Government of **Western Australia**
Department of **Health**

Guidelines for the management of public health risks associated with cloth materials in Western Australia

***Public Health Act 2016* (WA)**

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Department of **Health**

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Disclaimer

This document provides general guidance on aspects of the *Public Health Act 2016*. This Guideline is not a substitute for reading the Public Health Act and should not be regarded as legal advice.

Legal advice relevant to the user's circumstances should be obtained when necessary. It is the responsibility of users to inform themselves of any updates to the Guideline and the relevant legislation applying, and to ensure that they rely on information that is current.

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Glossary of terms and acronyms

Term	Explanation
Adequate supply of water	Has the meaning given by Australia New Zealand Food Standards Code – Standard 3.2.3: Water that is available at a volume, pressure and temperature that is adequate for the purposes for which the water is used
Charitable organisation	Any organisation that is licensed under and complies with the *Charitable Collections Act 1946* (WA) to generate funds from the re-sale of used cloth materials in Western Australia
Cleaning	The removal of visible matter (organic or inorganic) from cloth covered objects or cloth surfaces. This can be achieved manually or mechanically using appropriate cleaning agents e.g. water with detergent, solvent or enzymatic product
Cloth materials	Including but not limited to: - clothing and costumes - carpets and other soft floor coverings - footwear, including shoes (e.g. bowling shoes, ice skates and boots) - head coverings, including hats and head gear (e.g. helmets, hard hats and hairpieces) - accessories, including scarfs and necklaces made of fabric (e.g. yarn) - soft furnishings, linen and similar items including mattresses, pillows, upholstery and cushions
Collection container	A container that is typically large and of steel construction, that collects usedcloth material items
Commercial business	An individual, business or company carrying out the sale and / or supply (e.g. collection, delivery,exchanging, leasing, hiring) of used cloth materials
Commercial laundry	Any place where articles are laundered by commercial grade machinery by the owner or occupier of the premises for or on behalf of the public. A commercial laundry does not include a laundromat
Conventional laundering processes	Laundering and dry cleaning processes to clean and disinfect clothing and other articles
Disinfection	The reduction of many or all disease-causing microorganisms to an acceptable level, where transmission is unlikely to occur
Dry cleaning	Cleaning of clothing, garments, upholstery and other fabrics using dry cleaning agents and specialist machines
Dry cleaning establishment	Any place of business where clothes or other articles are dry cleaned
Enteric viruses	Term used to describe viruses found in the intestinal tract of humans and animals. Enteric viruses are the most common cause of gastroenteritis
Filling material	Any material that is used or likely to be used to fill mattresses, pillows, bedding, upholstery, cushions or substances used in packaging material or in underfelt manufacturing
Fomite	Any object or item (e.g. a towel or item of clothing) contaminated with microorganisms which can be carried and spread to other persons
Hydrophobicity	The ability of cloth material to repel water

Large textiles	Includes mattresses, cloth covered furniture, rugs and carpet
Laundromat	A public place where laundering of clothes is carried out by members of the public using machines and equipment that are provided by the owners or occupiers of the building
Premises	Any premises where used cloth material items are sold or supplied to the public and may include a premise in or on which the private sale by a person takes place
Re-deposition	When dirt on fabric is removed and then accidentally re-applied to the same material
Small textiles	Includes linen, cushion covers, apparel, hire garments, footwear, headwear such as hats and hairpieces
Supply	Collect, deliver, offer for sale, sell, exchange, lease or hire goods, provide services
Used cloth material item	Any cloth material item that has been previously owned or used, that has not been cleansed and disinfected prior to purchase or hire. Items that have been worn or used briefly to check suitability prior to hire or purchase are not included in this definition. Used cloth material items may include, but are not limited to clothing and costumes, carpets and other soft floor coverings, footwear, head coverings, soft furnishings like linen, mattresses, pillows, upholstery and cushions.
Vectors of disease	Living organisms that can transmit infectious pathogens between humans, or from animals to humans (e.g. fleas, flies, bedbugs, cockroaches and lice).

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1.0 Purpose

This Guideline is issued by the Chief Health Officer of the Department of Health of Western Australia (the Department) in accordance with the *Public Health Act 2016* (WA).

This Guideline:

- provides information and guidance for the purpose of managing the public health risks associated with used cloth materials Used cloth material items include clothing and costumes, carpets and other soft floor coverings, footwear, head coverings, and soft furnishings such as linen, mattresses, pillows, upholstery and cushions.
- outlines the public health legislation, public health risks, identifies hygiene, infection and infestation control measures and cleaning and disinfection processes that can be used to manage the risks associated with used cloth materials, and
- provides examples of how the information in the Guideline may be used based on common queries associated with handling used cloth materials.

1.1 Who should use this Guideline?

This Guideline provides information and practical advice to assist charitable organisations, commercial businesses, consumers and government agencies to understand and manage the public health risks associated with the handling and sale and/or supply of used cloth materials.

1.2 The use and reuse of cloth materials

A wide range of charitable organisations and commercial businesses across various industries are involved in the handling, sale, supply, cleaning and maintenance of used cloth materials, including businesses:

- involved in the hire of clothing (e.g. suit and other formal wear hire outlets) and costume pieces (e.g. costume hire outlets)
- involved in the supply of used cloth material items, such as hospitality linens or personal protective equipment (e.g. bowling shoes, wetsuits, paintball clothing, helmets and coveralls)
- that sell or supply goods and/or services which directly or indirectly involve the re-use of cloth material items (e.g. thrift stores, camper van hire companies and event styling companies)
- contracted or engaged in the provision of used cloth material cleaning services (e.g. commercial laundries and dry cleaning establishments, pest management companies and specialist cleaning companies).

Clothing and textile consumption has increased dramatically in the last few decades with changes in consumer trends and patterns of consumption, and the introduction of new, competitive markets for used cloth materials e.g. textile rental services of highly valued or high-quality used cloth material items. Businesses and organisations who sell or supply used cloth materials provide goods and services at a reduced cost to consumers, extend the life-cycle of used cloth material items and support consumers seeking environmentally sustainable purchasing options.

1.3 Unusable textiles

Used cloth material items that are not fit for sale or supply may be disposed to landfill or recycled to make the following end products:

- textiles can be reprocessed into industrial rags, fibres and filling material for upholstery, insulation materials and building materials [1,2]
- used mattresses and ensemble bases can be reprocessed to recover the following

components:

- steel springs can be recycled into products such as roof sheeting
- foam can be recycled into carpet underlay, mattress quilting and filling sport goods (e.g. punching bags)
- husk can be recycled into mulch
- timber can be recycled into kindling and animal bedding.[3]

2.0 Background

Previously the public health risks associated with cloth materials were managed under the *Health (Cloth Materials) Regulations 1985* (WA).

With the implementation of the *Public Health Act 2016* (WA) all regulations under the *Health (Miscellaneous Provisions) Act 1911* (WA), including the *Health (Cloth Materials) Regulations 1985* (WA), were reviewed.

As part of its research for the Discussion Paper, the Department undertook a public health risk assessment of the risk associated with cloth materials using the risk assessment model in the Department's 2011 Health Risk Assessment (Scoping) Guidelines. The overall public health risk posed by fomite disease transmission from unclean cloth materials is considered low. The most likely public health risk is bedbugs which are not known to spread disease, although they can bite.

The Discussion Paper "Management of the public health risks associated with cloth materials in Western Australia" was released in July 2018 for an 8 week consultation period. A consultation summary paper of stakeholder feedback for the Discussion Paper was released in November 2018.

As a result of stakeholder feedback, the *Health (Cloth Materials) Regulations 1985* (WA) were repealed and replaced with Guidelines. The Guidelines are now the primary guidance material which may assist those managing the hire or sale of second hand or used cloth materials.

2.1 Risks to public health

The *Public Health Act 2016* prescribes a range of offences for conduct that causes, or may cause, a serious or a material public health risk.

Under the *Public Health Act 2016,* **serious public health risk** means:

a) a public health risk involving potential harm to public health that is irreversible, of a high impact or on a wide scale; and
b) includes a public health risk declared by the regulations to be a serious public health risk; but
c) does not include a public health risk declared by the regulations not to be a serious public health risk.

Material public health risk means:

a) a public health risk involving potential harm to public health that is neither trivial nor negligible; and
b) includes a public health risk declared by the regulations to be a material public health risk; but

c) does not include a public health risk declared by the regulations not to be a material public health risk.

As defined in the *Public Health Act 2016,* **harm** includes physical or psychological harm to individuals, whether of long-term or immediate impact or effect.	**In cases where matters are a nuisance or amenity problem but are not likely to result in harm, the serious and material public health risk provisions will not apply.**

It is unlikely that the usual conduct of reusing cloth material will create a serious public health risk without significant extenuating circumstances. However, this activity may be considered as causing a material public health risk if a person is not adhering to best practice guidance and they are generating significant and consistent impacts that have a demonstrable harm or potential harm to public health.

2.2 General public health duty

General Public Health Duty – *Public Health Act 2016* (WA)

"A person must take all reasonable and practicable steps to prevent or minimise any harm to public health that might foreseeably result from anything done or omitted to be done by the person".

The general public health duty specified in Part 3 of the *Public Health Act 2016* (WA) requires that a person must "*take all reasonable and practicable steps to prevent or minimise any harm to public health that might foreseeably result from anything done or omitted to be done by the person*".

In assessing what is reasonable and practicable, regard must be had to the objects of the *Public Health Act 2016* and to a range of other matters. A person will not breach the public health duty if they act in a manner or in circumstances that accord with generally accepted practices.

Detailed and specific guidance on the different enforcement options provided by the *Public Health Act 2016* are available in the *Public Health Act 2016* Handbook for local government.

These Guidelines may be used to clarify the application of the general public health duty and provide industry specific information on what might constitute 'reasonable and practical steps' to prevent harm to public health.

2.3 Public health risks and used cloth materials

A variety of used cloth materials may present a risk of disease transmission. Used cloth materials include, but are not limited to:

- clothing and costumes
- carpets and other soft floor coverings
- footwear including shoes (e.g. bowling shoes, ice skates and boots)
- head coverings including hats and head gear (e.g. helmets, hard hats and hairpieces)

- accessories including scarfs and necklaces made of fabric (e.g. yarn)
- soft furnishings, linen and similar items including mattresses, pillows, upholstery and cushions.

Infection and/or infestation may be transmitted either directly or indirectly by used cloth materials. Agents of infection and/or infestation include[4]:

- bacteria (e.g. Methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridium difficile* and Salmonella species)
- bed bugs
- body lice
- fleas
- fungus (e.g. tinea)
- pin worm
- scabies
- viruses (e.g. norovirus and influenza).

The presence of visible matter, microorganisms and other substances known to affect health e.g. allergens, on cloth surfaces can be attributed to previous use, exposure to bodily fluids and infestation. Textiles are susceptible to contamination through direct contact with or environmental exposure to agents of infection/infestation.

Microorganisms can survive on porous fabrics such as cotton, nylon and polyester. Selective microbial growth on fabrics is known to occur under optimal moisture and temperature conditions. Microbial loading varies with fibre type (natural or synthetic), bacteria type, fabric composition and surface treatment or surface contamination.

Another factor which influences the microbial loading of a fabric is the degree of hydrophobicity of the fibre. Textiles composed of natural fibres e.g. cotton, have a higher ability to retain water, oxygen and nutrients which support microbial growth.

Textile fibres made from synthetic polymers e.g. nylon and polyester, create a substrate that is less likely to support the growth of microorganisms. Polyester fabrics are more resistant to washing and disinfection due to their hydrophobic properties. Whilst synthetic fibres do not support microbial growth, surface treatments may be applied during the manufacturing process to improve the ability to effectively wash and disinfect the item. The application of surface treatments to synthetic fibres and the presence of surface contaminants may support the growth of microorganisms.[5]

Some types of bacteria that survive on used cloth materials are pathogenic and may result in the transmission of infection.[5] Therefore, appropriate cleaning and disinfection of used cloth materials is required to reduce the risk of cross-transmission.

The survival rate of many pathogens is significantly higher on soft (porous) surfaces than on hard (non-porous) surfaces, and most bacterial organisms are unlikely to survive on soft surfaces in large enough quantities to present a risk to public health. Transfer rates of bacteria and viruses from soft surfaces to a person's hands are considerably lower than transfer rates from non-porous surfaces.[6]

The overall risk of disease transmission from used cloth materials to humans is considered to be low, however risks to public health may be increased when:

- bacteria, viruses and parasites (including fungi) are present in sufficient quantities to overcome the natural defences of the exposed person, and
- the health status of the exposed person makes them more susceptible to infection, and
- hygiene and infection control measures are not carried out.

2.4 Infection and infestation symptoms

Commercial businesses and charitable organisations should be aware that agents that may cause or contribute to infection and/or infestation can be spread through the reuse of cloth materials and should carry out processes and steps to ensure this does not occur. This will ensure the sale or supply of used cloth materials are hygienically clean and free from vectors of disease, as well as appearing aesthetically clean.

Although the risk of disease transmission from used cloth materials is considered low, effective hygiene and infection controls should be used to manage the potential risk of transmission. It should be assumed that all blood and body fluids are potentially infectious and treated as such.

Some of the symptoms associated with infection and infestation that may betransmitted to humans via cloth materials are described in Table 1.

Notifiable infectious diseases and related conditions are notifiable in Western Australia under the *Public Health Act 2016* and the *Public Health Regulations 2017*. Any medical practitioner or nurse practitioner attending a patient whom they know or suspect has a notifiable infectious disease or a related condition has a statutory obligation to notify the Chief Health Officer. If analysis of a sample undertaken at a pathology laboratory indicates that the patient from whom the sample was taken has or may have a notifiable infectious disease, the responsible pathologist of that pathology laboratory also has a statutory obligation to notify the Chief Health Officer.

Table 1: Disease transmission risk from used cloth materials

Agent causing infection or infestation	Who is at risk?	Symptoms	Transmission
Bacteria - *Staphylococcus aureus* *Staphylococcus aureus* (staph or golden staph) can become resistant to antibiotics, called methicillin resistant *Staphylococcus aureus* (MRSA). MRSA is a contagious bacteria that can cause infection if it gets into the body.	Anyone. However, people more likely to get an infection are those who have health problems such as diabetes or a poor immune system or who have broken skin due to wounds, or dermatitis. People in nursing homes and hospitals are most at risk.	The symptoms that develop with MRSA infection are common signs of local skin infection, such as: • redness • swelling • pain • heat • the presence of pus. Some skin infections will develop into more serious infections like boils or deep abscesses. Occasionally *Staphylococcus aureus* can enter the bloodstream. Symptoms may also include high fever, shaking and low blood pressure. This can be a life-threatening illness and requires urgent medical treatment.	MRSA can enter the body through broken skin or sores. MRSA is usually spread from person-to-person through direct contact with another person who is infected with MRSA. It may also spread by having contact with items contaminated by a person with MRSA such as: • towels • wound dressings • door handles, taps and other surfaces. MRSA can remain on contaminated items such as towels and blankets for up to 40 days.[7] MRSA infection is a notifiable condition. See the MRSA page on the Department of Health (WA) website.
Bacteria – Salmonella Salmonellosis is a disease caused by infection with bacteria called Salmonella.	Anyone. However, the young, elderly and those with a weak immune system are at greater risk.	The most common symptoms of Salmonella infection are diarrhoea, fever, abdominal cramps and vomiting.	Salmonella is spread by the faecal-oral route and can be transmitted from the consumption of contaminated food or via poor hygiene from sick persons (e.g. if a person has Salmonella on their hands or clothes, they can spread the bacteria to other people, objects, and surfaces). Salmonella is known to survive on contaminated soft surfaces for up to 24 weeks.[6] Salmonella infection is a notifiable disease.

Agent causing infection or infestation	Who is at risk?	Symptoms	Transmission
			See the Salmonellosis page on the Department of Health (WA) website.
Bed bugs Bed bugs are small parasitic insects that feed on human blood by piercing the skin. They do not live on humans or burrow into the skin.	Anyone. Higher risk in backpackers and short-term accommodation with high turnover.	They do not transmit disease, but bites can be red, itchy and painful. Some people will not experience a reaction to a bed bug bite at all. Those that do experience symptoms of a bite are likely to experience one or more of the following: • a bite with a red, swollen area and a dark red centre • bites in a line or grouped together in a small area • blisters or hives at the bite site.	Bed bugs can survive long periods without feeding, which enables them to hide out waiting for hosts in furniture, mattresses, bedding and clothing. Bed bugs can survive temperatures as varied as 0°C to 45°C.[8] This trait enables them to survive transportation, spreading the infestation from one location to another. See the Bed bugs page on the Department of Health (WA) website.
Fleas A flea is a very small, flat bodied insect that feeds on blood (from cats, dogs and humans). In Australia, fleas are not known to transmit any human diseases, although this does occur in other parts of the world.	Anyone. Higher risk in accommodation with dogs and cats.	Skin reactions to flea bites can appear within minutes or may be delayed over hours and even days. People who are allergic to flea bites can develop lesions, itching or other symptoms.	In the early stages of development, fleas can survive in carpets or undisturbed edges of floors for up to 1 year. See the Fleas page on the Department of Health (WA) website.

Agent causing infection or infestation	Who is at risk?	Symptoms	Transmission
Fungus – tinea Tinea is a common fungal infection of the skin. Infections can develop on many areas of the body including feet (athlete's foot), nails, body and scalp.	Anyone.	Tinea is often called "ringworm" because the rash is circular, with a ring-like appearance. Symptoms can include: itching, stinging, burning and cracking when on the skin.	Can be transmitted through contact with contaminated clothing, footwear and hard surfaces. See the Tinea page on the Healthdirect Australia website.
Lice – pubic lice Pubic lice are parasitic insects that feed on human blood. Pubic lice can infest pubic areas and other areas of the body including eyebrows and eyelashes.[9]	Anyone.	Common symptoms of a pubic lice infestation include: intense itching (pruritus) visible blue spots around genitals, blood spots or fine, gritty debris in undergarments.	Pubic lice are usually spread by direct skin-to-skin contact (through sexual activity) and through contact with an infected person's towels, bed linen and underwear. See the Pubic lice page on the Department of Health website.

Agent causing infection or infestation	Who is at risk?	Symptoms	Transmission
Lice – head lice Head lice are tiny insect parasites that live on a person's head and feed on their scalp.	Anyone.	Common symptoms of head lice infestation include scalp itchiness and presence of eggs and hatchlings in the hair.	Head lice are mainly spread by head-to-head contact with another person who has head lice. Head lice are not known to spread through bed linen, clothing or head wear (hats, helmets and hairpieces), though research suggests lice can survive 24-48 hours away from the host. See the Head lice page on the Department of Health webpage.
Pinworms (also called threadworms) A small thin worm that lives in the colon and rectum of humans and can deposit eggs on the outside of the skin.	Anyone.	Pinworm causes itching around the anus which can lead to difficulty sleeping and restlessness. Symptoms are caused by the female pin worm laying her eggs. Symptoms of pinworm infection usually are mild, and some infected people have no symptoms.	Pinworm infection is spread by the transfer of infective pinworm eggs from the anus to someone's mouth, either directly by hand or indirectly through contaminated clothing, bedding, food, or other articles. Pinworm eggs become infective within a few hours after being deposited on the skin around the anus and can survive for 2 to 3 weeks on clothing, bedding, or other objects. People become infected, usually unknowingly, by swallowing eggs that are on fingers, or other contaminated objects and surfaces.[11] See the Threadworms page on the Department of Health (WA) website.

Agent causing infection or infestation	Who is at risk?	Symptoms	Transmission
Scabies A contagious skin infestation by the mite *Sarcoptes scabiei*. Mites burrow into the skin to live and lay eggs.	Anyone. Higher risk in lower socio-economic areas with reduced hygiene. The young and the elderly are more commonly affected.	The symptoms are due to an allergic reaction to the mites. Common symptoms are severe itchiness and a pimple-like rash. Occasionally, tiny burrows may be seen in the skin.	Scabies is most often spread during a relatively long period of direct skin contact with an infected person. Less commonly, scabies infestation can happen through the sharing of clothes, towels, and bedding. Items that have been exposed to infestation should be washed and should be removed from skin contact for 72 hours. See the Scabies page on the Department of Health (WA) website.
Viruses - blood-borne Blood borne viruses that may be transmitted include hepatitis B virus, hepatitis C virus and human immunodeficiency virus (HIV).	Anyone in contact with objects contaminated with blood or infective body fluids via a sharps injury or break in the skin.	Blood-borne viruses may not cause symptoms at the time of infection, or for years afterwards. Viral infection can easily be detected by a blood test.	Sharps injuries and direct non-intact skin contact with blood or other potentially infective body substances such as breastmilk, semen, vaginal secretions. Survival rates of blood-borne viruses in the environment depends on the humidity, temperature, volume of blood and concentration of the virus.[12] Hepatitis B, hepatitis C and HIV are notifiable diseases. See the Blood-borne viruses page on the Department of Health website.

Agent causing infection or infestation	Who is at risk?	Symptoms	Transmission
Virus – influenza (flu)	People more likely to develop complications from flu include those with chronic conditions such as asthma, chronic lung disease, obesity, heart disease, blood disorders, endocrine disorders, liver and kidney disorders.	Influenza symptoms can include fever, cough, aches, pains, runny nose and fatigue.	Influenza viruses are mainly spread by droplets made when an infected person coughs or sneezes. Influenza can also be spread through touching surfaces where infected droplets have landed. The influenza virus can survive on soft surfaces for up to 12 hours.[6] Influenza viral infection is a notifiable disease. See the flu (influenza) page on the Healthdirect Australia website.
Virus - norovirus	Anyone. The young and the elderly are at greater risk.	Norovirus infection is characterized by diarrhoea, vomiting, and stomach pain.	The virus is usually spread by the faecal–oral route via a person touching contaminated materials and then touching their mouth. Infection can also occur through the air by swallowing aerosolised particles that are dispersed in the air after an infected person has vomited. Enteric viruses can survive on soft surfaces between 0 hours and 140 days depending on the fibre type and environmental conditions.[13] See the Norovirus page on the Department of Health (WA) website.

2.5 Sharp objects

Sharp objects include syringes, broken glass and anything else capable of cutting or penetrating the skin. Sharp objects hidden in used cloth material items or incorrectly disposed in collection containers, pose a risk of injury that may result in the transmission of blood-borne infectious agents including hepatitis B virus, hepatitis C virus and HIV.

Any person carrying out the sale or supply of used cloth material items is responsible for ensuring the item is free from any sharp objects and for the safe management and immediate disposal of the sharp object. Safe handling procedures and personal protective equipment should be used when sorting items to minimise the risk of sharp injuries occurring.

If a sharps injury occurs, the following precautions should be taken:

- if skin is penetrated, wash the affected area with soap and water (an alcohol-based handrub can also be used if soap and water is not available)
- avoid touching or squeezing the affected area
- cover the area with an adhesive dressing
- report the incident directly to the person in charge
- seek medical assessment
- place the object in a sealed sharp-resistant container and provide it to the medical practitioner performing the medical assessment.[12]

The risk of acquiring a blood-borne virus from discarded needles/syringes in the community is considered to be low and is based on virus viability in the environment.[12] The importance of immunisation to protect against infection should always be considered where there is a risk of accidental exposure.

3.0 Managing the public health risks associated with cloth materials

Organisations and businesses can take steps to implement practices to control or reduce public health risks associated with cloth materials. These Guidelines outline best practices, but organisations and businesses must also comply with their own health and safety procedures specific to the activities they conduct.

3.1 General premises design

It is important that the premise is fitted out with appropriate equipment and fittings and designed to reduce the spread of infectious material and minimise hazards.

Premises that store, handle or sell cloth materials should:

- be kept in a clean and sanitary condition
- be free from any offensive odour arising from the premises
- ensure floors, walls, ceilings, fixtures, fittings, equipment and other items used on or in connection with the premises are maintained in a good state of repair
- be protected from pests and other contaminants such as dirt and fumes
- ensure flooring is constructed of a smooth, impervious material that is easy to clean, kept in a clean state and disinfected, if necessary

- have an adequate supply of hot and cold water for cleaning
- ensure no food is prepared in operational areas
- have impervious waste receptacles to receive any trade wastes that are produced on the premises
- ensure waste receptacles are cleaned and disinfected after being emptied
- have a system and containers available for sharps waste disposal (if applicable)
- provide adequate toilet facilities for staff
- have adequate equipment and space to undertake the procedures carried out by the business.[14]

3.2 Hand wash basins

A hand wash basin should be located in an accessible location for staff use. The basin should be adequately supplied with hot and cold water through a single outlet. Each hand wash basin should be supplied with suitable facilities for cleaning and drying hands including soap, paper towel or other hand-drying equipment and an appropriate waste bin. A hand wash basin should only be used for washing hands and should not be used for any other purpose or activity (e.g. washing dishes or food).

3.3 Cleaning sinks

If cloth materials are being cleaned on site, a separate sink with adequate supply of hot and cold running water should be available for this purpose.

3.4 Food preparation areas

Food preparation and consumption should not occur in areas where the collection, transport, handling, sorting, washing, drying, packing, storing and display of used cloth materials is undertaken.[14,15]

4.0 Infection prevention and control

It is the business or organisation's responsibility to ensure all employees (including contractors and volunteers) understand how bacteria and viruses are spread and how to prevent the spread of infection, to the extent required for the role they perform.

Personal infections such as gastroenteritis, dermatitis, skin lesions and boils increase the risk of disease transmission. Handlers with an infection should take measures to prevent the contamination of cloth material items.[14]

4.1 Hand hygiene and hand washing

Hand hygiene helps prevent the spread of infection by breaking the chain of infection rather than eliminating infectious agents. Hands can become contaminated through contact with contaminated items, the environment or other workers.

Generally, a person should wash their hands:

- before and after contact with used cloth materials or after any interruptions in a procedure involving contact with cloth matierals

- after eating or smoking
- after going to the toilet
- after touching animals
- after blowing their nose, coughing or sneezing
- after handling laundry, equipment or waste
- after contact with blood or other bodily substances
- when hands become visibly contaminated.[16]

When washing hands, remember to :[16,17,18]

- use warm water and soap (plain soap or liquid soap is sufficient for general hand washing)
- rub hands together for a minimum of 20 seconds so that the soap comes into contact with all surfaces of the hands, paying particular attention to the fingertips, thumbs and the areas between the fingers
- rinse hands and pat dry using disposable paper towel or a hot air dryer
- paper towels, soap and a waste receptacle should be easily accessible near the hand basin

Personal hygiene and preventing the spread of infection is everyone's responsibility.

Using standard hygiene precautions is critical to prevent thespread of illness, infection and infestation.

Alcohol-based hand rubs can be used for general hand hygiene in conjunction with soap and water.

4.2 Cloth material hygiene

A person should not sell, supply or distribute any used cloth material item including a synthetic or natural hairpiece, which is:

- unclean,
- infested with vectors of disease, or is otherwise
- considered to be harmful to health.

If visible contamination is identified, these items should either be effectively cleaned and disinfected, or disposed of.

Consumers should have access to information about whether the cloth material item is used (unless otherwise implied), and if the item has been cleaned and disinfected.

4.2.1 Hazardous cloth materials

Cloth material items that are infested or contaminated with body fluids including secretions or excretions are considered hazardous to health. Hazardous materials should be segregated from clean items by a suitable barrier or by distance to prevent cross contamination, and should be effectively cleaned and disinfected or discarded appropriately.[15]

Take the following precautions when handling cloth material items that are contaminated by blood:

- wear gloves
- wash blood-stained items in cold or cool water no more than 35°C (hot water will set blood stains) to remove stains. The item can then be cleaned and disinfected in accordance with practices outlined in this Guideline
- clean contact surfaces with detergent and warm water
- wash hands thoroughly after removing gloves.

5.0 Keeping records and developing procedures

Organisations and businesses should keep records and develop policy and procedures in place to confirm:

- cloth material handling, cleaning and disinfection procedures are carried out in a consistent manner and are effective in reducing the risk of infection transmission
- waste materials are effectively managed and disposed of appropriately
- the sources of second-hand materials can be identified
- that cleaning and disinfection processes have been completed.

The policies and procedures should address the collection, transport, handling, sorting, washing, drying and storage of used cloth material items (where applicable), including personal protective equipment and hand hygiene requirements. Where wastes are generated in the course of business activity, waste management policies and procedures should outline processes for waste collection and disposal.

6.0 Collection equipment

Vehicles and containers used to collect, transfer, store and/or deliver used cloth material

items should be constructed so they are:

- waterproof, leak-proof and nonporous
- able to be easily and effectively cleaned
- able to protect items from weather, pests and other hazards that may be harmful or injurious to health.

Collection equipment should be regularly checked and maintained in a clean and hygienic condition. Clean items should not be transported in the same vehicle as contaminated and unclean items, unless they are physically separated by a suitable barrier. A suitable barrier may include an impermeable container, bag or wrapping.[14, 15]

6.1 Sorting

All used cloth materials should be sorted as soon as they arrive at the premises and should be regarded as potentially hazardous during the sorting process. Sorting should take place in a dedicated sorting area using a method that will ensure cleanliness and protection from vectors of disease, dust, aerosols, moisture and contact with soiled or contaminated items.[15]

Items should be inspected for evidence of soil, blood or bodily fluids and infestation, in addition to assessing the general condition of the item (e.g. wear and tear or breakage). Clean items should be separated from items that require cleaning, repair or disposal. The following precautions should be taken to minimise the risk of transmission associated with handling used cloth materials:

- ensure cuts and abrasions are covered with a suitable waterproof dressing
- visually inspect the inside of items prior to inserting hands
- hand hygiene should be performed after handling used cloth material items
- ensure gloves are worn as a minimum.[19]

7.0 Cleaning and disinfection

It is beneficial for people involved in cleaning and disinfection of used cloth materials to be able to:

- demonstrate knowledge of textile characteristics such as types, features and finishes
- readily identify signs of infestation by thoroughly inspecting items such as surfaces and seams
- classify fibres, soils and stains
- select a suitable cleaning agent
- select an appropriate cleaning method (e.g. laundering or dry cleaning)
- follow business/organisation policies and procedures.

7.1 Laundering

Conventional laundering processes including using detergent and hot water in domestic and commercial washing machines are effective in reducing the microbial loading and spread of infestation in textiles. The industry standard for laundering can be found in AS/NZS 4146:2000 Laundry Practice.

Textiles should be laundered according to the manufacturer's instructions. If product labels or care instructions are not available, follow conventional laundering recommendations including:

- machine wash in hot water (>60°C) for a complete wash cycle and use of a chemical disinfectant
- tumble dry on high heat for a minimum of 40 minutes
- hot iron to reduce the microbial load on textiles.

Laundry bags should be fit for their intended purpose i.e. able to withstand handling and transport processes, in good condition, have a suitable closure system and be washed after each use.[14] Cloth material laundry bags can be washed in the same cycle as the items contained in them.[19]

7.2 Footwear

Microorganisms, soil, sweat and odours can build up in footwear during use. Although there is no prescribed method to clean and disinfect the inside of shoes, the following steps are recommended:

- inspect exterior and interior surfaces for contaminants
- classify fibres, soils and stains
- remove insoles, if possible
- select suitable cleaning agents (typically a solution of water and detergent is sufficient for interior cleaning)
- wipe the inside of the shoe with the cleaning solution, covering all areas
- allow footwear to air dry in a well-ventilated area
- soft-surface spray disinfectants may be applied prior to sale or supply of the item. Products that claim disinfectant properties should be listed in the Australian Register of Therapeutic Goods (ARTG): www.tga.gov.au/australian-register-therapeutic-goods.

7.3 Headwear

Bacteria, sweat, dirt, dust and odour build up can occur during environmental exposure and periods of physical exertion. Although there is no prescribed method for cleaning headwear, the following steps are recommended:

- shared headwear should be cleaned in accordance with the manufacturer's instruction prior to sale or supply
- suitable cleaning agents should be chosen based on the type of fibre, nature and degree of contamination
- soft-surface spray disinfectants may be applied prior to sale or supply of the item. Products that claim disinfectant properties should be listed in the Australian Register of Therapeutic Goods (ARTG): www.tga.gov.au/australian-register-therapeutic-goods.

7.4 Bulky textile cleaning

Bulky textiles such as mattresses, cloth furnishings and soft floor coverings must be cleaned to prolong the material's lifespan and prevent the transmission of any insects or pathogens.

Bulky textiles, as the term suggests, are cloth materials which cannot be cleaned and disinfected by conventional laundering processes due to their size, shape and/or construction. Large surface areas, crevices and seams may harbour microorganisms and are more difficult to clean than clothing and other smaller textile items.

Appropriate cleaning methods, chemicals and equipment should be chosen based on the textile's fibre type, degree and nature of contamination or infestation, and with the aim of minimising environmental impact.

Cloth furnishings have the potential to harbour higher concentrations of fungi than non-porous furnishings. Careful consideration should be given to the amount of moisture applied during the cleaning process and ambient humidity conditions to assist in speeding up drying times. Drying times of more than 24 hours may result in the growth of mould or mildew.[20]

7.5 Bed bug treatment and control

Bed bugs are increasing in prevalence worldwide. The resurgence of bed bug infestation is likely attributed to the trading of used cloth materials, international travel and pesticide resistance.[8]

Bed bugs are nocturnal and can conceal themselves in mattress seams, within cracks and crevices of upholstered furniture and carpet edges, behind skirting boards or between wooden floorboards during the day. Bed bugs can move short distances to other areas or can be carried into a premises on people's belongings and clothing.

Commercial businesses and charitable organisations should take reasonable steps to minimise the spread of infestation. Appropriate risk management strategies should be implemented wherever infestation is indicated or suspected. The presence of dark spots of bed bug excrement or bloodstains on pillows, linens and inmattress seams is an indicator of bed bug infestation.

Inspect cloth furnishings carefully, particularly bedroom furnishing and mattresses for evidence of bed bugs. Items that are infested by bed bugs should be treated prior to disposal to landfill. Treatment prior to disposal is required because transferring infested items to another location can spread the infestation.[21]

7.5.1 Non-chemical treatments

Non-chemical treatments are safe and effective in reducing bed bug numbers prior to insecticide treatment. Treatment prior to the removal of the infested item from the area is strongly recommended to prevent the spread of infestation. Infested linen should be contained in plastic bags prior to machine-washing. Treated linen and containment materials should then be disposed to landfill immediately.

Non-chemical treatments include:

- steam ironing the seams of mattresses or other items where there is stitching or folds inthe material
- application of high temperature(≥50°C) and low vapour steam
- thorough vacuuming of edges, cracks and crevices using a vacuum cleaner fitted with adisposable dust bag. Seal the dust bag after vacuuming and dispose of the item to landfill.[21]

7.5.2 Chemical treatments

Chemical treatments may be applied directly to the insects and to harbourage areas identified during inspection. A licenced pest technician should be engaged or consulted with when using chemical insecticides to ensure: [21]

- appropriate use and safe handling of chemicals
- correct use of equipment
- application of correct technique to prevent re-deposition and/or dispersal of infestation and;
- basic infection control procedures are applied.

A range of low toxicity products such as synthetic pyrethroids and carbamates are available for indoor use . Pesticide products which leave a residue on the treated surface are more effective for a longer period of time than non-residual products. Less toxic residual chemicals should be used where available.

Some chemical treatments are only available to licensed pest management technicians. Read the product label before purchase to ensure it is effective in the treatment of bed bugs. Always wear appropriate personal protective equipment and follow product label instructions when using pesticides.

7.6 Vacuuming

Vacuuming equipment should be well maintained and fitted with high efficiency particulate air (HEPA) filters. Bulky textiles should be vacuum cleaned using a method that:

- minimises airborne transmissions
- removes all visible matter
- is consistent with the manufacturer’s recommendations.

7.7 Hot water injection and extraction

Hot water injection and extraction, also known as hot water extraction, involves the application of heated detergent solution followed by vacuum extraction.[20] Other cleaning methods such as liquid shampooing and/or vacuuming may be carried out in combination with hot water extraction.

Hot water injection and extraction equipment should be operated in accordance with themanufacturers' instruction. Perfumes, deodorants and disinfectants may also be used inaccordance with the manufacturer's recommendation.[20]

Ensure the cleaning solution is sufficiently extracted from the material to prevent mould growth. Outdoor ventilation or direct exposure to sunlight may also assist in speeding up drying times.

7.8 Mattress cleaning

Mattresses and mattress overlays may come with labels outlining specific cleaning instructions. Where provided, the manufacturer's advice should be followed. Vacuuming mattresses can help reduce dust mite allergens and other matter that poses a risk to public health. Follow the recommendations in section 7.9 of this Guideline if steam cleaning mattresses. Soft-surface spray disinfectants may also be sprayed over the entire surface area of the item to reduce the quantity of microorganisms. Ensure the mattress is completely dry after cleaning.

7.9 Steam cleaning

Steam cleaning involves the application of steam, generated from heated water, to clean soft surfaces. Steam cleaning increases the potential for mould growth due to the application of moisture, however it can be effective for:

- stain removal
- deep cleaning
- reducing the presence of bacteria, bed bugs and dust mites.

A variety of steam cleaning units are available on the market. Steam cleaning units produce steam at a continuous low vapour flow and high temperature. Steam cleaning should only be used on soft surfaces that can withstand the application of intense heat. Soft furnishings contaminated with faecal matter or vomit should be cleaned immediately with detergent and hot water (>60°C), followed by steam cleaning to prevent the transmission of bacteria such as salmonella.

The steam cleaning unit attachment should be placed in direct contact with the surface being treated. Appropriate time and temperature controls should be applied alongside correct techniques to prevent re-deposition and/or dispersal of infestation. Steam cleaning units should always be operated in accordance with the manufacturer's recommendation. Alternatively, professional steam cleaning operators may be used to ensure that an effective clean has been achieved and to assist with the removal of persistent stains.

7.10 Carpet cleaning

Commercial businesses may request or periodically require specialist carpet cleaning where visible contamination or infestation is identified or indicated. It is recommended that a skilled technician who is a member of a recognised industry association, such as the Carpet Cleaning Association of Western Australia (CCAWA), is engaged to ensure:

- appropriate use and safe handling of chemicals
- correct use of cleaning equipment e.g. wet or dry foam machine, liquid shampoo equipment, absorbent compound extraction equipment, hot water injection and extraction equipment etc.

- correct technique is applied to prevent re-deposition and/or dispersal of infestation, and
- basic infection control procedures are applied.

Carpets that have been soiled by faecal matter or vomit should not be vacuum cleaned, as viruses may be recirculated. Carpets should be cleaned with detergent and hot water followed by steam cleaning.

Carpets that are infested with fleas may contain fleas in all stages of their development. Steam cleaning assists in the reduction of fleas, however some eggs may survive the steam cleaning process and hatch after treatment. Consultation with a professional carpet cleaning company will assist in determining whether steam cleaning is a suitable treatment method for managing infestation.

8.0 Storage

Clean items should be stored in a dedicated storage area using a method that will ensure cleanliness and protection from vectors of disease, dust, aerosols, moisture and contact with soiled or contaminated items. Storage areas should be clean and dry and should facilitate stock rotation. Prolonged storage is not recommended due to concerns relating to mildew growth.[14,15]

9.0 Cleaning the premises

Routine cleaning of work areas at any premises from which used cloth material items are handled, sold or supplied to the public is important because dust, dirt, viruses and/or bacteria on surfaces can transmit infection. A cleaning program should be developed for each area of the premises and items including equipment.[14]

Products used for general cleaning must be suitable for the purpose. As a rule, detergent and water are suitable for general cleaning.[17] Chemical disinfectants are not recommended for routine cleaning unless environmental contamination from cloth materials has occurred.

When using cleaning products and equipment:

- wear appropriate personal protective equipment, check manufacturer's advice or relevant Material Safety Data Sheet for any chemicals being used
- dismantle or fully open items to ensure all contact surfaces are able to be effectively cleaned
- immerse a clean, single-use cloth in a solution of warm water and detergent and then use it to wipe over all contact surfaces
- apply disinfectant (if required) and allow to air dry
- inspect the item for cleanliness and completeness.

10.0 Waste management

Waste generated from handling and processing cloth materials should be disposed of appropriately.

10.1 Disposal of General Waste

General waste should be disposed of into a lined waste container with a tight-fitting lid that is easily accessible and disposed of via normal refuse collection.

Dry solid waste generated by vacuum operated equipment may contain potentially harmful biological and chemical allergens and should be contained in sealed bags and disposed of via normal rubbish collection.

10.2 Disposal of Sharps

Sharps can be disposed of by safely placing them in rigid-walled, puncture resistant, plastic containers with well-secured lids, preferably screw top. Avoid using glass which can shatter, aluminium that can be squashed, or frosted plastic that may not be puncture-proof.

If large quantities of needles and syringes are disposed of regularly, a waste disposal company is recommended to assist with collection and disposal of sharps.

Follow these precautions to ensure safe handling and disposal of sharps:

- all sharps should be placed in a designated and suitable sharps container which has rigid walls, is fully enclosed, puncture-resistant, large enough to hold sharp objects and solely used for safely storing sharp objects
- designated sharps container(s) should be located where waste is likely to be generated e.g. sorting area
- ensure the sharps container is taken to the sharp object and placed on a flat surface
- wear appropriate protective equipment and handle sharp objects carefully
- use a hand-held tool to minimise the risk of a sharps injury occurring
- place the object into the designated container sharp end first, ensuring the sharp edge or point is facing away from the body
- do not attempt to re-cap a needle
- ensure there is sufficient space between the sharp object and the opening of the container
- secure the lid of the container after use.[4]

10.3 Disposal of Chemical Waste

Laundry waste, detergents used for cleaning and some acidic or alkaline textile chemical treatments should be disposed in a manner which is approved by a relevant local authority. A trade waste permit from the Water Corporation may be required to discharge commercial wastewater to sewer.

11.0 Other agency requirements

Organisations and businesses should be aware of other agencies that may have a regulatory or advisory role related to the cloth materials industry (Table 2).

11.1 Australian Industrial Chemicals Introduction Scheme (AICIS)

The AICIS supports the protection of the Australian people and the environment through

the assessment of industrial chemicals and publication of information to promote their safe use.

11.2 Laundry Association Australia (LAA)

The LAA represents commercial textile merchants, commercial laundries and general industry requiring commercial laundering of textile products and the related supply chain. The LAA provides professional best practice advice to improve competency and skills within the industry.

11.3 Therapeutic Goods Administration (TGA)

The TGA is part of the Australian Government Department of Health and Aged Care and is responsible for administering the *Therapeutic Goods Act 1989* (Cth). Soft-surface spray disinfectants may be applied prior to sale or supply of cloth items. Products that claim disinfectant properties should be listed in the Australian Register of Therapeutic Goods (ARTG): https://www.tga.gov.au/disinfectants-sterilants-and-sanitary-products

11.4 WorkSafe WA

WorkSafe WA is part of the Department of Mines, Industry Regulation and Safety, and is the WA State Government agency responsible for the administration of the *Work Health and Safety Act 2020* (WA) which aims to promote and protect the safety, health and welfare of people in the workplace.

12.0 Practical application of the information provided in this Guideline

The following examples are provided to assist businesses and operators handling cloth materials to understand how to practically apply the information provided in this Guideline.

12.1 Example 1 - Opening a second hand furniture and clothing store

Commercial businesses and charitable organisations trade in second hand furniture and clothing stores for economic, sustainability, social and community reasons. The public health risks associated with sourcing and selling second hand furniture and clothing can be managed by:

- Training staff and volunteers on how to assess, handle and reduce transmission
- Ensuring building surface areas where cloth materials are handled can be effectively cleaned, pests and dust can be prevented from entering the area, there is sufficient lighting and ventilation, regular handwashing is required, and cleaning sinks with running hot and cold water are provided
- Policies and procedures for collection and sorting of materials, cleaning processes and use of cleaning equipment, carrying out chemical and non-chemical treatments and how waste is managed are established and reviewed.
- Sourcing appropriate cleaning equipment such as washing machines, steam cleaners and vacuums)
- Researching industry requirements and ensuring all business obligations are met.

12.2 Example 2 – Dealing with complaints concerning adverse health outcomes after using second hand furniture or clothing

When handling a complaint about a possible adverse health outcome related to the use of second hand furniture or clothing, the business may take the following measures:

- Check with the complainant to determine if they have received medical advice, attention and treatment. Encourage the customer to seek appropriate medical advice where necessary.
- Establish the details and nature of the complaint, including any symptoms or health effects experienced. Check against the description of infectious and infestation symptoms associated with cloth materials (summarised in Table 1)
- Review complainant purchase records and receipts and match with business product records
- Check business policies, procedures and records to determine where the product came from and if there is any evidence of cleaning or possible cause of infection or transmission

- Check floor stock from the same area to see if it is affected. Immediately remove any floor stock that appears infested and take appropriate action to remove/reduce risk of infestation.
- Review cleaning processes for the cloth type and textile size and check whether the correct equipment was used to clean the product.
- Discuss the complaint with staff and ensure their skills and knowledge about cloth materials and cleaning processes are appropriate.
- Review policies and procedures to determine if any amendments for improvement are necessary.
- Review the information provided to the complainant to ensure it is accurate and up to date.

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