

National Water Hygiene Scheme

Health Screening Guidance Notes

Fitness to Conduct Restricted Operations

Introduction

This document provides guidance for two main purposes:

- a) It helps individuals and trainers in relation to the initial assessment of an individual's health prior to National Water Hygiene registration, and
- b) Sets out why health screening is necessary, and the actions required to be taken by trainers/line managers (supervisors)/approved individuals upon notification of relevant illnesses by personnel employed upon Restricted Operations.

Following the Croydon typhoid fever outbreak in 1937, where the source was identified as an infected worker, it is now standard practice for all personnel associated with drinking water to be continually assessed for infection that may pose a risk.

The most effective methods for reducing the risk of such contamination involves:

- a) the effective training of individuals in good hygiene practices, and
- b) the importance of screening all relevant personnel to identify those who may be excreting pathogens in order that they may be prevented from working upon Restricted Operations.

In addition to such screening, all relevant personnel must be aware of the risks posed by working upon Restricted Operations whilst having enteric illness and the need to report such illness to their line manager immediately.

It is essential that all personnel conducting Restricted Operations are aware of the following:

- To always use proper toilet facilities and wash hands thoroughly afterwards
- Not to start work if they have, or have had, diarrhoea in the previous 48 hours
- The risk posed if they are jaundiced (yellow)
- The risk posed if they or their family have typhoid, paratyphoid or prolonged fever

Note - This document is provided for guidance only and any concern should be referred directly to a medical professional for consideration.

Summary of actions for trainers/line managers(supervisors)/approved persons

- Where the applicant answers 'Yes' (within the last 12 months) to having a history of any of the conditions highlighted in the Health Screening Questionnaire, the applicant must be referred to a GP/Medical Professional for assessment. This document provides guidance information for these professionals.
- Individuals reporting an unexplained/sustained fever or who are jaundiced (yellow) must not be permitted to conduct Restricted Operations and must be referred to a GP/Medical Professional for assessment. Restricted duties may only recommence upon receipt of written clearance.
- Individuals reporting diarrhoea must not be permitted to conduct Restricted Operations. Where diarrhoea persists for less than 72 hours Restricted Operations may recommence 48 hours after having passed a normal stool. In such circumstances medical referral is not required. Where diarrhoea persists for a period greater than 72 hours the individual must be referred to a GP/Medical Professional for assessment. Restricted duties may only recommence upon receipt of written clearance.
- Where a line manager is unsure of the medical suitability of an individual to conduct Restricted Operations, the individual must be referred to a GP/Medical Professional for assessment.

The Enteric Fevers – Typhoid and Paratyphoid

Cause: Bacterial Infection – *Salmonella Typhi*, *Salmonella Paratyphi* A, B, C.

Symptoms: Fever, headache, malaise and nausea. Diarrhoea may not occur as symptoms may include constipation. Bacteria are excreted in the faeces and urine from initial stages of illness up to, and including, recovery. Some individuals may become carriers. A history of unexplained fevers may indicate a previous infection with Typhoid / Paratyphoid.

History of Typhoid or Paratyphoid (Questionnaire)

Where a history of Typhoid or Paratyphoid infection is identified it is necessary for the individual to be referred to a Medical / Occupational Health Professional for clearance. Further processing of the individual's application should not proceed until clearance has been given.

History of Prolonged Unexplained Fever (Questionnaire)

Where a history of unexplained fever is identified, the individual shall be referred to a Medical / Occupational Health Professional for clearance. Further processing of the individual's application should not proceed until clearance has been given. If medical clearance has been given previously, evidence of this medical clearance is needed.

Information for Medical / Occupational Health Professionals

History of Typhoid or Paratyphoid: Current advice suggests that stool samples should be analysed to demonstrate that the individual no longer excretes the organism (unless suitable investigations, demonstrating clearance were conducted at the time of illness). The number of stool samples should be at the discretion of the Medical / Occupational Health Professional. It should be accepted that after Typhoid or Paratyphoid infection an individual may be a symptomless carrier for many months if not years and as a consequence may never be able to perform Restricted Operations.

History of Unexplained fever: Unidentified fevers may indicate a history of Typhoid or Paratyphoid, especially if contracted abroad, where inappropriate medical intervention / follow up investigations may have occurred. An assessment is required as to whether Typhoid / Paratyphoid infection is likely and the necessity for stool sample analysis.

Notification of illness by anyone conducting Restricted Operations

Typhoid or Paratyphoid (as diagnosed by a Medical / Occupational Health Professional): The individual should be referred to a Medical / Occupational Health Professional noting that their occupation involves contact with drinking water.

Sustained Fever: Individuals reporting sustained fever should not be permitted to conduct Restricted Operations and be referred to a Medical / Occupational Health Professional for clearance.

Information for Medical / Occupational Health Professionals

Confirmed Typhoid or Paratyphoid Infection: Current advice suggests that analysis of stool samples should be arranged. The individual concerned may not recommence Restricted Operations until 6 consecutive negative stool samples, at two-week intervals, have been obtained. After such an infection an individual may become a symptomless carrier for many months if not years and as a consequence may never return to Restricted Operations.

Sustained Fever: If infection with Typhoid or Paratyphoid is presumed the above procedure should be followed.

Hepatitis A and E

Cause: Hepatitis A virus, Hepatitis E virus.

Symptoms: Hepatitis A and E are viruses spread via the faecal-oral route. The virus is excreted in faeces and urine during the period prior to the development of jaundice continuing for a few days. Hepatitis E is uncommon in the UK but may be acquired abroad.

Hepatitis B and C are blood-borne infections and do not present a risk as far as microbiological contamination of potable water is concerned.

History of Hepatitis A and E (Questionnaire)

Where a history of Hepatitis infection is identified it is necessary for the individual to be referred to a Medical / Occupational Health Professional for clearance. Further processing of the individual's application should not proceed until clearance has been given.

Notification of illness by anyone conducting Restricted Operations

An individual reporting jaundice should not be permitted to conduct Restricted Operations and should be advised to seek medical attention. Individuals reporting a confirmed infection with Hepatitis A or E should be excluded from Restricted Operations for 7 days after the onset of jaundice / symptoms.

Information for Medical / Occupational Health Professional

Current advice indicates that after infection, microbiological clearance is not required. Upon diagnosis all cases should be excluded from Restricted Operations from 7 days after onset of jaundice and or other symptoms.

Dysentery

Cause: Amoebic (*Entamoeba Histolytica*), Bacterial (*Shigella Boydii*, *Shigella Dysenteriae*, and *Shigella Flexneri*)

Symptoms:

Amoebic Dysentery: Most infections are asymptomatic and therefore may not be identified. However symptoms may range from mild illness to a severe intestinal illness with fever, chills and bloody or mucoid diarrhoea.

Bacterial Dysentery: Presents clinically as diarrhoea with blood, mucus and pus.

History of Dysentery (Questionnaire)

Where a history of dysentery is identified it is necessary for the individual to be referred to a Medical / Occupational Health Professional for clearance. Further processing of the individual's application should not proceed until clearance has been given.

Notification of illness by a member of personnel tasked with conducting Restricted Operations

An individual who has diarrhoea should not work on Restricted Operations. In circumstances where an individual reports a confirmed case of dysentery it is the duty of the line manager to inform the relevant Medical / Occupational Health Professional that the individual is employed upon activities that may involve contact with drinking water.

Information for Medical / Occupational Health Professional

It is widely acknowledged that after infection an individual poses minimal risk after they have been free of diarrhoea for a period of 48 hours assuming good hygiene practices are followed. Where a history of dysentery is identified consideration should be made to conduct stool samples especially if the infection was recent.

After confirmed infection, current advice suggests that stool analyses are conducted to ensure the individual is free of infection before clearance to re-commence Restricted Operations is given.

Diarrhoea (including Diarrhoea that persists for period greater than 72 hours)

Cause: Various (including Gastroenteritis due to an unknown cause, *Salmonella* (other than *Typhi* or *Paratyphi*), *Campylobacter*, *Aeromonas*, *Bacillus*, *Vibrio* (including Cholera), *Yersinia*, *Cryptosporidium*, *Giardia*, Viral Gastroenteritis. (Note: refer to page 6 for information with regard to *Escherichia Coli* - Verocytotoxin producing (VTEC)).

Symptoms: Gastroenteritis from a variety of infectious agents may result in diarrhoea and perhaps vomiting.

History of Persistent Diarrhoea (>72 hours) (Questionnaire)

In cases where an individual is identified as having previously having had persistent diarrhoea the individual should be referred to a Medical / Occupational Health Professional. Further processing of the individual's application should not proceed until clearance has been given.

Information for Medical / Occupational Health Professional

Current advice suggests that individuals with such a history are unlikely to pose a significant risk assuming stools are normal and hygiene precautions are followed and consequently may be given clearance to conduct Restricted Operations. However, stool sampling should be conducted, before clearance is given, if infection with Enteric Fever, *Escherichia coli* (VTEC) or amoebic / bacterial dysentery cannot be ruled out (especially if the infection was recent). **Note: Chronic non-infective gastrointestinal disorders such as Crohns disease or ulcerative Colitis, which may result in diarrhoea, are not a contradiction to Restricted Operations, nor is the presence of a colostomy or ileostomy.**

Notification of illness by a member of personnel tasked with conducting Restricted Operations

An individual with Diarrhoea should not conduct Restricted Operations.

Individuals reporting an isolated case of diarrhoea lasting less than 72 hours should not work on Restricted Operations until they have been free of diarrhoea for 48 hours. Referral to a Medical / Occupational Health Professional is not generally required.

When an individual reports gastrointestinal illness for a period exceeding 72 hours the individual should be referred to a Medical / Occupational Health Professional for assessment.

Where an individual reports frequent bouts of diarrhoeal illness the individual should not work on Restricted Operations even when stools are fully formed. Such individuals should be referred to a Medical / Occupational Health Professional for assessment.

Information for Medical / Occupational Health Professional

In most cases faeces are highly infective during the diarrhoeal stage. The infectivity falls when the faeces become formed, however, the risk of contamination is minimal assuming normal hygienic practices are followed. Frequent bouts of diarrhoea may indicate have an underlying cause requiring medical intervention. As a general rule, Restricted Operations may be recommenced 48 hours after a normal stool assuming infection with enteric fever, *Escherichia Coli* (VTEC), or bacterial / amoebic Dysentery cannot be discounted.

Escherichia coli - Verocytotoxin producing (VTEC)

Cause: *Escherichia Coli* - Verocytotoxin producing (VTEC). The commonest serotype in the UK being *E.coli* O157.H7.

Symptoms: Some strains of *E.coli* have been recognised as capable of causing a severe haemorrhagic colitis (bloody diarrhoea) and, in some case a condition called haemolytic-uraemic syndrome that can be fatal. There have been no reported cases of asymptomatic individuals causing contamination of water. However, this condition should be considered separately from other conditions as the number of organisms needed to produce an infection may be small and the effect may be serious in the exceptional circumstance where VTEC infection is identified.

Notification of illness by a member of personnel tasked with conducting Restricted Operations

An individual who has diarrhoea should not work on Restricted Operations. In circumstances where an individual reports a confirmed case of *E.Coli* (VTEC) it is the duty of the line manager to inform the relevant Medical / Occupational Health Professional that the individual is employed upon activities that may involve contact with drinking water (equivalent to 'at risk Group C').

Information for Medical / Occupational Health Professional

An individual who has diarrhoea should not work on Restricted Operations until they have been free of diarrhoea for 48 hours. Individuals reporting infection with Verocytotoxin producing *E.Coli* should be excluded from Restricted Operations until the bowel habit has been normal for 48 hours and two negative stool samples taken 48 hours apart have been obtained.

References

A Working Group of the former PHLS Advisory Committee on Gastrointestinal Infections. *Communicable Disease and Public Health* 2004; Volume 7, No 4, 362-384.