Hepatitis A

Te Mana Ora Protocol

This protocol is based on the Ministry of Health's Communicable Disease Control Manual[1] and Immunisation Handbook[2], with additional information from the Australian CDNA National Guidelines[3] and the Public Health England Guidelines[4].

Te Mana Ora-specific content is in green.

Recently updated content is in blue.

- Protocol users should **document** their response to **action points,** marked throughout with this arrow.

Contents

1. Associated documents

Te Whatu Ora Waitaha Canterbury Māori Health policy

Te Whatu Ora Waitaha Canterbury Te Reo policy

Te Whatu Ora Waitaha Canterbury Tikanga policy

Te Whatu Ora Waitaha Canterbury Interpreter procedure | Te Mana Ora Interpreting and Written Translation procedure

Te Whatu Ora Waitaha Canterbury Privacy/Nohotapu policy

Te Mana Ora procedures, forms, checklists, orders, letters, etc and reference documents

K:\Division\CPH\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\Hepatitis A\FormsStdLettersQuest

Fact/information sheet or Ministry online information:

Hepatitis A disease – Manatū Hauora | Ministry of Health NZ

2. The Illness

Hepatitis A is caused by the hepatitis A virus (HAV) that primarily replicates in the liver and is excreted in large quantities via the biliary tract into the faeces. It is a **hardy** virus and can survive outside the body for prolonged periods in food and water. It causes a self-limiting illness with no carrier state. **In infants and preschool children most infections are either asymptomatic or cause only mild non-specific symptoms without jaundice.** Most adults and adolescents develop symptomatic disease, the severity of which generally increases with age. Symptomatic HAV infection is characterised by an **acute febrile illness** with **jaundice, anorexia, nausea, abdominal discomfort, malaise and dark urine**. Signs and symptoms usually **last less than two months**, although 10–15 percent of symptomatic persons have prolonged or relapsing illness lasting up to six months. Liver enzymes almost always return to normal by six months after the illness, and often much sooner. The case fatality rates vary from 1.8% in adults aged 50 years and older, to higher in those with pre-existing liver disease such as hepatitis B or hepatitis C infection. Persisting liver damage is very rare.[2, i]

Global burden of disease

Hepatitis A is **common in areas with poor sanitary conditions and limited access to clean water**. In highly endemic areas, such as parts of Africa and Asia, the disease is virtually confined to early childhood and is not an important cause of morbidity. Almost all adults in these areas are immune, and hepatitis A epidemics are uncommon. In intermediate endemicity areas, such as Central and South America, Eastern Europe and parts of Asia, children may not be infected in early childhood and reach adulthood without immunity. A high proportion of adolescents and adults are susceptible and large outbreaks are common. In low endemicity areas, such as the US and Western Europe, infection is less common but can occur in high-risk groups. Large outbreaks are rare, due to high levels of sanitation that stops person-to-person transmission.

Viral spread occurs readily in households, in early childhood services and in residential facilities that care for the chronically ill, disabled or those with a weakened immune system. In early childhood services, typically the adult guardian develops symptomatic disease while the primary source, the infected young child, is asymptomatic. The risk of spread in early childhood centres is proportional to the number of children aged under 2 years wearing nappies. Infection in these **early childhood services** is an **important source of outbreaks** for whole communities.

Other groups at the highest risk of contracting the disease include **people in close contact** with an infected person, and **travellers** to areas with high or intermediate rates of hepatitis A infection. Others also at greater risk of contracting HAV are people who have **oral–anal sexual contact**, **illicit drug users**, those with **chronic liver disease**, **food handlers** and **laboratory staff** working with the virus.

Universal and targeted programmes for childhood immunisation have been introduced in several countries, including Israel, the US and Australia. Acute HAV infection has almost been eradicated in areas with HAV immunisation programmes.[2]

Epidemiology in New Zealand[2]

The rate of HAV in New Zealand **declined** from 145.7 per 100,000 in 1971 to 1.2 per 100,000 in 2019 (ESR, 8 June 2020). This fall in rate is attributable to the use of HAV vaccination in travellers and a reduction in HAV prevalence overseas.

In 2019, 58 cases were notified compared with 68 in 2018 (ESR, 8 June 2020). Hospitalisation status was recorded for 57 cases, of which, 36 (63 percent) were hospitalised. The highest rates occurred in the 15–19 years (2.2 per 100,000) and 1–4- and 20–29-years age groups (both 2.0 per 100,000). Of the 56 cases with ethnicity information

[i] Three atypical clinical manifestations of HAV-associated illness are recognised: prolonged cholestasis, relapsing hepatitis and extrahepatic disease. Prolonged cholestasis causes jaundice and pruritus for up to three months. A relapsing form of hepatitis is observed in up to 20% of patients and follows apparent full recovery. HAV infection can also rarely trigger autoimmune hepatitis and extrahepatic disease such as a fading rash, arthritis, glomerulonephritis, neurological or blood disorders. Older persons, the immunosuppressed, people with chronic liver disease, liver transplant recipients and those with chronic hepatitis B and C infection are more likely to have severe manifestations of hepatitis A illness making prevention of infection in these groups particularly important. Mortality is highly correlated with these risk factors. The case-fatality rate of hepatitis A varies from 0.1% among children <15 years of age to 2.1% among adults aged ≥40 years, usually as a result of fulminant hepatitis. Fulminant hepatitis is a rare consequence of HAV infection and has a high fatality rate without liver transplantation.[3]

recorded, Pacific peoples had the highest notification rate (5.4 per 100,000), followed by the Asian (3.1 per 100,000) ethnic groups (ESR, 8 June 2020).

Overseas travel information was recorded for 55 cases: 32 cases (58.2 percent) had travelled overseas during the incubation period of the disease (ESR, 8 June 2020). The countries most frequently visited included India and Samoa (7 cases each), Fiji (5 cases), Indonesia (4 cases) and Tonga (3 cases). Four cases reported travel to more than one country.

Hepatitis A outbreaks continue to occur. There has been an ongoing national outbreak starting in late 2022 linked to consumption of frozen berries sourced from Serbia.

Tables 1 and 2 show Te Mana Ora cases by district and ethnicity over the last five years. Figure 1 illustrates the overall national downward trend since a peak of notifications in 1997[2].

Table 1: Te Mana Ora cases by district, last 5 years

Districts	2018	2019	2020	2021	2022
Waitaha | Canterbury	4	4	4		9
South Canterbury					2
Te Tai o Poutini | West Coast					2
TOTAL	4	4	4	0	13

Table 2: Te Mana Ora cases by ethnicity, last 5 years

Ethnicity	2018	2019	2020	2021	2022
European	1	1	1		12
Māori		2			
Pacifika			1		1
Asian	2	1	1		
Other	1		1		
Unknown					
TOTAL	4	4	4	0	13

Clinical description

Following a **prodrome** that may include fever, malaise, anorexia, nausea or abdominal discomfort, there is **jaundice**, and sometimes an **enlarged tender liver**. Infection may be indicated by the presence of **elevated serum aminotransferase levels**. **Children are often asymptomatic** and occasionally present with atypical symptoms, including diarrhoea, cough, coryza or arthralgia. Jaundice is very unusual in children younger than 4 years, and 90 percent of cases in the 4–6 years age group are anicteric[ii].

ii Anicteric = not affected or characterized by jaundice.

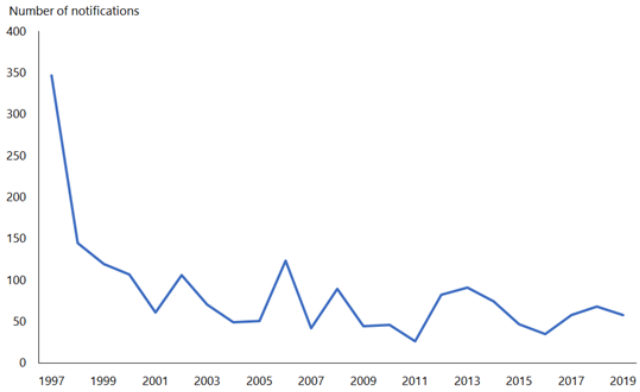
Reservoir
Humans and possibly certain non-human primates.

Incubation
Average **28-30 days** (range 15-50 days).

Transmission
Mainly person to person by the **faecal-oral** route.

Common-source outbreaks have been reported from **contaminated water or food**; foodborne outbreaks have been linked to an infected food handler, raw or undercooked shellfish harvested from contaminated water, and contaminated produce such as lettuce or berries. Transmission by injected drug use or sexual transmission is occasionally reported. Blood or blood-product transfusion related transmission (associated with a viraemic donor) is rare. Hepatitis A virus **remains viable in the environment for long periods**.

Figure 1: NZ Hepatitis A notifications by year, 1997–2019



Communicability
Virus excretion falls sharply in the week following the onset of hepatitis.

Maximum infectivity is during the 1–2 weeks before and the first few days after the onset of jaundice. Most cases are probably non-infectious after the first week of jaundice although prolonged viral excretion (up to 6 months) has been documented in infants and children. The period of communicability recommended for contact tracing purpose is **2 weeks before and 1 week after the onset of jaundice**.

Figure 2 and Figure 3 illustrate the stages of acute hepatitis A and their lengths, and the timing of clinical, virological, and serological findings[3].

Figure 2: Stages of hepatitis A illness and length of each phase

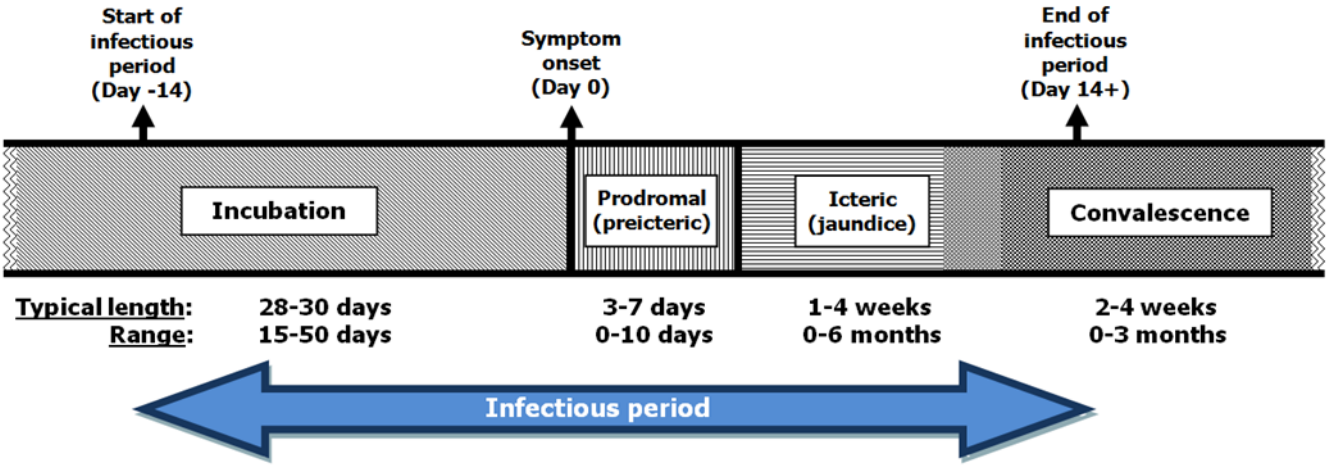
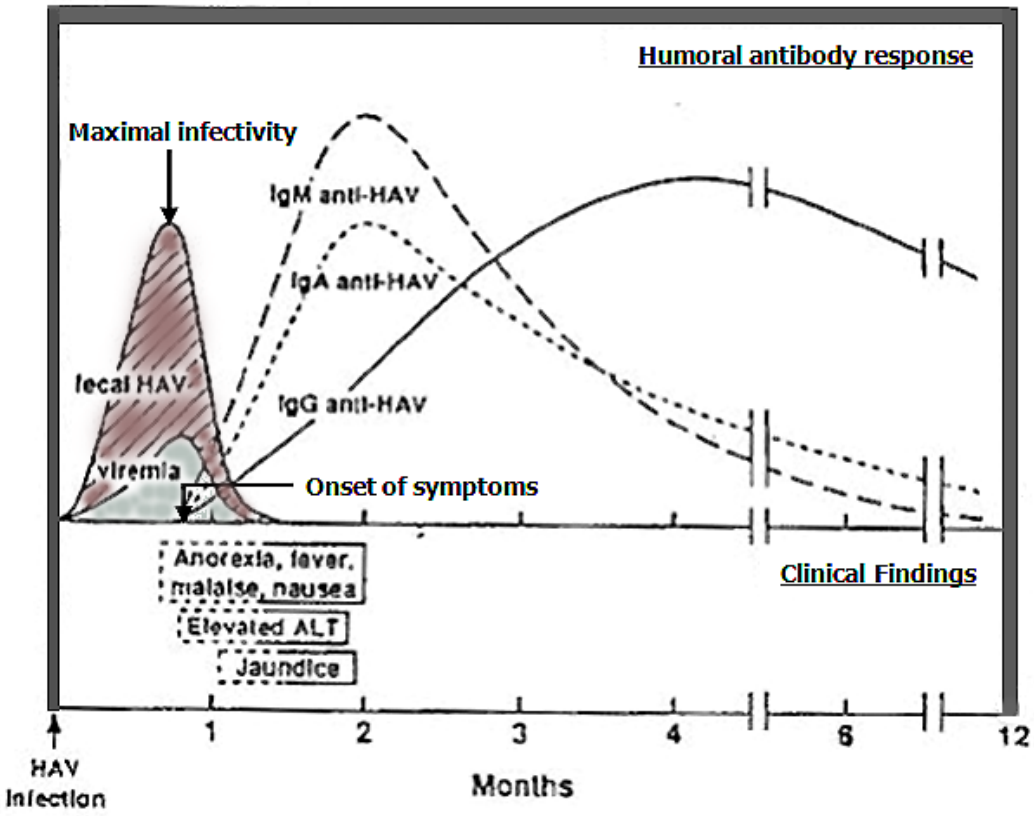


Figure 3: Clinical, virological, and serological findings in uncomplicated acute hepatitis A



Prevention

Sanitary disposal of faeces, thorough hand washing after toileting, safe food and water and vaccination.

3. Notification

On suspicion immediately. Notification should not await confirmation.

4. Case classification

Under investigation: A case that has been notified, but information is not yet available to classify it as probable or confirmed.

Probable: A clinically compatible illness that is epidemiologically linked to a confirmed case.

Confirmed: A clinically compatible illness accompanied by laboratory definitive evidence.

Not a case: A case that has been investigated and subsequently found not to meet the case definition.

5. Laboratory testing

Laboratory definitive evidence for a confirmed case requires one of the following:

- detection of **HAV nucleic acid**.
- in the absence of HAV vaccination in the preceding 12 weeks:
  - detection of **anti-HAV IgM**.
  - **seroconversion** between paired sera tested in the same laboratory (in the absence of recent vaccination).

Samples from confirmed cases should be **sent to ESR** for genotyping and sequencing (preferably faecal and blood samples).

HAV-specific **IgM antibody level** becomes detectable in the blood by 4 weeks after infection, persisting at elevated levels for about 2 months before declining to undetectable levels by 6 months. They rarely persist beyond 12 months after infection.

Hepatitis A test process and interpretation (Southern Community Laboratories[iii])

- The initial test is a combined IgG/IgM test. If this is negative the person does not have hepatitis A.
- If the combined test is positive but there is no biochemical evidence of hepatitis (i.e. liver function tests are normal), then the person does not have hepatitis and an IgM test will not be done. The comment from the laboratory will be "In the absence of biochemical evidence of hepatitis this is likely to represent immunity to hepatitis A resulting either from past exposure or vaccination." There will be no comment that the condition is notifiable.
- If the combined test is positive and there is biochemical evidence of hepatitis (deranged liver function tests), then an IgM test will be done.
    - If positive, the person is a case and the laboratory comment will include the comment that this is a notifiable disease.
    - If the test is negative for IgM, the person is not a case.

6. Cultural and social context

Cultural, social, work and home environments affect any person's risk of contracting a communicable disease, the likely impact of that disease on them, and their likelihood of passing the infection on others. Keep these factors in mind at every point of your investigation and follow-up.

- Request an **interpreter** if needed.
- **Consider** the potential impact of cultural, social, work or home factors on a person or family's ability or willingness to provide information and/or follow public health advice.
- **Tailor your advice** to the situation.
- **Seek advice yourself** if unsure. Talk to:
    - Te Mana Ora's Māori Relationships Manager, Pacific Relationships Manager, or Communicable Diseases Manager for advice on community and primary care support people or agencies.
    - Ngā Ratonga Hauora Māori for Māori patients at Christchurch Hospital or Christchurch Women's hospital.
- If appropriate, and with the case and/or contact's permission, seek the **assistance** of family or other community members, community leaders, and/or support agencies if required.

7. Management of case

Investigation

- Action **within an hour**.
- Advise **medical officer of health**.
- **Interview case** (visit or phone) using the Hepatitis A questionnaire to identify possible sources and contacts.
    - The **dates** of onset of symptoms and jaundice are important for public health management as they allow determination of onset of the infectious period.
    - Identify cases in **high risk occupation or situations** and check for the risk of transmission.

[iii] Confirmed with Aaron Keene, January 2023

- Obtain a history of **travel** (including overseas visitors within the incubation period), prior **vaccination**, possible **contacts**, consumption of **shellfish or other suspect food** (for example, overseas food), and blood or blood-product **transfusion**. Injecting **drug users** and **men who have sex with men** may be at higher risk of infection.
- Attempt to **identify possible sources**. Young children in whom the disease may be unrecognised because of being mild or asymptomatic are a major risk for spreading Hepatitis A.

- Complete the **case report form**.
- **Ensure laboratory confirmation by serology has been attempted.** Serology (hepatitis A IgM and IgG) is essential for diagnosis especially in children. If the serology result is unknown, or IgM negative, or if positive but the case is elderly and not associated with a clinically compatible illness, discuss with the medical officer of health.
- For all acute cases diagnosed by positive IgM serology (in the absence of HAV vaccination in the preceding 12 weeks) or by detection of HAV by PCR/NAAT, patient serum and/or faecal specimens (preferably both) should be sent to ESR Kenepuru Science Centre for HAV genotyping. **Check with the local laboratory** that specimens have been sent for genotyping.

Restriction

- In health care facilities, only standard precautions (found here) are indicated for the majority of patients with hepatitis A. Infants, young children and incontinent patients require contact isolation precautions until at least 1 week after the onset of jaundice or symptoms or for the duration of hospitalisation.
- All cases should be advised to take **enteric precautions for at least one week** after onset of jaundice or symptoms (see **Hepatitis A – HealthEd**).
- Cases in the following **high risk categories** should **stay away from work/school/preschool for at least one week from onset of jaundice or symptoms**[1]:
  1. people whose **work involves preparing or serving unwrapped food** to be served raw or not subject to further heating (including visitors or contractors who could potentially affect food safety).
  2. staff, inpatients and residents of **health care, residential care, social care or early childhood** facilities whose activities increase risk of transferring infection via the faecal-oral route.
  3. children **under the age of 5 attending early childhood services/groups**.
  4. other adults or children at **higher risk of spreading** the infection due to **illness or disability**.
- In the case of **schoolchildren**, discuss with the school about availability of hand-cleaning facilities.

Treatment

Supportive. The disease is often asymptomatic in children but is fulminant in about 1% of adult cases.

Counselling

- **Advise** case or parent/caregiver of the nature of the infection, mode of transmission, and safe hygiene practices.

While in the infectious period, cases should (CDNA advice[3]):

- not donate blood
- not prepare or handle ready-to-eat food or drink for consumption by other people
- not have sex
- not provide personal care to others
- not attend childcare, preschool, primary school or work that could put others at risk
- be isolated as much as is practicable if living in a residential or aged care facility, or correctional facility, and ideally be placed in a single room with ensuite, or have a dedicated bathroom
- not share drugs or drug paraphernalia, and
- not share utensils, towels or personal items with others.

A **fact sheet** is available in English: https://healthed.govt.nz/products/hepatitis-a

8. Management of contacts

Identify contacts (household, sexual and other) for counselling about **immunisation and/or immunoglobulin** as appropriate. Contacts should be **advised about possible symptoms, incubation period and the need to seek medical attention if unwell** within the maximum incubation period of 50 days.

Contact definition

A person who had contact with a case anytime during the **latter half of the incubation period (usually two weeks) and until a week after the onset of jaundice**, as set out in Table 3[iv]:

Table 3: Contact situations

Contact Situation	*Comments*
All **household** and **sexual** contacts.	
If the case is in **nappies**, persons who provided **direct care** to the case.	
Staff and children in close contact with the case at an **early childhood service**.	*Assessment will take into consideration involvement with nappy changing and toilet hygiene practices and whether there has been more than one case associated with the centre.*
Where there was **other close social contact**, including sharing intimate personal items or drug equipment.	*Discuss with MOoH on a case-by-case basis.*
If case is a food handler, **other food handlers** at a premise are considered to be contacts.	
A person who **consumed food** not subjected to further cooking that was **prepared by the case**.	*Refer to 'Special Situations' below.* *If the case works as a food handler Te Mana Ora will provide advice to customers and staff.*
Those exposed to Hepatitis A-contaminated **water** in a common-source outbreak.	

Investigation

Assessment and prophylaxis for close contacts should occur as soon as possible within 14 days of exposure.

- **Collect contacts' details** (name, address, phone number, DOB) from case (visit or telephone). Record on Hepatitis A contact sheet in Y:\Division\CPH\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\HepatitisA\FormsStdLettersQuest
- **Telephone** each contact **and discuss their risk.**
- **Assess whether vaccine or IG is required** and obtain contact's weight if IG likely.

Close contacts should be considered **immune** if they:

- have documented evidence of a completed course of hepatitis A **vaccine** in the past 10 years (or one dose of monovalent vaccine within the past 12 months)
- have had **laboratory-confirmed hepatitis A** (previous anti-HAV IgG positive, or HAV RNA positive). [4]

Laboratory screening of contacts is not usually indicated and anti-HAV IgG testing should not delay the administration of post-exposure vaccine.

- However, **consider testing** in the following situations:
  - if time allows and there is a **history or likelihood of previous Hepatitis A vaccination or infection** (e.g. previous residence in an endemic country)
  - if time allows and **immunoglobulin is being considered** as prophylaxis (ie to avoid unnecessary administration of a blood product)
  - for any contact with compatible **symptoms** (ie a probable case and manage accordingly)

[iv] Te Mana Ora table, expanded from CD Manual advice

- Refer **any contact with compatible symptoms to their doctor** for investigation. Symptoms include:
  - nausea and vomiting
  - stomach upset and pains
  - fever
  - lack of energy
  - poor appetite
  - general aches and pains
  - yellow eyes (jaundice)
  - dark urine
  - pale faeces
  - feeling unwell
- Contacts should be **advised** about possible **symptoms**, **incubation period** and the need to **seek medical attention** if unwell within the maximum incubation period of 50 days. If neither vaccine nor IG is required, **send** fact sheet only.

Restriction

Nil unless symptoms develop.

Prophylaxis

There is reasonably broad international consensus that **hepatitis A vaccine** (brand name = Havrix) is effective for preventing secondary cases in healthy contacts, and it now tends to be the **preferred option** as opposed to immunoglobulin (= normal human immunoglobulin, NHIG). Immunoglobulin may have higher efficacy, but this needs to be balanced against the advantages of vaccination, including ease of administration, duration of effect and the lack of interaction with live vaccines[v]. Both are **free** for contacts[vi]. Havrix is fully funded for contacts and claimed by general practice as an immunisation event, but the cost of administering immunoglobulin will be charged to Te Mana Ora.

Neither immunoglobulin nor the vaccine is recommended for the usual office, school or work-type exposure.

Prophylaxis is summarised below in Table 4 and

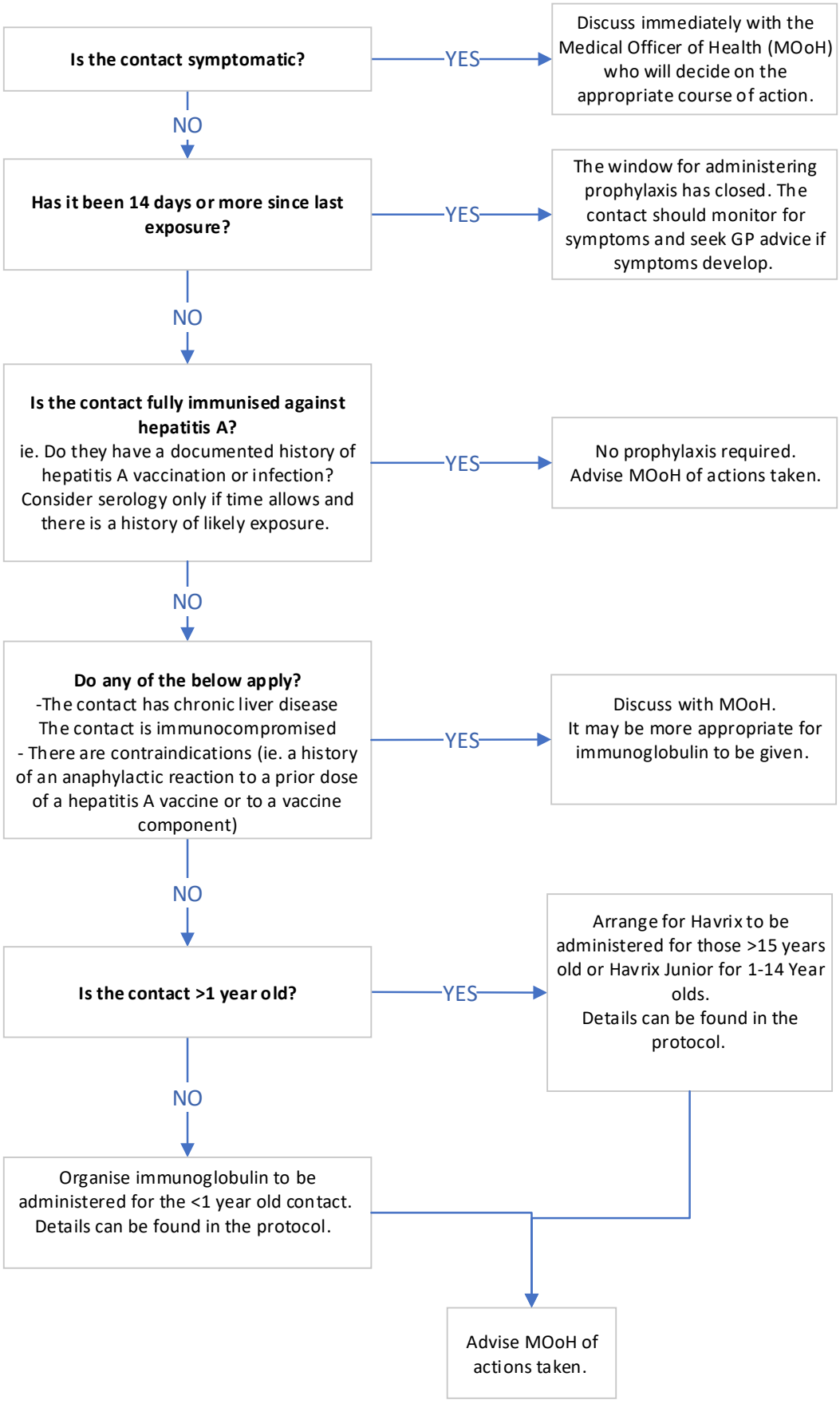
[v] Some overseas guidelines[3,4] recommend immunoglobulin for older adults in view of their reduced response to vaccine and greater risk of severe illness. However, this recommendation is not part of NZ Ministry of Health advice.
[vi] Only one dose of Havrix is funded for close contacts as protection is only required for the duration of the outbreak. For long-term protection, contacts may seek a second (unfunded) dose, after an interval of at least 6 months.[2]

Figure 4.

Table 4: Prophylaxis age and condition criteria for contacts

Age or Condition	Prophylaxis
Aged < 1 year	Immunoglobulin
Aged 1-15 years	Havrix Junior
Aged > 15 years	Havrix
Any age and have any of the following: – immunocompromised – chronic liver disease – the vaccine is contraindicated	Immunoglobulin

Figure 4: hepatitis A prophylaxis



Special situations

Early childhood service and other institutional outbreaks

If the case attends preschool, note that **children under the age of four may be asymptomatic cases** and a child of this age **may be the source**. Discuss with the medical officer of health.

If an outbreak occurs in an early childhood service, **vaccination** (or immunoglobulin if appropriate) may be indicated for **all previously unimmunised staff and children at the service and unimmunised new staff and children** for up to 6 weeks after the last case has been identified, including cases in the household of attendees. The number of infected cases should determine the extent of intervention.[1,2] However, consider that **one case in a preschool may constitute an outbreak** as transmission may have occurred resulting in asymptomatic cases.

Vaccination or immunoglobulin may also be indicated for adults and children at a **school, hospital or custodial-care institution** where an outbreak of hepatitis A is occurring. For sporadic cases in hospitals, schools or work settings, PEP is not routinely indicated, but careful hygiene practices should be maintained. [1,2]

Also refer to Te Mana Ora Com Dis Outbreak Response Plan.

Contacts of an infected food handler

If a food handler is diagnosed with hepatitis A, vaccine (or immunoglobulin) should be given to **other food handlers** at the same premises. Vaccination of **patrons** is **usually not needed** but can be considered if the case, while infectious, directly handled uncooked foods or foods after cooking, and had diarrhoea or poor hygiene practices AND vaccine (or immunoglobulin) can be given within 2 weeks of exposure.

Vaccination

Vaccination is recommended for **all close contacts over the age of 1 year unless** they:

- are **immunocompromised**
- have **chronic liver disease** (particularly due to hepatitis B or C)
- have **contraindications**, ie a history of an anaphylactic reaction to a prior dose of HepA or to a vaccine component[2]

Administration of hepatitis A vaccine should be delayed in individuals suffering from acute **febrile illness**.

If **any** of the above apply **consider immunoglobulin** instead of vaccination: discuss with a medical officer of health.

Post-exposure prophylaxis (PEP) with vaccine should be offered to contacts **as soon as possible**, and **within 2 weeks of last exposure** to an infectious case. The efficacy of vaccine when administered > 2 weeks after exposure has not been established.

If time allows, **consider pre-vaccine serology** if there is a history or likelihood of **previous hepatitis A vaccination or infection** (for example, previous residence in an endemic country).

Hepatitis A vaccine is held by some general practices, or can be accessed from their usual vaccine supplier.

Immunoglobulin

Immunoglobulin (normal human immunoglobulin, NHIG) may be offered to a close contact who may have a **reduced response to vaccine** or has **risk factors for severe disease** or where vaccine is **contraindicated** (see Vaccination) or is not immediately available. Immunoglobulin can be given to close contacts of **any age**. Close contacts **under 1 year of age will require** immunoglobulin.

Post exposure prophylaxis with immunoglobulin should be offered to contacts **as soon as possible**, and **within 2 weeks of last exposure** to an infectious case. Timely administration of immunoglobulin **will prevent or modify clinical illness for approximately six weeks** after the dose.

Immunoglobulin is **free** to contacts and is available from the **NZ Blood Service**. The dose of NHIG is 0.03 mL/kg given by intramuscular injection. Information for general practitioners is available on HealthPathways.

Contraindications for immunoglobulin are:

- known **IgA deficiency**.
- severe **thrombocytopenia or any coagulation disorder** that would contraindicate an intramuscular injection.

- **previous allergic reaction** to immunoglobulin.

Precautions for immunoglobulin:

- Live vaccines such as measles-mumps-rubella (MMR) should not:
    - be administered for three months after a dose of immunoglobulin, and may also
    - be ineffective if given in the 14 days prior to immunoglobulin.

For further information refer to the medicine data sheet, the New Zealand Blood Service website, and the NZ Immunisation Handbook.

Obtaining and giving vaccine and/or immunoglobulin

- For each contact, the health protection officer should:
    - Determine **whether they require prophylaxis** and whether **vaccine or immunoglobulin** is appropriate (discuss with medical officer of health if any uncertainty, or if immunoglobulin is advised)
    - Check with the contact for **contraindications, advise** the contact of the recommendation, answer any **questions**, and provide **written information**
- Contact the **contact's general practice or after hours** service to **check whether they can administer** the prophylaxis
- If required, **arrange supply** of vaccine or immunoglobulin:

Christchurch:

For **vaccine**, check that the general practice has Havrix available (some practices hold a supply or can order it themselves). After hours contact the 24 Hour Surgery, who have been asked to hold Havrix for this purpose.
For **immunoglobulin**, telephone Blood Bank, and email them a fully completed Blood Bank prescription form signed by an MOoH/MO/Registrar: phone 03 364 0310. Email prescription to ChristchurchBBeFax@nzblood.co.nz. Blood Bank will arrange for delivery of immunoglobulin to the clinic administering it.

Timaru:

Office hours:

- Arrange vaccination / immunoglobulin through contact's usual GP.
- If vaccine is not available at GP, HPO collects from Timaru Hospital pharmacy and delivers to GP. Maintain cold chain as per below.
- If immunoglobulin required collect from Medlab at Timaru Hospital and delivers to GP. Maintain cold chain as below.

Out of hours:

- Arrange via Timaru Hospital Duty Nurse Manager 03 687 2100 for vaccine to be administered at the Emergency Department.
- If there are problems, contact the South Canterbury Immunisation Coordinator 027 2711515.
- Use Havrix referral letter and Immune globulin prescription and consent forms.

Greymouth:

HPO discusses situation with MOoH. When prophylaxis agreed either Havrix or immunoglobulin is ordered via the hospital pharmacy phone 03 769 7797 ext 5317. If immunoglobulin a prescription arranged and forwarded once signed (the prescription signing is not to hold up obtaining the prophylaxis). Email prescription to lab@wcdhb.health.nz stating "Attention blood bank" in the subject line. If Havrix, a referral letter is provided to the patient to take to their GP. Havrix and immunoglobulin are administered by either GPs, PHNs, or ED staff depending on the location of the contacts and availability of these staff. Havrix is not routinely held in the hospital pharmacy due to low demand but they will order it in on request. Immunoglobulin is held in the hospital pharmacy.

- For vaccine, email a **referral form** to the administering general practice:
    - Adult: Hepatitis-A-Adult-Contact-Vaccine-Referral-Form.docx
    - Junior: Hepatitis-A-Junior-Contact-Vaccine-Referral-Form.docx
- Provide a referral letter to the case
- **Telephone the contact** to confirm the arrangements

Transportation of immunoglobulin

Immunoglobulin can be transported by Te Mana Ora staff or taxi but it must be transported in a **cool** environment, preferable 4-8 degrees C. (but at least above 2 degrees) eg. with a 'slicker pad' at the bottom of a chilly bin and the IG wrapped in 4-6 layers of bubble wrap above it.

Vaccination Clinic

The local procedure for 'setting up and conducting a community vaccination clinic' is found here:
K:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\OUTBREAK_GENERAL\Procedures\SettingUpACommunityVaccinationClinic.docx

9. Other control measures

Identification of source

- Check for **other cases** in the community.
- Investigate **potential food and water sources** of infection only if there is a cluster of cases or an apparent epidemiological link.
- Liaise with the **Ministry for Primary Industries** if a **contaminated commercial food** source is thought to be involved.
- Liaise with the **environmental health officer** of the local territorial authority where **food premises** are thought to be involved.
- Consider hepatitis A **vaccination** as an **occupational health** matter for certain food manufacturers / premises (eg: high Polynesian population who travel to the Pacific Islands).
- If indicated, check **water supply** for microbiological contamination and compliance with the latest New Zealand drinking-water standards (Ministry of Health 2008). Liaise with the local territorial authority staff to investigate potential water sources of infection.

Disinfection

- Clean and disinfect surfaces and articles soiled with faecal material. If necessary discuss disinfection with an infection control nurse.
- Sanitary disposal of faeces, urine and blood.
- In areas with modern and adequate sewage disposal systems, faeces and other body fluids or secretions can be discharged into sewers.

For further details, refer to Ministry of Health CD Manual Appendix 1.

Health education

- If there is a cluster of cases, consider a **media release** and **direct communication** with local parents, early childhood services, schools and health professionals to encourage early reporting of symptoms.
- In **communications with doctors**, include recommendations regarding diagnosis, treatment and infection control.
- In early childhood services or other institutional situations, ensure **satisfactory facilities and practices** regarding hand cleaning; nappy changing; toilet use and toilet training; preparation and handling of food; and cleaning of sleeping areas, toys and other surfaces.

10. Legislation and enforcement

Powers for exclusion are summarised in Appendix 2 of the Ministry of Health's Communicable Disease Manual as follows:

The Health (Infectious and Notifiable Diseases) Regulations 2016 do not contain any exclusionary powers or incubation periods for infectious children, or for high risk occupational groups such as people who work with children or food handlers. Instead the medical officers of health can resort to broader powers in **Part 3A of the**

Health Act 1956, which include directions to cases and contacts to remain at home until no longer infectious. This Manual contains the recommended exclusion periods for specific diseases (Refer: Table 2.4).

There is guidance published about the 2016 regulations and Part 3A of the Health Act in Summary of Infectious Disease Management under the Health Act 1956. The legislation is principles based. In this context this means that medical officer of health must **weigh** protection of public health (the paramount consideration) with the following principles: trying voluntary means first if likely to be effective, choosing a proportionate, and the least restrictive measure required in the circumstances, fully informing the case or contact of the steps to be taken and clinical implications, treating them with dignity and respect for their bodily integrity and taking account of their special circumstances and vulnerabilities, and applying the measures no longer than is necessary (sections 92A to 92H).

Under Part 3A a medical officer of health can **direct a case or a contact to stay home** (section 92I(4)(b) or 92J(4)(b)). This is when the officer believes on reasonable grounds that the case or contact poses a public health risk (as defined in the s2 Act). The direction must specify duration.

Alternatively, in the context of attendance at an **educational institution**, if the officer believes the infection risk is unlikely to be effectively managed by directing the case or contact, he or she can **approach the head and direct them to direct the case or contact to remain at home**. In serious cases, the medical officer of health can also **direct the head to close the institution** or part of it (s 92L).

Medical officers of health have no powers to direct closure of premises or places where people congregate, other than educational institutions. If a medical officer of health needs to manage a public health risk by excluding infectious people from certain occupations, public pools, campsites, concerts and other public environments, he or she can use **directions to the individuals** concerned – to stay away from a certain place, or not to associate with certain people.

The Ministry for Primary Industries has powers to close **commercial food premises**. In contrast, medical officer of health powers focus on the risk the person poses.

Note that while there are provisions that apply to early childhood service workers, there are no provisions for **health care workers** – instead, advice should be provided to **employers** in terms of the Health and Safety at Work Act 2015.

Employers may decide to implement more stringent exclusion/restriction criteria in response to their own or their customers' requirements.

11. Reporting

- Enter case details on **EpiSurv.**
- Where food/food businesses are thought to be involved inform the **Ministry for Primary Industries**.
- If a cluster of cases occurs, contact the **National Public Health Service Outbreak Team** and outbreak liaison staff at **ESR**, and complete the **Outbreak Report Form**.
- If an outbreak, write report for Outbreak and file: K:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\Hepatitis A\Outbreaks

12. References and further information

1. Ministry of Health. Communicable Diseases Control Manual 2012. Hepatitis A. https://www.health.govt.nz/our-work/diseases-and-conditions/communicable-disease-control-manual/hepatitis
2. Ministry of Health. Immunisation Handbook 2020. Chapter 8 Hepatitis A. 8. Hepatitis A – Immunisation Handbook 2020 | Ministry of Health NZ
3. Communicable Diseases Network Australia. Hepatitis A National Guidelines for Public Health Units. 2018. https://www.health.gov.au/resources/publications/hepatitis-a-cdna-national-guidelines-for-public-health-units?language=en
4. Public Health England. Hepatitis A infection: prevention and control guidance. 2018. https://www.gov.uk/government/publications/hepatitis-a-infection-prevention-and-control-guidance

13. Document Control

Protocol review task	Responsibility	Date completed + version no.
Advise team, Quality Coordinator (QC) of review (and planned timeframes).	Public Health Specialist (PHS)	V3, 18/11/2022
Open the protocol in EDMS Owner's view, ensure it is based on the current template, remove any blue font formatting (indicating new content for the previous version), and turn on "track changes".	PHS	V3, 18/11/2022
Review Manatū Hauora | Ministry of Health (MoH) advice, literature, other protocols, and write draft update, marking new content in blue font.	PHS	V3, 18/11/2022
Update Fact/ information sheet as necessary (or source the URL link from MoH website).	PHS	V3, 18/11/2022
Start an EDMS **review** workflow of draft version to pre-set document members – MOsH, CD, Team Leader, and HPO for feedback. (Check members are correct before starting workflow. If not, contact QC to update.)	PHS	V3, 18/11/2022
Incorporate feedback and update draft(s) further as required.	PHS	V3, 18/11/2022
Start an EDMS **approval/ publishing** workflow of final version to Clinical Director (Authoriser).	PHS	V3, 18/11/2022
Clinical Director approval recorded in EDMS.	Clinical Director (CD)	V3, 18/11/2022
Document Controller (A.K.A. QC) receives EDMS notification of CD approval, and completes the following processes: ➢ Document control tasks within document, incl. header, footer and formatting. ➢ EDMS document properties/ metadata updates. ➢ Checks and updates hyperlinks on Te Mana Ora policies and procedures site. ➢ Creates .pdf (for external link), and saves to CFS folder: • Protocols – Y:\CFS\Quality\Archive\Protection\IntranetPROTOCOLS. ➢ New or reviewed document is uploaded to: • Protocols: o Surveillance (PHU server) website, and o Microsoft Teams on-call documentation group. ➢ Fact/information sheets are checked for validity: • Te Mana Ora | CPH website, or • MoH website.	Quality Coordinator (QC)	V7, 18/05/2023
Update **paper** copies as required (on-call folder/ vehicle).	Health Protection Officer (HPO)	
Advise operational/ regional staff of update, summarising any substantial changes (text highlighted in blue font in document).	QC, or HPO, or Team Leader	V3, 18/11/2022
Once process finalised, **move** any original draft documents saved in CFS locations to: Y:\CFS\Quality\Archive\Protection\ComDisProtocolsArchive	QC	V3, 18/11/2022
Minor update notes: V3, updated format. Te Whatu Ora logo and hyperlinks to associated material.	PHS	V3 18/11/2022
Minor update notes: V4 removed incorrect data added by QC from tables.	QC	V4, 20/12/2022
Major update notes: V5 full revision	PHS	V5, 17/02/2023
Minor update notes: V6 added Havrix information for Greymouth in the "obtaining and giving vaccine and/or immunilobulin" section.	PHS	V6, 27/04/2023
Minor update notes: V7 updated Figure 4. Hepatitis A prophylaxis flow chart, page 10 box wording "Is the contact fully immunised against Hep A".	Com Dis Team Leader	V7, 18/05/2023