General Infections Forum

Lancashire County Council

infectionprevention@lancashire.gov.uk

Introduction

Welcome/Housekeeping/registration

Intro to the IPC Team.

Presentation/Activities

Evaluation forms/paper or online/certificate of attendance.

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Aims of todays session are:

- To raise awareness of the most common general infections within health and social care settings.
- To provide key information on how to prevent, treat and manage the infection.

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Healthcare Associated Infections (HCAI'S)

- 300,000 HCAIs per year in UK
- Costs to NHS £1 billion per year
- In acute settings in England and Wales - 1:16 patients (6.4%) will acquire a Health Care Associated Infection (HCAI).
- Patients are 7 times more likely to die if they have an HCAI.

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Which infection am I?

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Who am I?

Sometimes when you take antibiotics the balance of bacteria in your bowel can change and cause this infection. It can grow and produce toxins that damage the cell lining of the bowel resulting in diarrhoea. It can spread easily from person to person.
It often affects people who have been taking antibiotics.

Diarrhoea

Loss of appetite/weight loss

High temperature

Stomach ache

Feeling sick

Risk Factors -
>65
Recently taken antibiotics
In a care home

Treated by stopping antibiotics possibly causing this infection and starting some that particularly treat this bacteria

Diagnosed – sample sent to the lab

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CDI (Clostridioides Difficile)

Isolation

Barrier Nursing

Hand hygiene

Monitor for signs of dehydration

Immediate actions to be taken

Take a specimen

Environmental cleaning

Outbreak restrictions

Report to UKHSA

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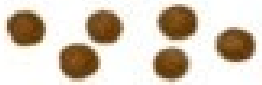
Bristol Stool Chart

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges (passed easily)
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces. **Entirely Liquid**

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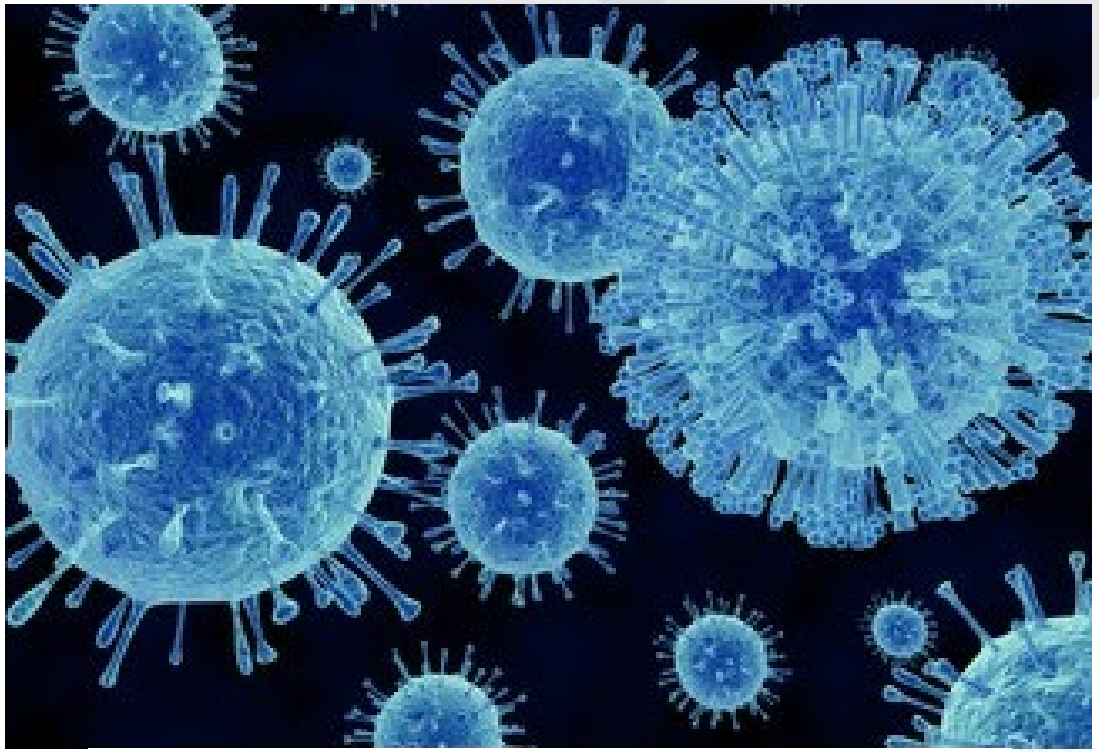
What Infection Am I?

Vomiting

Diarrhoea

Stomach cramps

Recover after 48 hours



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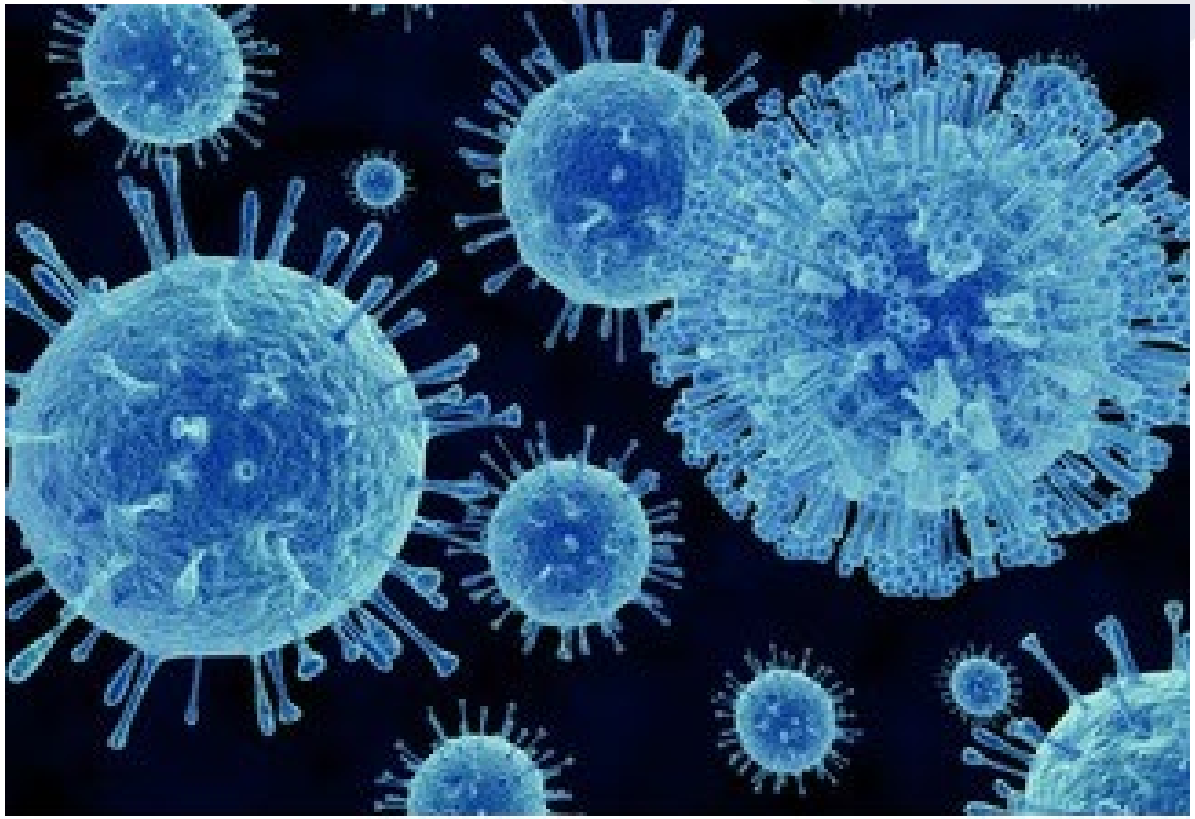
Norovirus

Immediate actions:

- Isolation – until symptom free for 48 hours.
- Outbreak restrictions
- Report to UKHSA
- Barrier Nursing/PPE
- Laundry
- Enhanced cleaning



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WHO AM I ?

I am responsible for mild illnesses and I mainly occur in children

I can cause Bronchitis and bacterial pneumonia if not treated.

I am also responsible for illness and deaths in adults and the elderly

I can cause headaches

I am responsible for Pandemics

I can cause a fever

I peak between December and March

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Influenza

Different types including – Influenza A, B, C, Respiratory Syncytial Virus

Cough and hand etiquette

Report UKHSA

Personal protective equipment should always be used

Vaccination can help to reduce the symptoms of the flu

Residents should stay isolated for minimum of five days or until symptom free

Deep cleans should be adhered to during an outbreak

Staff should not cross over between positive and non positive cases

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Who am I?

Itchy rash, often starting between the fingers

Intense itching, especially at night

The rash may then spread and turn into tiny spots. This may look red on lighter skin

Older people, young children and those with a weakened immune system may develop a rash on their head and neck

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Management of Scabies

Suspected: contact IPC and UKHSA who can assist

Diagnosis: Classical scabies or Crusted (Norwegian) scabies

Contact Tracing – Keep a timeline

Treatment – Important to treat the case and contacts twice

Health & Social care settings

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Who am I?

Feeling tired/exhausted

Headache

Nausea

New, continuous cough

Diarrhoea

Blocked or runny nose

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Management of COVID

Risk Assessments

Vaccination

Testing

Face masks

Basic Infection Prevention Principles:

Hand Hygiene

Respiratory and cough hygiene

Facilities

PPE

Cleaning

Environmental considerations:
Ventilation and Waste Management

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Scenario

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Which infection do you think this is?

A – MRSA

B – IGAS

C - ECOLI

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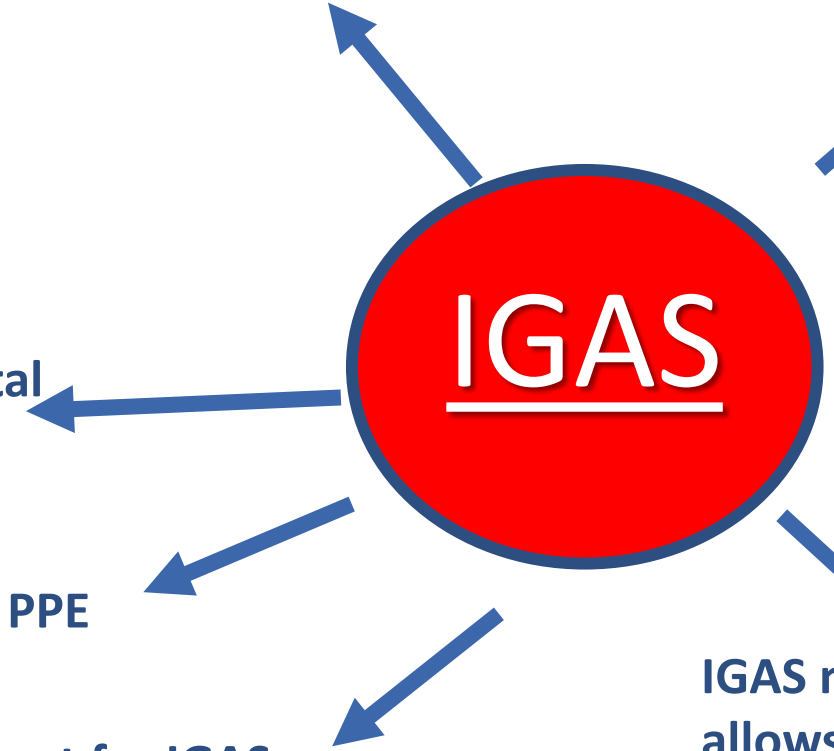
Isolation in a single room with en-suite facilities is recommended for all patients who are known to have GAS/IGAS infection until they have received 24 hours treatment with an appropriate antibiotic

GAS is a common bug found on skin or throat.
Invasive Group A Strep – infection in blood stream.



Handwashing/Environmental cleaning

If GAS is not treated you can remain infectious for up to 21 days.

Full PPE

IGAS may occur through sores or breaks in the skin that allows bacteria to get into the tissue or blood stream (this happened through the leg ulcer in the scenario)

Treatment for IGAS - Antibiotics

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How could this infection have been prevented in the setting?

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WHO AM I ?

FEVER

CHILLS

SWELLING

HOT TO TOUCH

YOU CAN CATCH ME BY DIRECT CONTACT

ACHES

PAIN

SEPSIS

PUS

I LOVE TO FIND ROUTES INTO YOUR BODY THAT HAS A OPEN DOOR POLICY SUCH AS A CANULA

DIZZINESS

CONFUSION

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Methicillin Resistant Staphylococcus Aureus (MRSA)

MRSA Lives on skin in 1 in 30 individuals

Deconalisation of MRSA: includes cream and shampoo's.

Swab Taken

Causes no harm unless the bacteria has access to the wound

Antibiotics are given if required to treat MRSA in a wound infection.

Isolate Individuals

MRSA is a Bacteria infection

PPE should be worn when treating an individual with MRSA.

Covered wounds is paramount to prevent infection.

Hand hygiene is one of the best forms of prevention

Deep clean

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The incubation period can range from 3 to 8 days, with a median of 3 to 4 days.

Bacteria that normally lives in the intestines of healthy people and animals.

Known to have had outbreaks related to petting zoo's or farms.

Can travel person to person.

Majority of strains of this infection causes diarrhoea. However a few strains (0157) can cause stomach cramps, bloody diarrhoea and vomiting.

Estimated that up to 10% of patients may develop HUS - Haemolytic uremic syndrome

Exposed through water and food. Especially raw veg or unpasteurised milk.

Can also be the cause for a UTI

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ECOLI (Escherichia coli)

IMMEDIATE ACTIONS:

- **A specimen will be required and sent to the lab for testing.**
- **Report to UKHSA – They will investigate to determine the source of infection. If certain more serious strains such as ECOLI 0157 more detailed investigations and meetings could be arranged.**
- **Usually no treatment. However certain strains may need hospital admission and other interventions such as IV fluids, kidney dialysis and blood transfusions.**
- **Environmental cleaning/PPE/Handwashing**

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At risk:

- Older age
- Females
- Catheterisation
- Dehydration

There are four different types

Pain when urinating

WHO AM I?

Confusion

Passing urine more frequently

New lower back pain

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UTI

Urinary Tract Infection

You cannot catch a UTI from someone else

Most common cause is due to the ECOLI bacteria (90%) but a different strain to ECOLI 0157

Infections of the bladder, kidneys or urethra

There are four different types:
Urethritis – UTI that affects Urethra.

Cystitis – UTI affects the Bladder.

Pyelonephritis – UTI affects the Kidneys and Ureters.

CAUTI – Catheter

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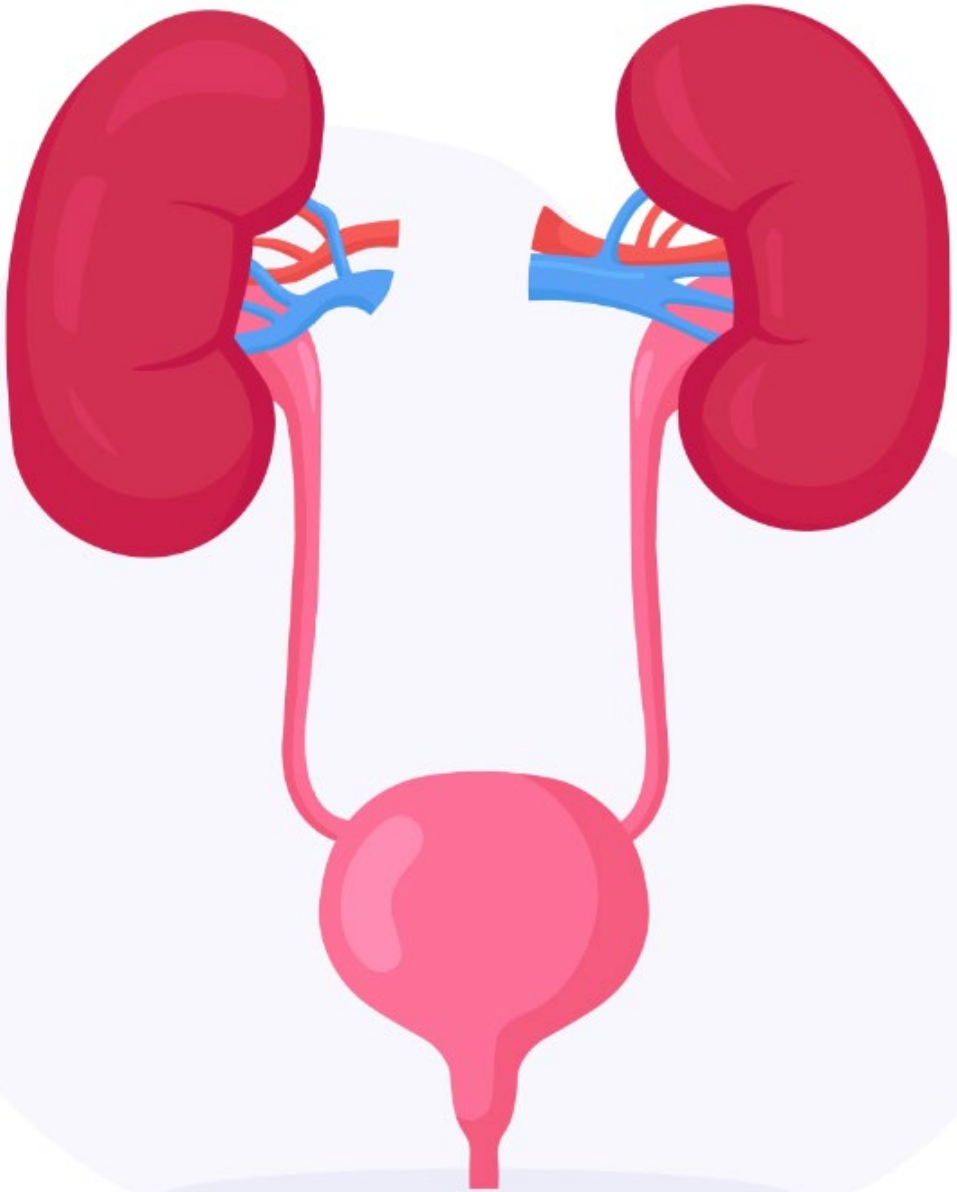
Kidney

Ureter

Urethra

Bladder

Kidney



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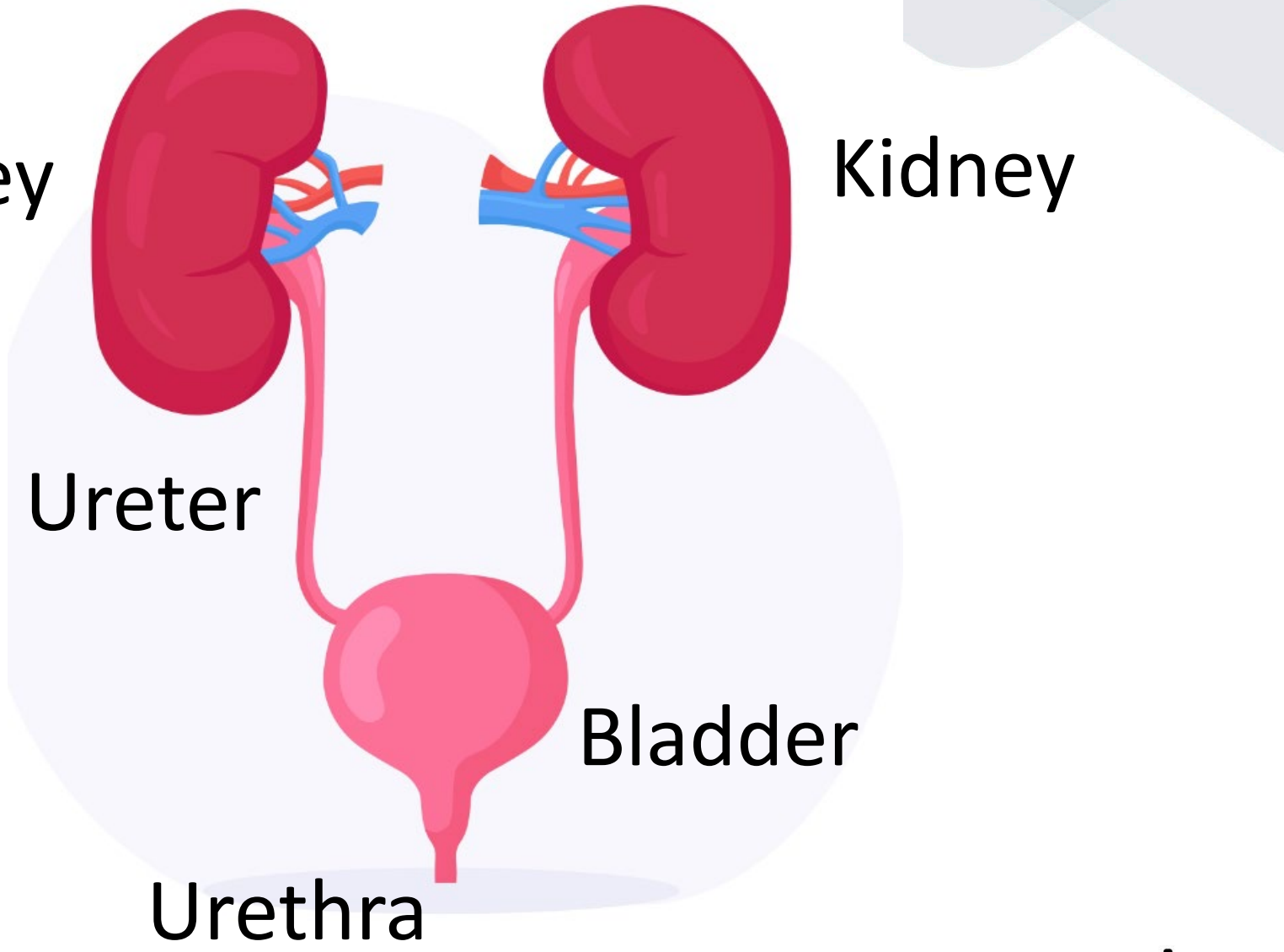

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Management of UTI

Care Home UTI Assessment Tool

NHS West Lancashire Clinical Commissioning Group

Older patients (≥65) with suspected UTI (urinary tract infection) - Guidance for Care Home staff:

- Complete sections 1 to 4 and resident's details and email to GP
- Keep the original form in the resident's notes
- **DO NOT PERFORM URINE DIPSTICK** – NOT recommended in patients >65 years
- Clear urine - UTI highly unlikely
- Pan Mersey Antimicrobial Guidelines

Resident name:Click or tap here to enter text.
DOB:Click or tap here to enter text.
Care Home:Click or tap here to enter text.
Carer:Click or tap here to enter text.
Date:Click or tap to enter a date.

1. Does the resident have a catheter?	☐ Yes	☐ No	*If yes, reason for catheter:* Click or tap here to enter text.	
2. Signs of any other infection source?	☐ Yes	☐ No		
Tick any NEW symptoms that are present:	☐ Cough	☐ Shortness of breath	☐ Sputum production	☐ Diarrhoea
	☐ Nausea/vomiting	☐ Abdominal pain	☐ Red/warm/swollen area of the skin	

3. Can the resident communicate symptoms?	☐Yes	☐No
Tick any NEW signs/symptoms that are present:		
☐Dysuria (Pain on urinating)		
☐Urgency (Need to pass urine urgently/new incontinence)		
☐Frequency (Need to urinate more often than usual)		
☐Suprapubic tenderness (Pain in lower tummy/above pubic area)		
☐Haematuria (Visible blood in urine)		
☐Incontinence (Lack of voluntary control over urination)		
☐Loin pain (Pain either side of spine between ribs & pelvis)		

4. Record for all residents - *Tick any signs/symptoms that are present:*
☐Temperature above 38°C or below 36°C or shaking chills (rigors) in last 24 hours
☐Heart Rate >90 beats/min
☐Systolic blood pressure <110mmHg
☐Respiratory rate >20 breaths/min
☐Diabetic
☐If not diabetic - Blood glucose >7.7 mmol/L (if able to measure)
☐ **New onset or worsening** confusion or agitation
Any other information: Click or tap here to enter text.

5. GP Management Decision - tick all which apply, notify home of decision made and scan onto EMIS record:				
☐ Review in Click or tap here to enter text. hours	☐ MSU	☐ Give person specific hydration advice	☐ Arrange trial without catheter	☐ Antibiotic Prescribed
NB. Send a urine for culture in over 65 year olds if symptomatic and antibiotic given, suspected pyelonephritis or sepsis, suspected UTI in men, failed treatment or persistent symptoms, those with a catheter & recurrent UTI.				
Other action: Click or tap here to enter text.	Name: Click or tap here to enter text.	x _____ Signed:	Designation: Click or tap here to enter text.	Date: Click or tap to enter a date.

Encourage fluids (aslong as they are not on fluid restrictions)

Offer pain relief (paracetamol)

Encourage mobilisation

Limit food/drink that can irritate such as tea, coffee, oranges, tomato based food and spicy food

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WHO AM I ?

Bacteria that usually lives in intestines/faeces but they can spread to another part of the body and can cause an infection such as:

. Pneumonia
. UTI
. Meningitis

Typically “nosocomial” infections – means they are contracted in hospital or healthcare settings

This bacteria can directly enter the body through person to person contact or contamination with hospital equipment.

More likely to get this infection if you have a weakened immune system or live in a healthcare facility.

Diagnosed through lab testing.

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Which infection do you think this is?

A – Klebsiella Pseudomonas

B – Hepatitis B

C – Carbapenemase Producing Enterobacteriaceae (CPE)

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Klebsiella Pseudomonas

Hand Hygiene

PPE

Bacteria cause for different infections – management - ISOLATION

Environmental cleaning

Contamination of equipment

Comfort break

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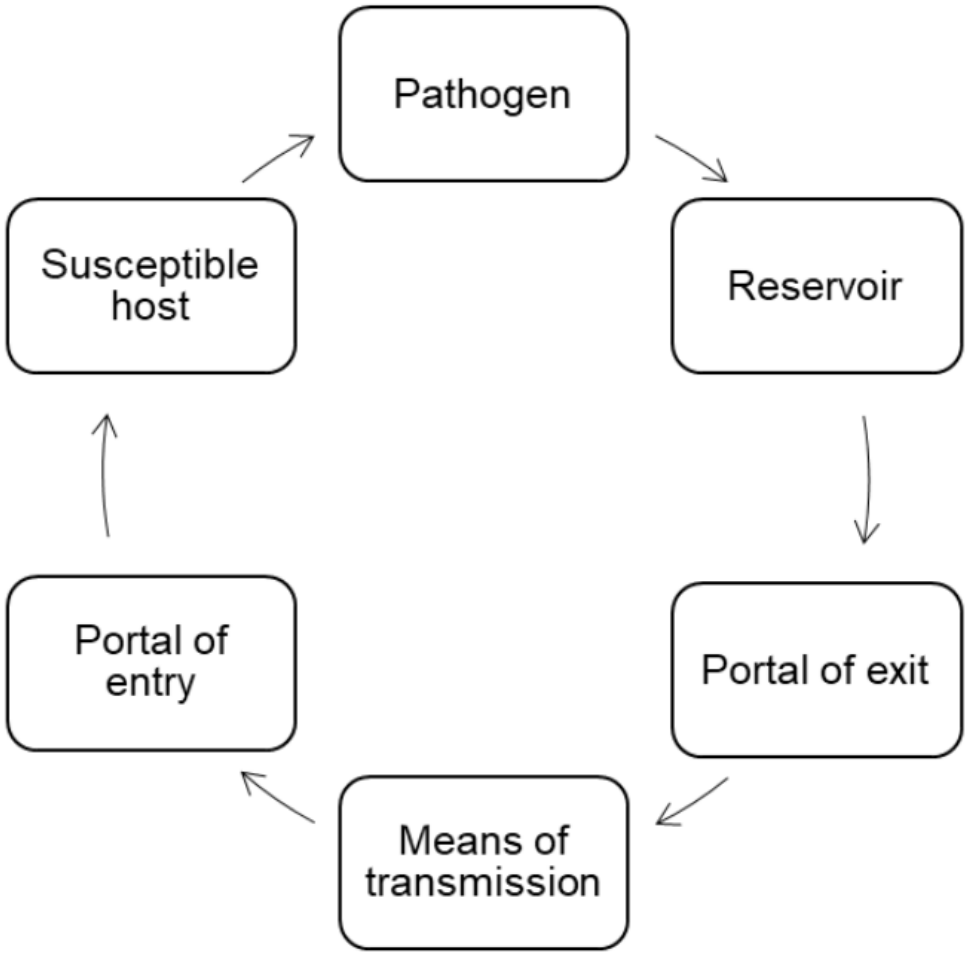
Chain of infection



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Chain of infection examples

Reservoirs:
- People
- Environment
- Food and water
- Animals

Portal of exit:
- Secretions
- Excretions
- Diarrhoea
- Vomit
- Coughing

Mode of transmission:
- Hands
- Food & water
- Air
- Equipment
- Sharps

Portal of entry:
- Gastrointestinal tract
- Respiratory tract
- Inhalation
- Broken skin
- Invasive devices
- Urinary tract
- Mucous membranes/skin
- Eating contaminated food
- Drinking contaminated water

Susceptible host:
- Elderly
- Immunosuppressed
- Diabetes
- Underlying disease

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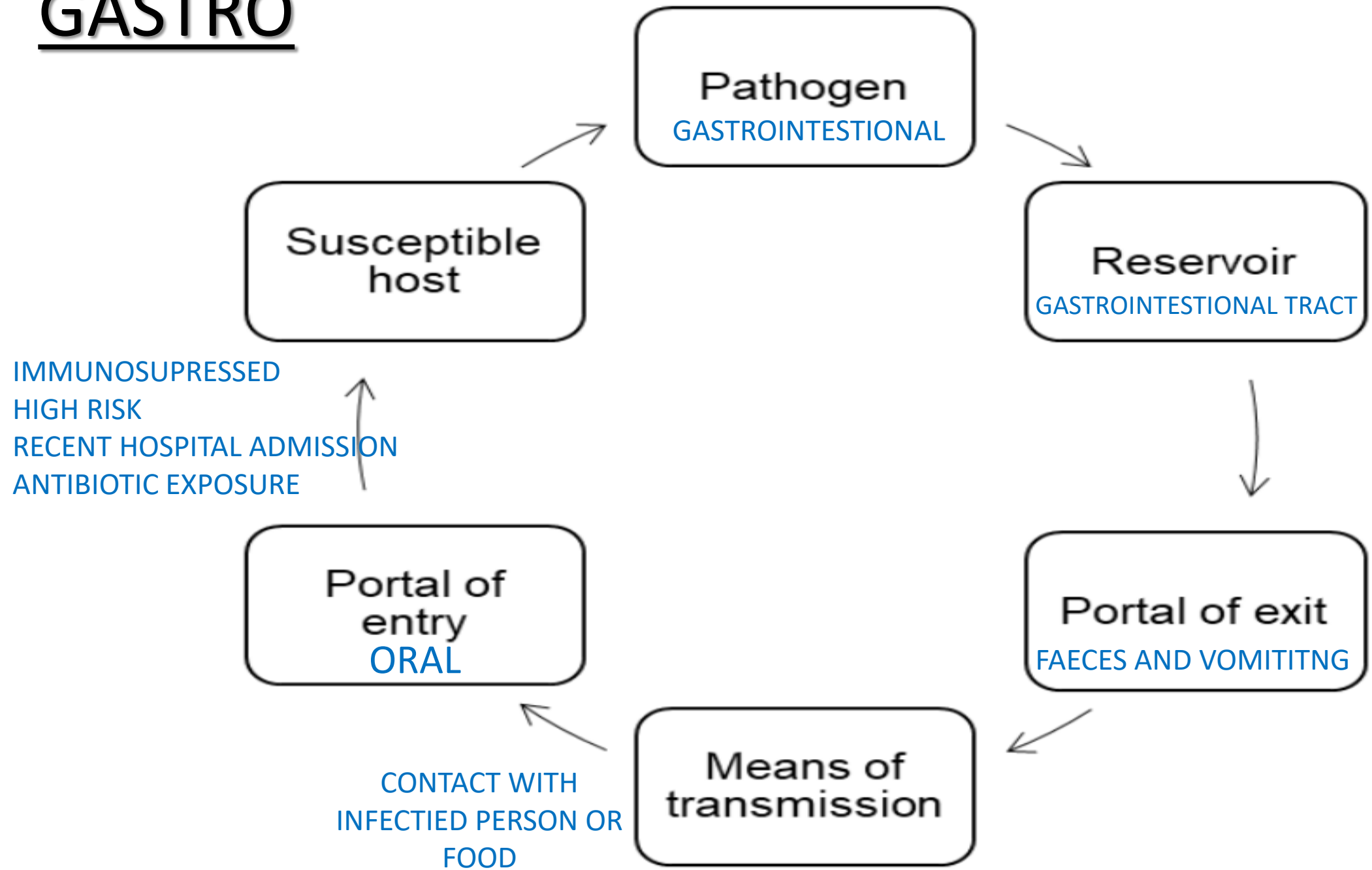
GASTRO



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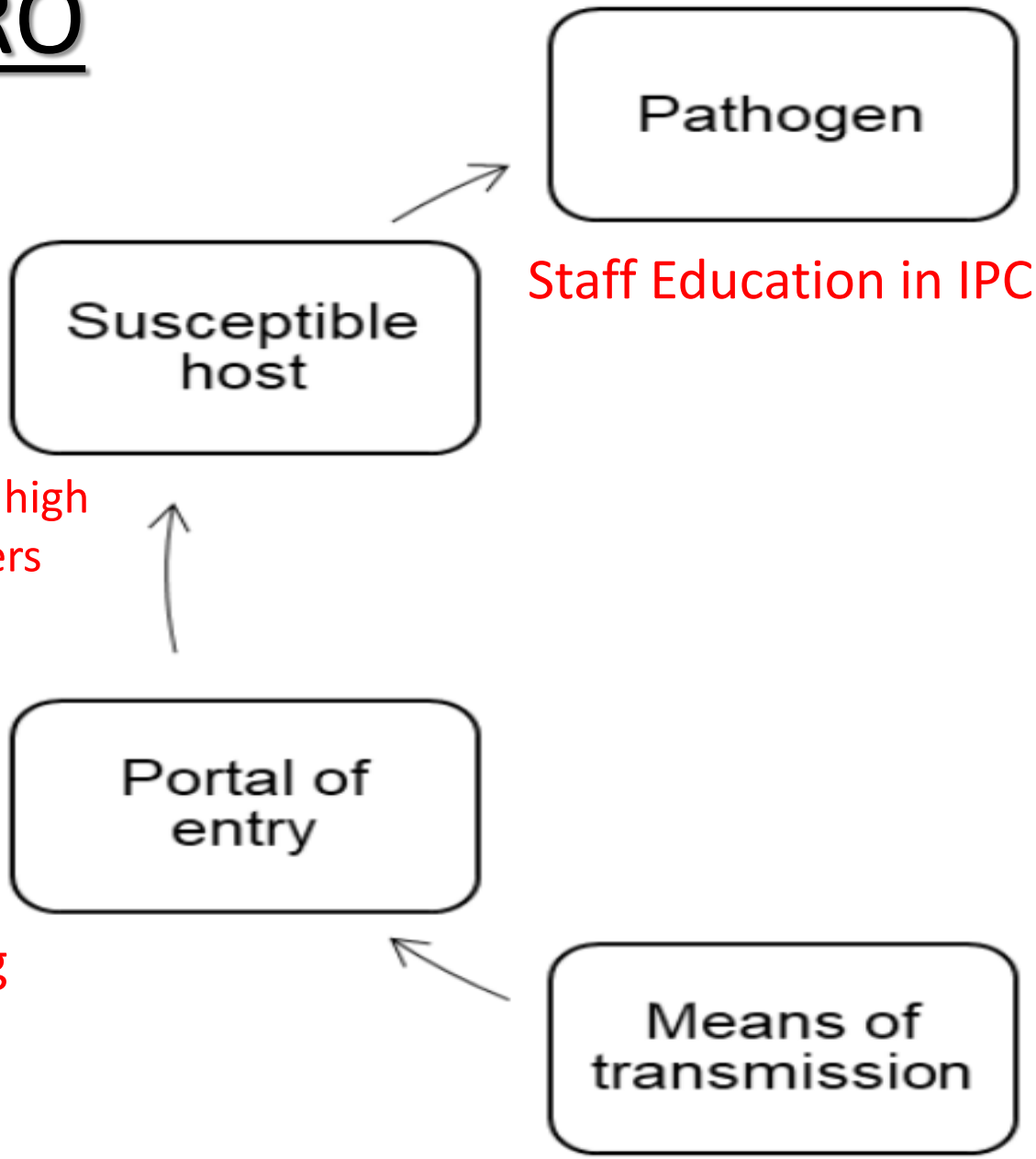
GASTRO



Staff Education in IPC

Hand Hygiene
Cleaning
Audits
Waste Management

PPE
Isolation
Hand Hygiene
Cleaning

Hand
Hygiene
Cleaning

Medication
Recognition of high risk service users

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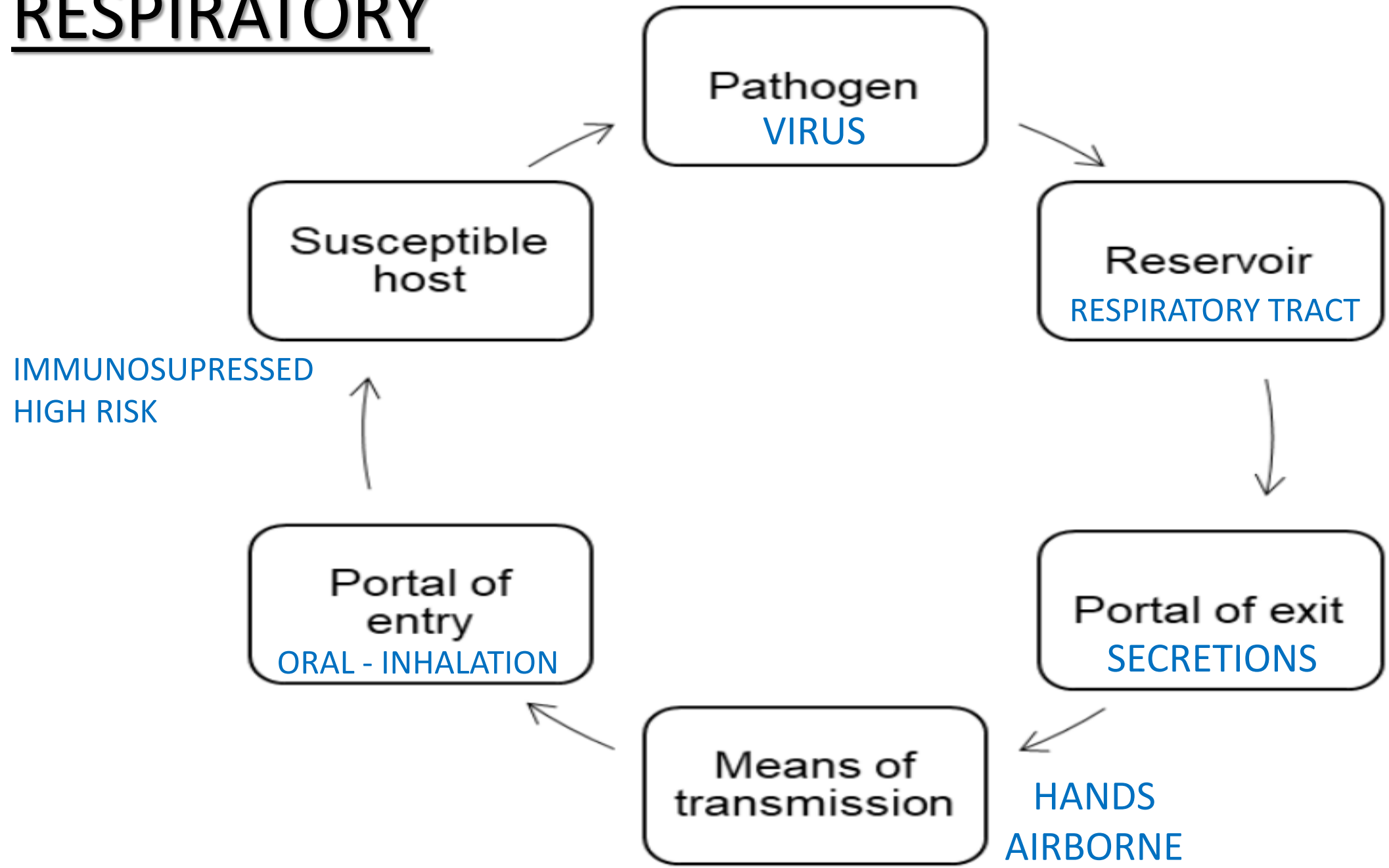
RESPIRATORY



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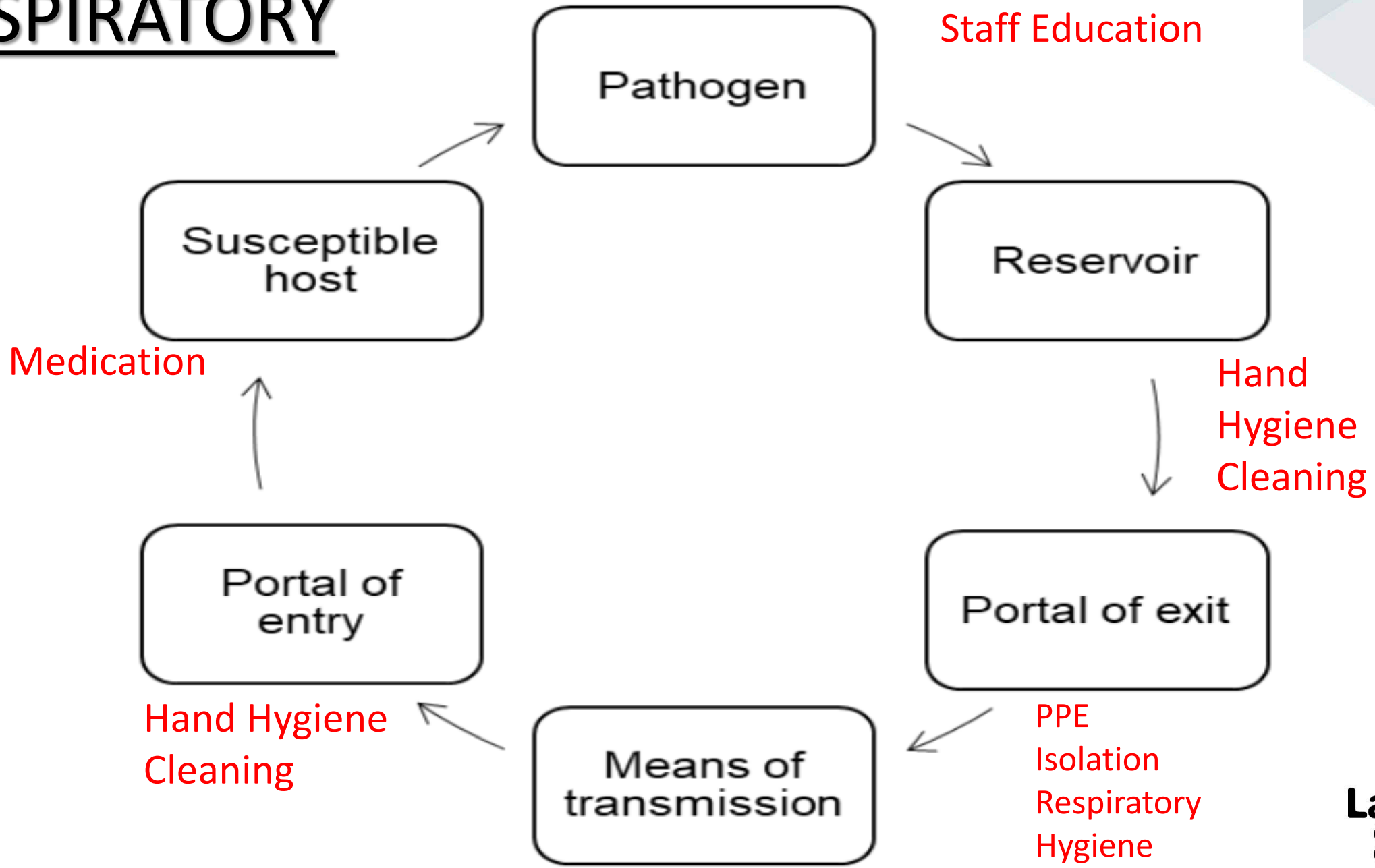
RESPIRATORY



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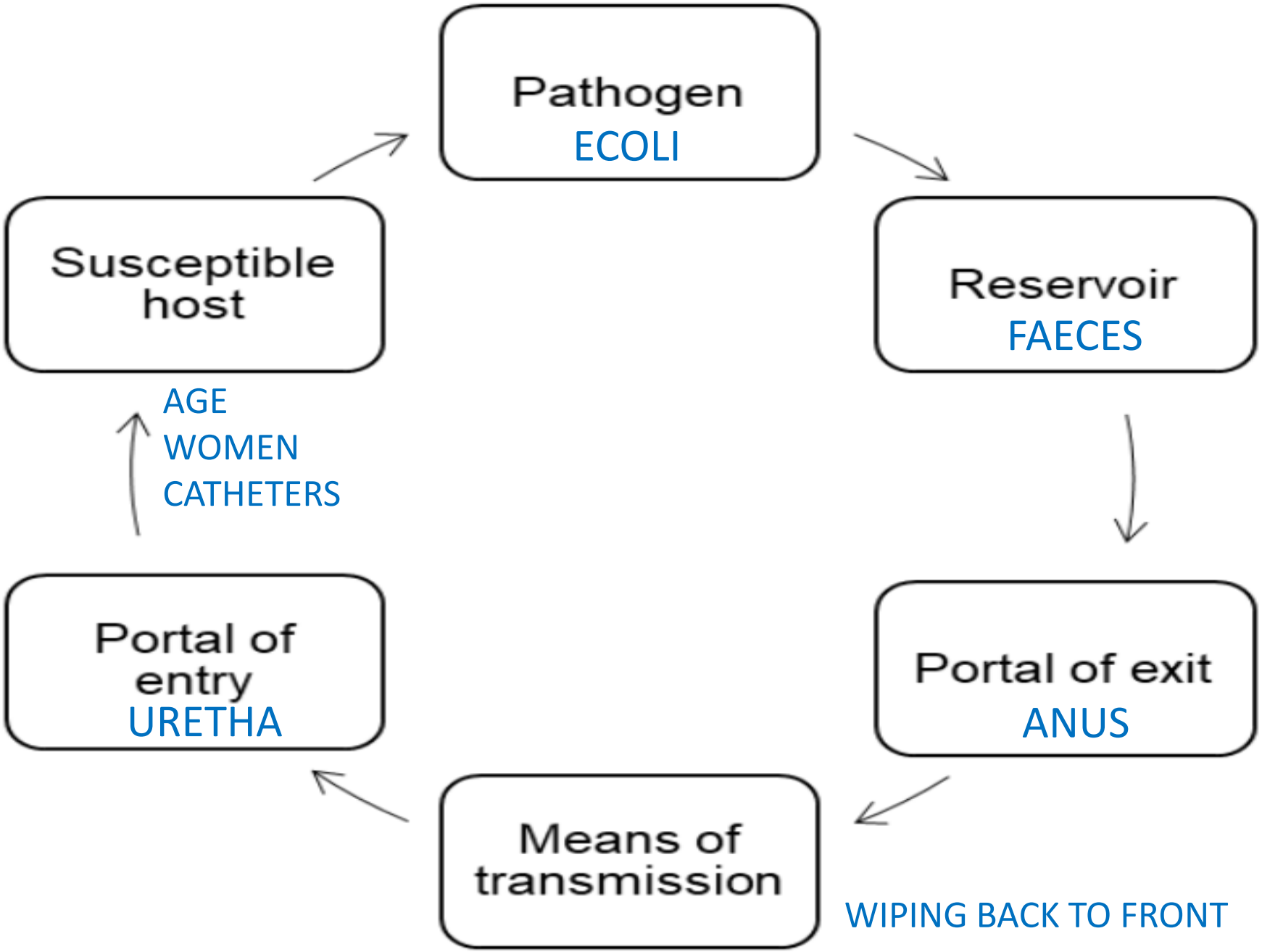
UTI



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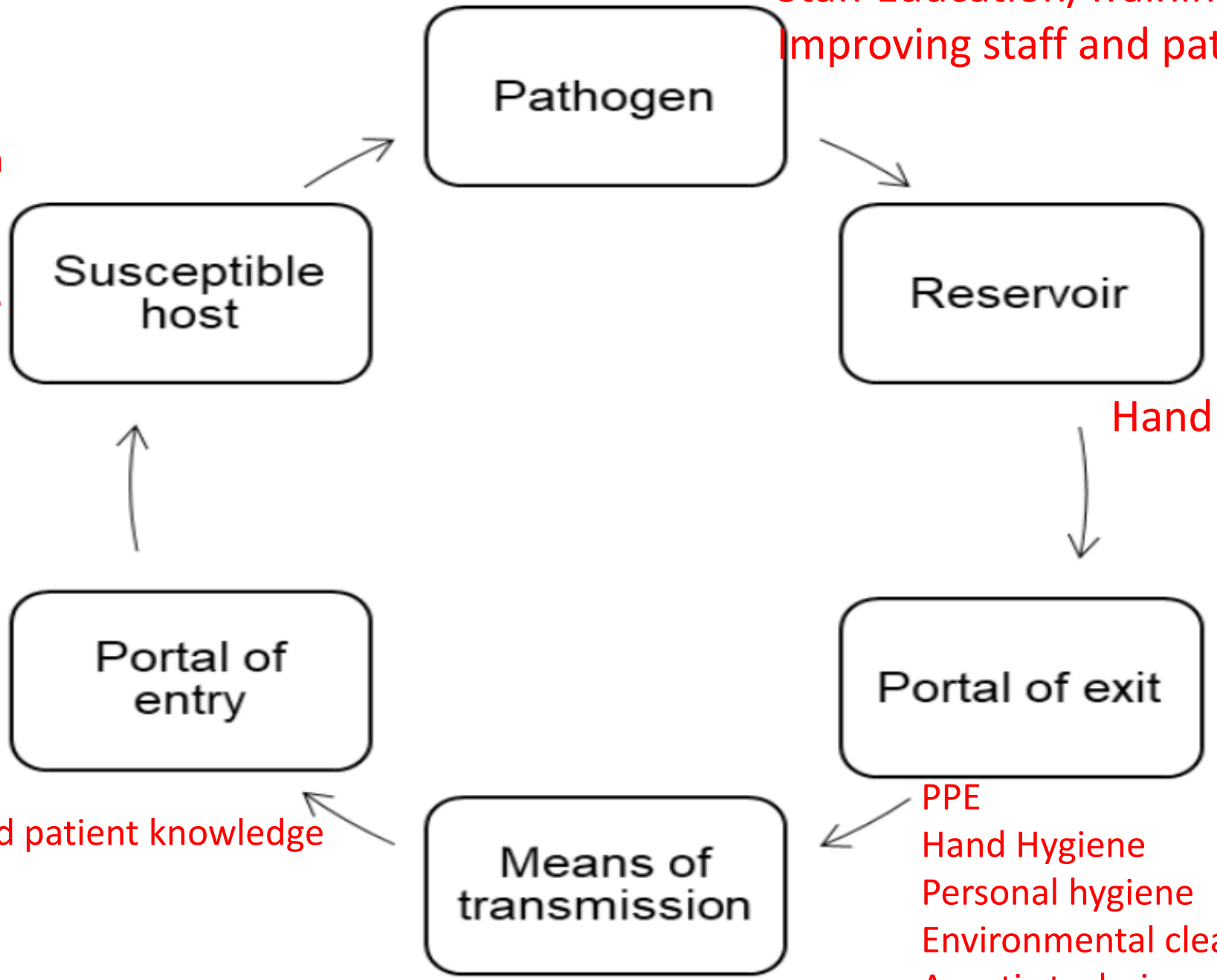
UTI

Medication
Recognition of high risk service users
Hydration
Good catheter care



Staff Education/Training
Improving staff and patient knowledge

Hand Hygiene

PPE
Hand Hygiene
Personal hygiene
Environmental cleaning
Aseptic technique

Improving staff and patient knowledge

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Five principles of cleaning

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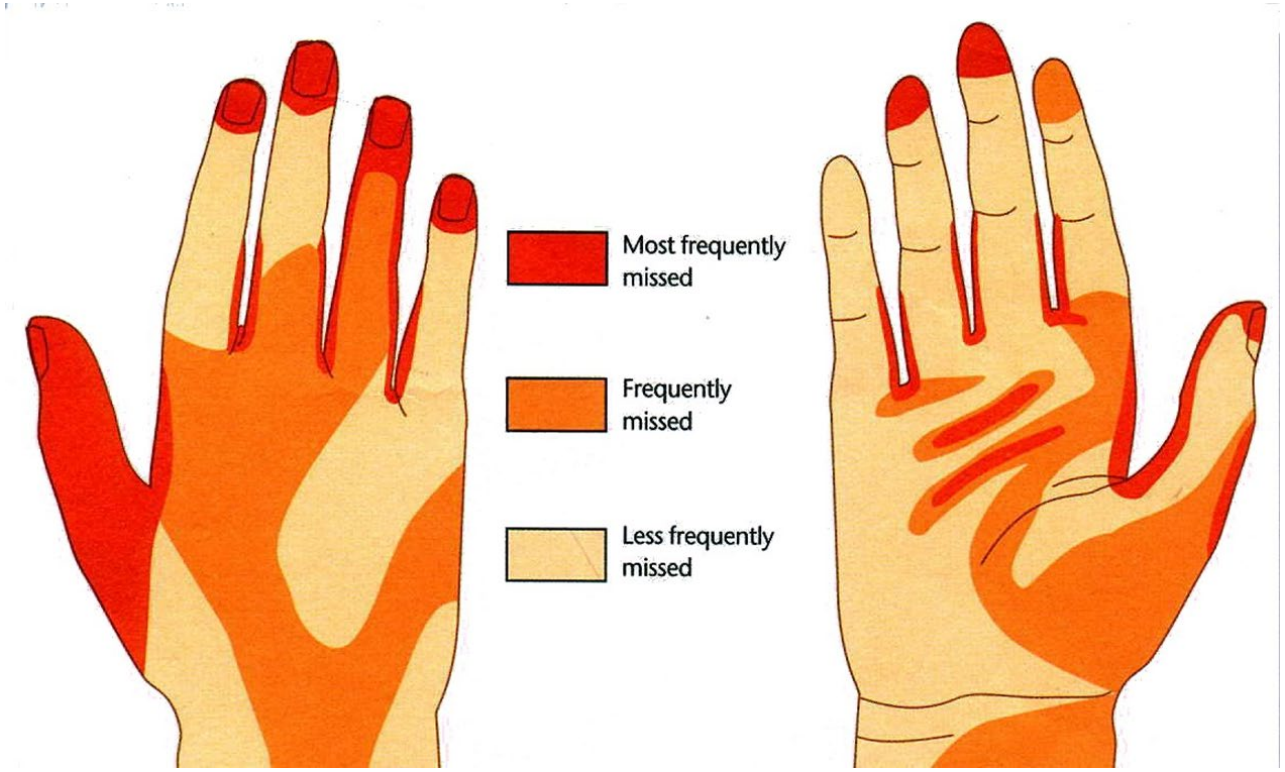
Hand washing is the single most important measure for preventing infection.



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General handwashing facilities

- *Should not be used for any other purpose and should be easily accessible, clean, and fit for purpose.*
- *Laminated signage should be displayed to prompt and demonstrate hand washing technique.*
- *Hot and cold running water should be available and a safe temperature (Ideally a mixer tap).*
- *Taps should enable the user to turn them off without contaminating hands i.e. elbow operated or sensor.*
- *Basins must <u>not</u> have a plug.*
- *Wall mounted liquid soap dispensers- should not be refillable but capable of disposable cartridges.*
- *Wall mounted paper towels should be available for hand drying and in easy reach.*
- *Foot operated waste bin should be near to the sink for disposal of used paper towels.*
- *A waterproof splashback allows for the cleaning of all surfaces.*
- *Avoid overflows as these cannot be cleaned and can harbour contamination.*

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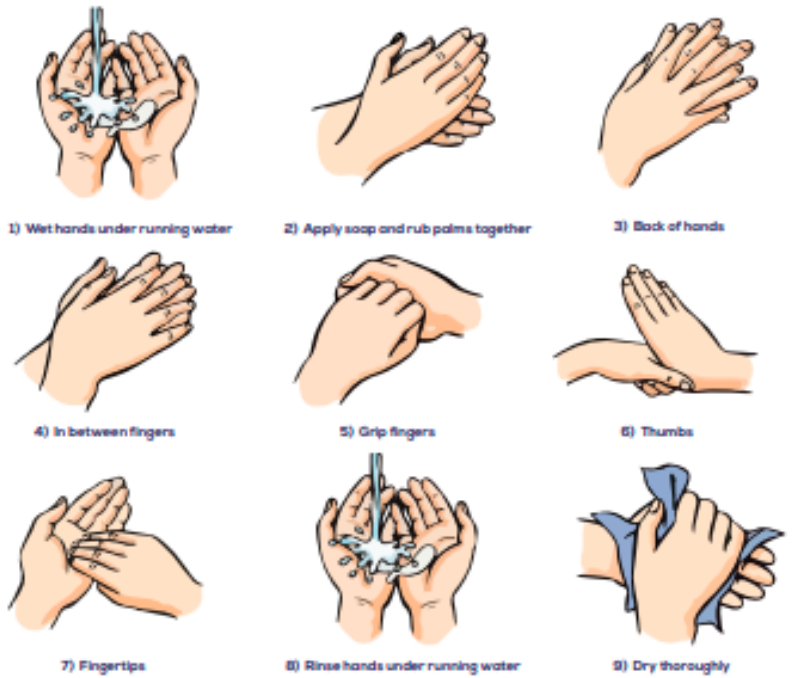
GET SMART

Join the fight against the spread of infection

PLEASE WASH YOUR HANDS



twitter.com/lancsipc

Blackburn with Darwen

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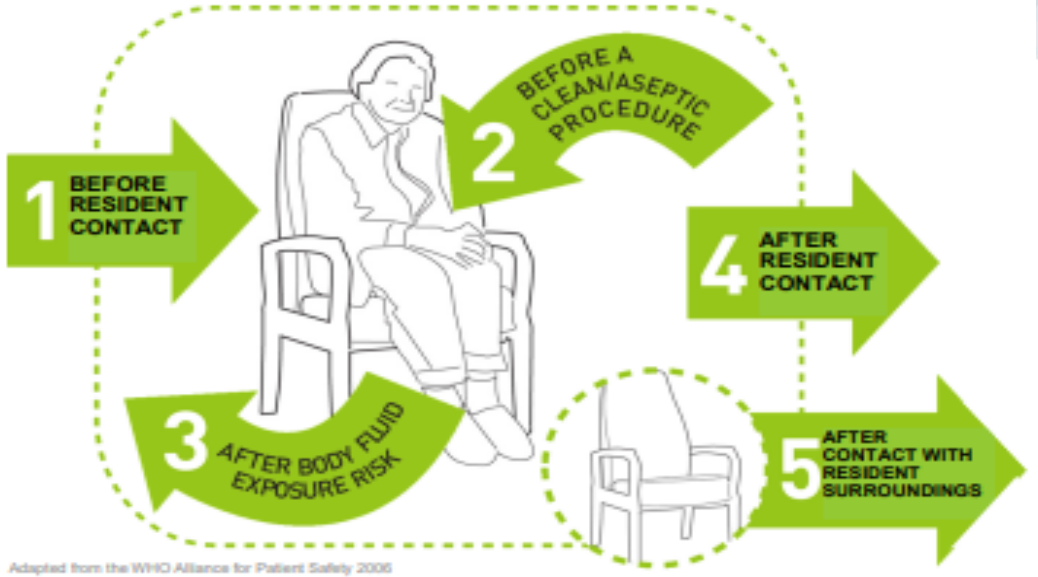
Your 5 moments for hand hygiene at the point of care



Adapted from the WHO Alliance for Patient Safety 2006

1	BEFORE RESIDENT CONTACT	WHEN? Clean your hands before touching a resident when approaching him/her. WHY? To protect the resident against harmful germs carried on your hands.
2	BEFORE A CLEAN/ASEPTIC PROCEDURE	WHEN? Clean your hands immediately before any clean/aseptic procedure. WHY? To protect the resident against harmful germs, including the resident's own, from entering his/her body.
3	AFTER BODY FLUID EXPOSURE RISK	WHEN? Clean your hands immediately after an exposure risk to body fluids (and after glove removal). WHY? To protect yourself and the healthcare environment from harmful resident germs.
4	AFTER RESIDENT CONTACT	WHEN? Clean your hands after touching a resident and her/his immediate surroundings, when leaving the resident's side. WHY? To protect yourself and the healthcare environment from harmful resident germs.
5	AFTER CONTACT WITH RESIDENT SURROUNDINGS	WHEN? Clean your hands after touching any object or furniture in the resident's immediate surroundings when leaving—even if the resident has not been touched. WHY? To protect yourself and the healthcare environment from harmful resident germs.

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Post Infection Review Forms (PIR)

- Enable settings to understand the cause of the outbreak.
- Identify factors that may have been the contributed to the outbreak.
- Help to identify any parts of the resident's care pathway which may have contributed to the infection to prevent a similar occurrence.
- Look into how the outbreak was managed, what was managed well and what improvements could be made.

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Quiz....

1. From the 10 infections we have covered, which infections would you class as gastro?

Answer - Norovirus and CDI

2. In the scenario we discussed, what are the three 3 key steps the Nurse should have done to prevent infection spreading?

Answer - 3 key steps – Hand hygiene, change PPE, completing in medical rooms or residents bedrooms.

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Quiz....

3. Which infections from the ones we have discussed require lab testing to confirm diagnosis?

Answer - CDI, UTI, Influenza, COVID, MRSA, IGAS, ECOLI, Pseudomonas, Klebsiella

4. In order to break the chain of infection what is the key message to reinforce to staff members?

Answer - Hand Hygiene

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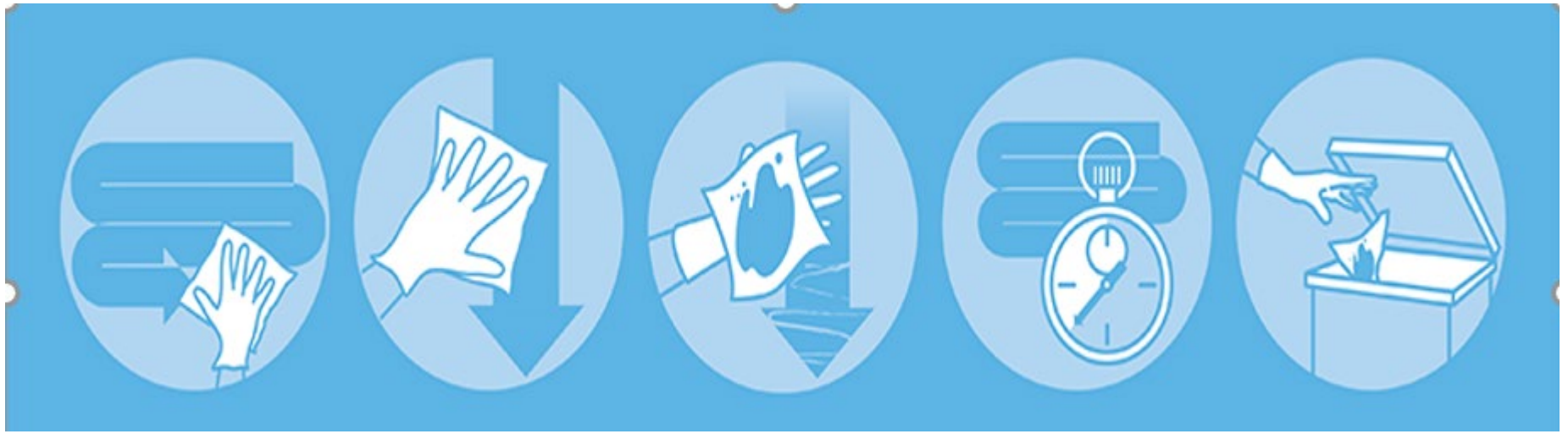
Quiz Continued….

5. Looking at the five principles of cleaning, can you name them below?



Answer - Wipe in an S shape, top to bottom, clean to dirty, avoid transferring microorganisms and ensuring correct contact time

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Summary…

. Variety of general infections that can occur, we have picked 10 to talk through today.

. Most important management points: Report to relevant agencies, deep clean the environment, isolation and hand hygiene.

. Ensure all staff training, cleaning and hand hygiene audits are up to date to stop the spread of infection.

. Deep cleans following an outbreak take place **48 hours** after the last symptomatic resident.

. Think about staff rooms and office areas and remember they need cleaning too.

. Look at our web page – lots of information there.

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Contact details…

Infection Prevention Team – infectionprevention@lancashire.gov.uk

UK – Health Security Agency –
Email cl.hpt@ukhsa.gov.uk
Telephone 0344 225 0562
Out of hours 0151 434 4819
Email for PII ukhsa.clhpt@nhs.net

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Resources

Infection prevention and control - Lancashire County Council

COVID-19 supplement to the infection prevention and control resource for adult social care - GOV.UK (www.gov.uk)

Managing specific infectious diseases: A to Z - GOV.UK (www.gov.uk)

http://www.infectionpreventioncontrol.co.uk/

Care homes: infection prevention and control - GOV.UK (www.gov.uk)

Helping to prevent infection | Quick guides to social care topics | Social care | NICE Communities | About | NICE

What Are The Standard Infection Control Precautions? (ddcdolphin.com)

Health and Social Care Act 2008: code of practice on the prevention and control of infections - GOV.UK (www.gov.uk)

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Evaluation

General Infections Evaluation Form

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