

Health monitoring

Guide for mercury (inorganic)



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Introduction

This guide is intended to be read by a registered medical practitioner with experience in health monitoring who is engaged by person conducting a business or undertaking (PCBU) to carry out or supervise health monitoring. It provides practical guidance to registered medical practitioners about requirements under the work health and safety (WHS) laws for health monitoring.

This guide applies to all workplaces covered by the WHS Regulations where health monitoring is required.

How to use this guide

This guide includes references to the legal requirements under the WHS Act and WHS Regulations. These are included for convenience only and should not be relied on in place of the full text of the WHS Act or WHS Regulations.

The words 'must', 'requires' or 'mandatory' indicate a legal requirement exists that must be complied with. The word 'should' is used in this guide to indicate a recommended course of action, while 'may' is used to indicate an optional course of action.

This guide provides information for those registered medical practitioners engaged by a PCBU to carry out or supervise health monitoring for workers. This guidance should be read in conjunction with the following:

- *Health monitoring guide for registered medical practitioners*
- *Health monitoring guides for hazardous chemicals*
- *Health monitoring guide for workers*
- *Health monitoring guide for persons conducting business or undertakings (PCBUs).*

Health monitoring under the WHS Regulations

In certain circumstances, the model WHS Regulations place duties on a PCBU to provide health monitoring to workers. These requirements arise if the worker is carrying out work with hazardous chemicals including lead and asbestos. In addition, the work being carried out must be the kind of work specified in the WHS Regulations. A PCBU has the duty to determine if health monitoring is required.

The WHS Regulations prescribe that health monitoring is carried out by or supervised by a registered medical practitioner with experience in health monitoring.

Mercury (inorganic)

Mercury (CAS 7439-97-6) exists in several forms:

- elemental (or metallic) mercury (Hg)
- inorganic monovalent ions (mercurous salts; Hg[I])
- inorganic divalent ions (mercuric salts; Hg[II]), and
- organic mercury compounds.

Elemental mercury is liquid at room temperature and is easily vaporised in ambient temperatures. Mercurous and mercuric ions readily combine with other elements for example sulfur, chlorine or oxygen. Organic mercury can be present in and absorbed from seafood.

The use, import and export of mercury are restricted under the Minamata Convention on Mercury, to which Australia is a signatory.

Work activities that may represent a high risk exposure

Mercury is used in batteries, thermometers, barometers, thermostats, floodlights, streetlights, as a catalyst in manufacturing and it is used to extract gold and silver ores. Most occupational exposures to mercury occur through inhalation of elemental mercury vapour.

Examples of work activities involving inorganic mercury and its compounds that require special attention when assessing exposure include:

- manufacture of amalgams, for example:
 - tin amalgam
 - amalgam of gold, copper and zinc used in dentistry for filling teeth
 - amalgamated zinc used in electric batteries, and
 - sodium amalgam used in the laboratory in conjunction with water as a reducing agent
- dental work involving mercury
- manufacture of pigments and antifouling paints (mercuric oxide) and vermilion (mercuric sulfide) in the paint and colour industry
- extraction of gold and silver from roasted pyrites (mercuric sulfate)
- extraction of gold from tailings
- laboratory work with mercury in enclosed spaces
- the use of mercury-containing fungicides
- exploration, production, refining and processing of natural gas, and
- the use of fluorescent lamps and electrical meters.

Sources of non-occupational exposure

Recent visits to the dentist for fitting or removal of amalgam fillings should be recorded as this can confound results.

Recent penicillin type antibiotics can increase urinary excretion of mercury, as the main degradation product of penicillin (penicillamine) enhances this process. Some skin lightening creams contain mercury.

A significant amount of organic mercury can be ingested in seafood as methyl mercury.

Mercury is ubiquitous in the environment, for example in ash or vapour from coal combustion.

1. Health monitoring for inorganic mercury under the Work Health and Safety (WHS) Regulations

Collection of demographic, medical and occupational history

Physical examination with emphasis on dermatological, gastrointestinal, neurological and renal systems

Urinary inorganic mercury

Health monitoring under the WHS Regulations are applicable to elemental mercury and mercuric (Hg[II]) salts; it does not include inorganic mercurous (Hg[I]) salts or organic mercury compounds.

In this guide 'mercury' is used to refer to elemental mercury and mercuric (Hg[II]) salts.

Health monitoring before starting work in a mercury process

Health monitoring for inorganic mercury may be required before the worker starts work so that changes to the worker's health can be detected.

Initial discussions about a health monitoring program should include:

- possible health effects from exposure to inorganic mercury
- how to recognise and report symptoms, and
- what is involved in the health monitoring program, for example the frequency of testing and which tests may be needed.

An initial physical examination should place emphasis on the respiratory, gastrointestinal, neurological and renal systems and skin if work and medical history indicates this is necessary, for example through the presence of symptoms.

A spot urine test for mercury may be warranted to gauge the worker's baseline levels if indicated by work history.

Mercury is a respiratory irritant and it is important to investigate respiratory symptoms. However, spirometry may not be required at this stage.

During exposure to a mercury process

2. Monitoring exposure to mercury

Where workers are exposed, suspected of being exposed or are concerned about exposure to mercury, the person conducting the business or undertaking (PCBU) has a duty to arrange a health monitoring appointment with a registered medical practitioner. For example, an appointment should be arranged following spills or loss of containment of inorganic mercury resulting in excessive exposure to workers or when workers develop symptoms of inorganic mercury exposure.

The major route of occupational exposure is the inhalational route. The extent of absorption of elemental mercury by the inhalational route has been estimated to be at least 65 per cent. The extent of absorption of mercuric ions are likely to be associated with the solubility of the salt.

Dermal absorption of elemental mercury is estimated to be approximately two per cent of pulmonary uptake and the extent of dermal absorption of mercuric ions is not known. The oral absorption rate of elemental and Hg(II) mercury is low to poor (less than 0.1 per cent).

Absorbed elemental mercury is oxidised to Hg(II) in various tissues of the body. Mercury is eliminated from the body in the faeces, urine, expired air, sweat and saliva. At least 40 per cent is excreted in the urine. The median urinary half-life is approximately 60 days.

The following test should be used to assess the worker's level of exposure to mercury:

- urinary mercury level.

Where urinalysis is carried out, the following value should be considered when assessing exposure to mercury:

Biological exposure standard for mercury¹

Urinary mercury:

20 µmol/mol creatinine (35 µg/g creatinine; 35 µg/L)

Other biological exposure standard equivalents that have been published ranged from 20 to 30 µg/g creatinine². Urinary mercury levels are an indicator of average exposure during the past several months (chronic exposure) and not at the time of urine collection.

Due to the long urinary half-life, the above standard is should be applied cautiously if there is less than after six months of exposure.

Throughout the day, the level of mercury in urine can vary. Mercury in urine has been shown to have significant variability in an individual and between individuals even when exposure conditions are considered constant. Part of this variability can be reduced by standardising sample collection times. Sampling prior to a work shift assists in minimising the risk of external contamination. Occasional high levels of mercury in the urine should not be a cause for immediate alarm and confirmation samples should be taken.

Mercury-containing dental amalgams may contribute to mercury levels in urine. If a worker has dental amalgams, this should be noted.

Urinary mercury levels are unaffected by organic mercury compounds such as those found in seafood.

Background urinary levels in non-occupationally exposed individuals without dental amalgams is generally less than 1 µg/g creatinine.

A six-monthly testing pattern is recommended where the urinary level is less than 20 µg/g creatinine. More frequent testing may be necessary where symptoms of exposure are evident or where test results indicate significant concerns regarding exposure or workplace controls are not effective.

¹ See [Chemical analysis branch handbook, 9th Edition, Workplace and biological monitoring exposure analysis, WorkCover NSW \(PDF 3.39MB\)](#) for more details

² American Conference of Governmental Industrial Hygienists (ACGIH) (2017) *Documentation of the Biological Exposure Indices, 7th Ed, Cincinnati.*

DFG (2017) *List of MAK and BAT Values.*

EU Scientific Committee on Occupational Exposure Limits (SCOEL) (2007) *Recommendation from the Scientific Committee on Occupational Exposure Limits for elemental mercury and inorganic divalent mercury compounds. SCOEL/SUM/84.*

Other health monitoring methods

Other biological tests that may be used (or have been used) to test worker exposure to mercury include blood mercury levels. Mercury in blood is an indicator of recent exposure to all types of mercury. As inorganic and elemental mercury remains in the bloodstream for only a short time (one to three days), blood levels from elemental or inorganic mercury exposure decrease rapidly and are not useful for estimating cumulative exposure. They may be useful in assessing acute exposures for example if exposure occurs due to an accidental spill.

If blood testing is performed, the following value may be used as a guide for assessing exposure to mercury:

Blood total mercury:

15 µg/L

Mercury levels in blood are significantly affected by dietary exposure to organic mercury compounds; the test is not specific for occupational exposure. If mercury blood testing is performed, the extent to which seafood consumption affects the results should be considered.

Workplace exposure standard

The workplace exposure standard for elemental mercury and divalent mercury compounds is:

- eight hour time weighted average (TWA) of 0.003 ppm (0.025 mg/m³).

Different workplace exposure standards exist for monovalent and organic mercury compounds.

A physical examination and urinary testing may be indicated if the results of air monitoring indicate frequent or potentially high exposure (half of the TWA or above).

Removal from work

Where a medical examination indicates the worker is displaying symptoms of exposure to mercury or where results of biological monitoring indicate exposure that may cause adverse health effects, the registered medical practitioner should consider recommending the worker be removed from mercury-related work.

It is recommended the worker is removed from mercury-related work when the level of mercury in urine is greater than or equal to 35 µg/g creatinine or if a worker shows signs of mercury poisoning.

The worker's health should be monitored every 30 days until the level falls below 35 µg/g creatinine on two successive occasions. Testing should occur every six weeks until the level of inorganic mercury in urine is less than 35 µg/g creatinine.

When removal from mercury-related work is indicated, the registered medical practitioner must provide the PCBU with the following recommendations:

- the worker should be removed from work with mercury
- the PCBU should review control measures and carry out recommended remedial action.

The worker must be informed of the results of health monitoring.

Return to work

Should a worker be removed from mercury-related work, they must not return until the registered medical practitioner has:

- assessed them as medically fit, and
- made a recommendation to the PCBU that the worker can return to remediated mercury-related work.

This assessment should take into consideration the clinical condition of the worker, the worker's urinary mercury levels and remediation of the circumstances that led to the symptoms if possible.

At termination of work in a mercury process

3. Final medical examination

A urine sample should be collected on the last day of the worker's final shift, and a final medical examination should be carried out at the same time or as soon as possible thereafter. Emphasis should be placed on the neurological and renal systems and any other organs or systems that were indicated during the health monitoring program.

Workers with other health conditions or continuing symptoms due to mercury exposure should be advised to seek continuing medical examinations as organised by the registered medical practitioner supervising the health monitoring program.

A health monitoring report from the registered medical practitioner should be provided to the PCBU as soon as practicable after the completion of the monitoring program, and at regular intervals for longer term or ongoing health monitoring processes. The report must include:

- the name and date of birth of the worker
- the name and registration number of the registered medical practitioner
- the name and address of the PCBU who commissioned the health monitoring
- the date of the health monitoring
- any test results that indicate whether or not the worker has been exposed to a hazardous chemical
- any advice that test results indicate that the worker may have contracted an injury, illness or disease as a result of carrying out the work that triggered the requirement for health monitoring
- any recommendation that the PCBU take remedial measures, including whether the worker can continue to carry out the type of work that triggered the requirement for health monitoring, and
- whether medical counselling is required for the worker in relation to the work that triggered the requirement for health monitoring.

Potential health effects following exposure to mercury

4. Route of occupational exposure

The primary route of exposure is via inhalation.

5. Target organ/effect

The target organs and potential effects of mercury exposure include:

Table 1 Target organs and potential effects of mercury exposure

Target organ	Effect
Nervous system	<ul style="list-style-type: none">• Muscular tremor• Peripheral neuropathy• Excitability• Irritability• Memory loss
Kidney	<ul style="list-style-type: none">• Renal tubular necrosis
Respiratory system	<ul style="list-style-type: none">• Irritation• Pneumonitis• Metal fume fever• Dyspnoea• Pulmonary fibrosis
Gastrointestinal system	<ul style="list-style-type: none">• Acute gastroenteritis• Stomatitis• Metallic taste• Excess salivation• Ulceration or bleeding of gums
Skin	<ul style="list-style-type: none">• Corrosive blisters• Contact dermatitis
Ears	<ul style="list-style-type: none">• Potential ototoxin

The effects of organic mercury exposure and poisoning are well documented and can be referred to as Minamata disease or Chisso-Minamata disease.

6. Acute effects

Acute inhalational exposure to mercury (elemental or divalent compounds) may produce:

- cough
- chest pain
- dyspnoea
- bronchitis
- pneumonitis
- fever
- stomatitis
- gingivitis
- diarrhoea
- nephrotic syndrome, and
- salivation.

The uptake of mercury into the central nervous system produces tremor and increased excitability. In milder cases of vapour exposure the patient will recover in one to two weeks. High exposures have resulted in death.

7. Chronic effects

Chronic effects of exposure to mercury (elemental or divalent compounds) include:

- dermatitis
- skin sensitisation
- renal toxicity (elevated protein marker levels)
- neurobehavioural effects and functional impairments may include:
 - attention or memory deficits, and
 - effects on psychomotor functions (motor speed and precision)
- chronic diarrhoea.

Tremors appear early and are the most evident clinical sign in mercury intoxication. They are both static and intentional and vary with emotional stimuli. They often start in the fingers, becoming progressively evident with complex movements for example with buttoning and unbuttoning a shirt, threading a needle and writing, that may become so disordered by the tremor that the task cannot be completed and writing is illegible.

Tremors may also be initially observed at the corners of the mouth, progressing to the tongue, lips, eyes and lower limbs. The tremors are aggravated by stress, fatigue and chronic alcohol consumption.

Psychological disturbance, termed mercurial erethism, is a feature of mercury poisoning and are an idiosyncratic reaction rather than a dose-related response. It manifests as:

- abnormal shyness
- loss of confidence
- irritability
- emotional instability
- anxiety
- hypochondriacal fears, and
- depression.

In advanced cases, if exposure and absorption continues there may be loss of memory, psychotic changes, such as hallucinations, or intellectual deterioration.

8. Carcinogenicity

Mercury compounds have not been classified as carcinogenic according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). For further information on specific mercury compounds, refer to Safe Work Australia's Hazardous Chemical Information system or the relevant safety data sheet.

9. GHS classification

Different mercury compounds may have different health hazard classifications. The specific mercury compound to which a worker is exposed will need to be reviewed to ensure appropriate identification of the health hazards. For the GHS classification of a specific mercury compound, refer to Safe Work Australia's Hazardous Chemical Information System or the relevant safety data sheet for detailed information.

Source documents

Agency for Toxic Substances and Disease Registry, [Toxicological Profile for Mercury](#), Agency for Toxic Substances and Disease Registry, US Department of Health and Human Services, Public Health Service, Atlanta, 1999.

American Conference of Governmental Industrial Hygienists (ACGIH) (2017) Documentation of the Biological Exposure Indices, 7th Ed, Cincinnati.

Centers for Disease Control and Prevention; National Biomonitoring Program; Biomonitoring summary; [Mercury](#).

[Chemical analysis branch handbook, 9th Edition, Workplace and biological monitoring exposure analysis](#), WorkCover NSW (PDF 3.39MB).

DFG (2017) List of MAK and BAT Values.

EU Scientific Committee on Occupational Exposure Limits (SCOEL) (2007) Recommendation from the Scientific Committee on Occupational Exposure Limits for elemental mercury and inorganic divalent mercury compounds. SCOEL/SUM/84.

International Programme on Chemical Safety; Concise International Chemical Assessment Document 50; [Elemental Mercury and Inorganic Mercury Compounds: Human Health Aspects](#).

Lauwerys, R.R. and Hoet, P. (2001) *Industrial Chemical Exposure Guidelines for Biological Monitoring*, 3rd Ed, Lewis Publishers, Boca Raton.

National Health and Medical Research Council (NHMRC), [Dental Amalgam and Mercury in Dentistry. Report of a NHMRC working party](#), 1999 (PDF 891KB).

Safe Work Australia (2013); [Workplace Exposure Standards for Airborne Contaminants](#) (PDF 873KB).

Safe Work Australia; [Hazardous Chemicals Information System](#).



Health monitoring report

Mercury (inorganic)

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

Health monitoring report – Mercury (inorganic)

This health monitoring report is a confidential health record and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with the consent of the worker.

There are two sections. Complete both sections and all questions as applicable.

Section 1 A copy of this section should be forwarded to the person conducting the business or undertaking (PCBU) who has engaged your services.

Section 2 may contain confidential health information. Information that is required to be given to the PCBU should be summarised in Section 1.

Section 1 – A copy of this section to be provided to the PCBU

Person conducting a business or undertaking

Company/organisation name: Click here to enter text.

Site address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Site Tel: Click here to enter text.

Site Fax: Click here to enter text.

Contact Name: Click here to enter text.

Other businesses or undertakings engaging the worker
(include a separate section for each PCBU)

N/A

Company/organisation name: Click here to enter text.

Site address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Site Tel: Click here to enter text.

Site Fax: Click here to enter text.

Contact Name: Click here to enter text.

Worker details (tick all relevant boxes)

Surname: Click here to enter text.

Given names: Click here to enter text.

Date of birth: Click here to enter a date.

Sex: Male Female

Address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Current job: Click here to enter text.

Tel (H): Click here to enter text.

Mob: Click here to enter text.

Date started employment: Click here to enter a date.

Employment in mercury risk work (tick all relevant boxes)
(information provided by the PCBU)

New to mercury work

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

- New worker but not new to mercury work
- Current worker continuing in mercury work

Worked with mercury since: [Click here to enter a date.](#)

Risk assessment completed: Yes No

Work environment assessment (tick all relevant boxes)
(information provided by the PCBU)

Date of assessment: [Click here to enter a date.](#)

Mercury industry/use

- Manufacture of amalgams
- Dental work
- Manufacture of paints
- Gold/silver extraction
- Laboratory work
- Fungicides
- Natural gas industry
- Other (specify):

Other chemicals the worker may be exposed to: [Click here to enter text.](#)

Controls

Wear gloves	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Respirator use	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Respirator type	Click here to enter text.	
Local exhaust ventilation	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Overalls/work clothing	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Laundering by employer	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Wash basins and showers (with hot and cold water)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Other please specify		

Health monitoring results

Biological monitoring results

Include/attach test results that indicate whether or not the worker has been exposed

Date	Tests performed	Recommended action or comment
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.

Comments about health monitoring results (for example any early indications or diagnosis of injury, illness or disease): [Click here to enter text.](#)

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Recommendations (by registered medical practitioner) (tick all relevant boxes)

Further/additional health monitoring for worker

- This is the final health monitoring report
- Repeat health assessment in [Click here to enter text.](#) month(s) / [Click here to enter text.](#) week(s)
- Counselling required
- Medical examination by registered medical practitioner. On [Click here to enter a date.](#)
- Referred to Medical Specialist (respiratory/dermatology/other). On [Click here to enter a date.](#)

Recommendations to PCBU

- The worker is suitable for work with mercury (inorganic)
- Review workplace controls
- The worker should be removed from work with mercury (inorganic). On [Click here to enter a date.](#)
- The worker is fit to resume work. On [Click here to enter a date.](#)
- Biological monitoring results indicate unacceptably high exposure levels

Specialist's name: [Click here to enter text.](#)

Additional comments or recommendations: [Click here to enter text.](#)

Registered medical practitioner (responsible for supervising health monitoring)

Name: [Click here to enter text.](#)

Signature:

Date: [Click here to enter a date.](#)

Tel: [Click here to enter text.](#)

Fax: [Click here to enter text.](#)

Registration Number: [Click here to enter text.](#)

Medical Practice: [Click here to enter text.](#)

Address: [Click here to enter text.](#)

Suburb: [Click here to enter text.](#)

Postcode: [Click here to enter text.](#)

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Section 2 – This section to be retained by the registered medical practitioner

Person conducting a business or undertaking

Company/organisation name: Click here to enter text.

Site address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Site Tel: Click here to enter text.

Site Fax: Click here to enter text.

Contact Name: Click here to enter text.

Other businesses or undertakings engaging the worker

N/A

Company/organisation name: Click here to enter text.

Site address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Site Tel: Click here to enter text.

Site Fax: Click here to enter text.

Contact Name: Click here to enter text.

Worker details (tick all relevant boxes)

Surname: Click here to enter text.

Given names: Click here to enter text.

Date of birth: Click here to enter a date.

Sex: Male Female Pregnant/breastfeeding

Address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Current job: Click here to enter text.

Tel (H): Click here to enter text.

Mob: Click here to enter text.

Date started employment: Click here to enter a date.

Past employment and exposure details (tick all relevant boxes)

Have you ever worked in any of the following jobs?

If you answered 'yes' to any of the questions, please advise if you experienced any symptoms such as cough or wheeze or asthma when working.

			Comments (all 'yes' answers)
At a smelter or refinery	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Manufacture of amalgams	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Dental work involving mercury	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Manufacture of pigments and antifouling paints	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.

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			Comments (all 'yes' answers)
Extraction of gold and silver from roasted pyrites	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Extraction of gold from tailings	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Laboratory work with mercury	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Use of mercury-containing fungicides	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Exploration, production, refining and processing of natural gas	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Fluorescent lamps and electrical meters	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Other (please specify)	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.

General health questionnaire (tick all relevant boxes)

			Comments (all 'yes' answers)
Did you suffer any incapacity lasting two weeks or longer in the last two years	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Have you ever had any operations or accidents or been hospitalised for any reason	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Are you currently being treated by a doctor or other health professional for any illness or injury	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Are you currently receiving any medical treatment or taking any medications. Please detail.	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Do you currently smoke	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Do you practice personal hygiene at work, for example nail biting, frequency of hand washing, eating or smoking, clean shaven, shower and change into clean clothes at end of shift	<input type="checkbox"/> No	<input type="checkbox"/> Yes	

Specific health questions (tick all relevant boxes)

Do you have or have you ever had:			Comments (all 'yes' answers)
Runny or congested nose	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Loss of hearing or ringing in the ears	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Shortness of breath on exertion	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Wheezing, bronchitis or asthma now or in the past	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.

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Do you have or have you ever had:			Comments (all 'yes' answers)
Any other lung or respiratory conditions (emphysema, pneumonia or sinusitis)	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Gastroenteritis	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Metallic taste	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Ulcers around mouth or lips	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Ulceration or bleeding of the gums	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Kidney or bladder disease	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Irritability, depression, memory loss	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Any neurological condition in your feet or hands (tremor, weakness), your coordination or balance	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Skin disorders or dermatitis	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Any other significant health conditions	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.

Registered medical practitioner to provide comments for any 'Yes' responses (reference Question number):

Click here to enter text.

General health assessment (if applicable)

Height: Click here to enter text. cm

Weight: Click here to enter text. kg

BP: Click here to enter text. / Click here to enter text. mmHg

Urinalysis

Blood: Normal Abnormal

Protein: Click here to enter text.

Referred for further testing

Sugar: Click here to enter text.

No Yes

Cardiovascular system			Medical comments (for all yes/abnormal)
Blood pressure	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal	Click here to enter text.
Heart rate	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal	Click here to enter text.
Heart sounds	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal	Click here to enter text.
Murmurs present	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Evidence of cardiac failure/oedema	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.

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Cardiovascular system			Medical comments (for all yes/abnormal)
Respiratory system			
Breathing normal and regular in character	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Click here to enter text.
Auscultation normal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Click here to enter text.
Signs of past/present respiratory disease	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Nervous system			
Muscular tone, co-ordination	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal	Click here to enter text.
Tremor	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Skin			Medical comments (for all abnormal)
Eczema, dermatitis or allergy	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Skin cancer or other abnormality	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Evidence of skin irritation or corrosion	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Mouth - stomatitis	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Gums – ulcers or bleeding	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Other	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

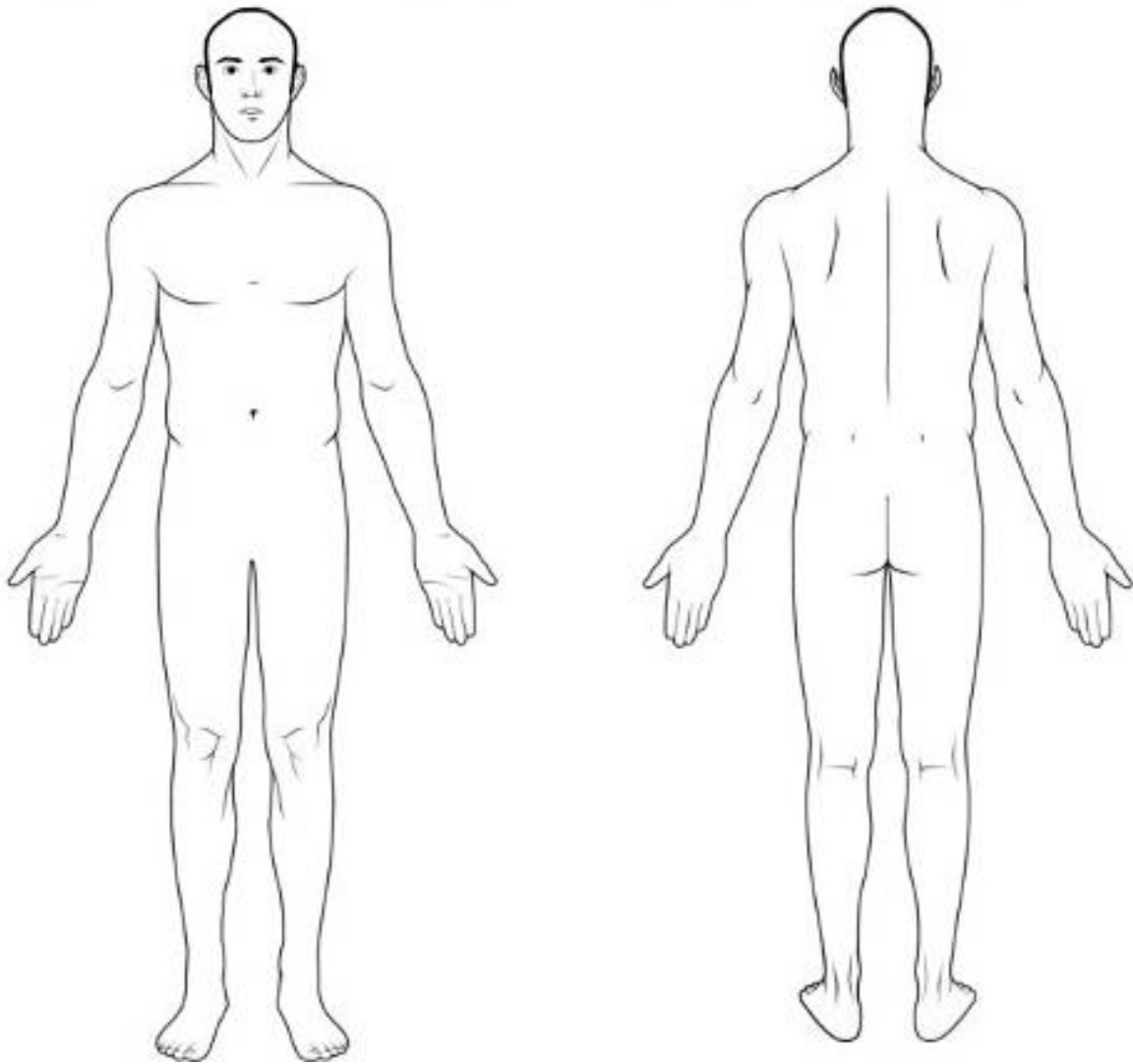


Figure 1 Template of the human body to indicate the location of abnormalities

Hearing

Medical comments (for all abnormal)

Any evidence of hearing loss No Yes [Click here to enter text.](#)

Biological monitoring results

Include/attach at least the previous two test results (if available)

Date	Tests performed	Recommended action or comment
Click here to enter a date.	Click here to enter text.	Click here to enter text.
Click here to enter a date.	Click here to enter text.	Click here to enter text.
Click here to enter a date.	Click here to enter text.	Click here to enter text.
Click here to enter a date.	Click here to enter text.	Click here to enter text.

Has worker had dental work in the days preceding the urine test? No Yes

Has the worker consumed any seafood in the days preceding the urine test? No Yes

If yes, please specify: [Click here to enter text.](#)

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Other medical history, family medical history, current medication, comments, tests or recommendations (use separate sheet if necessary)

Click here to enter text.

Registered medical practitioner (responsible for supervising health monitoring)

Name: Click here to enter text.

Signature:

Date: Click here to enter a date.

Tel: Click here to enter text.

Fax: Click here to enter text.

Registration Number: Click here to enter text.

Medical Practice: Click here to enter text.

Address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.