

# Water and foodborne viral infections

## Viruskenner masterclass

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# Imagine...

- It's pre-COVID-19 time
- You're on a holiday with your family to Thailand for a three week trip



# But then..

- After 1 week you get sick:
  - Stomach ache and nausea
  - Fever
  - Eyes start to get a little bit yellow
  - Urine looks like Coca Cola



# What is the problem?

- And how did this happen?
- You remember eating a lot from food stalls from the streets in Bangkok..



# Hepatitis A

- Inflammation of the liver caused by hepatitis A virus (HAV)
- HAV is easily transmitted through surfaces, water and food
- Infections mostly seen in developing countries by contaminated food and water



# Hepatitis A

- Inflammation of the liver
- Symptoms
  - Fatigue
  - Nausea
  - Fever
  - Yellow eyes/skin
  - Discolored urine and poop
  - Itch

# Hepatitis A

- Symptoms usually last 1 – 3 weeks and resolve spontaneously
  - Immune after first infection
  
- Prevention:
  - Hygiene measures
  - Vaccination

# Hepatitis A

- Treatment
  - None
  
- Complications
  - Relapsing hepatitis





# You continue your holiday..

- And you go on a cruise to the Fiji islands with your family



# But then..

- Your parents start having severe diarrhea and vomiting
- One day later you have the same symptoms
- Turns out many of the other passengers have similar symptoms



# Norovirus

- Highly infectious virus transmitted through feco-oral route
- Usually in large outbreaks in nursing homes and cruise ships
- Virus that can survive outside human body on for example door knobs and toilets
  - Or unwashed fruits and vegetables

# Norovirus

- Symptoms:
  - Diarrhea
  - Nausea and vomiting
  - Abdominal pain
- 2 – 7 days of symptoms
- Complications:
  - Mostly in frail, elderly people: dehydration

# Norovirus prevention

- Vaccinations:
  - None available (yet)
  
- Hygiene, prevention of further outbreak and spreading



# Rotavirus

- Different virus, same symptoms
- Especially dangerous for (young) children with other diseases
- Older children and adults: often previously infected and (partly) immune
- Vaccine:
  - Available for children with risk factors

# Water and food borne virusses

- In general:
  - Transmission unnoticed
  - Clean drinking water not available everywhere

844 M

people living without access to  
safe water

2.3 B

people living without access to  
improved sanitation

# Water and food borne virusses





# Water and food borne virusses



BOIL IT



COOK IT



PEEL IT



OR FORGET IT

# One more virus..

- Poliovirus
- Uncommon virus since poliovaccine was introduced in vaccination program
- Outbreaks in developing countries and religious communities



# Poliovirus

- Virus enters through the mouth and spread by faeces
- Outbreaks in areas with bad sanitary facilities
- Majority only mild symptoms and immune after infection
- 0,5 – 1% also paralysis different parts of the body
- Post polio syndrom in patients with paralysis symptoms, many years after initial infection

# Poliovirus

- Prevention:
  - Vaccination!
  - Hygiene

