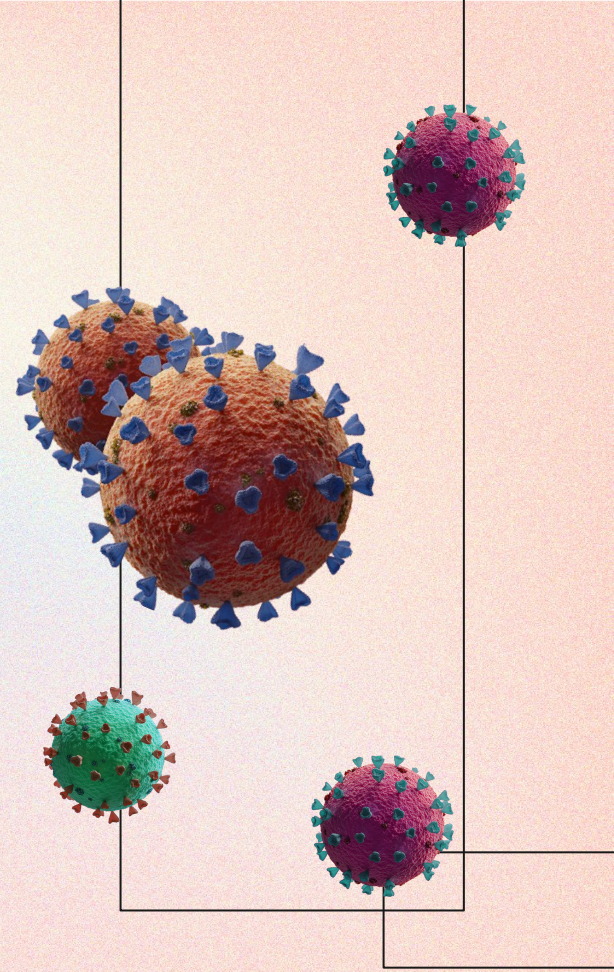
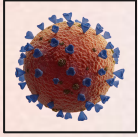


NOROVIRUS

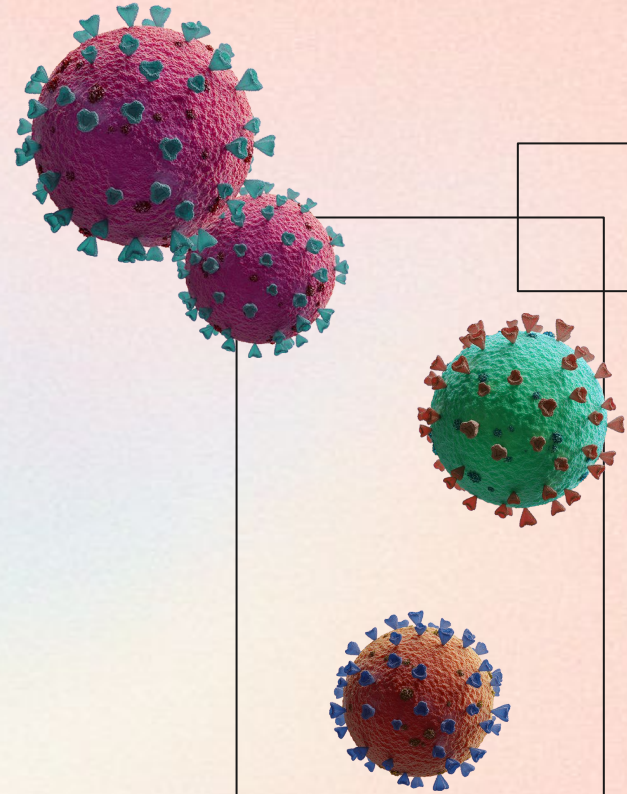
Samantha Williams





INTRODUCTION

Norovirus, also known as gastroenteritis, is an extremely contagious communicable disease, caused by a group of non-enveloped, single-stranded RNA viruses, called caliciviridae.



Aims and Objectives

Aims

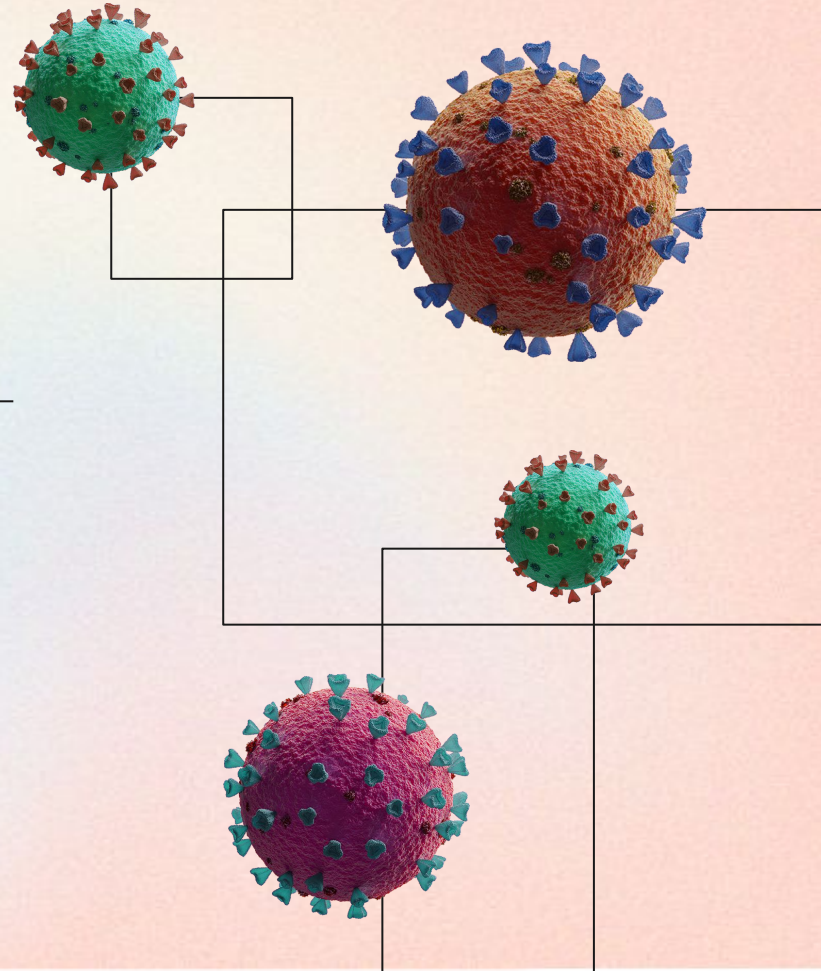
To appreciate the seriousness of Norovirus within the health setting, and be able to explain how best to manage this.

Objectives

1. To be able to recognise signs and symptoms of the virus.
2. To explain how the virus can be spread from person to person.
3. To describe how to deal with patients with norovirus in a hospital setting.
4. To examine the case study given, and discuss how this information can improve future practice.

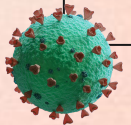
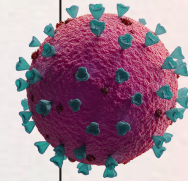
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Epidemiology of Norovirus



Epidemiology of Norovirus

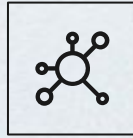
- ❑ It is endemic world-wide. Meaning it is constantly present.
- ❑ Affects between 600,000 and 1 million people in the UK each year!
- ❑ In Australia it is recognised as the major cause of non-bacterial infectious gastroenteritis.
- ❑ Approx 150 - 250 outbreaks per year, in the UK.
- ❑ It is the most common cause for gastroenteritis outbreaks in the hospital setting, as well as schools, hotels, nursing homes, and cruise ships.
- ❑ In America there are approx 19-21 million cases per year.



SYMPTOMS of NOROVIRUS



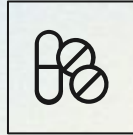
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VOMITING



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DIARRHEA



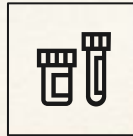
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FEVER



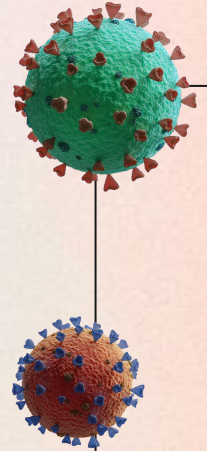
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HEADACHE

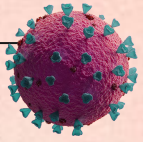


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NAUSEA



—
TIREDNESS



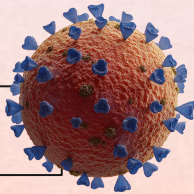


FURTHER INFORMATION



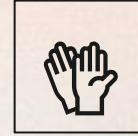
Common features

Usually presents suddenly with stomach cramps, Non-bloody diarrhoea, Nausea and vomiting, Low-grade pyrexia. Lasts 12-60 hours in duration.



Incubation/ Communicability

You incubate the virus for 12-48 hours, from infection to symptoms. You are still possibly infectious during this stage. You are infectious for up to 48 hours after your last symptoms.



Mode of transmission

It is spread through touch on hands, and through the faecal-oral route. If you touch a surface, or clothing or bedding with the virus on it, and then touch your mouth, it can be spread. It can enter the mouth or nose directly from another person, through the air, after they have vomited or had diarrhoea.

Treatments

- ❑ Rest.
- ❑ Plenty of fluids, avoid fizzy drinks.
- ❑ Stay at home.
- ❑ Continue to breastfeed or bottle feed your baby, give sips of water in between feeds.
- ❑ You can take rehydration formulas from the pharmacy.



It is important to realise the seriousness of dehydration!

Dark yellow or strong smelling urine.

Not passing urine at all../no wet nappies.

Confusion.

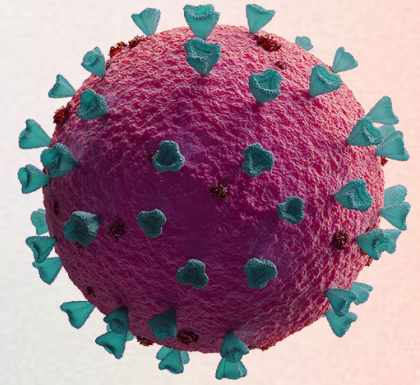
Dizziness.

Dry mouth.

Contact 111 or your GP if there are any of these symptoms if you think you have norovirus.

Complications of norovirus

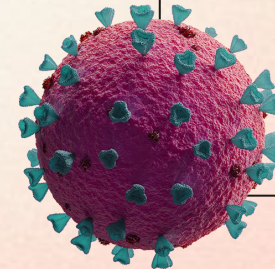
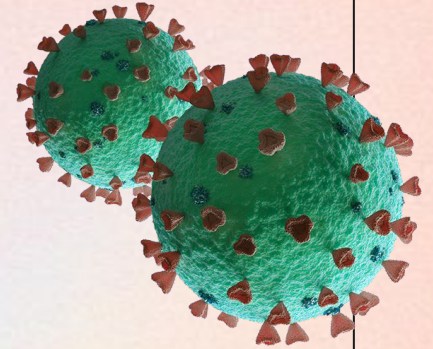
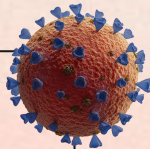
- ❑ Dehydration
- ❑ Electrolyte imbalance
- ❑ Drop in blood pressure
- ❑ Irritable bowel symptoms
- ❑ Reduced effects of other medications (sick days rules)
- ❑ Rarely long term diarrhoea
- ❑ Kidney damage/failure
- ❑ Occasional lactose intolerance



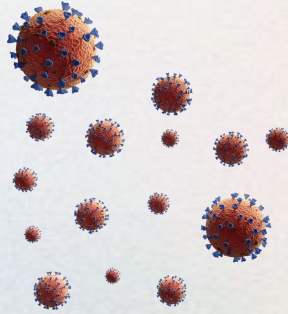
PREVALENCE of NOROVIRUS NOW!

Norovirus activity is increasing. During weeks 2 and 3 of 2024, the total number of norovirus laboratory reports was 64% higher than the 5-season average for the same 2-week period.....Compared with previous seasons, reports remain highest in adults aged 65 and older.

UKHSA (UK Health security Agency)
2024



This is a serious concern for everyone! But why??



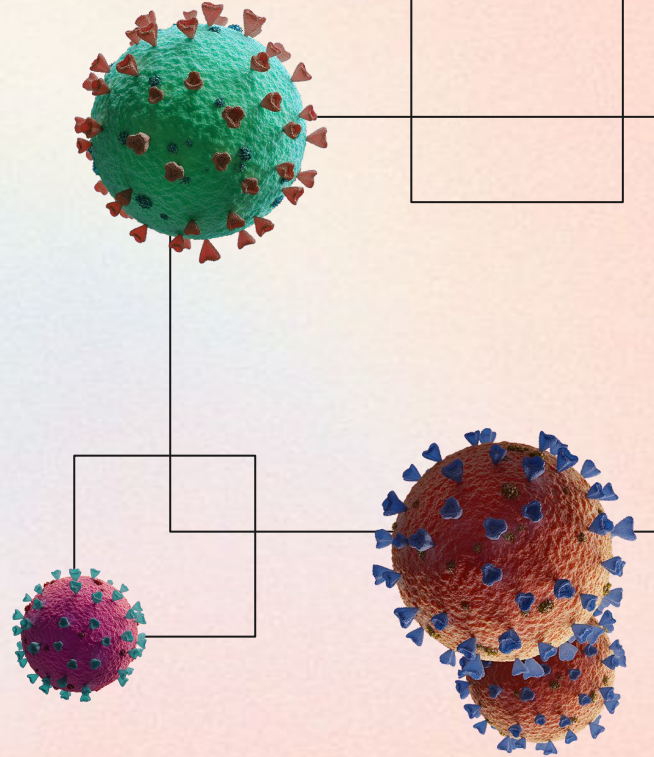
Over to you!
What issues could
Norovirus bring to
public health?



>£100 million

This is how much norovirus is estimated
to cost the NHS every year

Ref: Healthcare Infection Society (2023)



Global effects of Norovirus

Norovirus (NoV) is the leading causative agent of both sporadic and acute gastroenteritis (AGE) outbreaks in all age groups. It accounts for 16–18% of all AGE cases globally and causes an estimated 685 million illnesses, resulting into 210,000 deaths and 15 million disability-adjusted life years annually [1,2,3].

Wang, J., Gao, Z., Yang, Zr. *et al.* Global prevalence of asymptomatic norovirus infection in outbreaks: a systematic review and meta-analysis. *BMC Infect Dis* 23, 595 (2023). <https://doi.org/10.1186/s12879-023-08519-y>

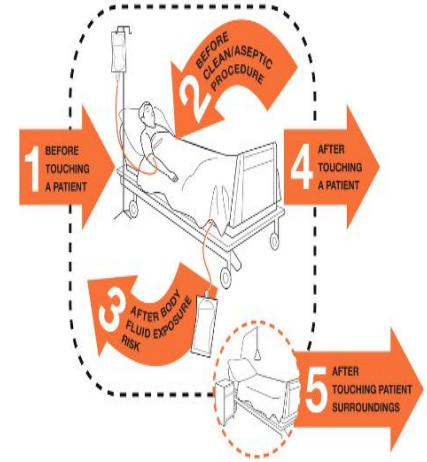
Available

at: <https://bmcinfectdis.biomedcentral.com/articles/10.1186/s12879-023-08519-y#citeas>

How can we reduce the spread?

- ❑ Hand hygiene, wash your hands! Hand sanitizer is not enough.
- ❑ Wash food thoroughly.
- ❑ If you are sick do not prepare food for others.
- ❑ Clean and disinfect surfaces.
- ❑ Wash clothing, towels and bedding at high temperatures.
- ❑ Isolate patients on the wards.
- ❑ Isolate yourself from others, stay at home, for duration of the illness and 48 hours afterwards.

Your 5 Moments for Hand Hygiene



Stop norovirus spreading

Norovirus, also known as the 'winter vomiting bug', is the most common stomach bug in the UK. It can spread easily through close contact, or by contaminated surfaces, food or water.

The main symptoms of norovirus include a sudden onset of nausea, followed by projectile vomiting and diarrhoea, usually 1 to 2 days after becoming infected. Other common symptoms include a high fever, a headache and aching arms and legs.

Good hand hygiene is important to stop norovirus spreading.

To stop norovirus spreading, you should:

- wash your hands thoroughly using soap and warm water after using the toilet or contact with a sick individual and before preparing and eating food.
- stay off school or work until you have not been sick or had diarrhoea for at least two days
- not rely on alcohol gels instead of washing your hands, as these do not kill the virus
- wash any contaminated clothing or bedding using detergent at 60°C using disposable gloves to handle any items
- use bleach-based cleaners to disinfect surfaces

If you catch it, stay home for 48 hours after your symptoms clear

DO ✓

Wash clothes
and bedding
at 60°C



Wash hands with
soap, clean surfaces
with bleach-based
disinfectants



DON'T ✗

Go to work or
school, visit care
homes or hospitals



Prepare food
for others



Most people will make a full recovery in 2-3 days without needing any medicine. It is important to keep hydrated – especially children and the elderly.

Try not to visit A&E or GP surgeries if you have symptoms of norovirus unless advised to do so by a healthcare professional, as this may spread the bug to others. Call ahead to a GP or ring NHS 111 if you are worried about your symptoms.

Further information is available at NHS 111 or NHS.uk (<https://www.nhs.uk/conditions/norovirus/>)

Norovirus - A case study

Lessons learned from a prolonged and costly norovirus outbreak at a Scottish medicine of the elderly hospital: case study

Danial, J. *et al.* (2016)

Task: work in pairs:

Read the report, can you find:

- ☐ Important points?
- ☐ The economic cost?
- ☐ What was learnt from this outbreak?
- ☐ How is this relatable to Public Health today?

~~Liberton Hospital. A Scottish medicine of~~ the elderly hospital, Edinburgh. A prolonged outbreak!

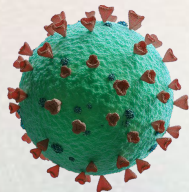


Timespan

The study ran from April 2012 > March 2013.

In 55 days there were 143 patients and 30 staff affected.

Over the period of 55 days there were 58 emergency meetings held.



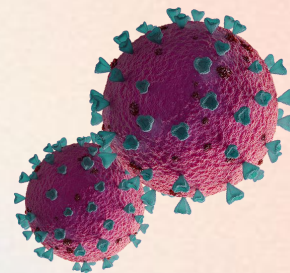
Details

The hospital had 170 beds, with Nightingale wards.

These wards shared dining facilities.

Approx 25-30% of cases had been admitted from the community with the virus.

At points there were 3 wards closed for more than 30 consecutive days.

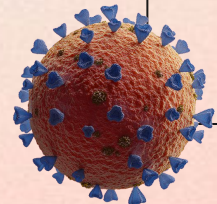
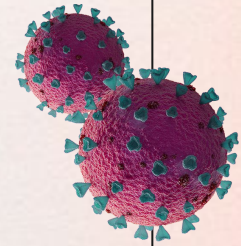


Economic Loss

In 55 days, the combined cost to NHS Lothian was approximately £341,534.00

This cost covered many factors: Empty beds; Cleaning; Management; Lab costs.

The cost to NHS Lothian on average per season is ½ million £'s.



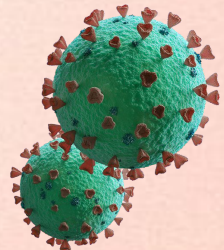
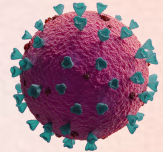
What Actions were taken, and what worked

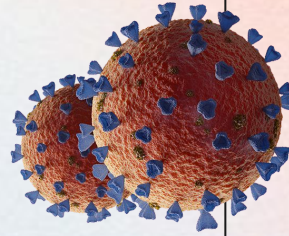
Specific guidance implemented:

- Floor by floor closures
- Exclusion of symptomatic staff
- Temporary suspension of visitors
- Screening patients before admission
- Daily testing and quick turnaround of results
- Enhanced cleaning routines
- Laundering of patient's clothes on site
- Daily communications with staff and visitors.

What was learnt:

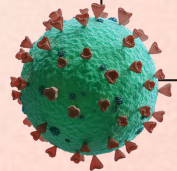
- Transmission is easy due to poor ventilation, high occupancy rates, mental health issues, shared facilities
- To reduce beds from 171 - 153
- To use disposable curtains
- Computer keyboard covers
- Patient safety and quality MUST COME 1ST!
- Barrier nursing in Nightingale wards is a challenge.
- There was a lack of isolation bays.
- Staff to use scrubs if area is infected.





CONCLUSIONS

You do not carry any real immunity from norovirus even if you have just had it. This is because the virus is constantly changing, and therefore a person's immunity cannot keep up.



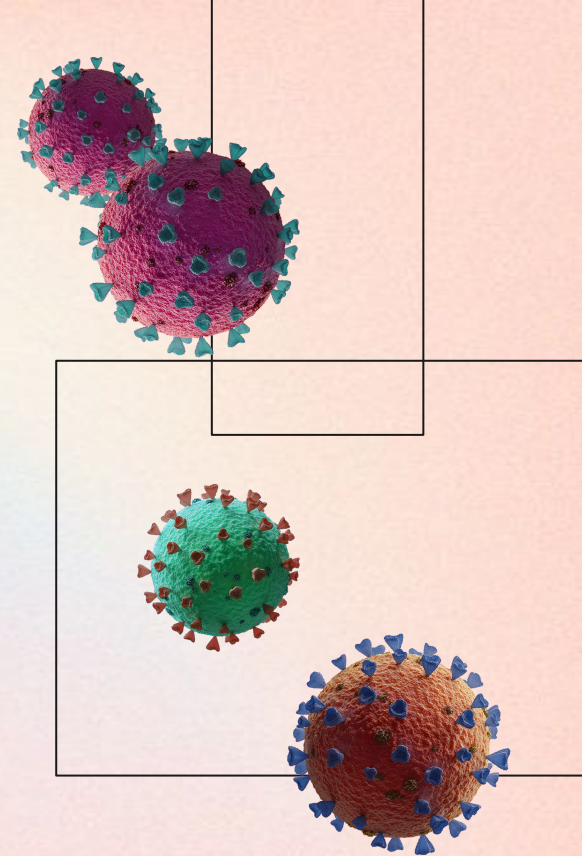
The Pyramid reflection model

1. Question you would like to ask.
2. Things that have left an impression on you from today.
3. Key points from lecture.



REFERENCES

- <https://phw.nhs.wales/services-and-teams/harp/infection-prevention-and-control/patient-information-and-leaflets/norovirus-information-leaflet/>
- UKHSA (2024) Norovirus, Guidance, Data and Analysis. Available at: <https://www.gov.uk/government/collections/norovirus-guidance-data-and-analysis>
- <https://www.health.vic.gov.au/infectious-diseases/viral-gastroenteritis-not-rotavirus>
- <https://www.cdc.gov/norovirus/burden.html>
-
- Danial, J. *et al.* (2016) 'Lessons learned from a prolonged and costly norovirus outbreak at a Scottish Medicine of the Elderly Hospital: Case Study', *Journal of Hospital Infection*, 93(2), pp. 127–134.
doi:10.1016/j.jhin.2016.02.002



THANKS!

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