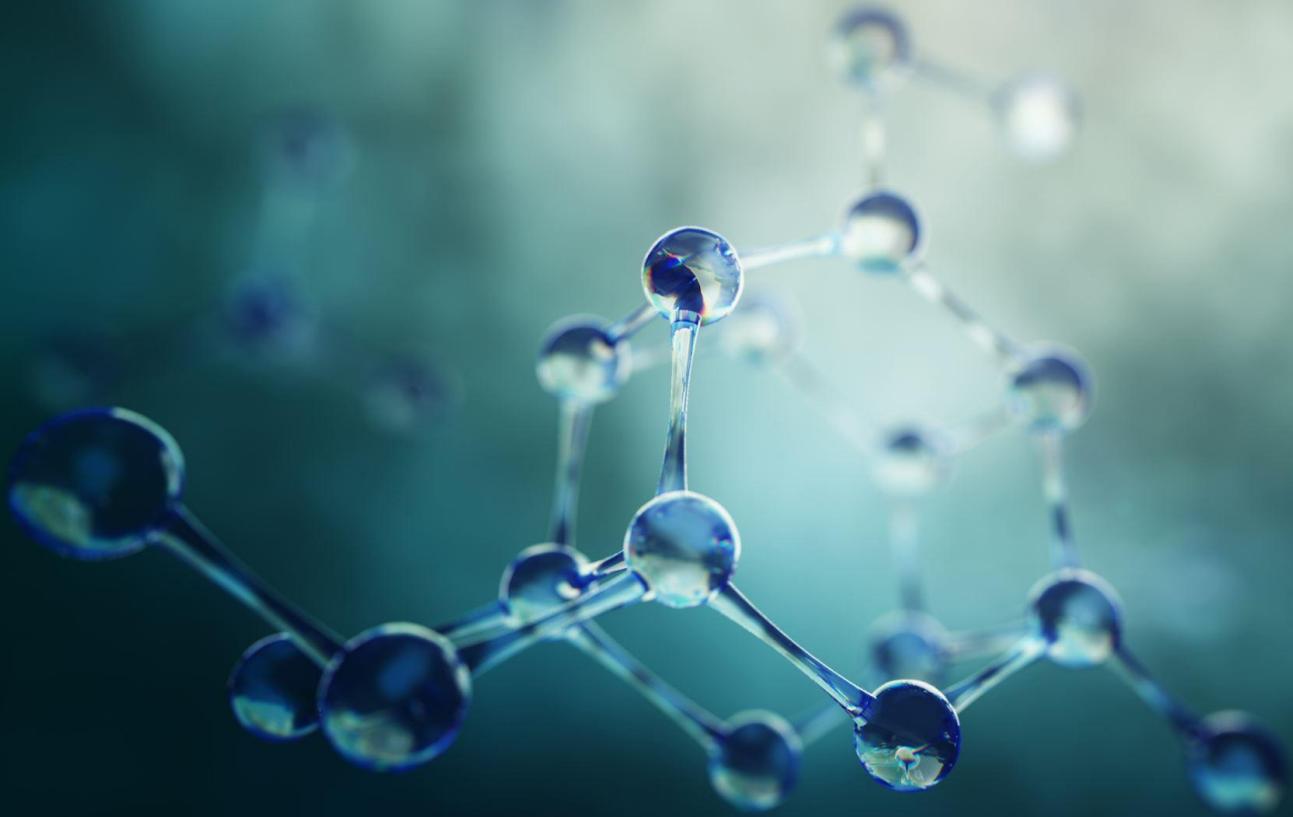




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Chemical Decontamination

Guidance for Health Boards

Version 2.0

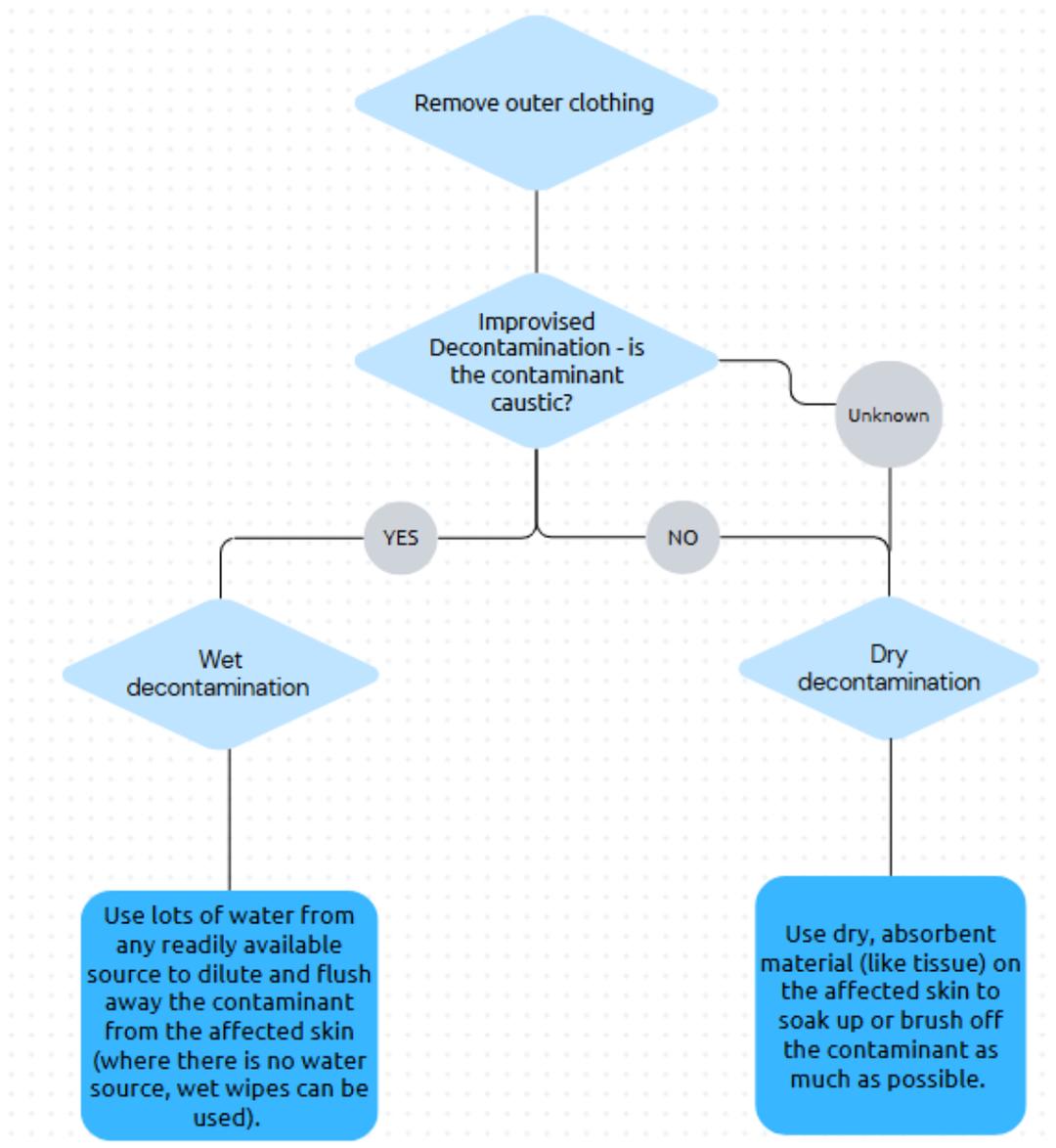
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Summary of Improvised Decontamination Process



1 Purpose

This guidance updates the Public Health Wales document '*Chemical Decontamination Update: Guidance for Health Boards*' first published in August 2017. It reflects changes to procedures for managing patients involved in a chemical contamination and explains how the NHS in Wales should update their plans. These changes have already been incorporated into the [Initial Operational Response to Incidents Suspected to Involve Hazardous Substances or CBRN Materials Guidance](#) for emergency service personnel attending the scene of a Chemical, Biological, Radiation or Nuclear (CBRN) or Hazardous Material (Hazmat) incident. This document does not provide guidance for workplace exposure; occupational health departments provide this advice.

NHS Wales should now update their emergency plans, including hazmat and CBRN plans. Health Boards (HBs) should ensure that all front-line staff are trained in the key aspects of chemical decontamination, to ensure patients benefit from a consistent approach, whether they are treated at the scene of an incident, present to a healthcare setting or are located in a healthcare setting when an incident occurs (exempting staff, who would refer to their occupational health department). If the incident occurs in a healthcare setting, and affects members of the public, this guidance applies.

This guidance does not change decontamination processes for biological or radiological contamination.

This guidance provides advice to HBs in Wales on planning, preparing for, and managing, chemically contaminated patients. It describes how to manage chemically contaminated patients depending on type of contamination (caustic or non-caustic), reflecting the most recent changes to the [JESIP guidance for 'Incidents suspected to involve hazardous substances or CBRN Materials'](#). The key principles and arrangements needed to respond to such incidents are addressed and links are provided to key sources of information and materials that can be used to update plans and train staff.

2 Policy

These changes reflect the latest [Initial Operational Response to Incidents Suspected to Involve Hazardous Substances or CBRN Materials Guidance](#). IOR sets out the way the blue light emergency services will respond at the scene of a CBRN/Hazmat incident. HBs can expect that patients managed at the scene by the emergency services will have been risk assessed and decontaminated in line with the disrobe and improvised decontamination process prior to transfer to hospital. In Wales, the Welsh Ambulance Service University Trust (WASUT) leads the medical intervention for casualties at the scene, including decontamination, and may be assisted by the Fire and Rescue Service (FRS). By adopting the approaches described in this guidance, HBs can standardise with the emergency services and be consistent in the way contaminated patients are managed at the scene and at hospital.

3 Planning

Health Board plans must be updated and tested regularly to ensure that they reflect the latest evidence. All HB facilities, including Emergency Departments (EDs) and Primary Care centres, may receive contaminated people. Plans and procedures should cover:

- a) People self-presenting at ED or other HB locations.
- b) People being managed at the scene by the emergency services and then transferred to hospital.
- c) Incidents where HB premises are the scene of the event.

Plans and procedures should be coordinated with multiagency partners to ensure there is consistency of service delivery across these settings.

Plans should cover:-

- Hospitals with designated EDs, as well as other non-ED NHS facilities.
 - ED plans should cover responding to, and managing, chemically contaminated patients, mobilising specialist equipment, provision and use of PPE, medical interventions and treatment.
 - Other NHS settings plans should cover, as a minimum, arrangements for dealing with self-presenting patients through initial disrobing, improvised decontamination and procedures for escalation.
- Re-robing and aftercare which may involve admission to hospital for treatment and observation, discharge etc.
- Guidance on handling clothes and valuables including the need to obtain scientific advice on whether such items can be returned, require decontamination or disposal.
- Staff welfare, including options to assess and, if necessary, quarantine staff who may have become secondarily contaminated.

Plans should not need a major re-write; existing plans and procedures can be updated to reflect the latest changes.

Training and exercises

Health Boards should ensure all staff are aware of the decontamination process and their roles and responsibilities in a chemical contamination incident. This needs regular training for all staff, including front line clinical, reception, triage and assessment staff. All should be aware of the need for early identification of chemical contamination, early disrobing, local protocols for containment, isolation and lockdown, alerting and escalating mechanisms.

Each HB should have a lead training officer and an established documented training programme for initial and refresher training. As it is important that the decontamination process is consistent with that of the Emergency Services, it is strongly recommended that joint training is undertaken with multiagency partners.

4 Healthcare Response

Recognise, assess, react



For more information visit the JESIP [website](#).

Risk assessment

Risk assessment should determine the appropriate response level, decontamination option and ensure the safety of patients and staff. It may be appropriate to review and update the risk assessment throughout the incident.

The risk assessment should cover the following (note the below checklist is meant as an aid to those undertaking the risk assessment rather than a formal reporting tool):

SUBJECT	ACTION	✓
Patient (use CRESS checklist)	Consciousness - Normal, altered, confused, reduced, convulsions, unconscious	
	Respiration - Normal, reduced, increased, stopped	
	Eyes - Normal, pinpointed or large pupils*, blurred vision	
	Secretions - Normal, increased, dry mouth, thirsty, sputum	
	Skin - Normal, dry, flushed, sweaty, pink to blue, non-blanching rash, varied	
Agent (use BADCOLDS checklist)	Behaviour What did the substance behave like?	
	Appearance Is it powder-like, granular or crystalline? Is it liquid or gel or a waxy solid? How much is there?	
	Dissemination How far is it disseminated? Thrown, sprayed or spread?	
	Colour Is it pure white or off-white or yellow? Is it multi-coloured?	

	Odour Does it smell?	
	Likeness Does it look like something you know or recognise?	
	Deliberate Did the spreading of the substance appear deliberate or accidental?	
	Symptoms Is anyone exhibiting any symptoms? (Such as stinging eyes?)	
Available resources	Sufficient trained staff available?	
	Access to specialist equipment (e.g. portable or fixed decontamination facilities, PPE)	
	Access to Action Cards identifying who will do what, when and where?	
	Specialist advice available from the emergency services, Public Health Wales, National Poisons Information Service (see section 9)	
Scale of response required?	How many people are presenting?	
	How many people are exposed (what is the potential for more presenters)?	
	Has decontamination been performed at the scene? If so what type of decontamination has been undertaken and by whom?	
	Are there other injuries?	
Setting	What type of setting? <ul style="list-style-type: none"> • Emergency Department • Primary Care • GP • Walk-in Facility 	
	What type of building? Can all or part of the building (e.g. the reception) be locked down if necessary?	
	Weather conditions (cold, wet etc)	
Staff	Are all staff trained and aware of emergency plans, roles etc.	
	Is PPE available and are staff trained to use it?	
	Staff welfare issues?	
	Service/business continuity/	

Remove outer clothing

For a patient with possible chemical contamination, immediately remove potentially contaminated clothing (called disrobing). This should be carried out by the casualty themselves, where possible, to reduce risk of cross-contamination, but carers or family members may want to help each other in this. Welfare and dignity of the casualty are critical during this process.

During disrobing:

- Avoid pulling clothing over the head.
- Avoid pulling off any clothing that is stuck to the skin.
- Avoid eating, drinking, smoking or vaping.

Remove the substance – Improvised Decontamination

Decontamination should begin as soon as possible. Improvised decontamination can begin quickly and should be a priority. It may be “dry” or “wet” decontamination depending on the substance the casualty has been exposed to.

Dry decontamination is the default and for non-caustic substances. For contamination with a caustic substance, wet decontamination should be used.

a) Dry Decontamination

This is the default approach for anyone with suspected chemical contamination, unless there are signs of burning, skin irritation or the contaminant is known to be caustic.

It is the use of dry, absorbent material (such as paper tissue, cloth, wound dressings) on affected skin to soak up or brush off as much of the contaminant as possible.

Fresh dry material should be provided continuously to the casualty, or casualties, **and must not be passed from one casualty to another.**

Used dry material should be safely collected and disposed of appropriately. A separate piece of dry material should be provided for each area of the body.

Casualties should be told to:

- Wipe their hands.
- Wipe their hair.
- Blow their nose.
- Work down their body starting with face and neck, followed by shoulders, arms, chest, stomach, back, legs and feet.

b) Wet Decontamination

Wet decontamination should only be used when a caustic contaminant is involved. It uses lots of water to dilute and flush the contaminant away from the hair and skin.

Water can come from any readily available sources such as taps, showers, water bottles, hose-reels, sprinklers etc. Other natural water sources should be considered unless they present greater risk to the casualty (e.g. if it is unknown if the supply is contaminated).

Where there is no water wet wipes or baby wipes can be used as an alternative. These are also easier to control in terms of waste. Conditioners should not be used.

Improvised decontamination should continue until more structured interventions can be put in place. Until this time ‘dab and wipe’ should be repeated continuously.

Reducing secondary contamination

The risk of secondary contamination should be considered in any dynamic risk assessment, including from off-gassing. Risks can be minimised by disrobing, but, it remains an issue if the patient has ingested any contaminant. If ingestion has occurred, PPE should be worn by

staff attending the patient and the patient should be kept in a ventilated side-ward to reduce the risks associated with e.g. off-gassing in vomit.

The PPE required should be based upon the circumstances of the incident, with reference to appropriate Hazmat/CBRN plans. It is the responsibility of the HB to ensure that appropriate PPE is available, and that staff are trained in its use.

All contaminated waste materials, clothing and personal items should be double bagged, labelled and stored for disposal. Clean-up of contaminated areas and materials within healthcare facilities is the responsibility of the facility owners. Specialist advice on disposal and clean-up is available from DEFRA's CBRN Emergencies team (see section 9 for key contact details), who may be able to assist in finding a contractor to undertake the clean-up.

5 Mass casualty decontamination response

This guidance relates to the management of self-presenting patients in healthcare settings. Responsibility for the decontamination of large numbers of casualties remains with emergency responders at the scene. Healthcare facilities are not able to manage large numbers of casualties, especially those requiring wet decontamination. Where hospitals are unable to manage multiple patients requiring decontamination, assistance and support should be sought from the Ambulance and/or Fire and Rescue Service via 999.

6 Specialist Advice

Should HBs need specialist advice about a chemical incident they should contact the relevant service, including Public Health Wales (PHW) Emergency Preparedness, Resilience and Response (EPRR) team, Environmental Public Health Service (EPHS) or UKHSA Radiation, Chemicals and Environmental hazards (RCE) team. Contact details are in section 9.

7 Recommendations

Health Boards are recommended to:

- ❖ Be aware of the changes to guidance around the chemical decontamination process.
- ❖ Update all emergency plans and protocols to reflect these changes.
- ❖ Ensure all relevant staff have refresher training and are aware of these changes. It is recommended that training is mandatory for all front line staff, including reception staff.
- ❖ Hold joint training exercises (when practicable) with multiagency partners to ensure consistency in response to managing chemically contaminated patients.
- ❖ Test decontamination arrangements annually and physical resources weekly.
- ❖ Use this guidance and e-learning from Public Health Wales to assist with updating plans and training.

8 References

Public Health Wales, 2017, *Chemical Decontamination Update: Guidance for Health Boards*, doi: <https://phw.nhs.wales/services-and-teams/environmental-public-health/acute-environmental-incident-management/chemical-decontamination-guidance-for-health-boards/#:~:text=We%20are%20also%20recommending%20that,benefit%20from%20a%20consistent%20approach.>

Joint Emergency Service Interoperability Programme (JESIP), 2024, *Initial Operational Response (IOR) to Incidents Suspected to Involve Hazardous Substances or CBRN Materials*, doi: <https://www.jesip.org.uk/downloads/initial-operational-response-ior-to-incidents-suspected-to-involve-hazardous-substances-or-cbrn-materials/>

Joint Emergency Service Interoperability Programme (JESIP), 2024, *Threat Recognition*, doi: <https://www.jesip.org.uk/webapp/rar.html>

National Protective Security Authority (NPSA), 2024, *Recognise, Assess, React (RAR) for Chemical, Biological and Radiological (CBR) Incidents*, doi: <https://www.npsa.gov.uk/security-campaigns/recognise-assess-react-rar-chemical-biological-and-radiological-cbr-incidents>

9 Key contact details

- ❖ Public Health Wales, Environmental Public Health Service (EPHS).
Email: PublicHealth.Environment@wales.nhs.uk, telephone: 0300 00 300 32
- ❖ UKHSA Radiation, Chemicals and Environmental Hazards.
Email: ChemicalsCardiff@ukhsa.gov.uk
- ❖ DEFRA CBRN Emergencies (formerly UK Government Decontamination Service).
Email: CBRNRecovery@defra.gov.uk, telephone: 03300 416565



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