
Gloves

Part of personal protective equipment (PPE) to be worn:

- touching blood, body fluids, secretions, excretions and contaminated items
- when touching mucous membranes and non-intact skin
- when user has breaks in the skin from trauma, eczema, dermatitis

AND

- must be changed and discarded between tasks and procedures and **not** washed between patients
- does not eliminate the need for hand washing between tasks.
Disposable Plastic Aprons/ Gowns

• The use of a clean, non-sterile disposable plastic apron or gown should be worn to protect skin and clothing during procedures:
  – likely to generate splashes of blood/ body fluids/ secretions/ excretions
  – clients infected/ colonised with multi-resistant organisms, or communicable diseases e.g. shingles.

• Single-use item and changed between patients/ when visibly soiled.

• Sterile gowns must be used if the procedure requires a sterile field.
Protective Eye Wear

• Must be worn during procedures where splashing, splattering or spraying of blood/other body substances may occur e.g.
  – manual cleaning of instruments and equipment;
  – biopsies

• Must comply with AS 1337, and be:
  – optically clear, free of distortion, anti-fog;
  – close fitting with side shields.

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Masks

• Must be worn for:
  – procedures likely to generate splashes/ aerosolisation of blood/ body substances/ tracheal suctioning
  – contact with airborne infections
  – always in a operating theatre.

• During wear:
  – must cover nose and mouth
  – not touched by hands while being worn
  – removed by ties/ not left hanging around neck
  – changed between patients/ sooner if visible moist or soiled.
Respiratory Etiquette
Respiratory Etiquette Includes

- covering mouth and nose when coughing or sneezing;
- using a tissue to cover mouth and nose;
- disposing of tissues into the waste by the user; and
- ensuring hands are cleaned after disposing of tissues or after covering mouth and nose when coughing or sneezing.
Waste Management

Do the right thing - in the right bin

Confidential paper
- All paper which contains confidential information.
- Remove all plastic or cardboard before disposal.

Office paper
- All paper which does not contain confidential information.
- Remove all plastic or cardboard before disposal.

Anatomical Waste
- All body parts
- Recognizable organs
- Bones
- Gross body parts
- Items not include teeth, nails or bone fragments.

Cytotoxic waste
- If you need to dispose of cytotoxic waste refer to:
  - Nurse Practice Development
  - Infection Control
  - or
  - Manager, Operational Support Services

Clinical waste
- Items not heavily soiled with blood, body fluids, or mucous
- Items containing fresh blood or body fluids
- Gloves, aprons, masks
- Contaminated specimen containers
- Syringes, needles (used or broken)
- Laboratory, medical, or pathology waste
- Pathology specimens
- Blood bags
- Bandages, dressings, swabs
- Contamination bags
- Sharp objects:
  - Catheter tips
  - Needles
  - Scalpel blades

Sharps container
- Collects or device with sharp points, protuberances, or cutting edges that are capable of causing penetrating injury.
- Examples:
  - Blunt needles
  - Suture needles
  - Scalpel blades

Sharps waste
- Contaminated, unlabelled medication containers
- Needles
- Syringes
- Blood, body fluids
- Dental instruments
- Broken glass

Recyclable waste
- Glass bottles
- PET bottles
- Aluminum or steel cans
- Milk bottles.

For all your waste management enquiries, contact
Operational Support Services DeCt Ph 2401 or Ph 3275 6205
QEH Jubilee Hospital

Metro South Health

Queensland Government
Clinical Waste

**Definition:** all tissue, blood, blood products and body fluids. Includes materials saturated with, or containing free-flowing blood or body fluids

- free flowing means blood products/ body fluids that are flowing/ dripping/ oozing liquid able to be squeezed from material

- placed in dedicated container lined with yellow plastic liners

- includes grossly soiled gloves, blood bags, discarded specimens/ containers, redivacs, IDC bags, isolation waste, disposable sealed sharps containers, soiled “blueys”.

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Definition: object/ device having sharp points, protuberances or cutting edges capable of causing a penetrating injury to humans

- placed in dedicated puncture-proof sharps container
- discard container after 3/4 full
- includes needles, scalpel blades, stitch cutters, suture needles, disposable razors/ blades, broken glass, broken instruments.
Needle Stick Injuries / Occupational Exposures

• Blood-borne pathogens (e.g. Hepatitis B, Hepatitis C, HIV) can be transmitted via penetrating injuries with a contaminated needle/sharp, or by significant blood/body substance exposure to mucous membrane or non-intact skin.

• Employer has obligation under 1995 WPH&S Act to have appropriate post-exposure procedures and equipment to minimise risk exposure.
Body Fluids (that pose a risk)

- Blood/ blood products (serum/ plasma)
- Any body fluids visibly contaminated with blood (saliva, urine, faeces)
- Vaginal secretions & semen
- Body cavity fluids (i.e. amniotic, CSF, synovial, peritoneal)
- Pathology specimens
Occupational Exposures - Statistics

- If the source patient is Hepatitis B surface antigen positive there is a **10-30%** chance of HCW seroconversion.
- If the Source patient is Hepatitis C surface antibody positive then there is a **1-3%** chance of HCW seroconversion.
- If the source patient is HIV surface antibody positive the there is a **0.45%** chance of HCW seroconversion.
Examples of Occupational Exposures/ Needle Stick Injuries

- All penetrating injuries caused from used equipment/ instruments (potentially contaminated with blood/ body fluids)
- All splashes of blood/ body fluids to eyes/ mouth/ nose
- Contamination of cuts/ abrasions/ non-intact skin with blood/ body fluids
- Also report injuries with unused sharps as may need practice review

REPORT EXPOSURE FOLLOWING THE NEEDLESTICK INJURIES PROTOCOL FOR YOUR AREA
Management Following NSI/ Occupational Exposure

• **IMMEDIATELY** wash the affected area with soap and water.

• For mouth splashes - spit out then rinse with water several times.

• For eye splashes - gently rinse while eyes are open using large amounts of water or normal saline.

• Remove contaminated clothing & shower if needed.
Management (continued)

• Inform your line supervisor and follow the procedures as per the needlestick protocol for your area

• Blood is to be collected from:
  – the staff member involved and the source (if possible)

• Blood is to be collected and tested at the time of the injury, irrespective of how recently previous blood tests may have been undertaken on either party.
Prevention of NSI/ Occupational Exposures

Protective measures that staff should focus on:

• Preventing exposure to blood/ body fluids (PPE to protect against direct contact/ aerosolisation/ spray/ splatter, appropriate decontamination, sharps disposal)
• Hepatitis B vaccination
• Clearly defined protocols for the management of NSI/ occupational exposure injuries
Prevention (continued)

NEVER

– resheath used needles without an approved resheathing device (one-handed bayonet/ scoop technique, break/bend needles, or manipulate by hand)

– pass sharps between HCWs (have procedure for disposal of discarded sharps)

– overfill sharps containers past 3/4 full, or decant contents.
Blood Borne Diseases – Infected HCWs

CHRISP- Management of HIV, HBV and HCV Infected HCW Implementation Standard states:

Exposure-prone are procedures where there is a risk of injury to HCW resulting in exposure to patient’s open tissues to blood of worker.

Infected health care workers must not undertake exposure prone procedures.

(Further reference - Queensland Health 14 page document)
Employee Health

Immunisation protects health care workers and those in their care from vaccine preventable diseases. You should be aware of your immune status to these preventable diseases.

Immunisations are available for:

- Measles, mumps, rubella (MMR)
- Hepatitis B - mandatory for all new Queensland Health employees
- Varicella zoster virus (chickenpox)
- Influenza (‘Flu’)
- Polio
- Tetanus
- Pertussis (whooping cough)
Environmental Cleaning

Detergent & water

- All surfaces
- IT equipment
- Clinical equipment OR as per manufactures instructions.

No decanting / spray bottles (contamination/ aerosols)
Blood spills

- Personal protective equipment
- Detergent & water
- Discard / decontaminate equipment
- Know protocol - for area where you are working
Some (paranoid) Tips

• Never eat peanuts from “the bar”, unwrapped ‘lollies’.

• When sampling, ask yourself who was there before you and did they wash their hands?

• Do not eat in clinical areas.
Any questions?
Resources

- Centers for Disease Control and Prevention [http://www.cdc.gov/]
- Australasian College of Infection Prevention and Control [https://www.acipc.org.au/]
- Hand Hygiene Australia [http://www.hha.org.au/]
  Infection control in Residential Aged Care
Infection Control – Break The Chain

• http://www.youtube.com/watch?v=_o9SxD FPUiA
Contact Information

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(I work alternate Thursdays and every Friday 9 - 3.30pm in a job share position with Fran Wilson).