TITLE: Infection Prevention and Control

SCOPE: St. Attracta’s Residence, All Areas

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SIGNATURE(S):

DATE: 21st February 2020

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**1.0 Policy**

St. Attracta’s Residence shall endeavour to provide care in a manner and in an environment that reduces the opportunity for the transmission of infection. This shall be done by adherence to hand washing practices, maintaining a clean environment and appropriate management of waste and linen. Any occurrences of infection shall be managed in a standardised manner which upholds the resident’s dignity and promotes their quality of life. The prevention and control of infection is an essential component of care in all settings. The standards by which the facilities infection prevention and control services will be measured are outlined in the Health information & Quality Authority (HIQA) documents:

1. Standards for Residential Care Settings for Older People in Ireland 2016
2. National Standards for the Prevention and Control of Healthcare Associated Infections 2009
3. National Standards for infection prevention and control in community services 2018

**2.0 Responsibility**

2.1 The Director of Nursing & General Manager should ensure that:

* All staff receive mandatory infection control training on induction and at least every 2 years thereafter.
* Risk assessment of specific infection risks to be undertaken where identified
* Appropriate personal protective equipment (PPE) is available and easily accessible to staff

2.2 **Healthcare Workers are responsible for:**

* Attending induction and ongoing training on infection prevention and control
* Practising appropriate infection prevention and control precautions at all times
* Reporting any deficits in knowledge or resources to their line manager
* Reporting any illness as a result of occupational exposure
* Not attending for duty with known or suspected infection without first informing the clinical nurse manager
* Advising visitors of infection prevention and control requirements such as hand hygiene and cough etiquette

2.3 Alison Moore shall have responsibility for Infection Prevention & control management in St. Attracta’s Home. They will drive and oversee all aspects of infection prevention and control practices within the residential home, including staff education, management of residents with infection, management of outbreaks, evaluation of adherence to processes, etc.

2.4 **Vaccination of residents**

 St. Attracta’s Home will have a vaccination programme for residents, which is in line with national guidelines and is monitored for effectiveness. The vaccination programme should include the following

* Influenza
* Pneumococcus
* Hepatitis B

**Causes & Spread of Infection**

**Introduction**

**3.0 Micro-organisms** that cause infection are known as pathogens. They may be classified as follows:

3.1 **Bacteria** are minute organisms about one-thousandth to five thousandth of a millimetre in diameter. Most bacterial infections can be treated with anti-biotics. Examples include *staphylococcus aureus, Steptococcus pneumoniae & Neisseria meningitidis*

3.2 **Viruses** are much smaller than bacteria and although they may survive outside the body for a time, they can grow inside cells of the body. Antiviral drugs such as acyclovir are used to treat some viral infections as antibiotics are not effective for viral infection. Examples include influenza, chicken pox, hepatitis B & HIV

3.3 **Fungi** can be either moulds or yeasts. A common yeast infection is thrush, caused by C*andida albicans.* Common fungal skin infections include ringworm (caused by dermatophytes). *Aspergillus* species are fungi that can cause serious infection in severely immunocompromised clients for example people undergoing bone marrow transplant.

3.4 **Protozoa** are microscopic organisms larger than bacteria. Free-living and non-pathogenic protozoa include amoebae and paramecium. Examples of protozoa of medical importance include *giardia lamblia,* which can cause diarrhoea.

3.5 **Parasites** Worms are not always microscopic but they may cause infection and some can spread from person to person. Examples include the threadworm and tapeworm.

3.6 **Ectoparasites** include scabies and lice

3.7  **Prions** are infectious protein particles. Example the prion causing new variant Creutzfeldt-Jakob disease (nvCJD)

**4.0 General Principles of Microbial Transmission**

The five main routes of transmission are contact, droplet, airborne, common vehicle and vector-borne transmission. Some organisms may be transmitted by more than one route e.g. *Varicella (chicken pox)* **contact & airborne**.

4.1 **Contact Transmission**

Contact transmission is the most important and frequent mode of transmission of pathogens micro-organisms. It can be sub-divided into **direct contact transmission & indirect contact transmission**

1. **Direct contact transmission** requires direct body surface to body surface contact and physical transfer of micro-organisms from an infected or colonised person to a susceptible host. This may occur between a health care worker (HCW) and client during care activities that require direct physical contact e.g. touch or between any two persons in the healthcare setting e.g. two clients. It occurs when an infectious agent is transferred directly from one infected person to another without the involvement of other people. Example a care giver has skin to skin contact with a client with scabies or ringworm and does not wear gloves or a HCW develops a herpetic whitlow on their finger because they didn’t wear gloves when performing oral hygiene on a client with herpes.
2. **Indirect contact transmission** involves the contamination of an inanimate object (client care equipment, dressings, furniture, environmental surfaces etc) by an infected or colonised person. It occurs when an infectious agent is transferred to an individual through a contaminated object and or other person e.g. client care devices such as glucose monitoring device or electronic thermometers or endoscopes may transmit infectious agents (e.g. hepatitis B or C) if the devices are contaminated with blood or body fluids and are shared between clients without having been properly decontaminated between clients (cleaned/disinfected and or sterilised). Communal toys are also an effective means of spreading respiratory viruses e.g. influenza, respiratory syncytial virus (RVS) and bacteria like pseudomonas (especially bath toys among children).

**4.2 Droplet Transmission** occurs when an infected or colonised person produces large droplets containing micro-organisms which are propelled a relatively short distance (e.g.<3 feet around the client) through the air and deposited on the conjunctivae of the eyes, nasal mucosa or mouth of the host. Droplets do not stay suspended in the air and do not remain infective over long distances so special air handling and ventilation are not required to prevent droplet transmission. Activities that generate large droplets include coughing, sneezing, singing and talking. Additionally, certain diagnostic procedures are likely to produce droplets e.g. suctioning, endotracheal intubation, cough induction by chest physiotherapy, cardiopulmonary resuscitation and bronchoscopy.

**4.3 Airborne Transmission** occurs when either airborne *droplet nuclei* or dust particles disseminate infectious agents that remain infective over time and distance. D*roplet nuclei are < 5um in size and remain suspended in air in occupied areas e.g. rooms/cubicle.* Aircurrents can widely disperse such micro-organisms, which a susceptible host can then inhale. Special air handling and ventilation (e.g. negative pressure ventilation) is required to prevent airborne transmission of micro-organisms spread in this manner such as measles, *Varicella* (chicken pox) and *mycobacterium tuberculosis.* In addition respiratory protection may be required by HCW entering the rooms of clients with certain airborne infections.

The control of dust borne particles is frequently overlooked. Dust may become contaminated when dried sputum and other infectious secretions that are suspended in air as dust particles, mix with environmental dust (e.g. skin scales from burns clients colonised with MRSA) Particles contaminated with organisms may enter the air from the respiratory tract (during sneezing & coughing), and from the skin, clothing, dressings and body fluids. Some organisms may survive for extended periods in the environment, again becoming suspended in the air when contaminated dust is disturbed.

**4.4 Common vehicle Transmission** applies to infectious agents transmitted by contaminated items such as food, water, devices, equipment and medications. These items are referred to as ‘Fomites’

**4.5 Vector –borne Transmission** occurs when vectors such as vermin (rats, mice) or insects (mosquitos, flies) transmit micro-organisms. Rarely significant in the healthcare setting.

**5. Susceptible host**

Certain groups of people are considered more susceptible to infection than others. They include neonates, the elderly, individuals with underlying diseases e.g. diabetics and people who are immunocompromised. It may also include people who are not vaccinated against preventable disease e.g. measles, mumps, influenza.

In addition the faecal-oral route, or alternatively the oral-faecal route is a route in which infection is spread when pathogens in faecal particles from one host (person or animal) are introduced into the mouth of another potential host.

Among the more common causes are:

* Poor or absent cleaning after handling faeces or anything that has been in contact with it
* Items or surfaces that have come into contact with animal faeces
* Water that has come into contact with faeces and is then inadequately treated before drinking
* Food that has been handled with faeces present
* Poor sewage treatment along with disease vectors like houseflies
* Some sexual practices

**6.0 The Chain of Infection**

For an infection to spread from person to person the following factors must be present

1. **Infectious agent/organism** e.g.virus, bacterium, fungus or protozoan
2. **Reservoir** source of infection e.g. an infected or colonised person, contaminated food, water or equipment.
3. **Portal of exit** Secretions and excretions discharged from the body carry the microorganisms into the environment e.g. blood, faeces, respiratory droplets and skin scales.
4. **Mode of Transmission** the means by which micro-organisms reach other individuals e.g. droplets in the air from a sneeze.
5. **Portal of entry** micro-organisms enter the person through the respiratory, gastrointestinal and urinary tracts of the body
6. **Susceptible host** factors such as age, previous exposure and immune staus and nutrition will influence whether the micro-organism acquired, will result in disease.

**Breaking any link in the chain will help prevent the spread of micro-organisms**

1. ![chain-infection[1]]()

**Example:**

* Micro-organism = MRSA
* Reservoir= client with MRSA in peg site
* Escape=wound exudates
* Transmission= hands
* Entry=another open wound
* Host susceptibility= other client with broken skin e.g. peg site or leg ulcer

**Breaking the chain of infection**

* Micro-organism=MRSA
* Reservoir= client with MRSA in an open wound e.g. peg site
* Escape: drainage from the wound; Break in the chain: nurse uses correct hand washing technique, wears protective gloves & handles equipment/rubbish appropriately
* Transmission: MRSA transferred onto the hands by indirect contact; Break in the chain: nurse performs correct hand washing technique, handles equipment, linen and rubbish correctly
* Entry; Break in the chain: nurse uses appropriate technique for wound dressing

**The susceptible client has been protected because the chain of infection has been broken**

**8.0 Standard Precautions**

Standard precautions are a group of routine infection prevention and control practices and good measures that should be used for all residents at all times regardless of suspected, confirmed or presumed infectious status.

When standard precautions are consistently implemented, the risk of spread of infection to residents & HCWs is minimised.

Standard precautions are based on the principle that all blood, body fluids, secretions, excretions (except sweat), non-intact skin and mucous membranes may contain transmissible infectious agents.

All HCWs will be educated about standard precautions on induction and at a minimum of 2yearly thereafter.

St. Attracta’s Home will implement safe work practices to prevent exposure to infectious agents for HCWs, residents & visitors by educating staff in relation to:

* The safe use and disposal of protective equipment (PPE) to prevent contamination of skin, mucous membrane and clothing
* The safe use and disposal of sharps to prevent needle stick injuries and other sharps related injuries
* The importance of covering all cuts, grazes and skin lesions with a waterproof dressing
* Skin care (hands)
* Respiratory Hygiene/cough etiquette is a new component of Standard Precautions. This strategy applies at ALL TIMES to any person with signs of illness including cough, congestion or increased production of respiratory secretions these include:
* Covering nose/mouth with a tissue when coughing and prompt disposal of used tissue, using surgical masks on residents when tolerated and appropriate. If an ill resident is coughing persistently, the use of a surgical mask (if tolerated) may assist in preventing the dispersal of infected droplets.
* Hand Hygiene after contact with respiratory secretions and
* Spatial separation ideally greater than 3 feet of persons with respiratory infections in communal areas.

**9.0 Hand Hygiene**

Hand hygiene is the single most important procedure for preventing infection. St. Attracta’s Residence will ensure adequate hand hygiene facilities including sinks, wall mounted soap dispensers (with disposable cartridges) and paper towel dispensers, foot pedal operated waste bins and alcohol hand gel/rub dispensers.

Hand sanitising gels/ foams will be available in various locations. They are wall mounted on the corridors, in shared rooms, on the dressing trolley and medication trolley & venepuncture trolley.

Hand and wrist jewellery should not be worn when on duty (with the exception of a plain wedding band) Wrist watches should not be worn. Nails should be kept clean and short. Nail polish, acrylic/gel or false nails should not be worn. Arms should be bare below elbow.

**HCWs should perform hand hygiene with soap and water or sanitising gel:**

* Before providing care to a client
* Between dirty and clean activities
* Before aseptic/clean procedures
* Before touching an invasive device or its attachments e.g. urinary catheter, peg tube.
* After removing PPE
* After cleaning and handling contaminated items and equipment
* After using the toilet, coughing/sneezing
* After touching client surroundings/environment
* Before preparing or serving food and before feeding or assisting clients with their meals

**HCWs should wash their hands with soap and water when hands are:**

* Visibly dirty (use soap & water)
* Visibly soiled with blood or body fluids

Clients in residential care facilities should wash their hands after toileting and before meals.

HCWs should assist those clients unable to perform hand hygiene independently. Hand hygiene also includes caring for the hands to maintain intact skin.

Regular use of hand lotion is recommended.

The use of nail brushes, multi- use cloth towels, bar soap are not recommended

Electric hand dryers are not recommended in clinical areas

**10.0 Personal Protective Equipment (PPE)**

PPE is specialised clothing/equipment which should be worn by HCWs in situations where there is a risk of contact with blood, body fluids or infectious materials. PPE consists of gloves, aprons/gowns, eye, nose and mouth protection. The aim of wearing PPE is to protect the health care worker from contact with potentially harmful bacteria or viruses which could be harmful to the HCW or could be passed on to the client. HCWs should select the appropriate PPE based on a risk assessment of the task to be carried out considering:

* The risk of exposure to blood, body fluids, secretions, excretions, and infectious agents;
* The risk of contamination of the skin, eyes, nose, mouth, or clothing

Inappropriate use of PPE may lead to cross infection for example failure to change gloves and perform hand hygiene between clients

St. Attracta’s Residence is responsible for providing PPE for all staff that require it for daily client interventions.

PPE should be discarded as health care risk waste if contaminated with blood or body fluids

**10.1 Gloves**

Gloves should be worn to reduce the risk of exposure to infectious agents and /or material that may be carried on the hands for both the HCW ***and*** the client. ***Hand hygiene should always be performed following glove removal.*** No attempt should ever be made to wash gloves in water or clean them with sanitising

gel.

**Gloves are recommended;**

* For all activities that carry a risk of contact with blood, body fluids, secretions or excretions or contaminated items or surfaces e.g.
* Washing a client that has been incontinent
* Blood sugar testing
* Invasive procedures e.g. taking blood
* Obtaining and handling laboratory specimens
* When in contact with mucous membranes (lining of the eyes, nose, mouth, anus & vagina and non- intact skin (example=wound, skin rash)
* When handling contaminated equipment and the environment
* When handling chemicals including household cleaning products
* **Gloves are not generally required if there is no risk** of contact with blood, body fluids, secretions or excretions or contaminated items or surfaces e.g.
	+ Feeding a resident
	+ Assisting a resident to mobilise
	+ Contact with intact skin
	+ Pushing a wheelchair
	+ Serving meals
	+ Providing care to residents with intact skin such as taking their temperature

**Gloves used for resident care should:**

* Be single use only
* Conform to European Union standards
* **Be sterile** if contact with sterile body site anticipated and for aseptic procedures
* Fit the wearer and be appropriate to the task
* Be removed in a manner to prevent contamination
* Be changed between procedures on the same client (e.g. on moving from a contaminated body site to a clean body site)
* Removed after the episode of resident care
* Removed if punctured, soiled with bodily fluid or after contact with contaminated environmental surfaces
* Not be worn unless required and not for longer than necessary

**Glove Type**

* Latex gloves ( non-powdered) are recommended for sterile invasive procedures and potential exposure to blood
* Nitrile gloves should be worn by HCWs with latex allergy
* Vinyl gloves may be used for personal care but are not recommended for blood contact
* Non-sterile disposable or reusable (single person use) household gloves can be used to clean the environment
* Polythene gloves are not suitable for the clinical care environment

**10.2 Aprons**

**A clean non sterile disposable plastic apron** should be worn when close contact with the client may lead to contamination of the skin, uniform or other clothing with infectious agents, blood, body fluids, secretions, excretions.

**Removing aprons**

Aprons should be removed in a way that prevents contamination of clothing or skin.

* The ties at the neck and back should be broken
* The outer ‘contaminated’ side should be turned inward and rolled into a bundle then discarded into the appropriate waste container.
* Hand hygiene should be performed immediately after removal of PPE

 **11.0 Management of Spillages of Blood and Body fluids**

Spillages of blood, urine, faeces or vomit should be dealt with immediately. HCWs should wear appropriate PPE.

**Body fluid spillages except urine (e.g. faeces or vomit)**

* Put on appropriate PPE
* Cover and soak up the spill as much as possible with disposable paper towels
* Clean the area using warm water and general purpose neutral detergent
* Disinfect the area using a chlorine-releasing disinfectant 1:10 dilution of 5.25% sodium hydrochloride (bleach), rinse and dry surface area
	+ Dispose of soiled paper towels and PPE contaminated with body fluids other than blood as healthcare non-risk waste, unless a client is suspected or known to have an infection
* Perform hand hygiene after discarding PPE

**Blood Spillages**

* If available use the appropriate spillage kit (stored in the housekeeping cupboard in the Clew Bay Suite)
* Put on appropriate PPE
* Decontaminate large volume blood spills with a chlorine-based disinfectant (e.g. powder granules or liquid containing 10,000ppm available chlorine)
* Wipe up the spillage with disposable paper towels or scoop and discard into a healthcare risk bag or rigid container.
* Wash the area with general purpose neutral detergent and water
* Discard gloves and apron into healthcare risk waste
* Perform hand hygiene after discarding PPE

**Urine Spillage**

* Put on appropriate PPE
* Cover and soak up the spill as much as possible with disposable paper towels
* Clean the area using warm water and general purpose neutral detergent

Do not apply chlorine based disinfectants directly onto spillages of urine as it may result in the release of chlorine vapour. Always use chlorine-based disinfectants in a well ventilated area. Chlorine based disinfectants are not suitable for use on carpet or fabric. If used on metal the solution should be rinsed off after the required contact time to prevent metal corrosion.

 **Managing infectious disease in a health care setting**

**12. Clostridium difficile associated disease (CDAD)**

Key Points

* Clients with CDAD who are likely to be infectious should be isolated in a single room with en-suite facilities or an allocated commode
* The clients antibiotic prescription should be reviewed and inappropriate antibiotics should be stopped
* HCW should remove PPE ( gloves & aprons) immediately after each CDAD client care activity
* The clients immediate environment should be cleaned and then disinfected with chlorine releasing agent at 1000ppm, 0r 1:10 dilution of 5.25% sodium chloride or equivalent.
* HCWs should perform hand hygiene with liquid soap and water alcohol sanitising gel **MUST NOT** be used as this is ineffective in removing the spores of Clostridium Difficle

**12.1 Background**

Clostridium difficile infection is a major cause of antibiotic associated diarrhoea and mostly affects older people with underlying disease. Clostridium difficile is a bacterium usually found in the large intestine (bowel). A small proportion of healthy adults carry a small amount of Clostridium difficile but it is kept in check by the normal ‘good’ bacteria in the intestine.

Clostridium difficile can form spores which allow it to survive in the environment outside the body. These spores protect it against heat and chemical disinfectants. The bacterium is also commonly found in the gut of babies and children but rarely gives rise to symptoms.

Clostridium difficile produces toxins which can cause diarrhoea, ranging from mild to sever illness with sever ulceration and bleeding in the colon (colitis) to at worst, perforation of the intestine, peritonitis and death. Severe diarrhoea may result in fluid and electrolyte imbalance. An over growth of Clostridium difficile occurs in the gut when the normal gut bacteria have been destroyed following a course of antibiotics (broad spectrum).

The bacterium usually produces 2 toxins (toxin A & toxin B) that damage the cells lining the intestine and cause diarrhoea. Typically diarrhoea starts 5-10days after commencing the antibiotic but it can occur as early as one day after staring and up to 10 weeks following a course of antibiotics. In general Clostridium difficile associated disease (CDAD) is seen almost exclusively in patients that have been treated with antibiotics. Although CDAD is mainly a hospital infection approximately 10% of cases are community acquired so cases are now being diagnosed in clients in long term care.

Type 027 is a newer strain of Clostridium difficile. It was predominantly associated with 3 major outbreaks of infection in the UK (Stoke Mandeville, Exeter & Royal Devon hospitals) in 2004-2005. It was also identified in large outbreaks in Canada (Quebec) and in the USA since 2000. Type 027 produces more toxin than other strains due to genetic mutation, causes more sever disease and appears to be associated with higher mortality rate.

**12.2 Symptoms**

* Diarrhoea – sudden onset, may be explosive and have a characteristic odour
* Fever
* Crampy abdominal pain
* loss of appetite
* Nausea

**12.3 Spread of Infection**

People in good health do not normally get Clostridium difficile infection. Clostridium difficile associated disease is seen almost exclusively in clients who have been treated with antibiotics. Clostridium difficile is shed in faeces. Clients may become infected by coming into contact with Clostridium difficile spores. Spores can be picked up on the hands through contact with contaminated equipment e.g. commodes, bedpans. If a client touches their mouth with contaminated hands the spores may travel to the clients gut where they grow and multiply.

**Alcohol based hand rubs do not have reliable sporicidal activity and are not recommended as the only hand hygiene measure when caring for confirmed or suspected CDAD residents.**

**12.4 Risk Groups**

Residents are most at risk of developing CDAD if they:

* Are taking or have recently finished taking antibiotics
* Have spent a long time in hospital or other health care facility (e.g. home)
* Are older
* Have a serious illness
* Have a weakened immune system
* Have had bowel surgery

**12.5 Diagnosis**

Clostridium difficile is diagnosed in the microbiology laboratory by the detection of Clostridium difficile toxin in the faeces of clients. All clients with suspected gastrointestinal infection should be tested for Clostridium difficile. Stool specimens should be taken while the client is symptomatic (has diarrhoea) the stool specimen should be loose/liquid (type 6 or 7on the Bristol stool chart) and should take on the shape of the specimen container. Specimens should ideally be fresh and sent to the lab on the day obtained. If the specimen cannot be examined that day, specimens for transportation should be refrigerated at 4 C in a designated specimen refrigerator. In cases where the lab toxin test is negative but there is a strong suspicion of CDAD, the consultant microbiologist should be contacted for advice.

**Diarrhoea is defined as three or more loose/watery bowel movements (which are unusual or different for the client) in a 24hr period and there is no other recognised cause for the diarrhoea (e.g. laxative use)**

**12.6 Treatment**

* Current antibiotic therapy should be discontinued if possible, otherwise antibiotics with a lower risk of causing CDAD should be substituted.
* Initial treatment of non- severe CDAD: Metronidazole is the recommended first line agent at a dose of 400mcgs orally three times daily for 10 days
* Where treatment is indicated it should be started without delay.
* CDAD should be in accordance with notional guidelines and GP’s should contact the consultant microbiologist for guidance if this is required.
* If the resident has severe infection then treatment with Vancomycin may be necessary along with hospital admission.
* Dehydration should be treated and/or prevented
* Antidiarrheal agents e.g. Kaolin, Loperomide should be avoided
* If the resident has more than one occurrence of CDAD, a tapered pulsed regime of oral vancomycin may be required a consultant microbiologist should be contacted for advice.

**12.7 Prevention**

Prudent antibiotic prescribing is recommended to reduce the use of broad spectrum antibiotics.

**12.8 Control measure for Symptomatic residents**

Residents that test positive for Clostridium difficile and who are symptomatic (e.g. have diarrhoea) require additional precautions (**Contact Precautions**) in addition to standard precautions.

**12.9 Resident placement**

A resident with symptomatic infection (diarrhoea) should be placed in a single room with en-suite toilet. This is particularly important for residents who are incontinent of faeces or unable to practice good hand washing. If en-suite facilities are not available residents with CDAD should have an allocated designated toilet or commode and not be permitted to use the general toilet facilities. Symptomatic residents should be isolated as soon as possible as there is significant risk of environment contamination and cross infection.

**12.10 Monitoring of resident with diarrhoea**

* Diarrhoea in residential clients should be monitored and recorded. A Bristol stool chart is recommended.

**12.11 Hand Hygiene**

* Hand washing with soap and water should be performed before and after all resident and equipment contact and after glove removal. ***Alcohol based hand rubs are not recommended as the only hand hygiene measure when caring for confirmed or suspected CDAD residents.***
* Residents who are unable to perform hand hygiene independently should be supervised or assisted to do so.

**12.12 Personal protective equipment**

* Aprons & gloves should be worn when entering residents rooms and during resident care.
* Aprons and gloves should be removed after each activity and hand hygiene should be performed.

**12.13 Equipment**

* Dedicated equipment should be used while the resident requires contact precautions
* Reusable equipment must be decontaminated prior to re-use on another resident

**12.14 Laundry & Waste**

* Linen should be placed in a Tysafe bag marked ‘infected’
* Waste generated should be placed in a yellow healthcare risk waste bag
* A specific yellow healthcare risk waste bin should be kept in the room of the resident to ensure all waste is contained within the same environment.

**12.15 Environmental cleaning**

There should be daily cleaning and disinfection of environmental surfaces and reusable devices especially items likely to be contaminated with faeces and surfaces that are touched frequently.

* A chlorine-releasing agent 1000ppm, or 1:10 dilution of 5.25% sodium hydrochloride or equivalent should be used for environmental surface disinfection following initial cleaning with detergent and water. Special attention should be given to frequently touched sites e.g. bedrails, over bed tables, toilets, commodes
* Items likely to get faecally contaminated should be cleaned and disinfected immediately after use e.g. under surfaces and hand contact surfaces of commodes.
* All equipment used for residents should be in a good state of repair in order to facilitate effective cleaning
* Medical devices (thermometers, sphygmomanometers, stethoscopes) should be dedicated to a single client and disposable materials used wherever possible.
* No additional measures are required for cutlery and crockery. The combination of hot water and detergent used in dishwashers is sufficient to decontaminate dishware and eating utensils.
* Bedpans and commodes should be decontaminated after each use in a bedpan washer disinfector. Bedpan washers should reach a temperature of 80 c for a minimum of 1 minute. Bedpan washers should be serviced and validated on a regular basis.
* Commode frames should be kept scrupulously clean at all times. Commodes should be taken to the sluice room for cleaning. All surfaces of the frame should first be thoroughly cleaned using a detergent, warm water and disposable cloths. If the commode is faecally soiled or if used by a resident with symptomatic CDAD cleaning should be followed by disinfection with a chlorine releasing agent at concentration of 1000ppm. A system of labelling decontaminated commodes is recommend. Faecal soiling of the environment should be cleaned and disinfected immediately.

**12.16 Terminal cleaning of a resident’s bedroom**

In addition to daily cleaning of a residents room terminal cleaning of the residents room and en-suite room should be performed when the resident is moved to another room or is 48hrs symptom free.

All surfaces in the room except walls (unless soiled) should be thoroughly cleaned with detergent & warm water followed by disinfection using a chlorine-releasing agent 1000ppm, or 1:10 dilution of 5.25% sodium hydrochloride or equivalent. Particular attention should be paid to any surface soiled with faecal matter and hand contact areas including light switches, hand rails, pull cords, call bells, remote controls, door handles, taps etc. Damp cleaning methods should be used for electrical or moisture sensitive items. All reusable equipment should be thoroughly cleaned with detergent & warm water followed by disinfection using a chlorine-releasing agent 1000ppm, or 1:10 dilution of 5.25% sodium hydrochloride or equivalent.

Disposable items should be disposed of into yellow healthcare risk waste bags.

Hoist slings should be laundered in a washing machine in temperatures greater than 60 c

Beds & furnishing should be cleaned and disinfected before removal room the room

Curtains should be removed and washed or dry cleaned according to manufactures instructions

Soft furnishings such as upholstery should be steam cleaned.

**12.17 Discontinuation of contact precautions**

Isolation with contact precautions may be discontinued when the resident has had at least 48 hours without diarrhoea and has had a formed or normal stool for them.

**12.18 Follow up screening**

After treatment, repeat Clostridium difficile testing is **NOT** recommended if the residents symptoms have resolved. Residents should be retested if they redevelop diarrhoea. Once a resident has no diarrhoea they should be allowed to socialise as usual and participate in therapeutic and group activities.

**12.19 Transfer of residents**

* The movement and transport of the isolated resident with CDAD should be limited to essential purposes only.
* A resident with a history of Clostridium difficile who is no longer symptomatic may be transferred from a hospital to a long term care facility.
* Communication regarding the residents status prior to transfer to hospital or transfer back to the home is essential in order to facilitate ongoing medical management.

**13.0 Scabies**

**Background**

Scabies is a parasitic infestation of the skin caused by *Sarcoptes scabiei* mite. Scabies is more prevelant in children and young adults but any age group can be affected. Scabies has been associated with outbreaks of infection in hospitals and homes.

**13.1 Symptoms**

The female scabies mite tunnels in the skin and lays eggs. The eggs hatch into mites after a few days. Mites can infect the face, neck & scalp in young children and the elderly and immunocompromised. There may be no sign of infection for 2-4 weeks after exposure when an allergy to mite saliva and faeces develops. Symptoms include:

* **Itchy rash:** A symmetrical rash associated with intense itching, particularly at night. The rash consists of small red papules which can appear on any part of the body
* **Burrows:** Burrows may be visable in the webs of the fingers and on the writs & elbows.

**13.2 Secondary infection**

Scratching sometimes causes skin damage. In some cases the damaged skin becomes infected by bacteria causing secondary skin infection.

In classical scabies about 12 mites are present on the body at any given time but where there is impaired immunity larger numbers of mites may be present and skin scaling can occur. This condition is known as ‘Norwegian’, ‘atypical’ or ‘crusted’ scabies. The usual or sever itching may be reduced or absent in Norwegian scabies.

**13.3 Incubation period & infectivity**

Usually symptoms develop 2-4 weeks post exposure to a case. People how have been previously infested develop symptoms 1-4 days after re-exposure. Spread of infection stops after the first application of treatment for scabies.

**13.4 Spread of infection**

Classical scabies is transmitted by direct skin to skin contact. Norwegian scabies is more infectious and transmission can occur via skin scales on bedding, clothing an upholstery.

**13.5 Diagnosis**

Scabies is frequently misdiagnosed but skin scrapings can be examined under microscope for mites , eggs or faeces. A clinical diagnosis of scabies by a GP or dermatologist should be made before treatment is started.

**13.6 Prevention**

Prevention of scabies is dependent on early detection and prompt treatment.

**13.7 Notification of infectious diseases**

Individual cases of scabies are not notifiable however outbreaks of infection should be notified to the Medical Officer of Health in the Department of Public Health.

**13.8 Treatment**

The usual treatment is a scabicidal topical agent containing permethrin or malathion. The manufactures instructions should be followed.

All the skin of the body (including the back, soles of feet, between fingers & toes under fingernails, scalp, neck, face, ears and genitals) should be treated.

An adult needs at least 30g of cream or 100mls of lotion to cover the whole body

Cream or lotion should be applied to cool dry skin (not after a hot bath)

The cream or lotion should be left for the recommended time between 8 & 24hrs

The cream or lotion should be reapplied to areas of the body that have been washed during the treatment period e.g. the hands.

Clothes, towels and bed linen should be machine washed (at 50 c or above) after the first application of treatment. This is to prevent re-infestation and transmission to others. Items that cannot be washed can be set aside and not used for 7 days.

It is normal to take up to 2-3 weeks for the itch to resolve after treatment. A soothing antipruritic cream may help until the itch eases.

**13.9 Infection control measures**

Standard and contact precautions are recommended for residents who have scabies.

Residents with scabies should be accommodated in a single room. Aprons & gloves should be worn for all client contact.

Control measures should be maintained until the resident has been treated with a recommended scabicidal preparation.

**14. Norovirus (winter vomiting illness) – Please see Appendix 1 for immediate action plan**

**Symptoms:** Illness is usually mild to moderate with clinical symptoms of nausea, vomiting and/or diarrhoea, abdominal cramps, muscle aches, headache and low grade fever. Vomiting may be sudden onset and forceful. Symptoms resolve spontaneously after 24-48 hrs. Sever vomiting may lead to dehydration particularly in the elderly and very young.

**14.1 Incubation period & infectivity**

Incubation is generally 24-48hrs but ranges up to 10-50hrs. Cases may be infectious for up to 48hrs after symptoms resolve.

**14.2 Spread of infection**

Noroviruses are spread primarily through the faecal –oral route by either:

* Consuming contaminated food or water
* Direct contact with an infected person and/or their environment

Vomiting can lead to a contaminated environment or aerosol spread. In healthcare settings healthcare workers and visitors who have the illness or are recovering from it can spread the virus to residents or contaminate surfaces through unwashed hand contact. Infected food handlers can contaminate food that is eaten raw (e.g. salads) or post cooking via unwashed hands contaminated with faeces.

**14.3 Diagnosis**

Diagnosis is confirmed by stool testing in the laboratory. Polymerase Chain Reaction (PCR) testing or ELISA testing. Faecal specimens should be collected as soon as possible following symptom onset and should be unformed (the specimen should take on the shape of the container). Other possible causes of diarrhoea should be ruled out.

**14.4 Risk groups**

Norovirus infection affects people of all ages. There are many different strains of Norovirus, and immunity is short lived. Therefore people can get Norovirus infection more than once. Norovirus is highly infectious and spreads easily within health care & home settings.

**14.5 Prevention**

* Good standards of personal and food hygiene
* Good standards of infection control in healthcare settings including adequate cleaning arrangements
* Residents who develop symptoms suggestive of Norovirus should be isolated in a single room
* Shellfish should be cooked before consumption & fruit should be washed before eating

**14.6 Treatment**

There is no specific treatment of Norovirus. It is important to drink plenty of fluids to avoid dehydration. Older people may require fluid supplementation if they are unable to maintain adequate oral intake e.g. subcutaneous fluid therapy. The illness is normally self- limiting lasting 24-48hrs.

**14.7 Control measures**

* Standard and contact precautions are recommended for residents with norovirus infection until they are 48hrs free of symptoms
* Good general standards of personal, food and environmental hygiene are recommended.
* Cases in residential facilities should be isolated or segregated from others for 48hrs after their symptoms have ceased. 72 hrs is used in the hospital setting. Isolation in a single room is recommended or cohort with other clients with norovirus infection.
* Hand washing particularly after using the toilet, after dealing with someone who has been ill and before eating or preparing food.
* Cleaning with detergent and water followed by disinfection (using chlorine-releasing agent 1000ppm, or 1;10 dilution of 5.25% sodium hydrochloride or equivalent) of contaminated surfaces immediately after an episode of illness.
* Cases should avoid food preparation until 3 days after symptoms have gone
* Health care workers and food handlers should be excluded from work until 48hrs after symptoms resolve.

**14.8 Notification of Infectious disease**

**Norovirus infection is a notifiable disease under the infectious disease regulations 2003**. A medical practitioner and a clinical director of a diagnostic laboratory on suspecting or identifying a case of Norovirus are obliged to notify the Medical Officer of Health in the Department of Public Health. Outbreaks of infection should be notified to the Medical Officer of Health in the Department of Public Health and to the Health Information and Quality Authority (HIQA).

**15. Varicella Zoster Virus (Chicken Pox & Shingles)**

Varicella Zoster virus (VZV) causes 2 distinct diseases:

**Chicken pox (**Varicella) is the primary infection and results from exposure of a person susceptible to the virus. This is normally a mild illness in children. Adults tend to suffer with more sever disease than children. Rarely, the disease may be fatal.

**Shingles** (zoster or Herpes zoster) after infection with chicken pox the virus remains dormant in the body causing no harm but can reactivate at a later stage (may be several years). Re activation of Varicella Zoster Virus infection results in shingles. Reactivation is often associated with impaired immunity for example in old age, pregnancy, illness and/or stress. Shingles is most commonly seen in the elderly.

 **15.1 Symptoms**

 **Chicken pox** is an acute viral disease with sudden onset of slight fever, mild headache and myalgia. A rash appears which later develops into clear vesicles which finally dry into crusts. The vesicles have been referred to as ‘dew drop’ like in the early stages of formation. Successive crops of vesicles develop over several days.

**Shingles.** The first sign of shingles is commonly pain in the affected area (usually the trunk), a rash of fluid filled blisters appear which may last for up to seven days or longer. A post herpetic neuralgia may develop resulting in persistent pain.

**15.2 Incubation period & infectivity**

The incubation period is 10-21days, commonly 14-16 days. Susceptible individuals who have been in contact with a client with chicken pox or shingles should be regarded as potential infectious from the 10th to the 21st days after exposure. Clients are infectious for up to 2 days before the period of vesicle formation and generally for 4-5 days thereafter until all vesicles are crusted. A person with shingles rash can pass the virus to someone who has never had chickenpox but that person will develop chicken pox not shingles. A person with chickenpox cannot spread shingles to someone else. Shingles comes from the dormant virus inside the persons body (from their primary chickenpox infection), not from an outside source.

**15.3**  **Occurrence**

Acute VZV infection occurs worldwide with about 95% of people having been infected in early childhood. Chickenpox occurs seasonally (late winter & early spring) during which time outbreaks of infection are common.

**15.4 Spread of Infection**

Chickenpox is readily transmissible, shingles less so. Chickenpox transmission is mainly person to person by airborne respiratory droplets but also by direct contact with vesicle fluid of chickenpox cases, or contact with the vesicle fluid of clients with shingles. Indirect contact occurs through articles freshly soiled by discharges from vesicles of infected persons. Scabs are not infective. VZV is one of the most infectious communicable diseases. In the household setting secondary attack rates range up to 90% among siblings.

**15.5 Risk Groups**

Susceptible people are those without immunity to the virus, i.e. no history of having had the disease and no history of vaccination for the disease. Those at higher risk of sever disease and complications are:

* Infants less than 1 month old
* Pregnant women
* Immunosuppressed people

**15.6 Prevention –Health care workers**

* Health care workers should be aware of their immunity to VZV. People with known history of chickenpox or shingles are highly likely to be immune. Where there is any doubt about previous infection or immunisation an antibody level should be determined. This consist of a blood test to detect serum antibodies to VZV after natural infection (not immunisation).
* Immunisation for VZV is recommended for non immune HCWs, particularly non immune women before pregnancy and for non immune carers of immunosuppressed people.
* HCWs (particularly pregnant women) should not have direct contact with residents infected with VZV unless they have a definite history of chickenpox or serological evidence of previous infection.
* HCW (particularly pregnant women) who are unaware of their immune status should seek prompt medical advice if they have been exposed to VZV
* HCWs with chickenpox/ shingles should be excluded form work until deemed non infectious.

**15.7 Control Measures –Residents**

**Chickenpox:** Standard infection control precautions and droplet precautions should be used for all residents during the infectious period.

* Those with chickenpox should be isolated (in a single room with the door kept closed) or segregated from other non-immune clients until the vesicles are dry and crusted.

**Shingles:** Residents with shingles generally do not require a single room as long as skin lesions are covered by their clothing. Residents who have shingles with facial lesions should ideally be cared for in a single room until considered non-infectious.

Those with shingles /chickenpox should be advised to:

* Avoid pregnant women (if they cannot recall having had chickenpox, immunosuppressed people & babies younger than 1 month
* Keep the rash clean and dry to reduce the risk of bacterial superinfection.
* Avoid use of topical antibiotics and adhesive dressings, as they can cause irritation and delay wound healing.
* Seek medical advice if there is an increase in temperature as this may indicate bacterial infection
* Avoid work, school or day care if the rash is weeping and cannot be covered. If the rash is dried and crusted or the rash is covered (for shingles) avoidance of these activities is not necessary
* Routine reprocessing of instruments and equipment and routine cleaning of the environment should be carried out.

**15.8 Notification of infectious disease**

Individual cases of chickenpox or shingles are not notifiable but all outbreaks of infection should be notified to the Medical Officer of Health in the Department of Public Health.

**16.0 Extended Spectrum Beta Lactamase (ESBL) producing bacteria**

*Extended Spectrum Beta Lactamase* (ESBL) producing bacteria are of importance because they can cause infections that are difficult to treat. These bacteria have become resistant to certain antibiotics and can cause infections that can only be treated by a limited number of antibiotic. These bacteria have become resistant to beta-lactam antibiotics, by their ability to produce an enzyme (beta-lactamase) which can break down antibiotics such as penicillins and cephalosporin’s. ESBL producing bacteria are also able to transfer these resistance enzymes to other bacteria. The bacteria may also be resistant to other antibiotics such amino glycosides (e.g. gentamicin & tobramycin) and quinolones (e.g. ciprofloxacin). The most common ESBL producing organisms include *Klebsiella species, Enterobacter species, Acinetobacter species & Escherichia coli.*

**16.1 Spread of infection**

People colonised or infected with ESBL- producing bacteria are usually in hospital, particularly intensive care units, and are likely to have underlying medical conditions (e.g. chronic illness such as diabetes) or have taken a lot of antibiotics. ESBL producing bacteria can be spread from one resident to another on the hands of healthcare worker, on equipment or from the hospital environment.

**16.2 Risk groups**

Most infections occur in people with other underlying medical conditions who are already very sick, and in the elderly. Residents who have been taking antibiotics or who been previously hospitalised are mainly affected.

**16.3 Illness caused by ESBL-producing *E. coli***

ESBL-producing bacteria cause the same types of infections as other strains of bacteria. Any of these bacteria can cause wound infection, urinary tract infection, bloodstream infection etc. E. Coli commonly cause urinary tract infections (UTI’s)

**16.4 Treatment**

Infections caused by ESBL-producing bacteria can be treated with antibiotics, but the choice of antibiotics is limited because the bacteria are resistant to many commonly used antibiotics.

**16.5 Control Measures**

* Standard infection control precautions should be used for all patients – gloves and aprons should be used for uncontrolled secretions, pressure sores, draining wounds, stool incontinence, and ostomy tubes/bags
* Good hand hygiene and environmental cleaning reduce the risk of ESBL producing E.coli being spread from resident to resident
* Residents should be allocated their own specific equipment e.g. commode (only if required moving & handling sling and wash bowl.
* Antibiotics should be prescribed only when needed, in the right dose, for the right duration, to reduce the chances of bacteria becoming resistant. Use of the ICGP antibiotic prescribing guidelines is recommended.
* Urinary catheters should be removed as soon as they are no longer required.
* Urinary tract infection should be treated with appropriate antibiotic therapy. Ideally a midstream specimen of urine should be obtained before treatment is commenced. Laboratory results should be obtained as soon as available to ensure the resident is on appropriate antibiotic therapy.
* In long term care facilities residents who are known to be colonised or infected with ESBL producing bacteria should not share a room with residents with invasive devices or wounds.

**17.0 Vancomycin Resistant Enterococci (VRE) or Glycopeptide Resistant Enterococci (GRE)**

**VRE** stands for *Vancomycin resistant Enterococci* ( also referred to as GRE *Glycopeptide Resistant Enterococci*). Enterococci are bacteria that may be found in the gastrointestinal tract of healthy individuals. VRE are strains of Enterococci that have developed resistance to some antibiotics. These antibiotics may include glycopeptides (vancomycin & teicoplanin), aminoglycosides & ampicillin.

VRE can affect people in 2 different ways colonisation or infection. When a person carries VRE as part of their body’s normally present bacteria (also known as their normal flora) without symptoms, the person is said to be colonised. If a person has an infection that is caused by VRE (such as blood stream infection) the person is said to be infected. Most people with VRE are colonised rather than infected.

**17.1 Clinical manifestations**

*Enterococci* colonise the bowel of most people. There are several species of Enterococci but *Enterococci faecalis* and *Enterococci faecum are the most common*. Most people who carry *Enterococci* don’t suffer any ill effects. Enterococci can cause a range of infections including:

* Wound infections
* Urinary tract infections
* Infections of the abdomen & pelvis
* Infections in the bile duct (cholangitis)
* Heart valve infection (endocarditis)
* Bacteraemia (infection of the blood

**17.2 Spread of Infection**

Because Enterococci are part of the normal flora of the gastrointestinal and female genital tracts, most infection with these micro-organisms have been attributed to the persons own flora. People who have been previously treated with glycopeptide antibiotics (vancomycin or teicoplanin) are at greater risk of developing VRE. VRE can be spread by direct person to person contact or indirectly on the hands of healthcare workers or on contaminated environmental surfaces and patient care equipment. VRE does not cause diarrhoea but colonised or infected residents who have diarrhoea (for whatever reason) are likely to contaminate their immediate environment with VRE.

**17.3 Risk groups**

Hospitalised patients are most at risk of VRE, especially those who:

* Recently taken vancomycin or other antibiotics (including cephalosporin’s, ciprofloxacin, aminoglycosides, clindamycin and metronidazole) for an extended period.
* Impaired immune system due to cancer or chemotherapy
* Spent long periods in hospital
* Undergone surgical procedures particularly abdominal or chest surgery
* A long term indwelling catheter (intravenous or urinary catheters)
* Stayed in intensive care, renal and/or haematology/oncology units

**17.4 Control Measures**

* Standard precautions should be applied for all residents. Hand hygiene should be performed between each resident contact, and after removal of gloves.
* Additional precautions are generally not indicated for those in long term care settings. Standard infection control measures should be used at all times.
* If the resident is moved to another healthcare setting the receiving clinical staff should be informed of the residents VRE carriage status.

**17.5 Treatment**

* Residents who are colonised with VRE do not generally require antibiotic treatment. Those who develop clinical signs and symptoms of infection should be medically assessed and treated appropriately.

**18.0 Oropharyngeal Suctioning**

* Hand hygiene should be performed prior to performing suctioning
* Appropriate PPE should be worn for the procedure e.g. non sterile gloves and an apron +/- /eye/moth protection if splashing is anticipated
* Equipment should be discarded appropriately after use
* Hand hygiene should be performed following task completion and glove removal

**18.1 Equipment**

* Filters should be changed between resident use and in accordance with manufacturers instructions
* Suction catheters and rigid oral suction tubes (yanker) should be used in accordance with manufacturers instructions single use once and discard.
* Disposable suctioning equipment is recommended for community facilities where appropriate decontamination facilities may not be available. Disposable suction containers/jars are recommended
* Disposable suction containers – the liner holder should be cleaned between each use and on a regular basis for long stay persons.
* Used liners containing fluid should be sealed securely and disposed of in a spill proof healthcare risk waste container.

**19.0 Capillary (finger stick) glucose testing**

Capillary (finger stick) glucose testing is a procedure that may involve contact with blood or serous fluid. Residents with diabetes and HCE can be exposed to blood borne viruses such as Hepatitis B, Hepatitis C and Human immunodeficiency virus (HIV) if precautions are not taken when dealing with blood and contaminated equipment. Outbreaks of Hepatitis B & C have been documented following exposure to contaminated blood glucose monitoring equipment.

19.1 **Capillary blood testing procedure**

* Hand hygiene should be performed before and after client contact
* Gloves should be worn for finger stick blood glucose testing
* Needles and lancets are single use items and must not be reused
* Safe injection practices should apply
* Safe disposal of sharps & waste
* Decontamination of patient equipment

In designated centres the following is recommended: (HIQA safety alert 005/2014, Risk management of blood glucose monitoring in designated centres)

* Disposable single use safety lancets, where the firing mechanism and the lancet are both discarded as one single unit are to be used for all blood glucose monitoring.
* Residents should be supported to self- monitor where possible.
* Insofar as reasonably practicable, each resident who requires routine blood glucose monitoring should have their own blood glucose monitor.
* The blood glucose monitor must be marked with the residents details. It must be thoroughly cleaned after use and subsequently stored in a hygienic appropriate area such as a cupboard or at the bedside
* Where devices are not individually allocated and a blood glucose monitoring device is used for multiple patients, the device must be appropriately cleaned and disinfected after each use, according to the manufacturers instructions. A copy of these instructions must be retained for reference.

Where trays with integral sharps bins are used, the following is relevant

* Clean trays with only the equipment required for one procedure with one person should be brought to the residents bedside or other suitable area.
* Following the glucose monitoring procedure the tray should be emptied of all items, cleaned and disinfected
* Clean trays should be stored in a clean area of the treatment/clinical room

**20.0 Influenza**

Influenza remains the leading cause of death from infectious disease among elderly people, largely due to declining immune competence with age and is a significant cause of death or hospitalisation among the elderly and frail in residential care settings. Residential care facilities are considered to be high risk environments for influenza due to the older age of residents, the high prevalence of chronic medical conditions, communal living arrangements, shared care giving and the continual close proximity of residents.

Influenza is very infectious and easily passed from person to person. The virus is mainly spread by an infected person coughing or sneezing. The incubation period (the delay between infection and appearance of symptoms) is short typically 1-3 days. A person can spread the virus by coughing or sneezing for 1-2 days before the onset of symptoms and continue to be infectious for a further 3-5 days.

This however may be prolonged to a week in the elderly, children or immunosuppressed. The virus can also be spread through direct contact with an infected person or contaminated surfaces and particularly via the hands of healthcare workers. In light of this infection control and restriction measures to minimise contact between ill and well residents are an integral part in controlling outbreaks in residential care facilities alongside vaccination and antiviral therapy as these measures assist in breaking the chain of transmission of the virus.

**20.1 Objectives for influenza prevention and control in residential care facilities**

* To prevent the spread of infection among residents and staff
* To reduce the morbidity and mortality from influenza among residents
* To decrease the number of outbreaks of influenza
* To maintain the influenza immunisation coverage at a minimum of 75% for both residents and staff in residential care facilities with the aim of having 100% immunisation coverage in both
* To optimise the use of antivirals in the management of influenza outbreaks

**20.2 Key interventions to prevent an influenza outbreak**

* Annual influenza vaccine of residents and staff and adequate recording of same
* Planning and education
* Implementation of standard and transmission based precautions
* Surveillance (monitoring) for influenza like illness (ILI) and influenza
* Outbreaks will be managed following HSE Public Health Guidelines on the Prevention and Management of Influenza Outbreaks in Residential Care Facilities in Ireland 2015/2016

**20.3 Immunisation**

The national immunisation guidelines for Ireland 2013 (updated 2014), recommend annual influenza vaccination for all persons aged 50yrs & older, persons with chronic medical conditions, residents of homes. The guidelines also recommend annual influenza vaccination for all health care workers and health care assistants both for their own protection as they are a group likely to come into contact with influenza during an outbreak and for the protection of the residents.

**20.4 Recording of influenza vaccine status**

It is essential that the influenza vaccination status of all new admissions to St. Attracta’s home are recorded including those of respite admission. If new admissions have not received influenza vaccine vaccination is strongly recommended provided there are no contraindications and consent has been obtained. Seasonal influenza vaccine can be given until the end of April and this may be extended in the event of an influenza outbreak. The pneumococcal vaccination status of all residents should be recorded.

The influenza vaccination status of all staff should be routinely recorded and data on the number of vaccinated staff should be available.

**20.5 Residents**

* It is the responsibility of St. Attracta’s Residence to ensure that all residents are offered the influenza vaccine and vaccinated if they request (unless there is a recognised contraindication) at the beginning of the influenza season in late September or early October. Residents not previously vaccinated should be vaccinated during an influenza outbreak
* All new unvaccinated residents or respite admissions during the influenza season should receive influenza vaccination ideally at least 2 weeks before admission or else as soon as possible after admission.
* Pneumococcal vaccination is also recommended for all those aged 65 and older and those in the recommended risk groups. Pneumococcal vaccination is not required annually.
* Obtain the residents or subsequent decisions makers consent for influenza and pneumococcal vaccination on admission.
* The immunisation status of all resident should be recorded annually and vaccination coverage (% of residents vaccinated) estimated this information should be easily accessible to public health if required.
* For residents who are unable to make the decision to vaccinate or not this decision will be made in collaboration with their GP and nominated person and based on their previous will and preference and their best interest.

**20.6 Staff**

* It is the responsibility of St. Attracta’s Residence to maximise uptake of influenza vaccine and to ensure that all staff members are offered vaccination with influenza vaccine both at the beginning of the influenza season and during an outbreak.
* Prior to and upon employment and then annually each staff member should be assessed regarding their vaccination status.
* All staff should be encouraged to receive influenza vaccine at the start of each influenza season. Staff vaccinated later into the influenza season will also need vaccination at the start of the next influenza season.
* The immunisation status of all staff should be recorded annually and vaccination coverage (% of residents vaccinated) estimated this information should be easily accessible to public health if required.
* Management should provide feedback to staff on influenza vaccine coverage rates
* Ill staff should not attend for work until symptom free in most cases this can take up to 7 days

**21.0 Methicillin-Resistant Staphylococcus Aureus (MRSA)**

*MRSA* stands for Methicillin-Resistant Staphylococcus Aureus. Staphylococcus aureus is a bacterium that can reside on the skin or can be found in the nose of about one third of healthy individuals. It is generally non-pathogenic except where it gains access to deep tissues such as broken skin, resulting in surgical site or wound infection, the bloodstream leading to bloodstream infection or bacteraemia, and to the lungs causing for example ventilator-associated pneumonia. Early penicillin antibiotics such as flucloxacillin were effective in the treatment of infections caused by *Staphylococcus aureus* but since the late 1960s many strains have become resistant, but as methicillin was amongst the first anti-staphylococcal agents used, these strains have subsequently been known as MRSA. The prevention and control of MRSA is a challenge in hospitals and in the community throughout the world. (SARI 2005)

Increasingly there are a number of individuals in the community who have acquired MRSA however MRSA poses a greater risk to clients undergoing care in acute hospitals than to people in the community or long term care facilities.

When a persons natural defense mechanisms are breached the risk of infection with bacteria such as MRSA increases. This can occur where there is a break in the skin (e.g. through a surgical wound, gastric feeding tube, tracheostomy, urinary catheter or wound drain)

People affected with MRSA do not present a risk to the community at large and should continue their normal lives without restriction. Many individuals are discharged into long term care facilities or use day care- this should not pose a problem to their ongoing care or that of other residents as long as standard infection control procedures are implemented.

21.1 **MRSA Colonisation and infection**

The majority of people with MRSA are ‘colonised’ which is when the organism lives harmlessly on the body with no ill effects as opposed to ‘infected’ which is when the organism enters tissue and causes disease.

21.3 **Colonisation**

MRSA may be present in the nose and/or on the skin, skin folds, perineum and umbilicus. It may survive in these areas but does not cause infection. MRSA may colonise chronic wounds e.g. leg ulcers without causing infection.

21.4 **Infection**

MRSA enters the body and may multiply in the tissues. Clinical signs and symptoms will be present and may include inflammation, redness, swelling, pain and fever. Pus may be present at the affected site.

**21.5** **Transmission**

MRSA is spread from person to person mainly via the hands of healthcare workers. The bacterium can easily be picked up on the hands after direct client contact or contact with contaminated equipment.

**21.6 Risk Groups**

MRSA is more likely to cause infection in acute care settings such as hospitals. Generally people in the community are at lower risk of infection. MRSA is more likely to cause infection in people with impaired immunity and where the normal infection defence mechanisms are breached (e.g. people with invasive devices such as central venous access, urethral catheters, tracheostomy tubes and wounds). Residents of long term care facilities can be at risk of becoming colonised with MRSA and may become a source of MRSA when transferred to an acute hospital.

**21.7** **Prevention and Spread**

Standard infection control precautions are recommended for preventing the spread of MRSA in long term care faculties and the community. Additional precautions are generally not required.

**21.8** **Notifications of Infectious Disease**

*Staphylococcus aureus* bacteraemia (*Staphylococcus aureus* in a blood culture) is a notifiable disease under the infectious disease regulations 2003. A medical practitioner and a clinical director of a diagnostic laboratory on suspecting or identifying a case of *Staphylococcus aureus* bacteraemia are obliged to notify the Medical Officer of Health in the Department of Public Health.

**21.9** **MRSA in Nursing and residential Homes**

**21.10 Admission and accommodation**

* Isolation rooms with isolation signs are not required. There is no need to isolate residents in their own room if they have MRSA. It is preferable although not essential for residents who have MRSA to have a single room or to be cohort with other affected residents.
* Barrier nursing is not required
* MRSA is not a contraindication to admission to a long term care facility
* Residents with MRSA and with open lesions should be in a single room if available and if this does not adversely affect the residents rehabilitation
* Residents with MRSA should not be placed in rooms with debilitated, non- ambulatory residents with wounds /invasive devices if single rooms are available or if cohorting is possible.
* Staff of the receiving community facility should be notified in advance that the resident has MRSA
* Residents may share a room with another resident with MRSA
* Residents with MRSA should be allowed to join other residents in communal areas for group or therapeutic activities, any wounds should be covered.

**21.11 Hand Hygiene**

* Staff should ensure hand hygiene is performed as per St. Attracta’s policy on standard precautions in infection prevention and control
* Appropriate hand hygiene facilities should be accessible, hand wash basins, liquid soap dispensers, paper towels
* Hand hygiene may be performed using liquid soap and water or alcohol hand rub ( if hands are not visibly dirty)

**21.12** **Personal protective equipment**

* Gloves and aprons are not routinely required when caring for people with MRSA. Gloves should be worn for anticipated contact with blood, body fluids, invasive devices, non- intact skin, mucous membranes and contaminated waste/equipment in line with standard precautions.
* Aprons should be worn where there is a risk of splashing the clothing with blood or body fluids in line with standard precautions
* Facemasks are not required for routine care of a person with MRSA

**21.13 Transportation, transfer and discharge of residents**

* Ambulance personnel and general transport staff should use standard precautions for all clients. Additional measures are not required in the community for MRSA cases.
* If the resident is to be admitted to hospital the receiving ward/unit should be made aware that the resident has had MRSA in the past. This should be identified on the transfer letter accompanying them to hospital.

**21.14 Education**

* Residents found to be colonised or infected with MRSA should be informed of this. The resident and their family should have MRSA explained to them.

**21.15 Environmental Hygiene**

* Damp dusting and vacuuming should be carried out daily as normal
* Baths should be cleaned after use (between residents) as normal
* General cleaning should be carried out using warm water and detergent, disinfection of surfaces is generally not required. If disinfection is carried out surfaces must be thoroughly cleaned first.

**21.16 Linen Management**

* Residents with MRSA do not need to have their laundry washed separately. If possible a biological pre-wash or detergent should be used with the hottest temperature suitable for the fabric
* The process of washing and tumble drying will generally be sufficient to destroy MRSA

**21.17 Cutlery & Crockery**

* Cutlery and crockery should be washed in a dish washer- this is a form of thermal disinfection. Additional measures are not required. If a dishwasher is not available these items may be washed in hot water with washing up liquid
* Disposable cutlery is not required
* Chemical disinfection with bleach is not required

**21.18 Waste Management**

* Healthcare risk waste should be managed as per St. Attracta’s Home policy on management and segregation of healthcare waste.
* Additional measures are not required

**21.19 Client Care equipment**

Equipment should be cleaned between residents and when soiled should be cleaned with detergent and hot water. Chemical disinfection is generally not required

* Residents requiring hoist slings or glide sheets for moving and handling should have designated equipment for the duration of their stay. Fabric hoists should be laundered when soiled and prior to re-use on another resident who is not affected with MRSA. A red glide sheet is to be used specifically for any resident that is affected with MRSA. A specific hoist sling is to be used for residents affected with MRSA and must be stored separately to avoid cross contamination with other slings.

**21.20 Clinical Practice**

* Residents may be carriers of MRSA and not be identified as such. Standard infection control precautions should be implemented for all residents
* Staff should be educated regarding the appropriate management of invasive devices e.g. urinary catheters, feeding tubes and tracheostomy’s
* Residents should be encouraged to practice good personal hygiene and be assisted as required

**21.21 Screening for MRSA**

* Routine screening for MRSA is not indicated
* Screening for hospitalised clients prior to discharge to long term care facilities is not indicated
* Routine screening of healthcare workers/carers is not recommended
* Normal microbiological testing should be performed on clients in whom infection is suspected.

**21.22 Eradication (decolonisation) of MRSA**

MRSA decolonisation refers to the use of topical agents such as nasal ointment and body wash/shampoo, to eradicate nasal and skin carriage of MRSA or the use of systemic antibiotics to clear persistent carriage.

* Eradication of MRSA in the community is generally not required. However if a person is discharged from hospital with a prescribed MRSA eradication regimen this treatment should be completed.
* Repeat treatments should not be attempted without prior consultation with the discharging hospital. Repeat treatments may be required if the person is awaiting elective surgery
* Indiscriminate use of MRSA eradication treatment (e.g. antimicrobial nasal ointments) may contribute to the development of antimicrobial resistance. Prolonged use of skin antiseptics may cause skin irritation and discomfort
* Manufactures instructions should be followed in relation to the use of topical antimicrobial creams

**21.23 Treatment of infection**

* If a resident exhibits clinical signs of infection, medical advice should be sought and appropriate laboratory specimens should be obtained
* Residents showing clinical signs of infection will require treatment with the appropriate antibiotics. The agent used will depend on the site of the infection
* Advice can be obtained from the clinical Microbiologist in Mayo General Hospital
* Specific antibiotics are available to treat clinical infection with MRSA

**21.24 Wound management**

* Routine microbiological screening of wounds is not recommended
* Wound swabs for bacterial culture and susceptibility should be obtained if there are clinical signs of infection. Most chronic wounds are colonised with bacteria, the identification of MRSA in a wound swab does not necessarily indicate that the wound is infected
* Antibiotic treatment is not generally recommended for colonised wounds
* Wound management should be carried out as per standard precautions to promote wound healing. There are no specifically recommended wound dressings or topical solutions for MRSA colonised/infected wounds
* Expert wound management advice should be sought if the wound remains infected or if healing is delayed

**21.25 Advice to healthcare workers & Training**

* There is very little risk of infection for normal healthy members of staff
* Standard infection control precautions should be implemented with all clients
* Staff members should cover an cuts or abrasions on their skin when on duty
* Screening of staff for MRSA is generally not recommended
* Staff are trained in infection prevention and control and standard precautions during their induction period when commencing employment with St. Attracta’s Home. Staff are expected to maintain their level of knowledge whilst employed by attending this training 2 yearly and to attend any other training regarding infection control procedures that may arise periodically within the 2 year time frame as deemed necessary by the director of nursing..

**22.0 Environmental and Physical Structures**

* Changing, shower and toilet facilities are available for staff to use in accordance with best practice for infection control and prevention. Separate changing facilities shall be provided for catering and non-catering staff.
* Alcohol rub and hand-washing facilities shall be prominently sited throughout the residential care setting in accordance with current infection control guidelines.
* A separate hand-wash sink shall be available in areas where infected material and/or clinical waste is handled.
* The laundry floor finishes and those in sluice and cleaning rooms shall be impermeable. Floor and wall finishes shall be washable, anti-slip and easily cleaned when wet. Wall-floor junctions are coved.
* Laundry facilities are sited such that soiled articles, clothing and infected linen are not carried through areas where food is stored, prepared, cooked or eaten.

 There are separate areas for clean and dirty laundry.

* There shall be an adequately sized linen storage area to meet the requirements of St. Attracta’s Residence.

References

HSE Dublin North East Community Infection Prevention & Control Manual (2011)

HSE Public Health Guidelines on the Prevention and Management of Influenza Outbreaks in Residential Care Facilities in Ireland 2015/2016

SARI, (2005) The Control and Prevention of MRSA in Hospitals and in the Community (SARI

Infection Control Subcommittee)

**APPENDIX 1**

**Actions for staff to follow in the event of a Suspected Norovirus Outbreak**

**If Norovirus is suspected ensure control measures are put in place immediately.**

An outbreak is defined as an episode in which 2 or more people thought to have a common exposure experience a similar illness or proven infection.

Norovirus or gastroenteritis is suspected if the person presents with:

3 or more loose stools in 24/hrs

AND/ OR

Vomiting 3 or more times in 24hrs

AND/OR

Loose stools or vomiting with 2 additional symptoms i.e. nausea, fever, abdominal pain, abdominal cramps and blood & mucous in stool.

**Immediate actions to be taken & Early Control Measures**

* Inform Alison Moore Director of Nursing by phone if not on duty. Alison will contact Trina. If Alison is on A/L contact Trina Donohue first.

**Early Control Measures**

1. **Immediate cleaning and environmental decontamination**
2. **Scrupulous hand washing**
3. **Segregation from those who are ill from those who are not**
4. **Limitation of movement of staff and residents ( as far is possible have a group of staff caring for those who are sick and another group of staff caring for those who are not) staff should not cross care for residents.**
5. **Exclusion of any ill staff from work for 48hrs after their last episode of vomiting or diarrhoea**
6. **Sensible managing of visiting.**
7. **Stool samples should be taken from affected residents for lab analysis to enable early virology result.**
8. **Immediate cleaning and environmental decontamination**

Immediate cleaning and decontamination of soiling due to vomiting & diarrhoea is vital in controlling the spread of norovirus infection. As soon as an area has an outbreak the frequency of cleaning of the affected area must be increased to **TWICE DAILY. All staff responsible for cleaning must wear protective clothing and must NOT BE FOOD HANDLERS**

Residents should avoid using the same toilet in the house as everyone else if they have symptoms of diarrhoea

If it is not possible for the resident to have a separate toilet, after each episode of vomiting/and or diarrhoea the bathroom must first be cleaned with detergent and water then disinfected with bleach.

Special attention must be payed to frequently touched sites (e.g. sink taps, flush handles, toilet seats, & toilet bowl. Fixtures and fittings in the toilet area should be cleaned as above. Frequent cleaning of the toilet area and bathroom are key aspects of preventing spread to others residents and carers.

1. **Handwashing**

The most effective control measure with infectious intestinal disease is **SCRUPLULOUS HAND WASHING.** Frequent hand washing with warm water & soap for at least 10 seconds is the most effective way of limiting person – to –person spread of infection.

**The use of Hand sanitising Gel alone IS NOT ENOUGH** to ensure effective decontamination of hands.

**EACH RESIDENT SHOULD BE ENCOURAGED AND FACILITATED TO MAINTAIN A HIGH STANDARD OF PERSONAL HYGIENE**

|  |
| --- |
| **REMEMBER TO OFFER THE RESIDENT THE OPPORUNITY TO WASH THEIR HANDS BEFORE MEALS AND AFTER USING THE BATHROOM.****USE HAND WIPES OR DISPOSABLE HOT SOAPY HANDTOWELS**  |

1. **Segregation of those who are ill from those who are not.**

Considerable evidence exists to indicate that segregating those who are ill from those who are not can be effective at reducing the spread of infection to other areas of the house. Where possible symptomatic residents should be nursed in isolation otherwise they should be cohorted.

1. **Limitation of movement of staff & residents**

Restricting the movement of those who are ill or those who may be incubating the illness can reduce the likelihood of the spread. It is important to minimise the circulation of staff between affected and unaffected areas. Residents who are symptom free 72hrs after their last episodeare able to circulate with those who have not shown symptoms.

1. **Exclusion of any ill staff from work for 48hrs after their last episode of vomiting or diarrhoea**

Staff who become ill on duty with gastrointestinal symptoms should leave work immediate. Staff should not return to work for 48hrs after their last episode of vomiting of diarrhoea. **There is evidence that the virus can still be secreted after cessation of symptoms therefore the ABSOULTE IMPORTANCE OF HAND HYGEINE MUST BE RE-INFORCED!!!**

1. **Sensible managing of visiting**

Sensible and sympathetic managing of visiting can help in the control of an outbreak:

* During an outbreak all visiting should be minimised
* Children should where possible not visit during an outbreak
* Visitors with a history of vomiting or diarrhoea at home should not visit until at least 48hrs after their last episode.
* The house should remain closed to general visitors for 72hrs after the last episode experienced by a resident.

**Other actions to be taken**

* Notices to go on the front door and Staff door to alert all to the virus
* All work experience staff, volunteers, trial shift, staff on training days to be contacted and asked to remain away
* Padraig Prendergast & Thomas Campbell to be contacted to remain away.
* Any work men, contractors, maintenance works that are non-essential to be contacted and asked to remain away.
* Activity schedule to be reviewed and any planned visits, entertainment, outings, mass etc. to be postponed.
* Should any resident pass away while the virus is in the house we would be unable to have the chapel open for the remains to repose and people to visit.
* Non-essential training days to be postponed for the duration of the virus.
* If available extra housekeeping staff to be called in to do extra cleaning
* Office to check if there is a sufficient stock of wipes, gloves, aprons, masks, bleaches, Milton etc.
* Kitchen to be consulted on menu planning and choices available to sick residents
* A list of all residents displaying symptoms stating date & time of their first episode and ongoing episodes should be maintained.
* A list of residents who have been in close contact or proximity of the affected residents should be maintained to try and establish those at possible risk.
* A list of staff who have rang in with vomiting/diarrhoea should be kept also.
* Alison to notify HIQA with NF02 & contact Galway Dept Public Health