



Health Surveillance for Occupational Health professionals and businesses



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1. **Editor's note** Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

The guidance in this document was written prior to the publication of the Sir Charlie Mayfield report, *Keep Britain Working*.⁶ Readers are advised to consult the latest statutory requirements and the official Workplace Health & Employment Study (MYHES) report.

In summary, HSE requires health surveillance to focus on statutory requirements by monitoring workers exposed to hazards such as noise, vibration, respiratory sensitisers, chemicals and skin irritants. These assessments must be clinically robust, risk-based, and aligned with current regulatory standards.

Alongside statutory surveillance, the Keep Britain Working report recommends incorporating wellbeing touchpoints into existing appointments, using short, validated screening tools covering fatigue, mental health, musculoskeletal discomfort, and lifestyle factors. These additions should complement rather than replace hazard-based assessments and must include clear escalation routes to appropriate clinical or wellbeing support services.

Surveillance processes should also extend beyond individual assessments by providing structured signposting to support services, such as physiotherapy, mental health services, workplace adjustments, and lifestyle interventions. This approach improves early intervention while ensuring the core purpose of surveillance – identifying work-related harm – remains the focus.

The data collected through surveillance should be routinely analysed at both individual and organisational levels to identify patterns linked to tasks, tools, processes or exposure groups. These insights should drive organisational control measures, including engineering controls, tool upgrades, improved ventilation, changes to shift patterns and enhanced PPE strategies. This shifts surveillance from reactive monitoring to proactive prevention and improved working conditions.

Clinical governance must be maintained throughout. Technicians can collect screening data and provide structured signposting, but interpretation, diagnosis and escalation decisions must remain under appropriate clinical oversight. All medical information must be securely stored and managed in accordance with clinical and data governance requirements.

In practice, this shift also requires changes to how services are commissioned and delivered. Health surveillance should move away from short-term, cost-driven contracts towards longer-term partnerships based on quality, prevention and measurable outcomes. Commissioning should prioritise value and impact, such as reduced exposure levels, lower incidence of work-related ill health, and improved workforce retention, rather than appointment volumes or the lowest price. Providers and employers should collaborate to set shared objectives, define expected outcomes, report performance transparently, and reinvest findings into continuous improvement. Over time, this model supports stable service provision, better integration with safety and HR teams, and a proactive culture that protects worker health and organisational productivity.

Practical steps to begin implementation include introducing brief, evidence-based screening tools (e.g., PHQ-2, fatigue scales, MSK body mapping), establishing defined referral pathways, training technicians to use scripted signposting, producing routine trend reports for safety teams, and using findings to inform workplace design, task rotation, and exposure controls.



For consistency, this document uses the term worker in line with current health and safety guidance and inclusive workplace terminology. However, where legislation or statutory guidance is quoted directly, the original wording is reproduced verbatim. In such cases, the term "employee" is used where it appears in the source legislation to accurately reflect the legal text.

This document uses contemporary and inclusive terminology when referring to sex and gender. However, where legislation, Approved Codes of Practice, or statutory guidance are quoted directly, the original wording is retained. In such cases, sex-specific terms (for example, male, female, woman, or man) may appear within quoted text to accurately reflect the language used in the source material at the time of publication. This does not change the intent or inclusive application of this document.

While many Occupational Health providers hold SEQOHS (Safe Effective Quality Occupational Health Service) accreditation as a recognised sector quality benchmark, it is acknowledged that equivalent assurance of acceptable practice may also be demonstrated through other recognised quality frameworks and audit standards. These may include, but are not limited to, ISO quality management certifications and externally verified audit programmes. Providers may therefore evidence compliance and quality through SEQOHS or other formally recognised accreditation or audit systems that demonstrate robust governance, clinical quality, and continuous improvement processes.

2. Preamble Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

This guidance has been produced by the Society of Occupational Medicine Health (SOM) Surveillance Special Interest Group (SIG) to assist all professionals involved in health surveillance, including health and safety representatives and technicians.

The group does not assume that the recommendations represent all members of the SOM, or those of commercial providers. It is intended to guide clinicians without access to relevant policies and procedures. It is not intended to replace commercial providers' policies or procedures but may enhance detail and understanding.

Clinicians have an ongoing professional and legal duty to remain informed of any changes in legislation, case law, and evolving standards of clinical practice, as informed by new evidence. This publication should be considered accurate only as of the date of publication. It is the clinician's responsibility to ensure their practice remains compliant with current legal requirements and evidence-based standards.

The SOM would like to thank all members of the special interest group for their time and expertise in developing these guidelines. Much of the text has been quoted directly from HSE to avoid confusion over definitions or meanings.

Health surveillance is typically required in industries and workplaces where workers' health is at risk due to exposure to specific hazards or working conditions, such as construction, manufacturing, engineering, and energy production, as well as in laboratories and certain healthcare settings. Baseline tests must be compared with subsequent tests, and all subsequent tests compared with previous tests.

This document is for practitioners undertaking health surveillance, principally nurses and other qualified practitioners. Medical doctors also conduct testing, during which they demonstrate competency through approved training.



3. Introduction Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

HSE's recent publications identified that 'In Britain, an estimated 12,000 lung disease deaths occur each year linked to past exposure at work' (HSE 2025)⁷ and 7,000 new cases of self-reported skin conditions.⁸

In addition, 'in 2023, 250 new cases of hand-arm vibration syndrome were diagnosed, 150 new cases of carpal tunnel syndrome and 120 cases of Dupuytren's contracture: an estimated 12,000 workers with work-related hearing problems and 100 new cases of occupational deafness'.⁹

This represents the need for appropriate risk assessment, control measures to prevent exposure, and health surveillance where controls may not be fully effective. Health surveillance is a legal duty where required by legislation and an essential component of occupational health risk management. It is undertaken to detect early adverse health effects arising from workplace exposures, identify individuals who may be particularly susceptible, and provide feedback on the effectiveness of existing control measures. Health surveillance complements, but does not replace, workplace risk assessment and exposure monitoring, which are used to identify and evaluate hazardous exposures.

Health surveillance¹⁰ is a scheme of repeated health checks for identifying ill health caused by work. Health and safety law requires health surveillance when your workers remain exposed to health risks, even after you have put controls in place. This is because control measures may not always be reliable, despite appropriate checking, training and maintenance. Health risks which require health surveillance include noise, vibration and substances hazardous to health. Health surveillance schemes should be set up with input from a competent occupational health professional.

Medical surveillance, as defined by law, must be performed by appointed doctors for particularly high hazards such as asbestos, lead and ionising radiation. The one exception is for some lower-risk asbestos work.¹¹

Health surveillance should not be confused with fitness-for-task or safety-critical assessments. While some examinations may involve the same health test, they assess different aspects of health status, each requiring interpretation related to the outcome or advice following the test. Nor should health surveillance be confused with activities that monitor health, where effects from work are suspected but cannot be established. Health monitoring is a lower level of health surveillance, not required by law but recommended or useful when the effects of work are suspected but the criteria for health surveillance are not met (i.e. there is no valid technique for evaluating the health effect or no apparent dose-response effect established). An example is musculoskeletal issues.

Health surveillance is not a stand-alone test. Employers should be provided with an anonymised report that groups workers into similarly exposed groups, so they can decide whether their control measures are working and effective.

An individual workplace risk assessment is required to identify whether health surveillance is needed and for which workers. This avoids 'blanket surveillance', which can mask and confuse efforts to identify susceptible workers, while also allowing any health effects to be linked to workplace exposures. Health surveillance requires maintaining a health record for the worker. This record does not include confidential medical details. Instead, it states whether the worker is fit to continue working with the identified hazard, in line with HSE guidance.



All health surveillance must use a standardised testing method, with quality standards applied to the test and its environment to ensure the repeatability and reliability of the data produced; this requires competence and compliance with calibration instructions. This is particularly important for health surveillance, which relies on comparisons with previous test results to identify any 'real' changes in health status.

Baseline testing is therefore an essential aspect of health surveillance programmes, as it establishes an individual's health status before exposure to workplace hazards or during their current employment. It is from this baseline that any changes can be judged and assessed.



4. Purpose and scope Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

The purpose of this document is to bring together all relevant HSE regulations and guidance on health surveillance, including links to the full HSE text and, where appropriate, to SOM documentation, to provide an overview for occupational health providers responsible for health surveillance programmes.

The document does not include specific advice on how to escalate to an occupational health physician, as this will vary by clinical practice and preference and depends on training.

The criteria for clinical audits are not included in this version.

Subject matter experts have produced each section in this document; as such, writing style may vary.

Industries that may require health surveillance include construction, manufacturing, healthcare, mining, agriculture, textiles and defence. Other occupations that expose workers to hazardous substances may also require health surveillance. This document focuses on risk assessment, competencies, documentation, and infection control, as well as on health surveillance topics not published by the SOM, including exposure to noise, respiratory surveillance, and lead and asbestos. It does not replace the requirement for suitable qualifications, training and supervision.

The SOM has published four comprehensive guides:

- Hand Arm Vibration surveillance: *The identification and management of Hand Arm Vibration syndrome (HAVS)*¹²
- Skin Surveillance: *Managing Skin Health at Work*¹³
- Night workers: *What might best practice look like for managing good sleep practice for night workers at work?*¹⁴
- Whole body vibration exposure: *Hand Arm Vibration Syndrome (HAVS) and Whole Body Vibration (WBV)*¹⁵

This document focuses on noise as a supplement to:

- *Supplementary Guidance on Interpreting an Audiogram for Indications of Occupational Noise-Induced Hearing Loss (NIHL)*¹⁶ and *SOM Noise-Induced Hearing Loss*.¹⁷

Additional focus is on areas that appear to require clarity within the industry, for example, the definition of competency, standards for undertaking audiology, and the intervals for specific tests.

The occupational health clinician should be wary of the malpractice of supervised neglect, where audiograms are regularly reviewed (perhaps by a succession of occupational health professionals) but a clear adverse trend is not addressed.¹⁸



5. General definitions Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

Biological Monitoring

The HSE defines Biological monitoring as 'The measurement of a chemical or its breakdown products in a biological sample (usually urine or blood) to indicate how much chemical has entered the body by all routes of exposure. Biological effect monitoring is the measurement of biological effects resulting from absorption of chemicals. For example, measurement of protein in urine of workers exposed to cadmium to check their kidney function.' Ref: <https://www.hse.gov.uk/health-surveillance/health-biological-monitoring.htm>

Blanket health surveillance

A system of health checks is applied to all workers, regardless of the individual risk associated with specific roles or the nature of work. This can lead to the gathering and storage of data that is not required for legitimate purposes and is discouraged, as it may result in misleading data, resource inefficiencies, and unnecessary costs, such as conducting audiology tests and providing results, which is not required under The Control of Noise at Work Regulations 2005.¹⁹

Clinical/medical notes/records

Clinical notes are medical records kept in medical confidence by the responsible occupational health professional. They may contain confidential clinical notes and test results. These notes can only be accessed and shared with the written consent of the worker, where that information would 'need to be known' by the employer. Medical practitioners are accountable to their code of practice in the Nursing & Midwifery Council²⁰ or the General Medical Council's Good Medical Practice²¹ to record and maintain accurate medical records. Other occupational health service workers may have access to clinical notes and will be bound by the confidentiality agreement not to disclose confidential clinical information. Health surveillance clinical records are special category personal data protected by the UK GDPR and the Data Protection Act 2018²². Practitioners should distinguish between the lawful basis for processing health information and consent for disclosure. While occupational health records may be processed under statutory and occupational medicine provisions without relying solely on consent, confidential medical information should not normally be disclosed to an employer or third party without the worker's explicit informed consent unless disclosure is required or permitted by law.

> See [Health Record\(s\)](#) for the difference. These are kept separately.

Classification, labelling and packaging of chemicals (CLP)^{23, 24}

These are a set of uniform classifications, labelling and packaging to help identify hazardous chemicals.

Competent person

For occupational health purposes, a 'competent person' is defined by Regulation 7 of the Management of Health and Safety at Work Regulations 1999 (MHSW),²⁵ which states that employers must appoint a competent person to enable them to meet their health and safety obligations. A person shall be regarded as competent where they have sufficient training and experience or knowledge and other qualities to enable them properly to assist in undertaking the measures referred to in paragraphs (1) and (8).



The level of competence required will depend on the situation's complexity and the help you need. If technicians are involved in health surveillance, they should receive training from a competent provider on the specific aspects of their work, such as spirometry and audiometry. An occupational health physician or nurse must supervise their work. They must not interpret test results or provide feedback from health surveillance.²⁶

A competent person need not have formal qualifications, although it would be advantageous. It is also the business's responsibility to provide the competent person with adequate information and support, such as risk assessments.²⁷

The term 'responsible person' can be confused with 'competent person'. However, a responsible person may perform basic checks or reporting tasks, while a competent person must have the expertise and experience to advise on and manage health and safety requirements.

To clarify: A responsible person may undertake routine checks, inspections, or reporting duties assigned by the employer, whereas a competent person is expected to have the expertise and experience to identify hazards, assess risks, provide professional advice, and support the management of health and safety requirements. A competent person is defined by their competence rather than by qualifications alone. While formal qualifications are not a legal requirement in every case, they are often the clearest demonstration of the knowledge and expertise needed to provide competent health and safety advice. A responsible person may carry out designated tasks, but only a competent person has the level of skill and experience required to advise on and manage health and safety risks effectively.

HSE explains that if you are not confident in managing your health and safety responsibilities in-house, or if you are a higher-risk business, you can appoint an external professional to provide competent health and safety advice.²⁸

If health and safety professionals are members of the Institution of Occupational Safety and Health (IOSH), they must abide by the code of conduct, guidance, and disciplinary procedures to ensure they are competent to undertake the proposed work.²⁹

The occupational health service does not replace the requirement to appoint a competent person or to provide risk assessments that identify individual needs for health surveillance.

The legislation does not explicitly state that the competent person is "accountable". However, the role effectively involves assisting in meeting legal duties. Accountability depends on how the organisation defines the role and delegates responsibilities. In practice, if a competent person fails to perform their assigned tasks, they could be found responsible (or partly responsible) under general legal principles (for example, negligence, corporate liability, or where they assume certain duties) – even if they are not explicitly labelled "accountable" in legislation.

Competencies for doctors

Doctors practising occupational health should hold current GMC registration and a qualification in occupational health medicine, such as the Diploma in Occupational Medicine (DOccMed), Associate of the Faculty of Occupational Medicine (AFOM), Member of the Faculty (MFOM), or Member of the Faculty to Fellowship (FFOM).

An 'appointed doctor' is a registered medical practitioner appointed by the Health and Safety Executive (HSE)³⁰ to conduct statutory medical surveillance. According to HSE, employers have a legal duty to ensure their workers are under medical surveillance by a doctor appointed by HSE if they work with hazards such as asbestos, lead, ionising radiation and compressed air.



Competencies required for undertaking hand-arm vibration syndrome (HAVS) assessment³¹

- Tier 1 – the initial assessment – is a short questionnaire that an occupational health professional reviews.
- Tier 2 may be undertaken by a responsible person who has received training from an occupational health professional. They must be aware of when to refer cases for review by an occupational health professional.³²
- To undertake Tier 3:³³
 - ‘Occupational health staff undertaking HAV health surveillance assessments should:
 - a). be registered/licensed to undertake clinical practice as defined by their appropriate professional body (for example, the GMC for doctors, the NMC for nurses)
 - b). have a higher qualification in occupational health. Doctors should hold a diploma in occupational medicine as a minimum. Other occupational health staff should have a higher qualification in occupational health, such as a diploma or a degree
 - c). have successfully completed a Faculty of Occupational Medicine (FOM)-approved HAV training course.’
- A technician can carry out basic tests, such as grip strength or dexterity testing, to assist the occupational health nurse supervising the Tier 3 assessment.
- Tier 4 – leading to a formal diagnosis – must be undertaken by an HAVS-accredited occupational health professional (OHP).³⁴

Competencies required to undertake audiology screening

Audiology screening should be undertaken by occupational health professionals who have completed a training course in audiometry accredited by the British Society of Audiology (BSA), with content incorporating L108 and the CNWR 2005. A competent and qualified OH nurse must assess the results.

If the competent adviser advises that a worker has identifiable hearing loss, the diagnosis of NIHL must be confirmed by a doctor (unless the competent adviser is a doctor). The competent adviser will also advise on fitness for work in noisy environments, based on the doctor's or specialist's view, where appropriate.³⁵

Where NIHL is newly identified or progressive, the worker should be placed in Category 3 and be referred for medical assessment by an appropriately trained occupational physician³⁶ (who, as a minimum, holds a DOccMed).

> See also *Responsible Person*.

Duty holder: the employer

Duty holders are legally obligated to ensure the health, safety and welfare of individuals who may be affected by their activities, whether they are workers or others. They are ultimately accountable for ensuring health and safety standards are met and risks are managed.

Ethical consent

Focuses on autonomy, choice, dignity and transparency. Ethical consent must be obtained before examining or advising a worker.



Consent must be:

- **Informed** – based on a clear explanation of purpose, process, outcomes, data use and sharing
- **Voluntary** – free from employer pressure or perceived penalty
- **Specific** – for a defined purpose, not a blanket agreement
- **Revocable** – the worker may withdraw consent at any time
- **Documented** – recorded appropriately in clinical records.

Hazardous substances

Any substance, including liquids, gases, solids, powders, granules, dust fumes, medication, bodily fluids and process by-products (waste) with the potential to cause harm.

Health records,³⁷ also referred to as management records

A health record is a legal record of the outcome of health surveillance. Employers must keep them for all workers under health surveillance. Health records differ from medical records in that they should not contain confidential medical information. Health records and medical records must therefore be kept separate to avoid any breaches of medical confidentiality.

Health records must contain information about the worker's details, where they work, the hazards to which they have been exposed, and their fitness to continue being exposed to those hazards. They should not contain confidential medical information unless the worker has provided written consent.³⁸

*What information should be included in health records?*³⁹

Individual health records should include details about the worker and the health surveillance procedures relating to them:

- Surname
- Forename(s)
- Gender
- Date of birth
- Permanent address, including postcode (of worker – not employer)
- National Insurance number
- Date present employment started
- A historical record of jobs in this employment involving exposure to identified substances requiring health surveillance

Recorded details of each health surveillance check should include:

- The date they were carried out and by whom
- The results of the checks carried out
- The results of decisions made by an appropriately qualified doctor or nurse on the worker's fitness for continued exposure or any restrictions they have advised
- The date of or the interval before the next health surveillance check, if required.

> See [Clinical Notes/Medical Records](#) for the difference. These are kept separately.



Health surveillance

In the context of this guideline, health surveillance is defined as a strategy or method to detect and assess systematically the adverse effects of work or workplace exposures on the health of workers. HSE defines health surveillance as ‘any activity which involves obtaining information about workers’ health and which helps protect workers from health risks at work’.⁴⁰ The COSHH definition extends this to include biological monitoring: “health surveillance” means assessment of the state of a worker’s health, as related to exposure to substances hazardous to health, and includes biological monitoring.⁴¹

Irritant

An irritant is a chemical or biological agent which is not corrosive but causes a reversible inflammatory effect on living tissue by chemical action at the site of contact. This can be an acute irritation, such as acute irritant contact dermatitis, or chronic, which develops over a prolonged period. Both types are reversible, and symptoms often resolve on cessation of exposure.

Hazard

A source, situation or activity that has the potential to cause harm, injury, ill health, damage to property, or adverse effects to the environment.

Medical records (which may include clinical notes):⁴²

‘Medical records must be kept in medical confidence by the occupational health professional responsible for the health surveillance scheme. They may include confidential clinical notes, test results and more general information about workers’ health.’

Clinical records, sometimes referred to as medical records, are compiled by a doctor, nurse or technician and may contain information obtained from the individual during an occupational health consultation/health assessment. This information may include clinical notes, biological results and health issues not associated with work.

The clinical record is “ss” for the purposes of the Data Protection Act 2018,⁴³ and as such cannot be processed without the worker’s consent.

Must⁴⁴

The General Medical Council (GMC)’s “must” definition: “You must” is used for an overriding duty or principle.

Occupational exposure limits (OELs)⁴⁵

Occupational exposure limits (OELs) indicate how long – usually eight hours (and a 40-hour work week) – a worker can be exposed to a chemical or physical hazard without it affecting their health. These are guidelines and do not provide definitive levels of ‘safe’ and ‘unsafe’, as this depends on control levels and human factors such as behaviours.

An occupational exposure limit is the maximum concentration of a harmful substance to which a person can be exposed without becoming ill or injured. For example, you can clean with household bleach, but if it’s strong and you smell it for too long, you could get bleach poisoning.



Occupational hygienist⁴⁶

Occupational hygienists identify, assess and control workplace health hazards, thereby managing associated health risks. These may be chemical, physical, biological or ergonomic and can be present in the workplace in many forms.

Occupational health nurse/adviser

These terms are interchangeable across industries.

A nurse should be registered with the Nursing & Midwifery Council.

An occupational health adviser may not necessarily hold a nursing qualification.

For health surveillance, an occupational nurse/adviser, in addition to holding NMC registration, should also hold an occupational health qualification, which may be recorded on Part 3 of the NMC register for Specialist Community Public Health Nursing (SCPHN).

The National School of Occupational Health and the Faculty of Occupational Health Nursing identify the following three titles:⁴⁷

- 1. Specialist Community Public Health Nurse, Occupational Health (SCPHN OH)**

This is a nurse who has undertaken a specific programme of education (NMC-approved) that allows entry to the third part of the NMC register.

- 2. Occupational Health Specialist/Occupational Health Nurse**

This is a nurse who has undertaken a postgraduate occupational health specialist practitioner qualification (SPQ) aligned with relevant occupational health education standards or guidance – for example, NMC, PHE – and has a minimum of two years in this field of practice.

- 3. Occupational Health Practitioner/Occupational Health Adviser**

This is a nurse who is new to this field of practice or who is delivering defined occupational health activities in accordance with documented, evidence-based practices, procedures, competencies and quality measures.

Record retention

Record retention is required to evidence compliance with statutory duties, support regulatory investigations or legal claims, and protect workers. Extended retention periods are essential when workplace exposures may lead to long-latency illnesses many years after the initial risk.



Health & Safety Record Retention Schedule

Health Surveillance & RIDDOR

Regulation	Record Type	Minimum Retention Period	Notes
COSHH (Control of Substances Hazardous to Health Regulations 2002)	Health surveillance records for workers exposed to hazardous substances	40 years from the date of the last entry (statutory requirement)	Required due to the potential for long-latency occupational diseases, including cancer and respiratory disease. ^{48, 49}
Control of Noise at Work Regulations 2005 (CNWR)	Hearing surveillance/audiometry records	No specific statutory 40-year retention period. Records should be retained in accordance with legal requirements and professional guidance, at least for the duration of employment and longer where appropriate.	Many organisations retain these records for extended periods to support future occupational disease claims and trend analysis; however, this represents good practice rather than a specific statutory requirement. ⁴⁹
Control of Asbestos Regulations 2012 (CAR 2012)	Health records for asbestos-exposed workers	40 years (statutory requirement)	Long-latency diseases, including mesothelioma and asbestos-related lung disease, necessitate prolonged record retention. ⁵⁰
Ionising Radiations Regulations 2017 (IRR17)	Dose records and health surveillance records for classified persons	Until age 75, or for at least 30 years from the last entry, whichever is later (statutory requirement).	Many organisations retain records for 50–60 years as good practice to exceed the statutory minimum. ⁵¹
RIDDOR 2013 (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations)	Accident, incident and occupational disease records	Minimum 3 years from the date of the incident (statutory requirement)	Many organisations retain records for at least 6 years to assist with the defence of potential civil claims. ⁵²
Control of Lead at Work Regulations	Health surveillance for lead exposure	40 years (statutory requirement)	Long-term effects include neurological, renal and reproductive harm, requiring extended retention of health records. ^{48, 49}
Control of Vibration at Work Regulations 2005 (HAVS)	Health surveillance for hand-arm vibration exposure	No specific statutory retention period. Records should be retained in accordance with legal requirements and professional guidance; long-term retention (e.g. up to 40 years) is considered good practice.	Extended retention supports the investigation of long-latency musculoskeletal and neurological disease but is not expressly required by the Regulations. ⁵³
Other hazards without a specific statutory retention period	General or non-regulated health surveillance	Retain in accordance with legal requirements, professional guidance and organisational policy. Long-term retention (e.g. up to 40 years) may be appropriate where there is potential for long-latency disease.	Retention should be based on the nature of the hazard and the purpose of the surveillance rather than applying a blanket 40-year rule. ⁴⁹
Medical/clinical notes (held by Occupational Health)	Full clinical medical records	Retain in accordance with UK GDPR, the Data Protection Act 2018, professional guidance and organisational retention policies. Where records relate to statutory health surveillance for exposure to hazardous substances, longer statutory retention periods may apply.	Clinical records are distinct from statutory health surveillance records and are governed by professional, medico-legal and data protection requirements. ^{49, 54}



Responsible person ⁵⁵

A responsible person is someone in the employer's organisation who is given the responsibility to help deliver a health surveillance system from within the workplace. Following instructions from a medical practitioner, such as an occupational health practitioner, the responsible person is deemed competent to recognise the signs and symptoms of workplace skin conditions. The responsible person reports on their findings to their employer but also requires access to a suitably qualified person, such as an occupational health practitioner. The responsible person must not make a diagnosis and must keep any clinical notes/records confidential. A responsible person should complete training every three years.

> See also [Competent Person](#).

Responsible Officer ⁵⁶

The Responsible Officer Regulations give specified senior doctors (responsible officers) in designated bodies (organisations) functions to ensure that all doctors work within a managed environment in which their performance, conduct, and behaviour are monitored against agreed national standards. (We have included responsible officer here for clarity between the terms responsible officer and responsible person.)

RIDDOR ⁵⁷

The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (1997 in Northern Ireland) places duties on employers to report a wide range of work-related incidents, injuries and diseases to the Health and Safety Executive (HSE) or to the nearest local authority environmental health department. A reportable disease must be diagnosed by a doctor. Diagnosis includes identifying any new symptoms or any significant worsening of existing symptoms. Only responsible persons, including employers, the self-employed and people in control of work premises, should submit reports under RIDDOR.

Risk

Risk is the possibility of a harmful event arising from exposure to a hazard, or a mixture of hazards, that may occur under specific conditions. Hazards include physical, chemical, biological or ergonomic.

Risk assessment

A five-step process, like a general risk assessment:

1. List hazardous agents
2. Assess hazards to health from agents and who might be exposed
3. Determine suitable control measures
4. Implement control measures (eliminate, reduce, isolate, etc.)
5. Review

Risk control measures ⁵⁸

Workplace precautions are put in place to reduce the risk to a tolerable level.

Sensitisers

Sensitisers are substances which can cause sensitisation in the lungs (respiratory sensitisers) and/or skin (skin sensitisers) after exposure. They can cause an allergic reaction, which may be irreversible.



UK GDPR consent ⁵⁹

“Consent” of the data subject means any freely given, specific, informed and unambiguous indication of the data subject’s wishes by which they, by a statement or by a clear affirmative action, signifies agreement to the processing of personal data relating to him or her.’ It does not apply to anonymised data.

The six key principles are:

- Lawfulness, Fairness, Transparency – Data must be processed legally, fairly and transparently.
- Purpose Limitation – Data must be collected for specific, legitimate purposes and not used in incompatible ways.
- Data Minimisation – Data must be relevant and limited to what is necessary.
- Accuracy – Data must be accurate and kept up to date; inaccuracies must be corrected quickly.
- Storage Limitation – Data must not be kept longer than necessary for its purpose.
- Integrity & Confidentiality – Data must be secured against unauthorised access, loss, or damage.

Worker

A worker is any individual who performs or has performed work on behalf of an organisation, including workers, agency staff, contractors, subcontractors, apprentices, volunteers, and former workers whose work activities or past exposure may still fall under the organisation’s duty of care or legal obligations.

Workplace exposure limits (WELs) ⁶⁰

‘WELs are British occupational exposure limits and are set to help protect the health of workers. WELs are concentrations of hazardous substances in the air, averaged over a specified period, referred to as a time-weighted average (TWA). Two time periods are generally used: long-term (8 hours) and short-term (15 minutes).’ They may also be expressed as workplace environmental exposure limits (WEELs). For example, the OSHA PEL for methyl chloride is 100 ppm per 8-hour TWA.



6. Duties and responsibilities

Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

Occupational Health Physicians/Doctors

- Provide support and advice to occupational health nurses, technicians and clinical physiologists undertaking health surveillance.
- Receive referrals requiring escalation.
- Where a case of occupational health disease – carpal tunnel syndrome, occupational dermatitis, hand-arm vibration syndrome, occupational asthma and tendonitis or tenosynovitis – has been confirmed, advise management of their legal duty to report under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR).⁴⁸
- Issue instructions for chest X-rays when workers are exposed to health hazards such as silica dust, asbestos, or ionising radiation, and when there is a reasonable likelihood that work-related illness or injury may develop. (HSE guidance typically recommends a baseline chest X-ray, followed by X-rays at specified intervals (e.g. after 15 years of exposure and then every three years), unless a health professional advises otherwise.)
- It is the duty of the occupational health physician (the GMC-registered medical practitioner) – when responsible for the supervision of any health surveillance protocols not covered by specific legislation – to disclose their duties within their “scope of practice” when subject to appraisal, to ensure competency is backed up by appropriate continuing professional development (CPD).

Occupational Health Nurses/Advisers

- Ensure health surveillance is undertaken on workers as identified and in accordance with agreed protocols.
- Ensure access to risk assessment and other pertinent information from the employer.
- Undertake site visits to understand the workplace and the context of work and exposures.
- Occupational health nurses and advisers may complete the screening assessment with the worker and supervise any screening assessment undertaken by a technician.
- Report the results of all health surveillance carried out back to the employer (as agreed with them) to maintain the health record. This may only be undertaken by nurses and advisers with an OH qualification.
- Issue the health record to HR/Management, containing advice to retain the record securely for 40 years from the date of the last entry (or to pass onto the next employer as required).
- Notify the worker and relevant manager/HR/H&S of the outcome of the assessment with a written statement of fitness including any adjustments, restrictions and recommendations required.
- Escalate the assessment to the occupational health physician if deemed necessary.
- Report grouped anonymised results to the relevant manager.
- Where a case of occupational asthma, HAVS, or other reportable disease has been confirmed by a doctor, advise management of their legal duty to report under RIDDOR.
- Determine the frequency of the medical/health assessment review and state this on the health record.
- Maintain a recall system to ensure the named contact person is advised when an individual's health surveillance is due, as well as supplying information about non-attendees.



Occupational Health Technicians

- Technicians engaged in health surveillance work should receive training from a competent training provider for the specific aspects of work they undertake, such as spirometry and audiometry.
- Their work must be supervised by an OH physician or OH nurse/adviser.
- Undertaking health surveillance does not include interpreting test results or providing feedback from the health surveillance.
- Escalate outcomes against a set of criteria for each tier level required, and according to the escalation process.

Occupational Health Administrators

- Arrange the schedule of clinics and appointments where applicable, unless this is placed directly by the employer or HR.
- Distribute any preparatory paperwork (which may be electronic) to workers in advance of their appointment, for example, pre-appointment information and contraindications.
- Provide statistics to HR on the outcome of clinic attendance.
- May act as a dependable person in the event of an emergency – contacting emergency services/ maintaining the privacy of individuals/providing non-clinical assistance to team members.

Human Resources

- Under the Health & Safety at Work etc Act 1974, employers have a duty to protect workers' health, safety and welfare. Section 2(2)(c)⁶¹ requires:
"the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his workers."
- Provide a flexible approach to permit worker attendance at health surveillance appointments during working hours.
- Inform Occupational Health of new starters to enable prompt baseline assessment to be arranged (as soon as possible following employment or before exposure to a hazardous agent or in any case within the first six weeks of such).
- Report any occupational diseases identified through health surveillance to the Health and Safety Office for reporting to the Health and Safety Executive under RIDDOR.

Workers

- Comply with the health surveillance programme.
- Have a legal duty to attend appointments – Health and Safety at Work etc Act 1974.
- Ensure workers can attend health surveillance appointments during work time, and the employer pays for the surveillance.
- Early reporting to management/OH of any possible work-related ill health symptoms.

Health and Safety

- Collaborate with managers to undertake sufficient and suitable risk assessment in line with relevant legislation to determine the requirements for workers to participate in health surveillance.



Hygienists

- Identify hazardous agents in the workplace.
- Evaluate exposure to those hazardous agents to determine the level of risk, assessing potential harm to workers and ensuring compliance with workplace exposure limits (WELs).
- Advise employers to apply engineering controls to reduce the risk, when necessary, such as local exhaust ventilation.
- Use administrative measures to further reduce risk, such as developing a procedure on how to operate machinery safely or signs to warn people of a hazard.
- Select appropriate personal protective equipment (PPE) to reduce risk further if still required and as a last resort, or as an interim protective measure.

Health and Safety Executive (HSE)

- Provide advice, information and guidance.
- Raise awareness in workplaces by influencing and engaging.
- Operate permissioning and licensing activities in major hazard industries.
- Carry out targeted inspections and investigations.

Purchasers

To ensure you buy the proper support:

- Know your health needs – this should be based on your risk assessment.
- Use your resources cost-effectively by using a risk-based approach to occupational health.
- Consider if you are buying occupational health support for health surveillance only or if you also need support related to other occupational health activities, for example safety-critical medicals or managing sick leave.
- Understand the services you require to help you choose an occupational health professional with the right skills and competence, including experience relevant to your type of workplace.
- Ask for an occupational health doctor or nurse to observe your work activities. They must understand your health hazards and risks.
- Seek assurance from the occupational health professional that they can provide the services you require, perhaps by asking for testimonials from previous customers.⁶²



7. Legal requirements Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

Both criminal and civil law apply to workplace health and safety. They are not the same. Under health and safety criminal law, the primary intention is to ensure the health, safety and welfare of people at work and others affected by work activities by imposing legal duties on employers to protect workers and others from risks arising from work, and by providing mechanisms to enforce these duties, including prosecution for breaches.

In many jurisdictions, health and safety regulators can pursue criminal prosecution for serious breaches of workplace safety laws, such as failing to implement legally required surveillance of workers exposed to asbestos or lead.

Affected individuals may also bring a civil lawsuit seeking compensation for harm caused by that failure. These two legal paths can run concurrently: an employer may face criminal penalties from the state and civil damages owed to a worker.

The main pieces of legislation dealing with health and safety are the Health and Safety at Work etc Act 1974⁶³ and the Management of Health and Safety at Work Regulations 1999.⁶⁴

Health surveillance is a legal requirement in circumstances where there is still a residual risk to workers' health from noise, vibration, or hazardous substances, despite any control measures in place.

Criminal Prosecution vs. Civil Liability in Health Surveillance

Health surveillance spans multiple sectors – including occupational, environmental, public health and clinical care – and is governed by overlapping civil and criminal legal frameworks. The following table illustrates how failures in health surveillance can give rise to criminal prosecution and/or civil liability, using specific hazard-related examples.

Examples across health surveillance domains

Health Hazard / Surveillance Type	Criminal Prosecution	Civil Liability
Asbestos exposure	Employer prosecuted for failing to implement legally required asbestos medical surveillance and exposure controls under occupational safety law.	A worker develops mesothelioma and sues for damages due to the employer's failure to monitor and mitigate asbestos exposure.
Lead exposure	Failure to conduct biological monitoring for lead in battery manufacturing results in prosecution under hazardous substances legislation.	Worker suffers cognitive or reproductive harm and brings a negligence claim for lack of surveillance and protective action.
Hand-arm vibration syndrome (HAVS)	Employer prosecuted for not conducting regular health checks despite high tool vibration exposure in construction.	Worker develops permanent nerve damage and sues for compensation due to delayed diagnosis and failure to act on early symptoms.
Skin surveillance (e.g. dermatitis)	Prosecution for not assessing or monitoring skin exposure to sensitisers or irritants in chemical manufacturing.	Worker with occupational dermatitis sues for lack of health surveillance and inadequate PPE provision.



Respiratory hazards (e.g. silica, dust)	Criminal penalties for failure to conduct lung function tests in workers exposed to respirable crystalline silica.	Civil claim for chronic obstructive pulmonary disease (COPD) due to prolonged unmonitored exposure.
Noise-induced hearing loss (NIHL)	Prosecution under workplace noise regulations for failure to provide mandatory audiometric testing.	Worker with irreversible hearing loss sues for damages due to absence of timely health surveillance.
Infectious disease surveillance	Healthcare facility prosecuted for failing to report tuberculosis cases to public health authorities.	An immunocompromised patient infected due to a delayed outbreak response files a civil suit for negligence.

Key legal distinctions

Legal Element	Criminal Prosecution	Civil Liability
Purpose	Punish and deter unlawful conduct that endangers public health.	Compensate injured parties for preventable harm.
Initiated by	State or regulatory authority (e.g. prosecutor, inspector).	Private party (e.g. worker, patient, resident).
Standard of proof	Beyond a reasonable doubt.	Balance of probabilities (more likely than not).
Outcomes	Fines, imprisonment, corporate penalties, licence revocation.	Monetary damages, injunctions, court-ordered remedies.

Examples

Criminal: An employer who fails to conduct legally mandated audiometric testing for workers exposed to excessive noise may face criminal prosecution under workplace safety legislation.

Civil: A worker who develops irreversible hearing loss due to that failure may file a civil suit for damages due to negligence or breach of statutory duty.

Inadequate health surveillance can expose organisations to dual legal risks: criminal prosecution for violating statutory obligations and civil lawsuits for harm caused by neglect. Robust, proactive health surveillance systems are therefore critical not only for public and occupational health but also for minimising legal and financial liability.

A breach of health and safety legislation, coupled with a failure to fulfil legal obligations, can constitute professional negligence, exposing the manager to legal liability and potential criminal conviction.

The Control of Substances Hazardous to Health (COSHH) 2002⁶⁵ requires that workers who are, or are liable to be, exposed to substances hazardous to health participate in health surveillance.



COSHH Regulations require employers to:

- Assess risks – this must be suitable and sufficient. Regulation 6(1)
- Prevention/control of exposure – Regulation 7
- Provide adequate control measures and ensure their use and maintenance – Regulations 8 & 9
- Monitor exposure and the effectiveness of the controls – Regulation 10
- Provide information, instruction and training – Regulation 12
- Provide health surveillance in appropriate circumstances – Regulation 11.

Health surveillance is legally required where work undertaken by workers has the potential to cause a specific disease, or if the worker is exposed to any substance or process specified, and the following three factors all apply:

1. If it is likely that certain disease(s) will occur under the work conditions
2. There is a valid way to detect the disease
3. Health surveillance will benefit the worker

'Health surveillance:

1. *Should only be used for workers who need it*
2. *Provides feedback about actions to take to prevent further harm and protect workers*
3. *Allows workers to raise concerns about how work affects their health*
4. *Provides the opportunity to reinforce workers' training and education.'*

Summary of employer obligations by legislation

Health and Safety at Work etc Act 1974 (HSWA)

- Provide safe systems of work, so far as is reasonably practicable.
- Prevent risks to employee health, safety and welfare.
- Conduct suitable, task-specific risk assessments to identify and manage risks.
- Implement appropriate controls based on risk findings.

Management of Health and Safety at Work Regulations 1999

- Identify workplace hazards and assess risks to employees.
- Eliminate risks where possible; otherwise, apply proportionate controls.
- Record and regularly review risk assessments to ensure they remain current.
- Provide health surveillance where the risk assessment identifies need.
- Ensure managers are competent to carry out risk assessments.

Control of Substances Hazardous to Health (COSHH) Regulations 2002

- Conduct risk assessments before work involving exposure to hazardous substances.
- Prevent or adequately control exposure through engineering, procedural or PPE controls.
- Provide health surveillance where there is a risk of exposure-related ill health.
- Maintain and retain health records for statutory periods.
- Review assessments regularly, especially after changes in substances, work methods or incidents.



Control of Electromagnetic Fields at Work Regulations 2016

- Assess risks of exposure to electromagnetic fields (EMFs).
- Ensure exposure remains below legal limits.
- Implement controls where exposure risks are identified.
- Provide health surveillance if employees report exposure-related symptoms or risks are identified.

Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002

- Assess risks from dangerous substances that could cause a fire or an explosion.
- Implement controls to eliminate or reduce risks, including zoning, ignition control, ventilation and safe handling.
- Provide training and emergency procedures based on assessed risk.
- Maintain documentation and review after changes to substances or processes.

Ionising Radiations Regulations

- Conduct radiation risk assessments before commencing any work with ionising radiation.
- Restrict and control employee exposure to statutory dose limits.
- Designate controlled areas and implement monitoring arrangements.
- Provide medical surveillance to workers classified as radiation-exposed.
- Maintain exposure records for legally required retention periods.

Control of Noise at Work Regulations 2005

- Employers must assess noise exposure levels, implement controls to reduce exposure, provide hearing protection where required, provide health surveillance (such as audiometry) where workers are at risk of hearing loss, and monitor exposure.

Control of Vibration at Work Regulations 2005

- Employers must assess risks from hand-arm and whole-body vibration, reduce exposure below action levels, review and monitor controls, and provide health surveillance where employees are at risk of vibration-related injury.

Data Retention Obligations (Health Surveillance Context)

- Retain employee medical records where required by statutory surveillance rules.
- Restrict data processing to health and safety compliance purposes only.
- Retention periods override data-erasure requests where required by law.
- Ensure secure storage and controlled access to health information.



Facilitating worker participation

Christine Poulter (Reviewed by Professor Kevin Bampton, LLB, FHEA, FCMI)

Workers must be given sufficient advance notice to attend OH or health surveillance appointments during paid working hours. Although HSE does not explicitly use the term “adequate notice”, the requirement is implicit in the Management of Health and Safety at Work Regulations 1999⁶⁷ and in HSE guidance on consulting workers about health surveillance. It is further supported by the Safety Representatives and Safety Committees Regulations 1977 and the Health and Safety (Consultation with Workers) Regulations 1996, which require employers to inform and consult workers or their representatives about health surveillance arrangements.

In practice, appointments should normally be communicated a couple of weeks in advance, with details of date, time, location and purpose. Insufficient notice may be considered a barrier to effective participation in health surveillance. Failing to give adequate notice could be seen by HSE as a barrier to effective participation in health surveillance.

HSE guidance is not legally binding unless stated but following it generally demonstrates legal compliance. Regulation 7 of the Management of Health and Safety at Work Regulations 1999 requires employers to cooperate with occupational health services and to understand relevant workplace hazards and risks, including risk assessments.

There is no statutory requirement in UK law or HSE guidance for organisations to provide 24-hour occupational health services. Employers must offer health assessments to workers, including night workers, but assessments do not need to occur during the worker’s actual night-shift hours. Workers may attend during daytime or other mutually agreed times, and employers must make reasonable adjustments – such as paid release from duty, schedule changes, or shift cover – so that attendance does not disadvantage the worker or impact on service delivery. HSE advises that shift workers should, so far as is reasonably practicable, have access to equivalent facilities as daytime workers. In line with this, OH and health surveillance appointments will generally be scheduled during daytime hours, with employers ensuring night workers can attend through reasonable rota adjustments and paid time to attend.

Some NHS or private sector contracts may voluntarily require OH providers to offer 24/7 telephone advice lines, but this is contractual rather than a legal obligation.

> See [Appendix One: Example letter to a worker to participate in health surveillance](#).

HSE has produced simple guidance on what health surveillance is required. The COSHH Essentials document⁶⁸ covers the requirements for health surveillance from an occupational health provider context in relation to the following regulations:

- Control of Substances Hazardous to Health (COSHH) 2002
- Control of Noise at Work Regulations 2005 – refer to the section on Noise
- Control of Vibration at Work Regulations 2005 – refer to the section on HAVS

It also covers the requirements for health surveillance medical checks in relation to the following regulations:

- Control of Asbestos Regulations 2012 – refer to the section on Asbestos



- Control of Lead at Work Regulations 2002 – refer to the section on Lead
- Regulation 7 of the Working Time Regulations 1998⁶⁹ requires that any night workers be offered a confidential, free health assessment before taking up the assignment. However, this is not defined as health surveillance.

See SOM document 'What might best practice look like for managing good sleep practice for night workers at work?' for full guidance.⁷⁰

Attendance at health surveillance appointments is an important element of an employee's duty to cooperate with their employer's health and safety arrangements. While the Health and Safety at Work etc. Act 1974 does not impose an explicit duty to attend health surveillance appointments, section 7 requires employees to cooperate with their employer so far as is necessary to enable compliance with statutory health and safety duties. Consequently, where health surveillance is required by legislation or forms part of the employer's risk control measures, attendance should be regarded as best practice and an expected aspect of that duty to cooperate.

Where a worker declines or fails to attend health surveillance, the employer should consider whether they can continue to be safely deployed, undertake a suitable risk assessment, consider any reasonable adjustments, and manage the matter through a fair occupational health and human resources process, taking account of the specific statutory requirements applicable to the work.

Following a confirmed diagnosis of a reportable occupational disease by a doctor, the responsible person will be advised that the disease is reportable under Regulation 8 or RIDDOR⁷² (which is then the employer's responsibility).

Failure of a worker to attend assessments or participate in the health surveillance programme should be referred to management and/or Human Resources. Those who do not cooperate could, unknowingly, exclude themselves from certain work.

Where an employer fails to provide health surveillance that is required by law, enforcement action may be taken under the Health and Safety at Work etc. Act 1974 and/or the relevant statutory regulations (for example, COSHH, the Control of Noise at Work Regulations, or the Control of Vibration at Work Regulations). Enforcement may include advice, Improvement Notices, Prohibition Notices, or prosecution, depending on the seriousness of the breach and the risk to workers.

The responsible person, worker and/or directors and managers can each be held responsible for prosecution.

Examples of health surveillance failings

Examples of failings that may constitute breaches of occupational health standards, statutory health surveillance requirements, or an employer's duties under the Health and Safety at Work etc. Act 1974 and associated regulations include:

- Failure to undertake health surveillance using a validated, standardised, repeatable, and reliable method, with results compared against previous measurements where appropriate to identify trends or deterioration.
- Failure to establish and maintain the required health record in accordance with the relevant statutory requirements.
- Lack of appropriate competence, training, or supervision for those conducting or interpreting health surveillance assessments and data.



- Failure of the occupational health service to provide appropriate advice regarding the review of workplace risks, the effectiveness of existing control measures, or the protection of other workers who may be similarly exposed.
- Failure to recognise or appropriately investigate potential work-related symptoms or abnormal findings identified during health surveillance.
- Failure to escalate or refer workers with evidence of identifiable disease, adverse health effects, or abnormal surveillance findings for further clinical assessment or management.
- Inappropriate disclosure of confidential medical information to the employer or other third parties without explicit consent or another lawful basis for disclosure, contrary to the principles of medical confidentiality and data protection.

The specific statutory provisions applicable to these failings will depend on the nature of the workplace hazard and may arise under the Health and Safety at Work etc. Act 1974 and/or the relevant regulations, including, where applicable, the Control of Substances Hazardous to Health Regulations 2002, the Control of Noise at Work Regulations 2005, the Control of Vibration at Work Regulations 2005, and other hazard-specific legislation.

Consequences of non-compliance⁷³

- Criminal prosecution, fines and enforcement action.
- Employees may bring civil claims for injury, illness or occupational disease.
- Business impacts include loss of contracts, downtime, and reputational damage.
- Health impacts include long-term occupational illness and increased absence.
- Data protection breaches may occur when records are mishandled or deleted unlawfully.

Types of consequences

Criminal enforcement

- Prosecution by HSE, or local authority regulators
- Unlimited fines for organisations
- Imprisonment or personal liability for directors/managers
- Criminal conviction and enforcement notices

Civil and employee claims

- Compensation claims for work-related illness or injury
- Legal costs and increased insurance premiums
- Long-term liability for chronic conditions (e.g. HAVS, NIHL)

HSE enforcement action

- Improvement notices – requiring corrective action
- Prohibition notices – stopping unsafe work immediately
- Fee for intervention (FFI) charges for material breaches



Operational and commercial impact

- Loss of contracts and accreditation failures
- Reduced productivity and increased absence
- Costs of retrospective risk assessment and compliance remediation

Reputational damage

- Negative media and public scrutiny
- Reduced stakeholder confidence and recruitment impact
- Increased scrutiny by regulators and insurers

Data protection and medical records

- Breach of statutory retention periods
- ICO action for improper data handling
- Unlawful deletion of mandatory records



8. Governance Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

Clinical governance is core to delivering legal compliance, competency, policy, procedures and audit. Standards relating to information governance are included within the Safe Effective Quality Occupational Health Service (SEQOHS) standards set by FOM and can be used to benchmark.⁷⁴

OH providers must maintain records to meet legal and regulatory compliance and make arrangements to protect the confidentiality of clinical records.

Clinicians should adhere to their professional code of conduct, be competent to undertake any tests required of them, be aware of their boundaries for identifying normal and anomalous results and recognise when escalation to a higher-skilled clinician or occupational health physician is required.

All OH providers should maintain OH clinical records. This includes:

- Records to meet legal and regulatory compliance and professional best practice recommendations
- Arrangements for backing up computer data, backup verification, a safe backup system, and authorisation for loading programmes
- Procedures for the transfer of records on change of contract or close of business. While there is no legal requirement to transfer records between providers, it is deemed good practice. The data controller for outgoing records should ensure records are only transferred to competent persons, normally occupational health professionals or the subject of the data.
- 'The current FOM ethical guidance indicates that when a new occupational health provider is appointed, the employer should inform employees that their occupational health records will be transferred to the new provider, allowing individuals the opportunity to object (opt out) prior to the transfer.'⁷⁵



9. Data processing Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

Personal and sensitive data requires compliance with the Data Protection Act 2018⁷⁶ and the UK General Data Protection Regulation (UK GDPR) 2018.⁷⁷

The Information Commissioner's Office provides detailed guidance on how to process workers' health information lawfully.⁷⁸

Clinicians need to adhere to their professional code of conduct regarding record keeping.

Consent

In health surveillance, obtaining informed consent from the individual is mandatory. This means the worker understands the purpose, nature, risks and benefits of the surveillance, and they voluntarily agree to participate.

Confidentiality and data protection regulations must be followed, and individuals can access their records and receive feedback.

Explicit consent is required prior to undertaking any intervention.

The retention of health surveillance records is determined by statutory requirements and the lawful basis for processing under the UK GDPR and the Data Protection Act 2018, rather than by the continuing consent of the worker. Where legislation requires health records to be retained for a specified period, those records must be maintained for that period irrespective of whether the worker subsequently withdraws consent for their use or disclosure. The right to erasure under UK GDPR is therefore not absolute and does not apply where processing or retention is necessary to comply with a legal obligation or for the establishment, exercise, or defence of legal claims.

Retention periods should be based on the requirements of the relevant legislation governing the specific health surveillance programme. For example, the Control of Substances Hazardous to Health (COSHH) Regulations 2002 require certain health records to be retained for 40 years where health surveillance is undertaken because of exposure to specified hazardous substances. However, a 40-year retention period does not automatically apply to all forms of health surveillance. Where legislation does not prescribe a retention period, records should be retained in accordance with applicable statutory requirements, professional guidance, and organisational retention policies, taking account of the purpose for which they are held and any potential future need to demonstrate compliance or investigate occupational disease.

Under UK GDPR, a statement of fit or not fit, without disclosure of medical status, is acceptable.

Where relevant and appropriate, written consent is required prior to any medical information being relayed to the manager or HR.

Where consent is declined, a statement may be produced stating that Occupational Health is unable to verify the worker's fitness for work (i.e. fitness for continued exposure to the agent(s) identified).

In cases where the worker declines consent, the employer should be advised that in the absence of an assessment, the organisation may be unable to fully discharge its legal duties under COSHH Regulations 2002 Regulation 10 to monitor exposure of hazardous substances, and Regulation 11 to provide appropriate health surveillance, and under the Management of Health and Safety at Work Regulations 1999 Regulation 6 to provide appropriate health surveillance.



See the Faculty of Occupational Health Nursing (FOHN) publication 'Consent and Confidentiality in OH' for advice on consent and failure to obtain consent.⁷⁹

Consent and disclosure of information in health surveillance

The Faculty of Occupational Medicine (FOM) Ethics Guidance^a identifies informed consent as a fundamental principle of occupational health practice. Consent is not simply the signing of a form but an ongoing process through which an individual understands the purpose of the assessment, how information will be used, the potential outcomes, and who may receive the information before agreeing to proceed.

For consent to be valid, it should be:

1. **Informed** – based on a clear explanation of the purpose of the health surveillance, the process involved, the potential outcomes, how information will be used, and with whom it may be shared.
2. **Voluntary** – given freely without coercion, undue influence, employer pressure, or fear of disadvantage.
3. **Specific** – relating to a clearly defined purpose and not relied upon as a blanket agreement for unrelated activities or future disclosures.
4. **Capacitous** – given by an individual who has the capacity to understand, retain, weigh the relevant information, and communicate their decision.
5. **Revocable** – capable of being withdrawn at any time before information is disclosed or the activity proceeds, unless disclosure is required by law.
6. **Documented** – appropriately recorded within the occupational health clinical record, including any limitations or conditions attached to the consent.

Implied, explicit and UK GDPR consent

In practice, consent may be *implied* or *explicit*.

Implied consent is demonstrated through an individual's actions. For example, voluntarily attending and participating in a health surveillance assessment generally implies consent for the assessment itself to be undertaken. However, implied consent should not be assumed to extend to the disclosure of confidential medical information.

Explicit (or express) consent is a clear verbal or written agreement to a specific action. This should be obtained whenever confidential medical information is to be disclosed to an employer or another third party, unless there is a statutory or overriding legal basis for disclosure.

It is also important to distinguish **ethical** consent from **UK GDPR** consent. Under UK GDPR, consent is only one of several lawful bases for processing personal data, and occupational health services frequently rely on other lawful bases, such as compliance with a legal obligation or the provision of occupational medicine. Ethical consent to undertake a health surveillance assessment should therefore not be confused with the legal basis for processing personal data.

Disclosure of information to the employer

The FOM Ethics Guidance recognises that employers require sufficient information to discharge their statutory duties for health and safety, while occupational health practitioners have a corresponding duty to preserve medical confidentiality. The principle is one of minimum necessary disclosure.



A health surveillance certificate or fitness outcome is not a confidential clinical report. It is a workplace document that may be accessed by managers, Human Resources personnel, health and safety professionals, regulatory inspectors, or others with a legitimate organisational need to know. For this reason, it should contain only the information necessary for workplace risk management and should avoid unnecessary disclosure of confidential medical information.

In most circumstances, the employer requires only a functional outcome, such as:

- Fit for work
- Fit for work with restrictions or adjustments
- Temporarily unfit
- Further occupational health assessment required

The certificate may also include recommendations for workplace restrictions or adjustments where these are necessary to protect the health and safety of the employee or others. It should not routinely include a medical diagnosis, clinical findings, investigation results, details of treatment or medication, or other confidential medical information. Such information is rarely necessary for the employer to manage workplace risk and should remain within the occupational health clinical record.

There are, however, circumstances where disclosure of relevant medical information may benefit both the employee and the employer—for example, to explain the need for specific workplace adjustments, rehabilitation measures, redeployment, or temporary restrictions. In these situations, the practitioner should discuss the proposed disclosure with the employee and obtain explicit informed consent, ensuring that the individual understands what information will be shared, with whom, for what purpose, and the potential implications of that disclosure.

Accordingly, the guiding principle is that employers should receive only the information necessary to enable appropriate management decisions, while confidential clinical information remains protected unless the individual has consented to its disclosure or disclosure is otherwise required by law.

Record-keeping

Clinicians must adhere to their professional codes of practice.

Access to a health record (that does not contain confidential information), i.e. the outcome of the health surveillance), must be kept for 40 years under COSHH.⁸⁰

Health records should be kept for at least the duration of a worker's employment. OH providers may retain them for longer, as enquiries about an individual's hearing may arise years after they have left the organisation. It is considered good practice to provide workers with a copy of their health record when their employment ends. Inspectors from enforcing authorities may request access to these records to verify compliance with the regulations. If the business ceases trading, individual records may be passed directly to the worker.

Health record

Each worker requires a completed health record without clinical data (unless consent has been given to provide clinical data). Refer to the General Definitions sections for requirements.

> See [Appendix Two: Occupational Health Surveillance Record](#).



Anonymised grouped results

The OH service is required to provide anonymised results for groups of workers to assess the effectiveness of their control measures. Therefore, for larger groups of workers, the OH provider should assist the employer by providing relevant anonymised information.^{81, 82}

Reporting on small groups may result in loss of anonymity. The Minimum Group Sizes – Evidence & Practical Recommendation guidance table may assist in identifying precautions.

Minimum Group Sizes – Evidence & Practical Recommendation⁸³

Minimum Group Size	Reporting Guidance	Notes/Examples
1–4 employees	Do not report specific health conditions	Combine with other sites/periods; report only very broad categories
5–9 employees	Report only very broad categories	Avoid identifiable conditions; percentages may still be risky
10–19 employees	May report broad categories and some percentages	Avoid small subgroups (e.g. a single asthma case)
20+ employees	Grouped anonymised statistics generally safe	Can report by department/location/condition category
50+ employees	Detailed aggregated statistics usually safe	Can report most conditions, trends and comparisons

Sources:

7. ICO (UK GDPR) – Anonymisation guidance
 8. NHS Digital – ISB1523: Anonymisation Standard for Publishing Health and Social Care Data
 9. Office for National Statistics – Statistical Disclosure Control guidance
 10. Washington State Department of Health – Guidelines for Working with Small Numbers
 11. Sweeney, L. – k-Anonymity framework (privacy literature)
- > See [Appendix Three](#): Anonymised surveillance group results.

The UK General Data Protection Regulation (GDPR) 2018 confers upon data subjects the right to request the erasure of personal data pursuant to Article 17 (“right to be forgotten”). However, this right is subject to specific legal exemptions. Under Article 17(3)(b) GDPR, the right to erasure does not apply where processing is necessary for compliance with a legal obligation to which the data controller is subject.

In the context of occupational health and safety legislation, employers and designated health professionals may be legally required to retain personal health data for mandatory or medical surveillance. Such statutory obligations – designed to protect individual and public health, ensure workplace safety, and fulfil regulatory reporting requirements – override a data subject’s erasure request. Data controllers must therefore preserve the relevant medical records for the legally mandated retention period, ensuring processing remains strictly limited to the scope and duration required by applicable health and safety laws.



10. Training and competencies

Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

Occupational Health professionals (nurses and doctors) advising on health surveillance should hold relevant Occupational Health qualifications. The Faculty of Occupational Medicine (FOM) states within the 2023 Safe Effective Quality Occupational Health Service (SEQOHS) standards: 'An OH service must ensure that its staff have the knowledge, skills, qualifications, experience and training for the tasks they perform.'⁸⁴

Doctors

GMC-registered medical practitioners should hold an occupational medicine qualification.⁸⁵

- Practitioners with a Diploma in Occupational Medicine (DOccMed) have a basic level of competence across the field of occupational medicine and understand the practical and ethical considerations that apply at work.
- Associates of the Faculty of Occupational Medicine hold a higher qualification (AFOM) and are usually in training to become specialists.
- Members of the Faculty of Occupational Medicine (MFOM) are specialists who should be able to deal with the full range and complexity of workplace health problems.
- Clinicians (GMC-registered medical practitioners) should adhere to their professional code of conduct, be competent to undertake any tests required of them, be aware of their boundaries for identifying normal and anomalous results and recognise when escalation to a higher-skilled clinician or occupational health physician is required.
- When supervising any health surveillance protocols not covered by specific legislation, the clinician (GMC-registered medical practitioner) is expected to disclose their duties within their scope of practice when subject to appraisal to ensure competency is backed up by appropriate continuing professional development (CPD).

Nurses

Nurses registered with the Nursing & Midwifery Council (NMC) should hold an occupational health qualification (certificate, diploma, or degree), which may be recorded on Part 3 of the NMC Specialist Community Public Health Nursing (SCPHN) register, a PGCert, PGDip, or MSc in Occupational Health or Occupational Health Nursing (for nurses).

Also refer to: <https://ioh.org.uk/wp-content/uploads/2025/02/Occupational-Health-Nurse-competencies-abridged-2025-Final.pdf>

> See **Definitions** – Occupational Health Nurse/Adviser

An **appointed doctor** (AD) is a doctor approved by HSE to undertake medical surveillance under certain health and safety regulations, for example asbestos, lead, and ionising radiation.

A **responsible person**⁸⁶ is someone appointed who is competent to carry out simple screening and report any positive findings to an occupational health professional. They can be appointed from the workforce.

The responsible person should:



- Be trained to deliver the aspects of work they are involved in, such as simple screening. The training can be delivered by an occupational health professional or via a formal training course
- Have a clearly defined role
- Be someone trusted by the workforce
- Have good communication and interpersonal skills
- Create and send records to be stored as part of the health surveillance system
- Not make judgements if symptoms are disclosed to them.

Advisory reading: *Competence in Occupational Health* – an opinion piece by Kira Milne.⁸⁷ Cross-reference to the Competent Person and the Responsible Person definitions for further details.

Occupational health technicians (OHTs)⁶³

- OHTs should have sufficient training and experience or knowledge and other qualities for undertaking OH activities.
- OHT roles and responsibilities should be clearly defined, and OHTs should be supervised by a competent occupational health practitioner. Technicians should not independently interpret clinical findings, determine fitness for work, provide clinical advice, or communicate health surveillance outcomes that require professional judgement.
- There should be systems of support for OHTs and an agreed standard of OH training in relation to the industry risks, as well as training in the specific HS activities such as spirometry, audiometry and HAVS. See: Ofqual accredited technician course, developed by SOM and NSOH in conjunction with Open Awards: See <https://openawards.org.uk/qualifications/open-awards-level-3-certificate-for-occupational-health-technicians-rqf/>

Ideally, appropriate training internally/externally validated, defined roles, robust supervision, monitoring, audit and review or any other equally effective means will ensure compliance.

Health and Safety Executive (HSE) does not directly offer or endorse specific 'training courses' for health surveillance. However, HSE does provide guidance and requirements for health surveillance, particularly in cases involving specific workplace hazards. HSE requires medical surveillance, for higher-risk hazards such as asbestos, lead, and ionizing radiation, to be conducted by a doctor appointed by HSE. For other health surveillance procedures, the employer is responsible for ensuring they are carried out by competent individuals.

11. Audit

Clinicians are reminded to adhere to the clinical audit process in accordance with recognised best practice and relevant local governance policies. Participation in regular audits supports continuous quality improvement, ensures compliance with regulatory standards and promotes optimal service outcomes. For further guidance, please refer to the Society of Occupational Medicine's [Occupational Health Audits](#) document.



12. Infection control Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

The clinical environment must be:

- Visibly clean and free from non-essential items and equipment to facilitate effective cleaning
- Well maintained, in a good state of repair and with adequate ventilation for the clinical specialty.

Hand hygiene

Clinicians undertaking clinical procedures should adhere to best practice for hygiene. This includes the “bare below elbows” approach, removing jewellery, having short fingernails without nail products and covering any cuts with waterproof dressings.

In environments without adequate hand hygiene facilities, the OH provider should supply and ensure use of alcohol-based hand gel (foam-based), for example 5 ml, which is best for busy clinics.

Gloves

‘Gloves should only ever be worn to protect healthcare workers from blood, bodily fluids, or certain drugs.’⁸⁸

Aprons must be worn to protect uniform or clothes from likely contamination.

Decontamination of hard surfaces and reusable non-invasive equipment (not plastics)

A fresh solution of general-purpose neutral detergent or non-alcohol wipes is recommended for routine cleaning. Surfaces contaminated with body fluids may be cleaned with 70% isopropyl alcohol.

Decontamination of equipment with plastic

Prolonged use of alcohol wipes on equipment with plastic cables and audio cups can cause them to become brittle, impairing their function. The parts of an audiometer that have been in contact with the operator should be cleaned with a soft cloth moistened with a mild solution of water and detergent, or with a non-alcohol wipe.

Non-critical items that come into contact with the worker’s skin or hair, such as supra-aural headphones, require low-level disinfection.

Semi-critical items, such as otoscope specula, should be single use only.⁸⁹

Decontamination of equipment containing stainless steel

As part of equipment cleaning protocols, spirometry turbines are typically decontaminated weekly or in accordance with local policy. The use of sodium hypochlorite should be carefully considered, as it is known to cause pitting and rusting of stainless steel products. Given the manufacturer’s instructions, hydrogen peroxide solution is a better option for items containing stainless steel. A record of cleaning frequency and method should be maintained.

Products used in cleaning

Always adhere to COSHH risk assessments for product use and to decontamination processes for the care environment. Any environmental policies for waste disposal must conform to the national infection control prevention manual.⁹⁰



Infection Prevention and Control Training

Occupational health professionals, advisors, technicians, and other staff involved in clinical work should have infection prevention and control knowledge appropriate to their role. As a minimum, Level 1 Infection Prevention and Control training is recommended for those undertaking clinical practice. This helps support safe care, meet recognised healthcare standards, and manage infection risks effectively within occupational health services. Free Level 1 training is available through the NHS e-Learning for Healthcare (e-LfH) platform and can be used as a foundation for staff development.



13. General requirements for risk assessment

Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

This section supports staff completing risk assessments. However, given the requirement to comment on improvements and preventative measures, it is crucial that those undertaking health surveillance provide appropriate feedback with suitable advice to the employer.

Risk assessments are not part of the health surveillance process itself, but are mandatory.

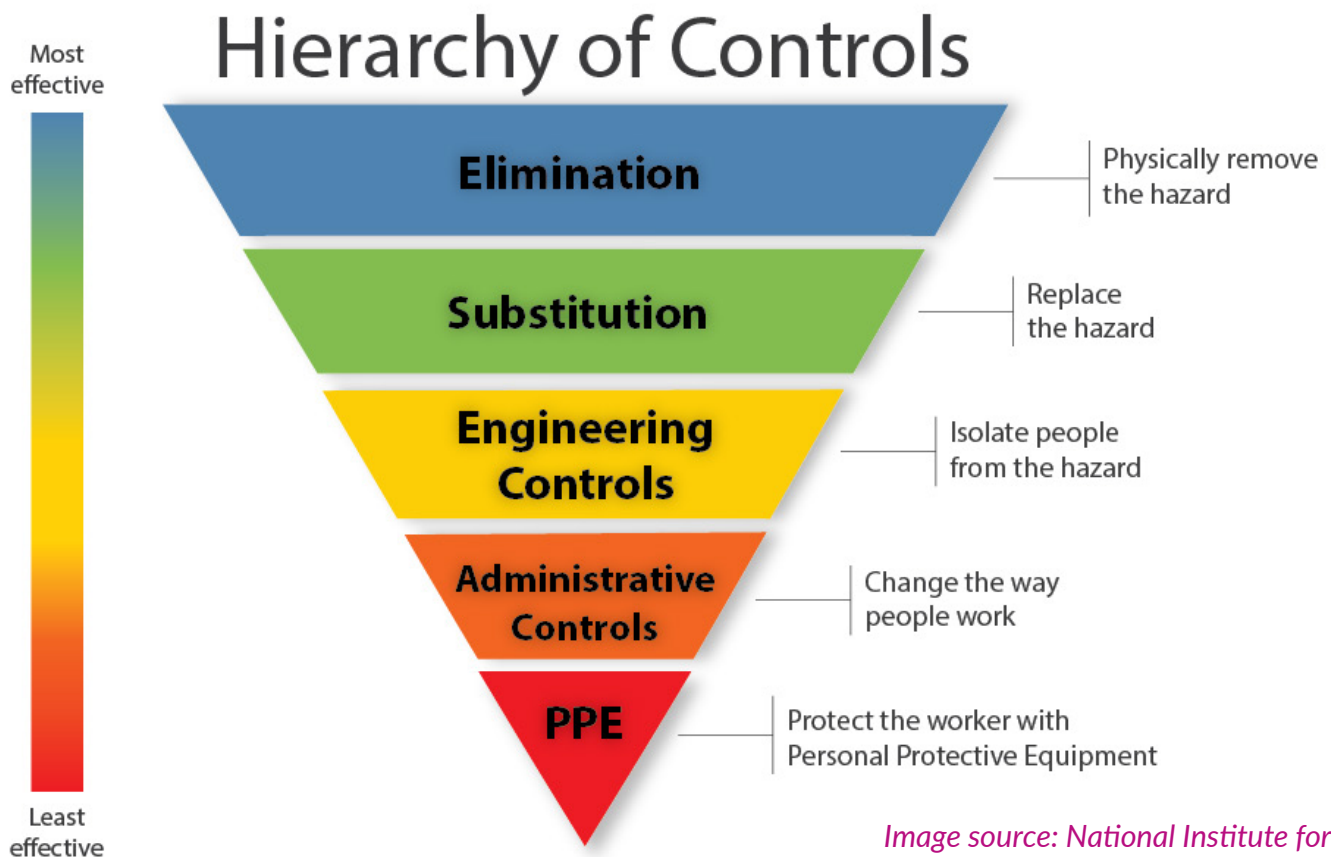


Image source: National Institute for Occupational Safety and Health (NIOSH). Hierarchy of controls. Atlanta, GA: Centers for Disease Control and Prevention. 2015.

Risk assessments must:

Be completed in line with the Management of Health and Safety at Work Regulations 1999 and the CDM Regulations

- Follow a hierarchical approach to risk control
- Be recorded
- Be reviewed and updated to ensure they remain current.

A suitable risk assessment must precede health surveillance.⁹¹



For ease of understanding and access, all text is quoted directly from the regulations rather than via links.

The legislation states that risk assessments must:

- Be created following the general requirements of the Management of Health and Safety at Work Regulations 1999 and the CDM Regulations
- Follow a hierarchical approach
- Be recorded
- Be reviewed and revised to ensure they remain current.

Employers and designated health professionals may be legally required to retain personal health data for mandatory or medical surveillance. Such statutory obligations – designed to protect individual and public health, ensure workplace safety, and fulfil regulatory reporting requirements – override a data subject's erasure request. Data controllers must therefore preserve the relevant medical records for the legally mandated retention period, ensuring processing remains strictly limited to the scope and duration required by applicable health and safety laws.

Section 2 of the Health and Safety at Work etc Act 1974 (HSWA)⁹² requires all employers to put in place systems of work which ensure, so far as is reasonably practicable, workers work without risk to their safety. This requires a bespoke risk assessment, which is best undertaken by the manager, since they are already required to understand the intricacies of the job role, the departmental structure, and the business needs and therefore will not breach confidential personal data.

Under the Management of Health and Safety at Work Regulations 1999,⁹³ the minimum that must be done is to:

- Identify what could cause injury or illness in your business (hazards)
- Decide how likely it is that someone could be harmed and how seriously (the risk)
- Take action to eliminate the hazard, or if this isn't possible, control the risk.

Assessing risk is just one part of the overall process used to control risk in the workplace.

The Management of Health and Safety at Work Regulations 1999 require every employer to provide workers with health surveillance appropriate to the risks to their health and safety, as identified by the risk assessment.

Health and Safety Executive (HSE)⁹⁴ advises that where the risk assessment shows the need to implement health surveillance, a programme should be provided that adequately addresses the risks and potential ill-health effects workers are exposed to. HSE recommends avoiding blanket coverage for all workers, as it can provide misleading results and be a waste of money.

COSHH 2002 Regulation 6(1)(b)⁹⁵ highlights the requirement to undertake the risk assessment before commencing any work that is liable to expose workers to any relevant hazardous substance(s).

Refer to [Appendix Four](#) COSHH Assessment Proforma (Example).

If required, also refer to (guidance not included in this document):

- The Control of Electromagnetic Fields at Work Regulations 2016⁹⁶
- The Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002⁹⁷
- The Ionising Radiations Regulations.⁹⁸



Legal Requirements for Risk Assessment vs. Health Surveillance⁹⁹

Legislation	Risk Assessment Required?	Health Surveillance Required?	Key Notes/Conditions
Health and Safety at Work etc Act 1974 (HSWA)	Yes – Employers must establish safe systems of work and manage risks	Not specified directly, but implied where risk requires monitoring	Overarching duty to protect worker health and safety 'so far as is reasonably practicable'
Management of Health and Safety at Work Regulations 1999	Yes – Identify hazards, assess and control risks, record and review	Yes, when identified by the risk assessment	Core regulation linking risk findings to surveillance requirements
Control of Substances Hazardous to Health (COSHH) Regulations 2002	Yes – Required before work involving hazardous substances	Yes, when exposure risks could cause work-related illness	Requires retention of health records and ongoing monitoring
Control of Electromagnetic Fields at Work Regulations 2016	Yes – Assess exposure levels to EMFs	Yes, where exposure could cause health effects or where symptoms occur	Ensure exposure remains below legal limits
Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) 2002	Yes – Required for fire, explosion and substance-related risks	No routine medical surveillance requirement	Focuses on ignition control, zoning, and safe systems rather than medical monitoring
Ionising Radiations Regulations	Yes – Prior to work with ionising radiation	Yes, for classified radiation workers	Requires statutory medical surveillance and long-term exposure record retention
Data Protection Context (Statutory Retention)	Not applicable	Yes, when required by other legislation	Statutory retention overrides data-erasure requests; applies to regulated exposure
Control of Noise at Work Regulations 2005	Yes, assess exposure levels	Yes, where there is risk of hearing damage	Surveillance typically includes audiometry
Control of Vibration at Work Regulations 2005	Yes, for HAV/WBV exposure	Yes, where there is risk of vibration-related injury	Ongoing monitoring and control review required



Mandatory Health Surveillance Categories & HSE Risk-Assessment Links¹⁰⁰

1. Asbestos

Risk assessment must be carried out before any work that is likely to disturb asbestos-containing materials (ACMs). This includes identifying ACMs, assessing exposure risk and implementing control measures.

- [HSE – Duty to manage asbestos: risk assessment](#)

2. Lead

Under the Control of Lead at Work Regulations, employers must assess work processes to determine exposure risks and whether health surveillance (including blood-lead monitoring) is needed.

- [HSE – Lead and health surveillance](#)

3. Biological Agents & Biological Monitoring

COSHH requires employers to assess risks from exposure to biological agents, including whether biological monitoring is needed (for example isocyanates via urine testing, risks of bloodborne viruses).

- [HSE – Monitoring the control of exposure to hazardous substances \(COSHH\)](#)
- [HSE – Assessing the risk of bloodborne viruses](#)

4. Noise at Work (Hearing Surveillance)

Risk assessment under the Control of Noise at Work Regulations to identify noise hazards, estimate exposure and decide if hearing checks are needed.

- [HSE – Managing noise risks](#)

5. Respiratory Health Surveillance

COSHH risk assessments must identify respiratory hazards such as welding fume, dusts, or chemicals that can cause asthma, COPD or other respiratory illnesses.

- [HSE – Guidance on respiratory risks \(G series\)](#)
- [HSE – Welding fume: protect your workers](#)

6. Skin Surveillance (Occupational Dermatitis)

Risk assessment to determine skin exposure risks and need for surveillance.

[HSE – Health surveillance for occupational dermatitis \(G403\)](#)

7. Hand-Arm Vibration (HAV)

Risk assessment to evaluate vibration exposure from tools/machinery and decide if HAV health surveillance is required.

- [HSE – Vibration risk assessment](#)

8. Whole-Body Vibration (WBV)

Risk assessment for exposure to WBV from driving or operating machinery over rough terrain.

- [HSE – The Control of Vibration at Work Regulations 2005](#)



14. Types of health surveillance

Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

Health surveillance can involve baseline, ongoing and exit surveillance. This can include medical assessments and specialised surveillance such as noise, respiratory, skin and biological monitoring. Surveillance can take the form of a health questionnaire, clinical assessments and grouped anonymised results of surveillance (for more than five workers) – ‘the collective results of any health surveillance undertaken in accordance with Regulation 11 in a form calculated to prevent those results from being identified as relating to a particular person’. ^{101, 102, 103, 104}

15. Exposures to noise Melanie Brewster, BSc (Hons), MSc

Indications for surveillance

Workers who are exposed to an eight-hour time-weighted average of 85 dB(A) or higher require health surveillance to identify and mitigate potential noise and sound exposure. Where there is a residual risk, they must be part of a suitable health surveillance programme involving audiometric testing as outlined in HSE’s guidance document L108¹⁰⁵ and The Control of Noise at Work Regulations 2005.⁸²

Health surveillance may also be necessary below the 85 dB(A) action value. See Regulation 9, Controlling noise at work, The Control of Noise at Work Regulations 2005.⁸²

‘The level at which employers must provide hearing protection and hearing protection zones is 85 dB(A) (daily or weekly average exposure) and the level at which employers must assess the risk to workers’ health and provide them with information and training is 80 dB(A). There is also an exposure limit value of 87 dB(A), taking account of any reduction in exposure provided by hearing protection, above which workers must not be exposed.’ ¹⁰⁶

Assessment of the risk to health and safety created by exposure to noise in the workplace.

- (1) An employer who carries out work which is liable to expose any workers to noise at or above a lower exposure action value shall make a suitable and sufficient assessment of the risk from that noise to the health and safety of those workers, and the risk assessment shall identify the measures which need to be taken to meet the requirements of these regulations.
- (2) In conducting the risk assessment, the employer shall assess the levels of noise to which workers are exposed by means of:
 - (a) observation of specific working practices
 - (b) reference to relevant information on the probable levels of noise corresponding to any equipment used in the working conditions
 - (c) if necessary, measurement of the level of noise to which their workers are likely to be exposed.



The employer shall assess whether any workers are likely to be exposed to noise at or above a lower exposure action value, an upper exposure action value, or an exposure limit value.

- (3) The risk assessment shall include consideration of:¹⁰⁷
- (a) the level, type and duration of exposure, including any exposure to peak sound pressure
 - (b) the effects of exposure to noise on workers or groups of workers whose health is at particular risk from such exposure
 - (c) so far as is practicable, any effects on the health and safety of workers resulting from the interaction between noise and the use of ototoxic substances at work, or between noise and vibration
 - (d) any indirect effects on the health and safety of workers resulting from the interaction between noise and audible warning signals or other sounds that need to be audible to reduce risk at work
 - (e) any information provided by the manufacturers of work equipment
 - (f) the availability of alternative equipment designed to reduce the emission of noise
 - (g) any extension of exposure to noise at the workplace beyond normal working hours, including exposure in rest facilities supervised by the employer
 - (h) appropriate information obtained following health surveillance, including, where possible, published information
 - (i) the availability of personal hearing protectors with adequate attenuation characteristics.'

Average sound exposure levels needed to reach the maximum allowable daily dose of 100%

Time to reach 100% noise dose	Exposure level per NIOSH REL
8 hours	85 dB(A)
4 hours	88 dB(A)
2 hours	91 dB(A)
60 minutes	94 dB(A)
30 minutes	97 dB(A)
15 minutes	100 dB(A)
5 minutes	105 dB(A)
2 minutes	110 dB(A)
1 second	130 dB(A)
Instant damage	140 dB(A)

For every 3 dB increase in noise level, the allowable exposure time is reduced by half.

A worker exposed to emissions of 92 dBs from an air compressor would exceed the daily noise exposure action value after two hours.

A worker exposed to a loud noise emitting crane emissions of 105 dBs would exceed the daily noise exposure action value after five minutes. However, if exposed to the same level of noise (105 dBs) for two minutes, it would be below the daily noise exposure action value.



Most industry-standard earplugs provide 25–32 dBs, and some over-ear models can reach up to 43 dBs. The illustration demonstrates that removing hearing protection for two minutes, or failing to don hearing protection in sufficient time, would be enough to allow the worker to exceed the daily noise exposure action. Workers may require reminders.

Exposure to noise

The Control of Noise at Work Regulations 2005 (the Noise Regulations) came into force in April 2006. Key points driving quality and, importantly, compliance for health surveillance programmes conducted under CNWR 2005 include:

1. All CNWR 2005 health surveillance programmes **MUST** have an appointed competent adviser in charge of the programme.
 - The competent adviser should be a health professional fully conversant in the technical and ethical aspects of occupational audiology and understand relevant workplace risks.
 - The competent adviser should also have the knowledge and competency to compare serial audiograms and is the person responsible for advising the employer around fitness for work (with noise).
 - The competent adviser is also responsible for quality control and for ensuring medical records are adequate and maintained.
2. The CNWR 2005 health surveillance programme must be agreed with the employer. The employer should make workers aware of the programme and the implications of it.
3. Any person conducting audiograms under the programme must, as a minimum, have appropriate training so that testing is repeatable and accurate.
4. Rooms, equipment and methodology used to test hearing under CNWR 2005 must meet the BS EN ISO 8253 standard.
5. There should be a compliant schedule of testing at baseline and over time.
6. Any diagnosis of noise-induced hearing loss (NIHL) must be confirmed by a doctor.
7. Fitness for work in noise advice should be provided by the competent adviser. The doctor may act as the competent adviser.
8. All audiograms must be assessed for NIHL by an appropriately qualified health professional.
9. Where new or progressive NIHL or rapid hearing loss is identified, the person should be referred to an appropriately trained doctor.
10. Results should not be a simple summary of the hearing category by the worker. Workplace risks must be accounted for.
11. If numbers allow for anonymity, analysis of results should include group anonymised information to assist the employer in understanding the overall effectiveness of noise control measures.
12. Noise health surveillance should only be conducted if the employer's risk assessment indicates there is a risk to the health of workers who are, or who are liable to be, exposed to noise, i.e. regular and frequent daily exposure at or above the upper EAV; occasional exposure at or above the EAV if there are concerns that preventative measures may not be effective; exposure between the lower and upper EAV; or occasionally above the upper EAV where there is a particular worker risk from noise. This includes those with pre-existing hearing loss or where there is increased individual risk from hearing loss.



Assessment of likely noise exposure

(a) the level, type and duration of exposure, including any exposure to peak sound pressure	
(b) the effects of exposure to noise on workers or groups of workers whose health is at particular risk from such exposure	
(c) so far as is practicable, any effects on the health and safety of workers resulting from the interaction between noise and the use of ototoxic substances at work, or between noise and vibration	
(d) any indirect effects on the health and safety of workers resulting from the interaction between noise and audible warning signals or other sounds that need to be audible to reduce risk at work	
(e) any information provided by the manufacturers of work equipment	
(f) the availability of alternative equipment designed to reduce the emission of noise	
(g) any extension of exposure to noise at the workplace beyond normal working hours, including exposure in rest facilities supervised by the employer	
(h) appropriate information obtained following health surveillance, including, where possible, published information	
(i) the availability of personal hearing protectors with adequate attenuation characteristics	



Workplace Noise Exposure Risk Chart

HIGH-RISK NOISE EXPOSURE JOBS (Likely >85–90 dBs) *High likelihood of permanent noise-induced hearing loss (NIHL)*

Industry/role	Typical noise sources	Risk level	Health effects	Screening focus
Construction/ Demolition	Jackhammers, breakers, angle grinders	Very High	NIHL, tinnitus	Audiometry, noise monitoring, PPE
Manufacturing/ Fabrication	Presses, conveyors, CNC, compressors	High	NIHL, communication difficulty	Baseline + annual audiometry
Metalworking/ Foundries/Welding	Grinding, hammering, furnaces	High	NIHL, tinnitus	Gas-transfer checks (if combined with fumes), audiometry
Aviation Ground Crew	Jet engines, runway machinery	Very High	Rapid permanent NIHL	Pre/post-shift hearing
Mining/Quarrying	Blasting, drilling, crushers	High	NIHL + vibration-related injury	Audiometry + environmental mapping

MODERATE-RISK JOBS (80–90 dBs, risk increases with duration)

Industry/role	Typical noise sources	Risk level	Health effects	Screening focus
Emergency Services (Fire/Police/Ambulance)	Sirens, engines, traffic	Moderate	Tinnitus, threshold shifts	Annual hearing tests
Transport & Logistics	HGVs, loading bays, forklifts	Moderate	Cumulative NIHL	Shift length + noise dosimetry
Live Events/Nightlife/ Music Venues	Amplified music, PA systems	Moderate– High	NIHL, auditory fatigue	Audiometry, PPE availability
Agricultural/ Farm Workers	Tractors, chainsaws, milking plants, grain dryers	Moderate– High	Progressive NIHL, tinnitus	Annual audiometry, machinery isolation
Estate Workers/ Groundskeepers/ Arborists	Lawn mowers, leaf blowers, hedge trimmers, chainsaws, strimmers	Moderate– High	NIHL, tinnitus, fatigue	Noise monitoring, tool maintenance, PPE compliance
Gardeners/Landscape Staff	Petrol mowers, strimmers, hedge trimmers	Moderate	Gradual NIHL	Audiometry if exposure >80–85 dBs

LOW-TO-MODERATE RISK JOBS (Intermittent, environment-dependent)

Industry/role	Typical noise sources	Risk level	Health effects	Screening focus
Healthcare & Dental	Suction, drills, alarms	Low– Moderate	Tinnitus with prolonged exposure	Spot checks, equipment assessments
Education/Childcare	Classroom noise, playgrounds	Low– Moderate	Stress + auditory fatigue	Screening only if symptomatic
Offices & Call Centres	Headsets, high speech levels	Low	Ear fatigue, stress	Volume limits, noise hygiene



Publications (links in titles)

Title/Section	Purpose
The Control of Noise at Work Regulations 2005	The overarching noise at work legislation under The Health and Safety at Work etc Act 1974.
L108: Controlling noise at work	This is the overarching HSE guidance document supporting the primary legislation aimed at employers and other duty holders including occupational health professionals.

Publications relating to CNWR 2005 health surveillance standards and training

Title/Section	Purpose
Minimum training guidelines – surveillance audiometry	British Society of Audiology This document outlines the minimum training recommended for undertaking surveillance audiometry and can be used as a guide by training providers.
Minimum training guidelines – ear examination	British Society of Audiology These guidelines are for personnel who are not qualified audiologists, but who wish to carry out ear examinations as part of their service. The BSA encourage these personnel to adopt high-quality procedures which conform to nationally recognised standards.
BS EN ISO 8253-1:2010 Acoustics	Audiometric test methods. Pure-tone air and bone conduction audiometry (British Standard) ISO 8253-1:2010 specifies procedures and requirements for pure-tone air conduction and bone conduction threshold audiometry. For screening purposes, only pure-tone air conduction audiometric test methods are specified.

CNWR 2005 publications for employers and workers

Title/Section	Purpose
Noise: Advice for employers: Health Surveillance	An overview for the employer of noise health surveillance, how this is arranged, what to expect from the provider and what to do with the results.
Exposure calculators and ready reckoners	Under the topic of noise, this section enables employers (or other duty holders) to work out daily and weekly noise exposure and to estimate the performance of hearing protection.
Worried about your hearing?	A section under the topic of noise for workers. Useful for signposting workers to for advice about their hearing.
Employers' legal duties	A summary of employers' duties under CNWR 2005. Useful for signposting service users to if they are unsure of their obligations.
Noise at work	A guide for employers around noise risk and employer duties.
Don't lose your hearing	Information for workers around hearing conservation and what they can expect from their employers if they are exposed to noise at work. There is also industry-specific advice.

Other publications which relate to health surveillance, but are not specific to CNWR 2005

Title/Section	Purpose
Health surveillance and occupational health	Several subsections under health surveillance, including setting up health surveillance schemes.
Health surveillance	Explains the role of occupational health to the employer, including advice around purchasing occupational health services and assessing provider competency.



Exposure limits

The Control of Noise at Work Regulations 2005 (the Noise Regulations) came into force in April 2006.

The duties in the Noise Regulations are in addition to the general duties set out in the Health and Safety at Work etc Act 1974 (the HSW Act). These general duties extend to the safeguarding of the health and safety of people who are not workers, such as students, voluntary workers, visitors and members of the public. Workers also have duties under the HSW Act to take care of their own health and safety and that of others whom their work may affect, and to co-operate with employers so that they may comply with health and safety legislation.

The Noise Regulations are designed to protect against risks to both health and safety from exposure to noise – the health risk of hearing damage in those exposed, and safety risks such as noise affecting the ability to hear instructions or warning sounds.

There are five regulations under the Control of Noise at Work Regulations 2005. **Regulation 4** specifies the exposure limit and action values and **Regulation 9** places the legal duties around health surveillance for noise.

Regulation 4: Exposure limit values and action values	Regulation 9: Health surveillance
(1) The lower exposure action values are: (a) a daily or weekly personal noise exposure of 80 dBs (A-weighted) (b) a peak sound pressure of 135 dBs (C-weighted). (2) The upper exposure action values are: (a) a daily or weekly personal noise exposure of 85 dBs (A-weighted) (b) a peak sound pressure of 137 dBs (C-weighted). (3) The exposure limit values are: (a) a daily or weekly personal noise exposure of 87 dBs (A-weighted) (b) a peak sound pressure of 140 dBs (C-weighted). (4) Where the exposure of an employee to noise varies markedly from day to day, an employer may use weekly personal noise exposure in place of daily personal noise exposure for the purpose of compliance with these regulations. (5) In applying the exposure limit values in paragraph (3), but not in applying the lower and upper exposure action values in paragraphs (1) and (2), account shall be taken of the protection given to the worker by any personal hearing protectors provided by the employer in accordance with regulation 7(2).	(1) If the risk assessment indicates that there is a risk to the health of their employees who are, or are liable to be, exposed to noise, the employer shall ensure the employees are placed under suitable health surveillance, which shall include testing of their hearing. (2) The employer shall ensure a health record in respect of each of their employees who undergoes health surveillance in accordance with paragraph (1) is made and maintained and that the record or a copy thereof is kept available in a suitable form. (3) The employer shall: (a) on reasonable notice being given, allow an employee access to their personal health record (b) provide the enforcing authority with copies of such health records as it may require. (4) Where, as a result of health surveillance, an employee is found to have identifiable hearing damage, the employer shall ensure the employee is examined by a doctor and, if the doctor or any specialist to whom the doctor considers it necessary to refer the employee considers that the damage is likely to be the result of exposure to noise, the employer shall: (a) ensure a suitably qualified person informs the employee accordingly (b) review the risk assessment (c) review any measure taken to comply with regulations 6, 7 and 8, taking into account any advice given by a doctor or occupational health professional, or by the enforcing authority (d) consider assigning the employee to alternative work where there is no risk of further exposure to noise, taking into account any advice given by a doctor or occupational health professional (e) ensure continued health surveillance and provide for a review of the health of any other employee who has been similarly exposed. (5) An employee to whom this regulation applies shall, when required by their employer and at the cost of their employer, present themselves during their working hours for such health surveillance procedures as may be required for the purposes of paragraph (1).



Record-keeping

L108 is the formal HSE guidance on the Control of Noise at Work Regulations for all persons with responsibility (duty holders) under CNWR 2005.

The current L108 guidance (third edition, October 2021) is aimed at employers and other duty holders and includes the Control of Noise at Work Regulations alongside guidance on what they mean, setting out an employer's legal obligations to control risks to workers' health and safety from noise.

If the guidance is followed by those persons with responsibility (duty holders) under the Control of Noise at Work Regulations, this will demonstrate their compliance under CNWR 2005.

L108 provides additional information and guidance for the person conducting noise health surveillance in Part 5 (pages 61–63) and Appendix Four (pages 90–98).

It is not a legal requirement to follow HSE guidance, as this sets out the minimum requirements required to comply with the law. However, duty holders need to be able to demonstrate an equivalent or better practice to prove compliance under the Control of Noise at Work Regulations.

L108 Part 5 specifies:

- **Information required in the health record** for individuals under health surveillance. The information should be up to date, including:
 - > Identification details
 - > Noise exposure history
 - > Health surveillance outcome and any restrictions.
- That the **audiogram is confidential** and should form part of the medical record and should not be kept with the health record.
- That the health record **be retained for at least as long as the worker remains in employment**. It suggests employers may wish to keep the record for longer in case there are enquiries about the workers' hearing in the future.
- The requirement for employers to use anonymised results for groups of workers to assess the effectiveness of their control measures. Therefore, for larger groups of workers, the OH provider should assist the employer by providing relevant anonymised information.



L108 Regulation 9

Guidance for the EMPLOYER: What is health surveillance? What should be expected?

Health surveillance must be conducted on employees (workers) where there is a risk to their health due to noise exposure. Health surveillance must include a hearing test. Health surveillance must be performed and interpreted by a competent person.

There is deemed to be a risk to workers' health when there is:

- Regular and frequent daily exposure at or above the upper exposure action value (EAV)
- Occasional exposure at or above the upper EAV where control may not be effective; peak sound pressure well above the upper EAV
- Exposure between the upper and the lower EAV, where there may be increased risk to workers, including factors such as pre-existing hearing loss and chemical exposure.

Normally, there is no need for workers in a health surveillance programme to see their own doctor unless they wish to do so.

Health record

Every worker is required to have a health record. This should be provided by the competent person and stored by the employer.

- A copy of the record should be provided to the worker on request.
- A copy of the record should be provided to HSE on request.

The health record differs from confidential medical information, which should be stored by the occupational health professional.

Should the company cease trading, the employer should offer the individuals their records.

Worker attendance

Workers must cooperate with the health surveillance programme. The employer must arrange this during their paid employment and cover any costs the worker incurs.

Action required when health surveillance reveals that a worker has suffered ill health as a result of exposure to noise

A suitably qualified occupational health professional should inform and advise the worker.

The employer should be informed, including advice on fitness for exposure to noise and any adjustments or restrictions required. Medical information should not be provided without consent.

The employer should also receive anonymised results for groups of workers.

Consultation

If hearing loss is identified, the worker should be examined by a doctor. A suitably qualified person should inform the worker if their hearing has been damaged by noise, AND the employer should review their noise risk assessment. The employer must also review any measure taken to comply with CNWR 2005 Regulations 6, 7 and 8, taking into account any advice given by a doctor or occupational health professional, or by the enforcing authority; and consider assigning the worker to alternative work where there is no risk from further exposure to noise, taking into account any advice given by a doctor or occupational health professional; and ensure continued health surveillance and provide for a review of the health of any other worker who has been similarly exposed.



Training and competency

L108 Part 5 reiterates much of the guidance shown against Regulation 9. However, it includes important additional information for occupational health providers, such as:

- The competent adviser should be a suitably qualified health professional. This person should be **competent in audiometry, interpret results**, and **oversee** the health surveillance programme. They should also understand workplace risks and be able to advise the employer on the individual's fitness for work, taking into account any additional workplace risks.

L108 Page 90 Appendix Four: Health surveillance using audiometric testing is aimed at the **competent adviser**, the person responsible for the programme overall. It advises the competent adviser on the procedures for pure-tone audiometric testing, interpreting the results, and record keeping.

- The competent adviser must be a health professional. A doctor may take the role of the competent adviser and undertake health surveillance if trained to do so.
- The competent adviser can undertake health surveillance and **must** have the necessary training to do so.

General approach to health surveillance

- Action before introducing the health surveillance programme
- The requirement for a competent adviser
- The responsibilities of the employer
- Requirements for the person conducting the test

The main requirements for any person responsible for conducting audiometric tests are that they should:

- a) have a good understanding of the aims and techniques of industrial audiometry and how it relates to hearing conservation
- b) be competent to ensure an appropriate test environment, operate and maintain the testing equipment, undertake basic calibration, and carry out the test procedure
- c) understand and comply with the need for confidentiality of personal health information
- d) know how to present results according to a defined system.

The necessity for meeting test environment criteria:

- BS EN ISO 8253-131 gives criteria which should be met in test rooms to prevent test tones being masked by ambient sound levels and to allow measurement of hearing thresholds down to 0 dBs. The quietest listening conditions are required at test frequencies of 1 kHz and below. It is highly likely an audiometric soundproof booth will be needed to achieve acceptable listening conditions.
- The British Society of Audiology states that permissible ambient noise during testing should not exceed 35dB(A).



Equipment

The necessity for calibration of all equipment used:

- Audiometers should be maintained and calibrated according to the recommendations of BS EN ISO 8253-1. In summary, this standard requires that a listening check be undertaken daily before use, and that an experienced person with good hearing listen at each frequency to ensure the equipment is operating correctly. Other checks should be performed weekly and quarterly, with a complete overhaul and calibration made annually by a competent laboratory.

The type of instrumentation to use:

- Manual or automatic audiometer

Procedure

The requirement to follow test methods described in BS EN ISO 8253-1:

- Pretest examination: The requirement for otological and noise history and a health questionnaire for individuals undertaking the test, including otoscopic examination.
- Quality control: required to improve the repeatability and reliability of the data.
- Advice on eliminating the temporary threshold shift. The effects of TTS should be minimised.
- Individuals will need this advice in good time prior to the test and be asked about this on attendance.¹⁵

Testing schedule

Baseline before exposure or as soon as possible afterwards. Annual for the first two years of exposure, then three-yearly unless there are significant changes to hearing or if risk increases. If so, testing should be more frequent than three yearly.

SOM comment: *The British Society of Audiology publishes the British Standards for screening audiometry and otoscopy and considers this to be an acceptable standard.*

Values and referral values

Interpretation of results

- Any indication of NIHL should be confirmed by a doctor.
- The HSE categorisation scheme below can assist with decision-making and referral, but it should not replace a full analysis of the audiogram, alongside noise exposure and medical history.
- ISO 7029 should be used to compare expected age-related findings with the result.
- The interpretation of serial audiology results requires that previous tests are no older than three years.
- If serial audiology results have a greater interval than three years, the audiological deterioration should account for the expected findings for age.

It is not mandatory to use the HSE categorisation scheme. However, if an alternative scheme is used, it must be verifiable, compliant and as satisfactory as the HSE scheme.



HSE categorisation scheme

HSE Category	NIHL seen on audiogram	Meaning	Action
HSE 1 Acceptable hearing ability	No	Normal hearing for age. No evidence of NIHL.	Review in a year if baseline assessment or in three years if routine assessment
HSE 2 Mild hearing loss	Stable (mild) NIHL may be present	Mild hearing loss. Stable (mild) NIHL may be present.	Consider an earlier routine assessment
HSE 3 Significant hearing loss or new/progressive NIHL	Yes, newly identified or progressive NIHL may be present. (This category may include more severe but stable NIHL.)	Significant hearing loss or new or progressive NIHL or stable significant NIHL	Refer for medical assessment (unless stable). Timing of next health surveillance depends on outcome of assessment.
HSE 4	Possible	Rapid hearing loss	Refer for medical assessment. Timing of next health surveillance depends on outcome of assessment.
Unilateral	Where the difference between the ears is greater than 40dBs (when hearing thresholds summated are over 1+2+3+4 kHz)	Possible disease or infection	Refer for medical assessment. Timing of next health surveillance depends on outcome of assessment.

The audiogram should be assessed for the possible presence of NIHL. The worker should be referred to an appropriately trained doctor (for example an occupational physician with experience in NIHL) if there is:

- Existing NIHL NOT previously identified, even if it was apparent on the audiogram.
- New NIHL in an existing worker with previous serial audiograms
- NIHL in a new worker (in the absence of records showing that the loss has not progressed and where the worker has been examined by a doctor previously).

Workers should be referred for medical advice if:

- High-frequency hearing loss has rapidly progressed since the last health surveillance
- The worker has asymmetrical or unilateral hearing loss.

Advice to be provided/Actions required as part of the health surveillance programme

- Workers under the programme must understand the full and proper use of hearing protection where this is relied on for the protection against harmful exposures.
- Where hearing loss is found, the worker should understand the extent of the damage and ways to prevent further damage, including retraining and reinforcement of hearing protection.
- The competent adviser must take into account serial audiograms when advising upon the findings.
- Where indication of hearing loss is progressing and if there is an increased noise risk, workers should be recalled for health surveillance sooner. The competent adviser or doctor should advise when this recall should be.



Advice provided by the OHP

The OHP should:

- Provide a background into NIHL and how it is caused, diagnosed and quantified
- Give a view of whether the audiogram is supportive of a diagnosis of NIHL and to what extent:
 - *Likely to be supportive (bilateral relatively symmetrical 3–6 kHz notch or bulge and no complexities)*
 - *Would only be supportive if there is a noise-related explanation for an asymmetrical notch or bulge*
 - *Likely to be supportive in the ear showing a non-complex audiometric notch or bulge on the better side with other or additional causation on the side which is not supportive*
 - *Equivocal case*
 - *Unlikely to be supportive*
 - *Not supportive*

The OHP can ONLY confirm a diagnosis of NIHL if they have access to noise reports over time. Without these, they cannot estimate the degree of NIHL due to noise exposure. Even without ready access to ISO 1999, a competent OHP should have an idea of the amount of NIHL likely to result from exposure over time.

- If findings are supportive, signpost to CNWR 2005 (Regulations 5–8 and Regulation 10).
- Give a general view of whether the degree of hearing loss would be likely to cause any safety issues.
- Comment on whether the degree of loss would be likely covered by EA.
- Make recommendation for an NHS referral (advise copy of report to GP).
- Make recommendation for an HS interval.

SOM comment: *Irrespective of the HSE category, if a worker has concerning hearing symptoms, they should be referred to their GP. Symptoms include discharge, dizziness, pain and non-work-related hearing loss.*

Information for the employer

Fitness for work and future work with noise

The competent person should provide the employer with fitness for continued exposure information and should specify the dates that health surveillance should be conducted and the dates it has been completed.

The competent person should ensure medical records are maintained and that all matters requiring consent are addressed. The competent person should advise the employer if individual workers remain fit to work in noise.

Analysis of results must include consideration of the need to communicate effectively or to hear warning signals. This especially applies where significant hearing loss is identified.

SOM comment: *Significant loss would include medical loss as well as noise-induced hearing loss.*

Group anonymised analysis of the results is useful to the employer in terms of the overall effectiveness of the programme. This is additional to the health surveillance report and individual health records.



Employer advice to help mitigate noise

Engineering controls involve modifying or replacing equipment or making related physical changes at the noise source or along the transmission path to reduce the noise level at the worker's ear.

Examples of effective **engineering controls**:

- Eliminate or reduce noise at the source
- Choose quieter equipment: Opt for machinery and tools with lower noise emissions when purchasing or renting equipment.
- Replace chain and gear drives with belt drives.
- Replace metal gears with plastic gears.
- Use gears with tooth patterns which provide a quiet run (such as chevron and other helical patterns).
- Replace metal parts with plastic ones.
- Choose low-noise tools and machinery.

Barriers and enclosures:

- Install noise barriers, enclosures, or sound-absorbing materials to block or reduce the transmission of sound. Place a barrier between the noise source and the worker (such as sound walls or curtains).
- Isolation and damping: Use vibration isolation mounts, dampening materials and acoustic enclosures to minimise the transfer of noise and vibration.

Distance:

- Health and Safety Executive recommend positioning noise sources further away from workers or using remote controls to operate equipment from a distance.
- Minimise gaps in machine guards or cover them with acoustic absorbent material. Enclose or isolate the noise source.
- When the distance between a noise source and a worker is doubled, the noise level decreases by 6 dB(A).
- Properly maintaining machinery can prevent it from becoming noisier over time.
- Modify equipment: Install silencers on exhaust systems, use vibration-dampening materials, maintain and lubricate machinery and equipment (such as oil bearings).
- Replace motors with quieter ones.

Administrative controls are changes in the workplace or the schedule that reduce or eliminate workers' exposure to noise. Controlling noise exposure through distance is often an effective, yet inexpensive and straightforward, administrative control.

Optimise work processes:

- Rearrange workflows to minimise the time individuals spend near noisy equipment or use automation to reduce the need for human presence in high-noise areas.
- Operate noisy machines during shifts when fewer people are exposed.
- Provide quiet areas where workers can gain relief from hazardous noise sources.
- Monitor workplace exposure.
- Develop safe work practices.



Limit exposure time:

- Implement job rotation or schedule noisy tasks during less-occupied times to reduce the duration of exposure.
- Schedule noisy processes during off-peak hours when fewer workers are present.
- Provide job rotation to reduce the time staff are required to work in a noisy area.
- Limit the time a person spends at a noise source.
- Provide noise refuges: Designate quiet areas where workers can take breaks and escape noise exposure.

Training and procedures:

- Educate workers about the risks of noise exposure and proper use of noise control measures.
- Implement a hearing conservation programme.
- Implement a preventative maintenance programme and frequent inspections of noise-generating or vibrating equipment.

Personal protective equipment (PPE)

Hearing protection:

- Provide earplugs or earmuffs when other noise control measures are not sufficient to reduce noise to acceptable levels.

Proper use:

- Ensure workers understand how to fit and use PPE.
- Ensure PPE is in good condition, with plastic remaining flexible for a reliable fit and seal.

Monitoring and assessment

- Conduct regular noise assessments to identify areas with high noise levels and evaluate the effectiveness of control measures.
- Regular audiometric testing.

Also contained in L108 Appendix Four:

- *Flow diagram to manage the audiogram categorisation process*
- *Example health questionnaire for noise*
- *Example of general advice for workers under CNWR 2005 health surveillance*

Exposure limits

There are legal limits on the levels of noise which workers may be exposed to.

To comply with the exposure limits, the employer must ensure their workers' noise exposure – reduced by an appropriate factor if they are using personal hearing protection – is not above:

- 87 dBs for daily or weekly personal noise exposure (LEP, d or LEP, w)
- 140 dBs for peak sound pressure (LCpeak).

How to calculate

See the HSE noise exposure calculator tool: <https://www.hse.gov.uk/noise/calculator.htm>



16. Exposures to respiratory sensitisers

Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

Indications for surveillance

For any worker with known asthma, health surveillance, including spirometry, must be undertaken by a healthcare professional who can demonstrate ongoing competency.

In cases where there may be a latent period between exposure and any health effect, for example exposure to a carcinogenic substance, there may be a need for continued health surveillance after exposure has ceased. Respiratory function testing is key to the diagnosis, management and monitoring of respiratory disease. Collecting simple information may lead to early detection of work-related ill health and to identifying the need for improved control measures.

Respiratory sensitisers are indicated under the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) by the health hazard pictogram and the hazard statement 'May cause allergy or asthma symptoms or breathing difficulties if inhaled'. ¹¹⁰

'A sensitiser (allergen) is a substance that causes exposed individuals to develop an allergic reaction in normal tissue after repeated exposure to the substance. Examples of sensitisers include diazomethane, chromium, nickel, formaldehyde, isocyanates, arylhydrazines, benzylic and allylic halides, and many phenol derivatives. Sensitiser exposure can lead to all the symptoms associated with allergic reactions or can increase an individual's existing allergies.' ¹¹¹

Although R-phrases (risk phrases) are no longer used under current chemical classification legislation and have been replaced by H-statements (hazard statements) under the Classification, Labelling and Packaging Regulations (CLP), some very old materials and products may still display R-phrases on their original labels or safety data sheets (SDS).

The organisation recognises that both systems may still be encountered and confirms that:

- H-statements apply to substances classified under the current CLP system
- R-phrases apply only to legacy products labelled under previous regulations
- Where R-phrases are present, they must be interpreted in line with their modern H-statement equivalents and treated as indicating a potential hazard.

Identification of hazards

The hazard statements (H) and risk phrases (R) applicable to a substance can be found on the material safety data sheet (MSDS/SDS) provided by the manufacturer or supplier.

Examples of relevant inhalation and skin hazards include:

Respiratory hazards:

Respiratory sensitisers (associated with occupational asthma and allergic respiratory disease):

- H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- R42 – May cause sensitisation by inhalation.

Exposure to respiratory sensitisers should be subject to an appropriate risk assessment and, where indicated, a programme of health surveillance designed to detect the early development of occupational asthma or allergic respiratory disease.



Respiratory irritants and toxic inhalation hazards:

- R37 – Irritating to the respiratory system.
- R23 – Toxic by inhalation.
- R20 – Harmful by inhalation.

These classifications indicate the potential for respiratory irritation or toxic effects following inhalation. The need for health surveillance should be determined by the risk assessment, the nature and extent of exposure, and the relevant statutory requirements.

Respiratory carcinogens:

- R45 – May cause cancer.

Carcinogenic classifications should be considered separately from respiratory sensitisers. Where exposure to carcinogens requires health surveillance under COSHH or other relevant legislation, the objective is the early detection and management of long-term adverse health effects and the maintenance of appropriate health records, rather than surveillance for occupational asthma or respiratory sensitisation.

Skin contact hazards:

Although skin and respiratory health surveillance programmes may be delivered alongside one another in occupational health practice, the underlying hazards and health surveillance requirements should be considered separately within the risk assessment.

Skin sensitisers

Skin sensitisers are associated with the development of occupational allergic contact dermatitis following repeated exposure.

- H317 – May cause an allergic skin reaction.
- R43 – May cause sensitisation by skin contact.

Where workers are exposed to skin sensitisers, health surveillance should be considered to identify the early signs and symptoms of occupational dermatitis and to prevent progression of disease.

Acute skin toxicity hazards

These classifications relate to the potential for systemic toxicity following absorption through the skin rather than sensitisation.

- H310 – Fatal in contact with skin.
- R27 – Very toxic in contact with skin.
- H311 – Toxic in contact with skin.
- R24 – Toxic in contact with skin.
- H312 – Harmful in contact with skin.
- R21 – Harmful in contact with skin.

These classifications indicate the severity of toxic effects following dermal exposure. The need for health surveillance should be determined by the risk assessment, the nature and extent of exposure, and the relevant statutory requirements. They do not, in themselves, indicate a risk of allergic skin disease.



Where both respiratory and skin hazards are present, integrated health surveillance programmes may be appropriate; however, surveillance should always be designed to address the specific health effects associated with the relevant hazard classification, rather than treating all skin contact hazards as equivalent.

Management of older products

Any products identified as carrying R-phrases only (and not updated with H-statements) must be:

- Reviewed for age, condition and shelf life, including checking any manufacturer expiry dates where available
- Assessed for continued suitability and safety before any further use
- Cross-referenced to current H-statements where possible
- Included in an up-to-date COSHH risk assessment using current hazard information.

Where the product age cannot be confirmed, a current SDS is not available, or the safety of the product cannot be assured, the product must be withdrawn from use and disposed of in accordance with hazardous waste procedures and environmental legislation.

Safety and prevention

The organisation will ensure:

- All new chemical purchases comply with current CLP labelling requirements (H-statements only)
- Staff are trained to recognise and understand both legacy R-phrases and modern H-statements
- Regular stock checks are carried out to identify and remove obsolete or unsafe chemical products
- No unidentified, expired, or poorly labelled substances are used in the workplace.

Clinicians should refer to EH40¹¹² when undertaking health surveillance, which provides clear guidance on identifying respiratory sensitisers in the workplace. Referring to EH40 will support compliance with legal requirements and ensure appropriate measures are taken to protect workers' respiratory health.

Specific definitions and common abbreviations

FEV1	Forced expiratory volume in 1 second	The maximum volume of gas that can be expired from the lungs in the first second of a forced expiration from a position of full inspiration.
FEV1/FVC	FEV1 as a ratio or % of FVC	The amount of air blown out in the first second during a forced manoeuvre expressed as a ratio or percentage of the total amount of expired air during that manoeuvre.
FEV1/VC	FEV1 as a ratio or % of VC	The amount of air blown out in the first second during a forced manoeuvre, expressed as a ratio or percentage of the relaxed vital capacity.
PEF	Peak expiratory flow	The maximum flow achievable from a fast expiration starting at a full inspiration with an open glottis.
FVC	Forced vital capacity	The maximum volume of air that can be expired from the lungs during a forced and complete expiration from the position of full inspiration.
EVC	Relaxed vital capacity	The volume of air from maximal inspiration to the point of maximal expiration during a relaxed or slow blow.
SVC	Slow vital capacity	The volume of air from maximal inspiration to the point of maximal expiration during a relaxed or slow blow.



TV	Tidal volume	The volume of air inhaled and exhaled with each breath is sufficiently large to ensure adequate gas exchange of CO ₂ and O ₂ occurs at the alveolar level. At rest, it amounts to around 500 ml but can increase during exercise.
TLC	Total lung capacity	The volume of air in the lungs at a position of full inspiration.
VC	Vital capacity	Volume change at the mouth between full inspiration and full expiration can be directly measured using standard spirometric techniques.
SPFM	Serial peak flow monitoring	Peak flow readings are used to assess diurnal variation in a patient's respiratory flow, usually over four weeks, with one week away from exposure. Six peak flow readings are required throughout the day. Information is usually input into an expert system, such as the Oasis system, on www.occupationalasthma.com .
LLN	Lower limit of normal	The fifth percentile of all normal spirometry values is the value at, or below which would be an unusual finding in a subject with normal lungs (Z-score of -1.64). When a patient with an elevated pretest probability of disease, for example smoking history, has a value at or below the LLN, it should be concluded that there is a greater chance of disease than health. ¹¹³
ULN	Upper limit of normal	The 95th percentile of all normal values seen on spirometry, the value at or above which would be an unusual finding for a subject with normal lungs (Z-score of +1.64).
Z-score		A standardised measure that quantifies the extent to which a patient's lung function deviates from the predicted value for their age, height and sex. A Z-score of -1.645 is often used as the lower limit of normal (LLN) in spirometry, indicating a 5% chance of the result being outside the normal range.
Inhalable and respirable dust	The term 'total inhalable dust' is no longer used. Instead, 'inhalable dust' is used with reference to the British Standard BS EN 481:1993. This is a revision of terminology that has little effect on the application and scope of OELs. https://www.hse.gov.uk/foi/internalops/ocs/200-299/273_20/	

Risk identification

Under Regulation 6(1)(a) of the Control of Substances Hazardous to Health (COSHH) Regulations 2002,¹¹⁴ there is a legal requirement to undertake a suitable and sufficient risk assessment.

All workers exposed to, or likely to be exposed to, an asthmagen should receive appropriate health surveillance.

Surveillance is extended to those exposed to carcinogenic substances assigned the risk phrase H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. Given the very low levels of exposure likely in a controlled laboratory environment, it is unlikely for any burden or biological effect to be measured. Although not explicitly required under the COSHH Regulations, the record should include information, or links to information, on the nature of the work, the risk assessment for the work and records of any accidental exposure to enable an exposure assessment for an individual to be made years after work, should cancer develop.

As respiratory and skin surveillance are often combined and sensitisers are frequently confused, common substances have been identified in Table 1.



Table 1 Identification of risk – identification where health surveillance is required

Risk Level	Example	Action
High exposure to respirable crystalline silica health surveillance for those exposed to respirable crystalline silica (RCS) Supplementary guidance for occupational health professionals (amended January 2016) https://www.hse.gov.uk/pubns/priced/healthsurveillance.pdf	Workers in the following industries: • Brick and tile • Masonry • Construction • Foundries • Mining • Quarries • Sandblasting	Questionnaire and spirometry at baseline and annually thereafter PA chest X-rays at baseline, after 15 years, and every three years after that, unless advised otherwise by a health professional, continuing with an annual questionnaire and spirometry
High hazard exposure	• Asbestos/lead-containing materials • Vinyl chloride monomer • Nitro/amino derivatives of renal and benzene • Pitch Substances that can cause occupational asthma (not exhaustive): • Isocyanates: MVR, footwear/textiles, printing, plastics (especially cellular plastics), rubber • Flour and bakery ingredient dusts (improvers) • Grain and agriculture dusts such as organic/inorganic materials derived from fungal spores, bacteria, endotoxins, mites • Metal-working fluids (exposure to fluid or mist)	As specified in Schedule 6 of COSHH Regulations 2002, regular exposure to these hazards either by direct skin contact or inhalation or substance in any form. Health surveillance is generally required when unprotected individuals are regularly exposed to substances.
High hazard exposure cont	• Bioaerosols • Glutaraldehyde (health services, agriculture) • Hard wood & soft wood dust • Latex • Laboratory animals • Glues (including specialist adhesives) • Resins (epoxy systems in specialist printing inks) • Solder/colophony fumes (mainly engineering, also colophony fumes from adhesives used for binding in printing) • Stainless steel welding fumes • Hard metal dust/fumes (such as cobalt) • Reactive dyes • Azodicarbonamide (plastics and rubber) • All substances classified as respiratory sensitisers – seen in EH40 Refer to https://www.hse.gov.uk/asthma/substances.htm https://www.hse.gov.uk/asthma/assets/docs/asthagen.pdf	The amount of air blown out in the first second during a forced manoeuvre, expressed as a ratio or percentage of the relaxed vital capacity.



Skin/respiratory (residual/ infrequent exposure)	Exposure in well-controlled environments where exposure is very low or infrequent and below the occupational exposure levels set out in EH40	Health surveillance assessment on an individual basis
Skin/respiratory (sensitive workers)	Exposure level is well controlled, and exposure is infrequent and below the occupational exposure level set out in EH40. However, the individual is considered particularly sensitive – young workers, those with pre-existing health conditions, prior sensitivity, women who are pregnant or breastfeeding.	Health surveillance on an individual basis
Skin/respiratory (no exposure)	Exposure is fully controlled with engineering controls such as seal systems, glove boxes, local exhaust ventilation, personal protective equipment or other robust control measures, ensuring workers do not meet the substance	Health surveillance is unlikely to be required
Harmless substance	The substance has been investigated with no risks of skin respiratory ill health to exposed individuals	Health surveillance is unlikely to be required
Special circumstances requiring additional health surveillance	• Unusual exposure conditions • Report of ill health • Accident/incident • Change of working conditions • Change of equipment • Change of medical condition • Failure of safety equipment • Changing legislation	

The differentiation of high- and low-level surveillance was updated by HSE and is no longer the recommended approach.¹¹⁵



Asthmagens

Profession-based occupational lung diseases

Profession (UK)	Main Exposures	Associated Diseases	Mechanism / Pathology	Key Imaging / Diagnostic Clues	Risk Level	What To Check For (Clinical / Screening)	Major Complications	Prevention / Controls
Construction/ demolition/ asbestos removal	Asbestos, silica, cement dust, diesel fumes	Asbestosis, silicosis, COPD, lung cancer, mesothelioma	Fibrotic pneumoconiosis, asbestos fibre-induced injury	Silicosis → upper-lobe nodules, asbestos → pleural plaques + basal fibrosis	HIGH	Occupational history (HSE-reportable), spirometry (restrictive), ↓ TLCO, clubbing, weight loss	Mesothelioma, lung cancer, respiratory failure	Control of Asbestos Regulations 2012, wet cutting, RPE, UK-licensed removal
Quarrying/ stone cutting/ tunnelling/ mining	Crystalline silica (RCS), coal dust	Silicosis, coal worker's pneumoconiosis, pulmonary hypertension	Macrophage death → fibrosis	Eggshell calcification, coal macules → PMF	HIGH	HSE RCS monitoring, TB screening, restrictive pattern on spirometry, signs of cor pulmonale	Progressive fibrosis, cor pulmonale	HSE workplace exposure limits (WELs), dust suppression, RPE, surveillance
Shipyard/ insulation workers	Asbestos	Asbestosis, mesothelioma, lung cancer	Pleural fibrosis, basal ILD	Pleural plaques, honeycombing	HIGH	Asbestos exposure history (dates + employer) CT pleura, ↓ TLCO	Mesothelioma, cancer	Licensed contractors, asbestos registers (UK law)
Firefighters/ emergency services	Smoke, particulates, asbestos, cyanide, combustion gases	COPD, occupational asthma, reactive airway dysfunction syndrome (RADS), cancer	Oxidative epithelial injury	Non-specific airway thickening	HIGH	History of acute fire incidents, airway hyperreactivity, peak flow variability	Cancer, COPD, chronic airway disease	BA (breathing apparatus) standards, post-incident decontamination



Training and competency

Training can be done by any route. The British Medical Association (BMA)¹¹⁸ has guidance which confirms that currently there 'is no such thing as mandatory training for performing spirometry'.

The Faculty of Occupational Medicine (FOM) states within the Safe Effective Quality Occupational Health Service (SEQOHS) Standards C1.2: 'An OH service must ensure that its staff have the knowledge, skills, qualifications, experience and training for the tasks they perform.'¹¹⁹

The HSE states that health providers should be suitably qualified, for example, with the Association for Respiratory Technology & Physiology (ARTP) diploma but does not state that this route is mandatory.

Where it has been identified that there is residual or infrequent exposure in well-controlled environments – where exposure is very low or infrequent and below the occupational exposure levels set out in EH40 – individual health surveillance assessments should be undertaken by the responsible person, either by questionnaire or face-to-face interview.

Each practitioner should have a training plan in place with a method for reviewing competencies. This should form part of the clinical audit cycle.

Equipment requirements and calibration

Equipment requirements and standards

- A spirometer which meets the ISO standard 267823
- Bacterial and viral filters (with minimum proven efficiency for high expiratory flow of 600 to 700 l/min)
- Nose clips – not mandatory but may be required for some workers
- Height measure and weighing scales – calibrated according to the manufacturer's instructions
- Tissues – for the worker to clear their nose before the procedure, if required

Equipment calibration

- Record visual inspection of the syringe and comments.
- Check the syringe for smoothness and leak test and comment.
- Calibration of spirometry test equipment should be performed using a 3-litre syringe following the manufacturer's recommended procedures. For the device to be within calibration limits, it must read +/- 3% of true³. Calibration should be verified prior to every clinic/session or after every 10th appointment (whichever comes first).
- Use an annually certificated calibration/verification 3-litre syringe – this must have an accuracy of +15 ml.
- Document calibration/verification results consistently, including a simple log of problems as they arise.
- Document all repairs and computer software updates related to each device.
- Maintain a calibration log.



Schedule

Best practice surveillance requires assessment and spirometry at:

- Baseline* plus skin examination
- Week 6 (from the start of exposure)
- Week 12
- Annually
- In addition to special circumstances identified in Table 1 Identification of Risk – Identification where health surveillance is required

**Baseline is defined as the time prior to when an individual is first exposed to any hazards – not necessarily the date they commenced employment or training.*

Infection control measures

The respiratory function test procedure is not considered to be aerosol-generating. However, the procedure can induce coughing.

Hand hygiene is required – hand gel (foam-based) is best for busy clinics.

Gloves are not required unless the person administering the test is likely to come into contact with potentially infectious body fluids or has open lesions on their hands.

Use gloves and an apron to protect your uniform or clothes when contamination with blood/body fluids is anticipated or likely.

Products contaminated with blood or body fluids should not be placed in the sharps bin but in a yellow sack.

Pre-appointment information

Pre-appointment preparation

Test information and contraindications should be sent with the pre-appointment preparation.

See [Appendix Six: Information before your lung function test](#).

Contraindications

The ARTP contraindication guidelines¹²⁰ typically apply in clinical settings where spirometry is required for diagnosis and treatment determination. The European Respiratory Society and the American Thoracic Society¹²¹ provide a broader framework for considering contraindications, which may be more suitable to the occupational setting. Spirometry undertaken in occupational health settings is for screening purposes and may involve a lone-working practitioner with limited or no access to clinical backup. Therefore, a lower tolerance to risk may be considered.

Due to increases in myocardial demand or changes in blood pressure

- Acute myocardial infarction within 7 days
- Severe hypertension $\geq 180/100$ (NIOSH)
- Systemic hypotension $\leq 90/60$



- Significant atrial/ventricular arrhythmia
- Noncompensated heart failure
- Uncontrolled pulmonary hypertension
- Acute cor pulmonale
- Clinically unstable/untreated pulmonary embolism
- History of syncope related to forced expiration/cough
- Aneurysm aortic or cerebral >6 cm or bulging
- Vascular surgery 4–6 weeks
- Undiagnosed chest symptoms, e.g. haemoptysis
- Recent cerebrovascular accident

Due to increases in intracranial/intraocular pressure

- Cerebral aneurysm
- Brain surgery within 3–6 weeks
- Recent concussion with continuing symptoms
- Eye surgery within 2–6 weeks

Due to increases in sinus and middle ear pressures

- Sinus surgery or middle ear surgery or infection within 1 week

Due to increases in intrathoracic and intra-abdominal pressure

- Presence of pneumothorax within 3 weeks
- Thoracic surgery within 4 weeks
- Abdominal surgery within 4 weeks
- Late-term pregnancy

Aneurysm aortic or cerebral >6 cm or bulging

Infection control issues

- Active or suspected transmissible respiratory or systemic infection, including tuberculosis (AFB positive TB until treated for 2 weeks)
- Physical conditions predisposing to transmission of infections, such as haemoptysis, significant secretions or oral lesions or oral bleeding

Other considerations

- If the worker is too unwell to perform forced expiration
- Communication problems, such as a learning disability or confusion
- Acute disorders affecting test performance, such as nausea/vomiting

Spirometry should be discontinued if the worker experiences pain during the manoeuvre. Relative contraindications do not preclude spirometry but should be considered when ordering spirometry. The decision to conduct spirometry is determined by the ordering healthcare professional based on their evaluation of the risks and benefits of spirometry for the worker. Potential contraindications should be included in the request form for spirometry.



Preparation of the worker

- Carry out infection prevention measures – hand washing.
- Introduce yourself to the worker.
- Check for and loosen tight belts or restrictive clothing.
- The worker may wish to visit the toilet prior to the procedure.
- Check contraindications using the checklist given.
- Check other activities avoided using the checklist given.
- Check if the worker is well.
- Assess the worker's understanding of the assessment.
- Obtain consent.
- Assess if a questionnaire, assessment or spirometry is required.
- Assess the need to undertake health surveillance.
- Check there are no contraindications to spirometry.
- Enter data into the spirometer correctly.
- Explain what the test is for and what it measures.
- Explain why the test is being done.
- Explain and demonstrate the procedure to the worker so they understand what is required of them, and why it is important to perform each manoeuvre as best they can. Explain that they will perform two blows – the vital capacity (VC) and the forced vital capacity (FVC) – and that they will need to perform each blow on several occasions.
- A blood pressure reading may be required in line with local policy.¹²²
- The ARTP does not mandate the measurement of blood pressure prior to spirometry.
- Measure the worker's height without shoes within 0.5 cm (if unable to measure height, use arm span instead) and weight within 0.5 kg.
- Record age, and sex at birth.
- Ethnicity – this should be entered as per the spirometer manufacturer's instructions.
- Enter required values into the spirometer.

Procedure – clinical assessment

Baseline relaxed vital capacity (VC)

Prepare the worker and equipment to perform the baseline VC – repeated for 3 valid tests

- Apply nose clip, if required – for example if the worker finds it difficult to avoid breathing out through their nose.
- Ensure the worker is sitting comfortably with their feet flat on the floor with legs uncrossed: no use of abdominal muscles for leg position.
- Position the worker to blow away from the operator.
- Some spirometers allow for both an inspiratory and expiratory breath for tidal breathing; others only allow for an expiratory breath.
- Worker to undertake three normal breaths before commencing the procedure.
- Obtain a minimum of three acceptable VC manoeuvres.



- Provide 30 seconds of rest between efforts.
- Repeatability criteria are met when there is no more than 100 ml ideally (and certainly no more than 150 ml in the occasional highly variable subject) between each blow.
- Verbally encourage the worker to exhale as long as possible.
- Observe both the worker and the time volume curve as each VC is performed to ensure:
 - They breathe into maximal inspiration
 - They do not obstruct the mouthpiece with their teeth or tongue
 - There are no leaks from the mouthpiece
 - They remove false teeth if loose. Dentures are normally left in. It is best to have some structure to the mouth area unless dentures are very loose.

Usually, this will be achieved within four VC manoeuvres.

- If the worker is unable to achieve the quality criteria, record why this has not been possible.
- Another appointment may be required or refer for specialist assessment.
- Instruct the worker to remove their mouthpiece and discard it in the appropriate clinical waste bin.

Baseline FVC FEV1

Prepare the worker and the equipment to perform the baseline FVC FEV1 – repeated for three valid tests

- Apply nose clip, if required – for example if the worker finds it difficult to avoid breathing out through their nose.
- Ensure the worker is sitting comfortably with their feet flat on the floor.
- Obtain a minimum of three acceptable FVC FEV1 manoeuvres.
- Repeatability criteria are met when there is no more than 100 ml ideally (and certainly no more than 150 ml in the occasional highly variable subject) between each blow.
- Encourage maximum effort at the start of each blow, verbally encouraging the worker to continue to exhale to achieve maximal effort.
- Observe the worker as each FVC is performed to ensure:
 - They breathe into maximal inspiration
 - They do not obstruct the mouthpiece with their teeth or tongue
 - There are no leaks from the mouthpiece
 - They remove false teeth if loose
 - 30 seconds of rest between efforts
- Observe the flow/volume curve as each FVC FEV1 manoeuvre is being performed to identify:
 - Slow starts
 - Early stops
 - Variability in flow within the manoeuvre
- Ensure the worker exhales fully and that this is demonstrated on the graph showing a time/volume plateau.



- Do not perform more than eight FVC FEV1 manoeuvres in one session.
- If the worker is unable to achieve these standards, record why this has not been possible, arrange a further appointment to repeat the test if appropriate, or refer for specialist assessment.
- Instruct the worker to remove their mouthpiece and discard it in the appropriate clinical waste bin.

No more than eight attempts should be permitted, including both VC and FVC FEV1. If the valid test criteria are not met after eight attempts, this should be recorded and the worker invited to retry at a suitable interval.

Completion of test

Give the worker feedback and an explanation of the test results.

Disposal of materials used

Where possible, without causing damage to equipment, the worker may remove the mouthpiece and place it in the clinical waste bin.

See [Section 8: Infection control measures](#) for low- and medium-risk procedures for other aspects of equipment and room cleaning.

Normal values

Interpretation of results¹²³

Early detection of symptoms is likely to reduce the risk of developing long-term asthma.

Normal values of pulmonary function tests

- FVC 80% to 120%
- FEV1 80% to 120%
- FEV1/FVC ratio above 70%
- A normal curve distribution on the flow-volume loop
- The normal rate of FEV1 decline is about 30 ml/year

Referral values

Obstruction

Obstruction is characterised by airflow limitation; there is a decreased airway calibre through smooth muscle contraction, inflammation, mucus plugging or airway collapse in emphysema.

The spirometry pattern for obstruction is characterised by:

- FVC normal or reduced – less than 80% of predicted, usually to a lesser degree than FEV1
- FEV1 can be normal or below 80% of predicted
- FEV1/FVC ratio below 70%
- A concave flow-volume loop.



Restriction

Restrictive disorders are characterised by a loss of lung volume and are much rarer. This occurs in pulmonary fibrosis, pleural disease, chest wall disorders (kyphoscoliosis), neuromuscular disorders, pneumonectomy, pulmonary oedema and obesity, to name a few. Many so-called restrictive spirometry traces are due to failure to reach the end of expiration, falsely reducing FVC.

The spirometry pattern for restriction is characterised by:

- FVC below 80% of the predicted value
- FEV1 is reduced in proportion to FVC – so it may be:
 - normal (>80%) in very mild restriction or
 - mildly reduced in most real cases
- FEV1/FVC ratio normal above 70% or higher
- A normal-looking shape on the spirometry flow-volume loop
- A relatively high PEF.
- The key is proportional reduction, not the absolute FEV1 value

Mixed results restriction – obstruction

FEV1 below 80% of predicted value

FVC below 80% of predicted value

FEV1/FVC below 70% of predicted value

Grade of airflow obstruction¹²⁴

Mild	FEV1 is 80% or more of the predicted value. With mild COPD, spirometry test results can be normal after medication.
Moderate	FEV1 is 50–79% of the predicted value after medication.
Severe	FEV1 is 30–49% of the predicted value after medication.
Very severe	FEV1 is below 30% of the predicted value after medication.



Guidance Note: Z-scores in Occupational Spirometry

This note explains how Z-scores should be used to interpret occupational spirometry. It focuses only on the practical meaning of Z-scores, the Lower Limit of Normal, and their use in interpreting FEV₁, FVC and the FEV₁/FVC ratio.

What is a Z-score?

A Z-score shows how far an individual's spirometry result lies above or below the expected value for a healthy person of the same age, sex, height and ethnic background. It is expressed in standard deviations from the predicted mean. ^[1,2]

A Z-score of 0 means the result is exactly at the predicted average. Positive values are above average and negative values are below average. The **Lower Limit of Normal (LLN)** is approximately **-1.64**, representing the lowest 5% of the healthy reference population. ^[1,2]

Using Z-scores is preferable to relying only on fixed percentage predicted values because Z-scores account for normal variation with age and body size. This reduces the risk of over-calling abnormality in older workers or under-recognising impairment in younger workers. ^[1,2]

Z-score

Practical interpretation

0	Equivalent to the predicted average
+1	Above the predicted average
-1	Below average but generally within the expected range
-1.64	Lower Limit of Normal (LLN)
Less than -1.64	Outside the expected range for a healthy reference population

Using Z-scores in Spirometry Interpretation

1. FEV₁/FVC ratio

The FEV₁/FVC Z-score is used to assess possible airflow obstruction. ^[2,5,7]

- FEV₁/FVC Z-score ≤ -1.64: below the LLN and consistent with airflow obstruction.
- FEV₁/FVC Z-score > -1.64: within the expected range; obstruction is less likely.

2. FVC

A FVC Z-score ≤ -1.64 is below the LLN and may suggest reduced vital capacity. If the FEV₁/FVC ratio is normal, this may raise the possibility of restriction, although spirometry alone cannot confirm restriction. ^[2,6]

3. FEV₁

The FEV₁ Z-score helps indicate the degree of impairment and provides a useful value for comparison over time. It should be interpreted alongside the FEV₁/FVC ratio and FVC rather than in isolation. ^[2,4,6]



Z-score trends over time

A baseline spirometry result is the worker's own reference point for future comparison. It is usually the first reliable test, or the best-quality early test, performed when the worker is well and able to produce acceptable, repeatable blows. Baseline values allow later results to be compared with the individual's own previous lung function, rather than relying only on population reference ranges. ^[3,4,6]

Serial Z-scores help show whether lung function is changing as expected with age. A stable Z-score suggests that any change is broadly in line with expected ageing, while a progressively falling Z-score may indicate deterioration beyond expected physiological change. This is useful in occupational health because a result may still be above the LLN but show a concerning downward trend for that individual. ^[1,2,4]

Z-score trends should support, not replace, clinical judgement. Any unexpected fall should prompt review of test quality, symptoms, exposure history and previous results. ^[2,4,6,8,9]

When might the baseline need to be reviewed?

A baseline may need to be reviewed if the original baseline no longer appears to be the most appropriate fixed reference value for longitudinal comparison. This can occur where the original test was poor quality, not repeatable, performed when the worker was unwell, affected by poor effort or technique, or based on incorrect demographic information such as height, age, sex or ethnic background. ^[2,4,6]

Review may also be appropriate if early results show a learning effect, where later technically acceptable and repeatable blows are clearly better and more representative of the worker's true lung function. Significant clinical or physiological changes, recovery from a temporary respiratory condition, or changes in equipment or testing standards may also justify reviewing the reference value. ^[4,6]

Any decision to revise the baseline should be deliberate, clinically justified and documented. It should not mean simply using the most recent surveillance result each time. The reference value should remain fixed unless there is a clear reason to reset it. ^[3,4,6]

The 15% Rule

The 15% rule is a practical longitudinal screening rule used to identify a potentially meaningful fall in lung function. The percentage change should be calculated against a fixed reference value: the worker's agreed baseline, or their previous best reliable result if this has been accepted as the reference. It should not be recalculated from the immediately previous routine surveillance result, because doing so may underestimate a gradual decline over time. ^[3,4]

15% rule worked example:

Fixed reference value	Baseline FEV ₁ = 3.20 L
Later surveillance result	Later FEV ₁ = 2.70 L
Fall in FEV ₁	3.20 L – 2.70 L = 0.50 L
Percentage fall	$0.50 \div 3.20 \times 100 = 15.6\%$
Interpretation	15.6% is greater than 15%, so this meets the 15% rule and should prompt further review.

If FEV₁ or FVC has fallen by 15% or more from that fixed reference value, the result should be reviewed. The 15% rule does not diagnose disease on its own. It is a flag to check test quality, repeatability, recent illness, respiratory symptoms, exposure history and whether the fall is also reflected in worsening Z-scores. ^[3,4,6,8,9]



Key points

- Z-scores compare an individual's result with the expected value for a comparable healthy population.
- A Z-score of 0 is average; positive values are above average and negative values are below average.
- The LLN is approximately -1.64 ; values at or below this are outside the expected normal range.
- Use the FEV_1/FVC Z-score to assess possible obstruction.
- Use the FVC Z-score to identify reduced vital capacity and possible restriction when the ratio is normal.
- Use the FEV_1 Z-score to assess impairment and support longitudinal comparison.
- A reliable baseline allows comparison with the worker's own previous lung function.
- A baseline should only be reviewed where there is a clear reason, such as poor-quality original testing, illness at baseline, a learning effect, incorrect demographic data or a later result that is technically better and more representative.
- A fall of 15% or more in FEV_1 or FVC should be calculated from a fixed reference value, usually the agreed baseline or accepted previous best reliable result, not from the immediately previous routine surveillance result.
- Interpret Z-scores alongside test quality, symptoms, exposure history and previous results.

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This guidance has been informed by contemporary GLI, ATS/ERS, ACOEM, GOLD and NICE guidance and by educational material presented by Professor David Fishwick for the Society of Occupational Medicine (2026).



Referral criteria

The presence of abnormal lung function at any time point is defined as follows:

- A reduction in the FEV1/FVC ratio to less than 0.7 (70%)
- A reduction in the percentage predicted FEV1 and/or the percentage predicted FVC to less than 80% of the predicted value
- An accelerated annual decline in FEV1, measured over time as follows:
200 ml decline in FEV1 in two successive years, or 500 ml in five years.¹²⁵

All previous lung function measurements should be included in the referral. In this situation, the opinion of an appropriate occupational health professional is necessary regarding fitness for work. The usual pattern of health surveillance would then continue annually or, if recommended by the health professional, more frequently.

Early follow-up for workers identified with anomalies

Early referral to specialist services is important – the worker should be seen within six weeks.¹²⁶

The following action points are suggested for any worker with lung disease:

- Education and exposure reduction
- Guidance on giving up smoking if appropriate
- Instruction and guidance on using LEV and PPE

Fitness for work

The health record should state if the worker:

- Is fit for their current role
- Is fit for their current role, with continuing exposure and additional health surveillance
- Is fit for their current role, with a reduction in exposure and additional health surveillance
- Requires removal from exposure.

Management where occupational asthma has been diagnosed

Complete avoidance

Where possible, workers with occupational asthma should be removed from exposure to the triggering substance to permit improvement.

Redeployment

Where complete avoidance of the triggering substance is not feasible, the worker may be redeployed to low or occasional exposure, alongside other reasonable adjustments, such as changes in work tasks and working hours.

Other workers

A root cause analysis may determine factors that expose other workers to the source of exposure and identify improvements in control measures.



Advice for the worker

See: *Information, instruction and training for persons who may be exposed to substances hazardous to health (Regulation 12)*.¹²⁷

Workers should be provided with suitable and sufficient information covering:

- Typical symptoms of asthma
- The nature of any substance likely to cause occupational asthma to which they may be exposed
- The likelihood of occupational asthma being permanent, and what happens after further exposure
- The procedures for reporting symptoms
- The need to report immediately any symptoms which may indicate that asthma has occurred.

Advice to the employer

Employers should give workers proper training, including induction training, before they start the job. Appropriate training should be provided in respect of:

- Correct use and maintenance of control measures provided
- Work practices which prevent or reduce the emission of the substance into the atmosphere of both the workplace and the general environment
- RPE, where it is used as a control measure, and other control measures to reduce further exposure to the substance
- Emergency procedures.

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17. Exposures to silica

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Indications for surveillance

Health surveillance for silicosis (resulting from exposure to respirable crystalline silica, or RCS) should be considered for workers in high-risk occupations, including construction, foundry work, brick and tile work, ceramics, slate, manufacturing, worktop manufacturers and installers, quarries, and stonework. Where workers are regularly exposed to RCS dust and there is a reasonable likelihood of silicosis developing, health surveillance must be provided.

Further examples of where health surveillance for silicosis may be appropriate include:

- Previous cases of work-related ill health in the workplace
- Reliance on RPE as an exposure control measure for silica
- Evidence of work-related ill health in the industry.

Health surveillance should involve an appropriate questionnaire, lung function testing, and chest X-rays.

Training and competencies

Workers exposed to RCS should undertake health surveillance in accordance with the following HSE guidance:

- G404: <https://www.hse.gov.uk/pubns/guidance/g404.pdf>
- Supplemental guidance for RCS health surveillance, including example baseline and annual health questionnaires: <https://www.hse.gov.uk/pubns/priced/healthsurveillance.pdf>

The lung function and health questionnaire aspect of health surveillance for workers exposed to RCS should be undertaken by an appropriately experienced health professional.

Chest X-rays

- Occupational health professionals cannot conduct the chest X-ray aspect of the health surveillance programme. Chest X-rays must be performed by an HCPC-registered diagnostic radiographer who meets the standards of proficiency as published by HCPC and who is experienced and proficient in conducting chest X-rays.
- Chest X-rays should be posterior-anterior (PA).
- Chest X-rays for silicosis health surveillance must include the costophrenic angles bilaterally.
- Occupational health professionals cannot interpret chest X-rays taken for RCS health surveillance. X-rays must be read by a consultant chest radiologist registered with the GMC and on the specialist clinical radiology register, giving them eligibility to take up an appointment as a consultant in the NHS. This radiologist must be experienced in interpreting chest X-rays in accordance with the International Labour Organization (ILO) pneumoconiosis standard.
- Occupational health professionals cannot provide further investigation or opinion on abnormal chest X-ray findings. If silicosis is suspected, workers must be referred to an NHS or private respiratory consultant specialising in occupational lung disease.
- A consultant occupational physician should be in charge of the programme. This consultant can advise the employer on fitness for exposure to respirable crystalline silica based on the respiratory specialist's opinion.



Equipment requirements and calibration

Spirometry equipment: See the [Respiratory Sensitisers](#) section.

Schedule

- A.** Annually, an appropriate questionnaire and lung function testing (including FEV₁, FVC and FEV₁/FVC ratio) should be administered.
- B.** Plus, implementation of a PA chest X-ray schedule as follows:
 - Baseline PA chest X-ray (or as soon as possible after first exposure)
 - PA chest X-ray at 15 years' exposure; thereafter, a PA chest X-ray every three years after 15 years' exposure
 - Annual review following a "borderline" chest X-ray, whether this chest X-ray is baseline or under the three-year programme.

At the discretion of the occupational health physician overseeing the health surveillance programme, recognition of significant over-exposure to RCS in the worker's history (accompanied or not by associated symptoms) should be a prompt for considering an additional chest X-ray at timescales well below 15 years' exposure.

Infection control measures

See the [Respiratory Sensitisers](#) section.

Pre-appointment information

Workers must be given information to introduce them to the health surveillance programme, including what they will be told about their results and the type of actions that could follow.

Procedure – clinical assessment

Workers should be fit for undertaking a chest X-ray. It is the radiographer's responsibility to make this decision.

Normal values

PA chest X-rays

- No evidence of opacities, which may indicate silicosis
- No evidence of other disease (unless prediagnosed)

Lung function testing

- Normal result (FEV₁ >80% predicted; FVC >80% predicted; FEV₁/FVC ratio >0.7)

Referral values

PA chest X-rays

- Opacities which could indicate silicosis should be referred for further investigation by the consultant occupational physician in charge of the programme.
- Other abnormalities which are not suggestive of silicosis (or other occupational lung disease) should be referred to the worker's GP.



Lung function testing/health questionnaire

- Any abnormal result (obstructed, restricted or both) should be referred to the consultant occupational physician in charge of the programme, along with the respiratory health questionnaire and all historical lung function results.
- Any normal result where the % predicted result (FVC, FEV1, PEF or FEV1/FVC ratio) falls outside the normal range should be referred to the consultant occupational physician in charge of the programme, along with the respiratory health questionnaire and all historical lung function results.
- Any work-related chest symptoms should be referred to the consultant occupational physician in charge of the programme, along with the respiratory health questionnaire and all historical lung function results.

Fitness for work

Workers with silicosis are usually fit for work. However, generally, following a confirmed diagnosis of silicosis, a worker would no longer be fit for any level of exposure to RCS in the workplace.

Restrictions

- For those with confirmed silicosis, full restriction from all exposure to RCS is advised. This is irrevocable.
- Temporary full restriction pending investigation is appropriate where there is possible suspicion of silicosis.
- Control measures are not recommended to reduce the risk of exposure to RCS if a worker has a confirmed diagnosis of silicosis.

Legal issues

Any chest X-ray programme requires the following to be in place:

- Radiation protection adviser (RPA)
- Radiation protection supervisor (RPS)
- Provision of X-rays in the workplace, subject to radiation risk assessment under the control of the RPA. The provision of chest X-rays falls under the Ionising Radiations Regulations (IRR) 2017.

Advice to the worker

The outcome communicated to the worker should be one of the following:

1. Fit for exposure to RCS
2. Requires further investigation for possible RCS-related disease (with temporary restriction from exposure, pending results)
3. Unfit for exposure to RCS

In the case of outcomes 2 or 3, a decision should also be communicated to the worker regarding whether they remain under the care of a respiratory department.



Advice to the employer

- Provide individual fitness for exposure to RCS outcomes for everyone under the programme, including any temporary restrictions while undergoing further investigation.
- Supply group anonymised information.

Further information and guidance can be found on the following HSE webpages.

- COSHH guidance relevant to construction silica exposure: <https://www.hse.gov.uk/coshh/essentials/direct-advice/construction-silica.htm>
- Silica dust: <https://www.hse.gov.uk/stonemasonry/silica-dust.htm>
- Special lighting to visualise airborne dust: <https://www.hse.gov.uk/copd/speciallight.htm>

18. Exposures to skin sensitisers

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This section provides extracts from Managing Skin Health at Work: A Practical Guide for Those Managing Occupational Skin Disease and Those Undertaking Skin Health Surveillance.¹²⁸

Indications for surveillance

Occupational skin disease is common, and the most common reaction of penetration through the skin is dermatitis. This can be an irritant or an allergic reaction. A substance must first penetrate the skin's surface layer to provoke a reaction, then other hazardous substances may pass through it and damage other parts of the body. Occupational skin disease can result from:

- Immersion in solutions
- Contact with contaminated tools
- Contact with contaminated clothing or surfaces, including inside protective gloves and other clothing, such as trousers and overalls
- Sensitisers landing on or splashing the skin directly, including airborne dust.

The following factors determine the likelihood of developing occupational skin conditions:

1. The strength or the hazard, including irritants and sensitisers
2. The frequency and duration of exposure
3. Worker-related factors, including underlying skin conditions and disregard for safety measures, personal hygiene and wearing PPE



Examples of skin hazards

- Water-based detergents, liquids, alcohol gels and chemicals can cause dermatitis.
- UVA and UVB sun rays can cause solar damage and skin cancers.
- Foods including citrus fruits, flour, fish, meat and vegetables account for 40% of dermatitis cases.
- UVC rays from arc welding can result in eye damage, skin cancer and ocular melanoma.
- Mechanical oils, greases, solvents and cutting fluids can result in dermatitis.
- Resins, adhesives, paints and sealants can result in allergic contact dermatitis.
- Dust, powders and airborne substances can irritate the eyes, skin and respiratory tract.
- Abrasion from handling tools, components and materials, resulting in mechanical trauma.
- Sweating from wearing PPE such as gloves and safety footwear can cause skin irritation and dermatitis.
- Wet work – prolonged or repeated contact of hands with water can cause dermatitis.
- Cold conditions indoors or outdoors can cause dermatitis and chilblains.
- Hazards that the worker is exposed to may not be in the workplace, for example detergents, foods and outdoor hobbies.
- Chromate allergy, or allergic contact dermatitis to chromium, is a common occupational health concern in construction, with reported prevalence rates exceeding 10% among construction workers. This is significantly higher than the 1% prevalence in the general population. In symptomatic construction workers who are patch tested, the prevalence can be over 45%. The most significant skin hazard in construction is hexavalent chromium¹²⁹ from concrete, which can cause burns to skin and eyes and dermatitis (irritation, then sensitisation) and is common in brick workers. It is very common to find this first on the feet, as chromium is used in leather tanning; therefore, people with chromium allergy may experience symptoms when exposed to leather, especially in damp conditions.

Examples of hazards may be found in The Classification, Labelling and Packaging (CLP) Regulations/the Globally Harmonized System of Classification and Labelling of Chemicals (GHS CAT), and the health hazard codes.¹³⁰



Workplace Risk Chart: Skin Hazards¹³¹

HIGH-RISK SKIN EXPOSURE JOBS (Irritants, corrosives, allergens)

High risk of contact dermatitis, chemical burns, sensitisation.

Industry/role	Typical exposure	Risk level	Health effects	Screening focus
Cleaners/Janitorial Staff	Bleach, ammonia, disinfectants, wet work	Very High	Irritant dermatitis, asthma crossover	Skin checks, PPE compliance, substitution
Healthcare/Laboratory Workers	Disinfectants, latex gloves, handwashing	High	Allergic dermatitis (latex), eczema	Glove reaction history, patch testing if needed
Automotive/Mechanics/Engineers	Oils, greases, solvents, fuel	High	Oil acne, irritant dermatitis	PPE use, barrier creams, degreasing alternatives
Hairdressers/Beauty	Hair dyes, bleach, persulfates, acrylics	High	Allergic dermatitis, airborne sensitisation	Patch testing, sensitiser controls
Construction/Cement Workers	Wet cement (chromates), adhesives	High	Chemical burns, chromate allergy	Moisture control, protective gloves, hygiene

MODERATE-RISK SKIN EXPOSURE JOBS (Biological, outdoor, natural irritants)

Industry/role	Typical noise sources	Risk level	Health effects	Screening focus
Farmers/Agricultural Workers	Animal proteins, manure, pesticides, fertiliser	Moderate-High	Dermatitis, zoonotic infections	PPE, hand hygiene, patch testing
Estate Workers/ Groundskeepers	Plant sap, pesticides, petrol tools	Moderate-High	Plant dermatitis, sun damage	Seasonal exposure history
Gardeners/Landscaping Staff	Nettles, ivy, compost, soil microbes	Moderate	Contact dermatitis, fungal infection	PPE and hygiene assessments
Catering/Food Handling	Wet work, citrus, detergents	Moderate	Dermatitis, irritant hand eczema	Moisturising regimens, glove rotation
Welders/Metalwork	Oils, metal dust, heat	Moderate	Contact burns, metal allergies	PPE integrity, exposure logs

LOW-RISK (but sensitiser-relevant) JOBS

Industry/role	Typical noise sources	Risk level	Notes
Construction Supervisors, Drivers, Office Admin	Intermittent exposure only	Low	Only at risk when handling chemicals
Retail, Education, Public Sector	Low chemical exposure	Very Low	Screening only if symptomatic



Training and competencies

Refer to the Skin Disease Competency Framework and the RCN Skin Disease Competency Framework.¹³²

Schedule

Implementing health surveillance is only possible when managers take practical steps to assess and control risks. It is the responsibility of managers to inform Occupational Health of staff who require health surveillance.

Skin surveillance is appropriate for workers when high-risk agents are in use, and the nature and duration of skin contact have the potential to cause harm:¹³³

- Any product labelled with a hazard statement 'may cause sensitisation by inhalation and skin contact'
- H315 Causes skin irritation
- H317 May cause an allergic skin reaction

Best practice surveillance requires a questionnaire and skin examination at:

1. Baseline* plus skin examination
2. Week 6 (from the start of exposure)
3. Week 12
4. Annually
5. The frequency of surveillance may need to be increased in addition to reviewing the risk assessment and control measures.

*Baseline is defined as the time prior to when an individual is first exposed to any hazards – not necessarily when the employment or training commenced.

At any stage at which a skin problem is identified in the questionnaire, it must be followed by a visual skin examination and documentation of the findings.

When the task involves tiny amounts of substances, even if they are harmful and there is little chance of skin contact, the risk is low. But the risk in a different task – such as dealing with spillages, contact with open skin lesions, or prolonged use – will be higher because the harmful substance may be breathed in or come into contact with the skin.

Workers are encouraged to take an active role in monitoring their skin health at work. They are advised to report any skin changes to their line manager, who may refer them to Occupational Health for further guidance.

HSE has several posters suitable for education:

- Skin checks for dermatitis¹³⁴
- Keep Your Top On¹³⁵
- How do I prevent skin problems in my business?¹³⁶
- Skin at work¹³⁷
- It's in your hands¹³⁸
- Preventing contact dermatitis and urticaria at work.¹³⁹

Resources are also available on the HSE Skin at Work webpage.¹⁴⁰



Facial skin irritation from wearing surgical masks does not require skin surveillance and can be managed with Occupational Health advice to use emollients as a hydrating skin barrier.

Infection control measures

Follow the procedures outlined in [Section 12: Infection Control Measures](#).

Hand hygiene¹⁴¹

Perform hand hygiene:

- Before touching a patient
- Before clean or aseptic procedures
- After body fluid exposure risk
- After touching a patient
- After touching a patient's immediate surroundings.

Pre-appointment information

The worker should be provided with information explaining that the skin check is relevant to their working environment.

Procedure – clinical assessment

Basic screening information

- Full name
- Age
- Biological sex – at birth (HSE states gender; however, for clinical measurements, biological sex is required)
- National Insurance number
- Address
- Contact number
- History of skin complaints (most notably eczema)
- Allergies
- Hobbies (e.g. model making, gardening, metal or woodworking, food handling)
- Place of work
- Employment start date
- Job role
- Exposures at work (chemical, biological, UV, radiation, physical trauma)
- Handwashing frequency and use of gloves
- Control measures in the workplace, including protective equipment, ventilation and enclosure



Screening questions

These screening questions help responsible people undertaking skin surveillance identify skin problems that are either endogenous (underlying) or due to workplace exposure. They are not for the purpose of diagnosis or clinical management. Any individuals with skin problems should be referred to a medical practitioner for further assessment. Dermatitis may only be diagnosed by an occupational health physician as best practice and by a medical practitioner in the event of this provision not being available or if the condition is clearly not work-related. Where referral to the general practitioner is likely to be delayed, it would be preferable to seek a referral to the occupational health physician.

Does the worker report any skin problems?

If they do not, proceed to the visual skin assessment.

If they describe a skin problem, assess it in more detail:

- Where is the affected skin?
- When did the problem start?
- Are there any associated symptoms – itching, burning, soreness, pain, weeping, oozing, blisters?
- Is it there all the time, or does it improve when away from work, such as during holidays?
- Is there anything that makes the condition better?
- Is there anything that makes the condition worse?
- What does the worker think may be causing their skin problem?

Once the relevant information is documented, the assessor can proceed to a visual skin assessment.

Visual skin assessment

Mark on the diagram any of the following and grade as 1 (mild) to 5 (severe), e.g. D4, R3.

Dryness, **R**edness, **C**racking, **B**listers, open **S**ores, **B**leeding, signs of **I**nfection

If they report no issues and the visual examination is normal, this is an opportunity to discuss control and prevention measures as part of ongoing worker training and education, and skin surveillance can be repeated in 12 months.

If a skin problem is identified, a referral should be made to an occupational health doctor, nurse or general practitioner, practice nurse or pharmacist for further advice and assessment.

Provide interim advice to the worker and employer which may include stopping working with a particular substance until further assessment is undertaken.

Photographs could be taken using the worker's digital device as a clinical record of the skin changes.

Normal assessment

Where the HS assessment does not identify any skin condition of concern, the worker may continue to work in their usual role, with advice on using the appropriate PPE and hand care. The responsibility for ongoing skin surveillance may revert to the worker and the person responsible.

At the end of the consultation, advise the worker of the outcome, and provide them with a copy of the occupational dermatitis leaflet HSE It's in your hands and/or HSE Preventing contact dermatitis and urticaria at work and update the occupational health/HS record. Refer to [Appendix Two Occupational Health Surveillance Record](#).



Referral

Referral for an occupational health physician assessment

Before escalating a case to an OHP, the occupational health nurse or technician assessing the case should ensure:

- The Clinical Skin Health Questionnaire is completed
- Safety data sheets and relevant risk assessment outcomes have been obtained and are in the worker's file
- Interim advice has been provided to the manager regarding fitness for work, with the worker's consent (see previous section).

When there is a high suspicion of a link between skin symptoms/conditions and work, as identified via skin surveillance or a case management assessment, the case should be referred to an OHP, ideally with clinical experience in advising on both the clinical and workplace management aspects, before any specialist review is arranged. Special consideration should be given to those with atopy.

Dermatitis can be caused by exposure to a range of common agents found outside the workplace. If there is good evidence that the condition has been caused solely by such exposure rather than by exposure to an agent at work, it is not reportable. This includes any chemical with the warning 'may cause sensitisation by skin contact' or 'irritating to the skin'.

The role of the OHP is to determine whether there is a high likelihood that occupational exposure has resulted in the skin symptoms and clinical signs. A decision will be made based on the clinical picture, all relevant information about workplace practices and exposures, samples and data sheets for workplace substances used, and the outcomes of skin surveillance to date.

In some cases, the OHP will ask the worker to be assessed by their general practitioner/practice nurse/pharmacist to receive appropriate treatments to help manage the problem. At the same time, they will provide workplace-specific advice to the employer.

The onward pathway will depend on whether the OHP can manage all aspects of the case or whether more specialist advice is required. In more complex cases, where the diagnosis is unclear, for example, the OHP is advised to escalate the case to an occupational health physician with skin experience or to a clinical dermatologist.

A list of occupational physicians with skin experience can be obtained by contacting the Society of Occupational Medicine at admin@som.org.uk, or by searching LinkedIn.

Onward referral for clinical dermatological advice

A clinical dermatologist can assist with diagnosis, investigations – including biopsy for suspicious rashes/lesions – and treatments ranging from topical emollients and steroids to systemic immunosuppressants and biologic therapies. When an allergen is suspected as the cause of work-related skin issues, a referral for patch testing will be required.

For more complex cases and where ongoing employment in a job role is at risk, referral to centres of excellence in occupational skin disease is recommended, such as the St John's Institute of Dermatology at Guy's and St Thomas's Hospital.



Fitness for work

Skin symptoms related to poor compliance or lack of use of PPE/hand care/specific cleaning agents

Some individuals may report skin symptoms attributed to poor or inadequate use of appropriate skin protection or hand care. In this situation:

- Advise the worker of the appropriate procedures for hand washing and hand care, and issue the occupational dermatitis leaflet (HSE – It's in your hands)
- Emphasise the importance of PPE
- The risk assessment should consider suitable and sufficient glove type and “breakthrough” times
- Arrange increased monitoring of the worker by the manager/responsible person, focusing on correct working practices, using PPE and hand care as appropriate
- Arrange an OHS review at an agreed interval – two months is usually appropriate for a review of the impact of the above measures.

If the assessment suggests the skin condition is related to work exposures, it may be necessary to temporarily remove the worker from further exposure while information is obtained from the manager/H&S officer/adviser regarding work tasks and the substances/chemicals used. Such assessments should be discussed with an occupational health physician.

Restrictions

Advice to the employer

The purpose of health surveillance is to detect conditions caused by work exposure. It is essential, therefore, that employers implement a programme which allows onward further assessment for investigation or diagnosis (to exclude other underlying conditions or to confirm work-related causes).

When there is a suspected or confirmed work-related skin condition, employers should:

- Remove the worker from activities where there is a likely/suspected exposure (including from the PPE itself, for example a reaction to gloves)
- Avoid contact by substitution
- Avoid or reduce contact by using engineering controls
- Avoid or reduce contact by using the safety by distance approach
- Avoid all work activities where a period of treatment/stability or recovery of skin is needed (guided by Occupational Health)
- Where sensitisation is confirmed, consider redeployment to a role where there is no exposure to the causative substance
- Review all the work being undertaken, risk assessments and controls. This should be done by a suitable person (usually a line manager, work supervisor or health and safety specialist)
- Review all other workers in the health surveillance programme for potential or actual skin conditions
- Educate the workforce and management about good hand care – no rings, bracelets or watches worn, where moisture can be trapped, how to wash and dry hands correctly, use of creams and emollients and correct use of PPE, including frequency of use and disposal.



Legal issues

In addition to the requirements stated under COSHH to undertake a risk assessment and health surveillance, where indicated – following a confirmed diagnosis of occupational dermatitis (where the person's work involves significant or regular exposure to a known skin sensitiser or irritant by a medical practitioner) – the responsible person will be advised that contact dermatitis is reportable under Regulation 8 of RIDDOR (which is then the responsibility of the employer).

Failure of a worker to attend assessments or participate in the skin health surveillance programme should be referred to management and/or Human Resources. Workers who do not cooperate could, unknowingly, exclude themselves from specific work.

Advice to the worker (non-normal)

Skin symptoms related to poor compliance or lack of use of PPE/hand care/specific cleaning agents.

Some individuals may report skin symptoms attributed to poor or inadequate use of appropriate skin protection or hand care. In this situation:

- Advise the worker of the appropriate procedures for hand washing and hand care and issue the occupational dermatitis leaflet HSE – It's in your hands
- Emphasise the importance of PPE
- The risk assessment should consider suitable and sufficient glove type and "breakthrough" times
- Arrange increased monitoring of the worker by the manager/responsible person, focusing on correct working practices, using PPE and hand care as appropriate
- Arrange an OHS review at an agreed interval – two months is usually appropriate for a review of the impact of the above measures.

If the assessment suggests the skin condition is related to work exposures, it may be necessary to temporarily remove the worker from further exposure while information is obtained from the manager/H&S officer/adviser regarding work tasks and the substances/chemicals used. Such assessments should be discussed with an occupational health physician.

Advice to the employer (non-normal)

The purpose of health surveillance is to detect conditions caused by work exposure. It is therefore important that employers implement a programme that allows onward assessment for investigation or diagnosis (to exclude other underlying conditions or to confirm work-related causes).

When there is a suspected or confirmed work-related skin condition, employers should:

- Remove the worker from current work activities where there is a likely/suspected exposure (including from the PPE itself, for example a reaction to gloves)
- Avoid contact by substitution
- Avoid or reduce contact by using engineering controls
- Avoid or reduce contact by using the safety by distance approach
- Avoid all work activities where a period of treatment/stability or recovery of skin is needed (guided by Occupational Health)
- Where sensitisation is confirmed, consider redeployment to a role where there is no exposure to the causative substance



- Review all the work being undertaken, risk assessments and controls. This should be done by a suitable person (usually a line manager, work supervisor or health and safety specialist)
- Review all other workers in the health surveillance programme for potential or actual skin conditions
- Educate the workforce and management about good hand care – no rings, bracelets or watches worn, where moisture can be trapped, how to wash and dry hands correctly, use of creams and emollients and correct use of PPE, including frequency of use and disposal.

Managing occupational exposure to hexavalent chromium (Cr(VI)) ¹⁴³ Author: Nicola Elvy

Managing occupational exposure to hexavalent chromium (Cr(VI)) involves a multifaceted approach focused on preventing inhalation and dermal exposure. This includes implementing engineering controls such as ventilation, providing PPE, conducting regular health surveillance, and ensuring proper training and hygiene practices.

HSE is aware of an issue with authorisations granted in the EU for a variety of uses of hexavalent chromium compounds. In 2020, the EU granted authorisations covering multiple GB businesses within EU and GB supply chains, which ended on 21 September 2024.

Any GB business working with Cr(VI) which has concerns as to whether they meet the requirements is strongly encouraged to contact the UK REACH helpdesk.

Overview of hexavalent chromium

Hexavalent chromium (Cr(VI)) is a highly toxic and carcinogenic form of chromium commonly encountered in construction work involving welding, painting and cement handling. In the UK, occupational exposure primarily occurs via inhalation of dust or fumes and dermal contact with cement or treated leather.

Associated health effects

- Carcinogenicity: Cr(VI) is a Group 1 carcinogen. Inhalation exposure is strongly associated with increased incidence of lung cancer.
- Respiratory morbidity: Chronic exposure can result in nasal septum ulceration, epistaxis, asthma-like symptoms and chronic bronchitis.
- Dermatological effects: Direct skin contact can lead to burns, irritant contact dermatitis, allergic contact dermatitis and chrome ulcers.
- Eyes: Concrete splashes can cause serious alkali burns to the eyes.

Allergic sensitisation

- Prevalence of chromium allergy in the general population is estimated at 1–5%.
- Rates are significantly higher in occupationally exposed populations, particularly cement workers and welders.

Risk mitigation through chemical reduction

Cr(VI) is water-soluble, low molecular weight, and penetrates the skin barrier with relative ease, increasing sensitisation risk. In contrast, trivalent chromium (Cr(III)) is less soluble and has lower dermal bioavailability.

Mechanism

- Adding ferrous sulfate (FeSO₄) to cement facilitates reducing Cr(VI) to Cr(III).
- Cr(III) forms stable, less-reactive complexes, reducing the risk of skin penetration and allergic sensitisation.



Occupational controls for cement exposure

- Use low-chromate cement (mandatory in the UK and the EU)
- Cement is treated with reducing agents (typically ferrous sulfate) to maintain Cr(VI) levels below regulatory thresholds (<2 ppm).

Personal protective equipment (PPE)

- Gloves: Use nitrile, neoprene or PVC gloves – avoid fabric or leather.
- Clothing: Impermeable protective clothing including long sleeves and waterproof trousers.
- Eye protection: Enclosed goggles to prevent splash injuries.
- Respiratory protection: P2 or P3 respirators when handling dry cement or working in poorly ventilated areas.

Dermal protection and hygiene

- Barrier creams may offer supplementary protection but are not a substitute for PPE.
- Provide handwashing stations with warm water and pH-neutral soap.
- Encourage prompt cleaning after exposure and prior to breaks or meals.
- Emphasise the importance of thorough drying and using emollients to maintain skin integrity.

Safe work practices

- Use mechanical mixers to limit direct manual contact with wet cement.
- Avoid kneeling in wet cement – use kneepads or boards.
- Train workers to recognise early dermatological signs such as erythema, pruritus or fissuring.

Training and occupational health surveillance

- Provide comprehensive training on Cr(VI) hazards, using PPE, and hygiene protocols.
- Implement periodic health surveillance, particularly for individuals with high dermal or inhalation exposure. Include skin examinations and respiratory assessments as indicated.

Case studies

Case 1:

A 60-year-old male was asked to assist with concrete laying without appropriate training or PPE. After prolonged contact with wet cement, he sustained severe chemical burns, which resulted in leg amputation. Cr(VI) in cement was confirmed as the causative agent. HSE prosecuted the employer for breach of health and safety regulations.

Case 2:

A 30-year-old site supervisor presented with chronic foot dermatitis. Although their hands and face were unaffected, their leather safety boots were implicated. Leather tanning often involves Cr(VI), which leaches out when wet. Patch testing confirmed chromium allergy. Symptoms resolved after switching to non-leather boots and avoiding cement work.



Key recommendations

To minimise Cr(VI)-related health risks:

- Use low-chromate cement only
- Ensure correct PPE is worn and maintained
- Promote effective hygiene and skincare practices
- Educate workers on early signs of sensitisation
- Conduct regular occupational health surveillance
- Healthcare professionals should routinely enquire about skin symptoms during surveillance appointments and consider occupational exposure a potential contributing factor.

19. Hand-arm vibration

Dr Roger Cooke, MSTJ, MBChB, FRCP (Glasg), DIH, FFOM, DipIMC

The guidance below summarises the main components of HAV assessment. Refer to SOM guidance¹⁴⁴ for details.

Indications for surveillance

(a) the magnitude, type and duration of exposure, including any exposure to intermittent vibration or repeated shocks	
(b) the effects of exposure to vibration on workers whose health is at particular risk from such exposure	
(c) any effects of vibration on the workplace and work equipment, including the proper handling of controls, the reading of indicators, the stability of structures and the security of joints	
(d) any information provided by the manufacturers of work equipment	
(e) the availability of replacement equipment designed to reduce exposure to vibration	
(f) any extension of exposure at the workplace to whole-body vibration beyond normal working hours, including exposure in rest facilities supervised by the employer	
(g) specific working conditions such as low temperatures	
(h) appropriate information obtained from health surveillance, including, where possible, published information	



Workplace Risk Chart: Hand-Arm Vibration ¹⁴⁵

HIGH-RISK HAV EXPOSURE JOBS

Applies to vibrating handheld tools, rotary equipment, power saws, grinders and impact tools.

Industry/role	Typical exposure	Risk level	Health effects	Screening focus
Construction/Demolition	Jackhammers, breakers, impact drills	Very High	HAVS, carpal tunnel, digital vascular damage	Grip strength, vascular tests, HAV exposure log
Groundskeepers/Estate Workers/Arborists	Chainsaws, hedge trimmers, strimmers	High	Raynaud's symptoms (white finger), neuropathy	HAVS symptoms checklist, tool maintenance
Metalworking/Fabrication	Grinders, needle scalers, chipping hammers	High	Loss of dexterity, hand pain/tingling	Periodic HAVS assessment + exposure points
Road Workers/Rail Maintenance	Impact drills, tampers, rail grinders	High	HAVS + musculoskeletal strain	Annual health surveillance
Mining/Quarrying	Drills, rock hammers	High	Severe vascular damage, numbness	Baseline screening + vibration monitoring

MODERATE-RISK HAV EXPOSURE JOBS

Industry/role	Typical noise sources	Risk level	Health effects	Screening focus
Farmers/Agricultural Workers	Chainsaws, milking equipment, small engines	Moderate-High	Sensory loss, cold intolerance	Exposure scoring + PPE
Gardeners/Landscaping Staff	Leaf blowers, mowers, hedge trimmers	Moderate	Numbness, reduced circulation	Tool vibration assessments
DIY & Facilities Maintenance	Battery tools, drills, saws	Moderate (cumulative)	Episodic symptoms	Monitoring cumulative use

LOW-RISK HAV JOBS

Industry/role	Typical noise sources	Risk level	Notes
Admin/Office, Retail, Healthcare	Minimal vibration tools	Low	No routine surveillance required
Drivers only (no tool use)	Steering wheel vibration	Low	Not classed as HAV hazard



Indications for surveillance

The purpose of health surveillance in general is to establish systematic, regular and appropriate checks to detect early signs of work-related ill health among workers exposed to certain health risks and to **ACT ON THE RESULTS**. Where workers are exposed to vibration that may cause harm, there is a duty to provide health surveillance under Regulation 7 of the Control of Vibration at Work Regulations 2005.¹⁴⁶

Workers in construction and other sectors who have frequent and long-term exposure to handheld (and hand-guided) vibration tools can develop hand-arm vibration syndrome (HAVS) or carpal tunnel syndrome (CTS). These are specific symptoms involving the vascular, peripheral nervous, and musculoskeletal systems which result from pathological effects on the peripheral vascular system, peripheral nervous system, muscles, bones, tendons and soft tissue. Exposure at the exposure action value (EAV) of 2.5 m/sec² for 12 years is expected to produce symptoms of white finger in 10% of the workforce. The exposure to the hazard and its relationship with health effects is complex and depends on a range of factors. Equally, the factors affecting individual susceptibility to hand-transmitted vibration are poorly understood.

The employer will need to undertake a risk assessment to identify those who should be included in the health surveillance programme. A hierarchical approach to risk assessment must be taken to enable the employer to create organisational and technical controls to prevent or control exposure. Part of this process will include an assessment of likely exposure to vibration. Assessment of tool emission and exposure time (trigger time) is most effectively done in the workplace under working conditions, and retrospective estimates of trigger time by tool operators are unlikely to be accurate. Equipment includes handheld power tools (drills and breakers), hand-guided machinery (plate compactors) and hand-fed machines (pedestal grinders, bench saws, etc.) and static equipment (such as bench grinders).

Symptoms of HAVS

- Tingling and numbness in the fingers, reduced sense of touch
- Loss of grip strength
- Joint pain and stiffness
- Attacks of “white finger” in cold wet conditions, which may become red and painful on recovery – secondary Raynaud’s phenomenon.

Symptoms of carpal tunnel syndrome include tingling, pain, numbness and weakness in the hands, and symptoms at night. Waking with a numb arm or hand is common, and tingling is usually aggravated by gripping.

The effects of these symptoms day to day may be problems with grip strength, dropping things and difficulties with work tasks such as fastening buttons, handling coins, screws and nails, and safely holding tools.

Equipment requirements and calibration

- Purdue pegboard
- Semmes-Weinstein monofilaments
- Sphygmomanometer with suitable size cuff
- Quality stethoscope and dynamometer

Static equipment should be maintained in good condition, and equipment with movable parts, such as the sphygmomanometer and the dynamometer, should be calibrated annually.



Schedule intervals

HSE guidance recommends employers appoint a responsible person from their workforce or elsewhere to administer Tier 1 and Tier 2 HAVS assessments. This person should be trained on HAVS and the health surveillance process.

While the responsible person can administer the questionnaire, the answers should be interpreted by a qualified occupational health professional (e.g. an occupational health nurse or doctor). This is because they are trained to assess the answers, determine if further investigation is needed, and make appropriate referrals (Tiers 3 and 4).

As a minimum requirement, an initial pre-exposure assessment can be carried out using a self-administered questionnaire that includes questions about the person's medical history and is to be returned in confidence to the health professionals. (See Preemployment questionnaire.)

Workers with no symptoms suggestive of HAVS, or relevant medical history, should be considered fit for work with exposure to HAV. The qualified person or doctor will see those with possible symptoms of HAVS for further assessment. The doctor will then decide whether the person is fit to work with HAV exposure.

Precedure – clinical assessment

OH technicians may have a role in carrying out tests, but advice to the employer is the role of the qualified OH professional.

A presumptive diagnosis may be made by the health professional (for the purposes of interim advice), but a definitive diagnosis must be made by an appropriately qualified doctor. A Tier 3 assessment should result in advice to the employer on interim control measures and advice to the worker, so it is important health professionals are familiar with the range of control measures and understand estimates of current exposure.

Occupational history – Gathering information on current and past exposure to HAV is important, and health professionals should familiarise themselves with the range of jobs and tools. There is no safe level of exposure for those with existing HAVS, but it is accepted that 1m/s^2 does not cause harm. Exposure below 2.5m/s^2 , although low, should not be considered insignificant.

Tier 1: Initial or pre-placement questionnaire

The initial assessment is via a short questionnaire, which should be completed and sent in confidence to an occupational health professional. This can be carried out by an employer representative, a responsible person or an occupational health professional and provides a baseline on previous exposure, current symptoms, previous diagnosis of HAVS, and underlying health conditions that may predispose a person to developing HAVS.

This form can be used as a pre-placement assessment, to provide the employer with advice on control measures and an opportunity for health education.

Tier 2: Annual (screening) questionnaire

This should be repeated annually to form the routine health surveillance for workers who are at risk but have not reported any symptoms suggestive of HAVS. They don't need to be qualified but should have received training from an occupational health professional.

Completed questionnaires may be processed by the responsible person, if this is acceptable to workers. However, it may be appropriate to have the questionnaires sent directly to the occupational health service provider so that the responsible person and employer do not see the answers.



If the worker indicates yes to any of the questions on the form, this does not mean that HAVS has been identified. Instead, the worker should be referred to a specialised nurse (qualified person) or doctor as the yes triggers entry into a more detailed clinical assessment process, described here under Tiers 3 and 4.

In the absence of self-reported symptoms, there is no need for referral to Tier 3.¹⁴⁷

Tier 3: Assessment by a qualified person

This should normally follow Tier 2 if symptoms are reported.

This level of clinical assessment is undertaken by a qualified health professional with recognised training in the assessment of HAVS. The doctor may be involved in carrying out some, or all, of the assessment in Tier 3, according to the local arrangements made by the health surveillance provider.

Clinical assessment will involve obtaining a detailed clinical and occupational history using a standardised questionnaire and the Stockholm Scale for staging of symptoms. It may also involve standardised tests, including the Semmes-Weinstein monofilaments, the Jamar grip strength test and the Purdue pegboard. For guidance on using these pieces of equipment, see SOM Identification and management of HAVS November 2019. A presumptive diagnosis may be recorded in Tier 3 as the role of the occupational health nurse or qualified person develops, but formal diagnosis is made by a doctor in Tier 4.

*'If there are positive responses at Tier 1 or 2, or negative responses for three consecutive years at Tier 2, a face-to-face interview should take place with an occupational health professional. The need for a face-to-face interview after three consecutive years of negative responses has been dropped from the 2nd edition of L140, although we see this as good practice.'*¹⁴⁸

For test procedures, see HSE Health surveillance – Guidance for Occupational Health Professionals.¹⁴⁹

Tier 4: Review and diagnosis by an occupational physician

Tier 4 should be undertaken by an accredited specialist in occupational medicine (MFOM), or by a medical practitioner with a diploma in occupational medicine (DOccMed), or by a practitioner with the post-nominal AFOM and who has passed the FOM two-day course exam in HAVS.

The appropriately qualified practitioner will advise on a formal diagnosis, control measures, future frequency of review and reporting under RIDDOR.

Tier 5: Quantitative sensory tests

Tier 5 is not required under a health surveillance programme, but it is sometimes used to determine disease staging and progression. In cases of clinical uncertainty, rapid progression of symptoms, challenging cases, or those leading to potential job loss in Tier 4 diagnosis, cases may be referred to a Tier 5 HAVS centre.

Confidentiality

It may be appropriate to have the questionnaires sent directly to the occupational health service provider so that the responsible person and the employer do not see the answers.

Health surveillance should be carried out with two baseline health assessments and yearly thereafter, and more frequently for those with diagnosed symptoms to be determined by the health professional.²⁹



Pre-appointment information

Workers should be told about the purpose of the health surveillance as part of the health protection programme. This will involve asking questions about using tools and the effects on hands and arms and maybe carrying out some simple tests.

Normal values

The absence of any clinical symptoms which may relate to handheld or guided tools over time.

Referral values

This will depend on careful assessment of occupational history over time, the clinical and staging of symptoms, and consistent reporting of symptoms by the worker. It is sometimes difficult to determine the health parameters and whether a referral should be made following a Tier 3 HAVS assessment based on the criteria. A referral to the OHP should be made without delay. It may be that the OH professional offers provisional advice to the employer while waiting for the OHP on exposure and risk assessment.

Fitness for work

L140 states that a worker should be advised on the results of the health surveillance and their fitness for work, and what information – with their consent – will be shared with their employer.

Continuing exposure is usually acceptable in early cases, including the lowest category of HAVS – stage 1. It may be possible to prevent workers with HAVS stage 1 from progressing to HAVS stage 2, but this depends on the individual's susceptibility and whether exposure can be restricted. If a worker is diagnosed with HAVS stage 2, the aim is to prevent HAVS stage 3 from developing, because this is associated with significant loss of function and disability. At the onset of HAVS stage 2, there should be increased frequency of health surveillance, as determined by the occupational health professional to detect any progression of symptoms.¹⁵⁰

Restrictions

Those workers diagnosed with late stage 2 or stage 3 HAVS on the Stockholm Scale should avoid exposure. Removal from exposure will depend on whether the worker can work safely, given the reduction of grip strength and their sensory symptoms.

Legal issues

Both the vascular symptoms of HAVS and CTS are reportable under RIDDOR (2013),¹⁵¹ and the vascular component of HAVS was prescribed industrial disease A11 in 1985, and the sensorineural element in 2004. Carpal tunnel syndrome related to vibration exposure is industrial disease A12. It is a legal requirement to carry out health surveillance under the Management of Health and Safety at Work Regulations 1999¹⁵² and the Control of Vibration at Work Regulations 2005.¹⁵³

Advice to the worker

Advice to the worker will include control measures and following the employer's safe systems of work and HSE advice on tools, rotation and keeping warm. Advice on fitness for work will mean considering two issues: whether the worker can safely carry out their role with their current symptoms, and continued exposure resulting in deterioration of symptoms and significant disability.

See Advice about dealing with CTS.¹⁵⁴



Advice to the employer

Advice to the employer on the health record will need to include an opinion on fitness for work, a risk assessment, exposure, and the efficacy of control measures for individuals and for grouped, anonymised reporting.

Case Study: HAVS

The following case study involved a 32-year-old worker in the construction industry. At baseline health surveillance, the worker reported symptoms of numbness and tingling in the middle and index finger of his right hand, and numbness with fingertips going white in winter in the middle, index and third finger of both hands. He felt this was related to using hand tools, drills and breakers.

However, the occupational history did not correlate with these symptoms as he had joined the employer two years previously from working as a chef. The worker agreed that the control measures for vibration exposure were good, he had knowledge of HSE advice on exposure and reported good maintenance regimes for tool use. The worker had no underlying medical problems.

A Tier 3 HAVS health assessment identified that his transport to and from work was his Suzuki motorcycle. He had been riding a motorcycle and racing since he was 18.

The OH professional agreed to provide advice to management on risk assessment and discussed warm gloves, and an OH review within six months.

At the six-month review, his symptoms were stable with no deterioration, and so it was advised that the next review should be in line with the health surveillance programme.

The case study illustrates the importance of taking a robust clinical and occupational history to identify non-work-related sources of vibration, before deciding on a referral to the OHP, but also the need for systematic review.

20. Whole Body Vibration

Dr Roger Cooke, MStJ, MBChB, FRCP (Glasg), DIH, FFOM, DipIMC &
Dr Ian Lawson, MBBS, FFOM, FRCP, FRSPH

Refer to the SOM publication [Hand Arm Vibration \(HAVS\) and Whole Body Vibration \(WBV\)](#).¹⁵⁵



21. Night workers

Christine Poulter, RGN, RM, SCPHN, BSc, BA, MSc

Refer to the SOM publication [What might best practice look like for managing good sleep practice for night workers at work?](#)¹⁵⁶

The legal responsibility for identifying night workers and ensuring that night worker health assessments are offered and completed rests with the employer under the Working Time Regulations 1998.¹⁵⁷ Managers must ensure that eligible workers are identified, informed, and provided access to appropriate health assessments at no cost and during working time where practicable. Occupational Health services provide clinical assessment, advice, and recommendations but do not hold the statutory duty to initiate or enforce night worker assessments. Management must act on Occupational Health recommendations and reasonably consider implementing any required workplace adjustments or control measures.

22. Exposures to lead Dr Alim Rehman, MBBS, DOccMed, FRGS

Indications for surveillance

The *Control of Lead at Work Regulations* is the statutory instrument that sets out the requirements and obligations of employers regarding workers who are likely to be exposed to lead or to a substance or material containing lead. HSE has issued an approved code of practice (ACOP):

An employer who is working with lead, or a substance or material containing it, has a duty so far as is reasonably practicable to protect from exposure to lead anyone else who may be affected by the work. As well as their own workers working with lead, this includes:

- a) Other workers, including those employed by another employer and not engaged in work with lead, such as maintenance staff and cleaners
- b) Visitors to the worksite
- c) Families of those who are exposed to lead at work and who may be affected by lead carried home unintentionally on clothing and footwear.

This includes other employers of people at the workplace who could be incidentally exposed to lead.

Lead poisoning is reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). The employer has a duty to report cases to the relevant authority. It is also a prescribed disease.

Training and competencies

Where exposure to lead is significant, the employer should make sure the worker is under medical surveillance by either a medical inspector (formerly known as an employment medical adviser) of HSE's Employment Medical Advisory Service (EMAS) or an HSE appointed doctor (AD).

Suitable medical surveillance procedures consist of initial and periodic clinical assessments and biological monitoring.



The objectives of medical surveillance are to:

- a) Make an initial assessment of a worker's suitability to work with lead
- b) Evaluate the effect of lead absorbed by a worker and advise on state of health
- c) Monitor exposure of female workers capable of having children and advise on the special need to protect any developing foetus
- d) Assess the suitability of a worker to continue in work where there is continuing exposure to lead
- e) Detect early health effects of excessive lead absorption and remove workers from exposure to prevent development of further health effects
- f) Assist employers in their duty to control exposure of workers to lead.

Schedule

Health surveillance for lead exposure is generally an annual appointment but can be sooner if there is a clinical need or a change in the job role. New workers should be seen immediately.

Record keeping

Employers may keep records in any format, for example on paper or electronically. They should know whether the storage format will withstand the mandated storage time, potentially until the worker is 75 years old. Records must be clear, understandable, readily accessible and retrievable at any reasonable time for examination by safety representatives, inspectors, etc. Records should be held at the premises where the work with lead is carried out. Where this is not possible, for example because of the itinerant nature of the work, such as demolition work, the records should be kept at the employer's designated office.

All records should allow people other than those who carry out the examination and test of control measures to:

- a) Decide whether the work has been done and completed at the appropriate time
- b) Learn of any defects or matters requiring attention and of the remedial action taken
- c) Use the records as a measure of performance to decide whether any improvements need to be made to the controls
- d) Provide data for research, with a view to improving controls.

Infection control measures

An employer's overriding duty and priority is to consider how to prevent workers from being exposed to lead by any route (inhalation, ingestion, absorption through the skin or contact with the skin).

An employer should initially try to achieve this by measures other than personal protective equipment. Employers can best comply by:

- Changing the method of work so that the operation giving rise to the exposure is no longer necessary
- Modifying a process to stop producing hazardous by-products or waste products
- Substituting lead with a lead-free material which presents no risk to health.

If this is not possible, employers should consider engineering control methods such as exhaust ventilation with particulate filtration or enclosure.

Employers may use PPE as secondary protection in combination with other control measures if those other control measures do not adequately control exposure by themselves.



Pre-appointment information

Employers should advise women capable of having children on the special need to protect any developing foetus. When a woman declares that she is pregnant, the employer should take appropriate action to remove her from work where her exposure to lead is significant and comply with other requirements of the Management of Health and Safety at Work Regulations 1999.

The employer has a duty to provide workers with suitable and sufficient information, instruction and training regarding the risks and hazards associated with lead work. The information given to workers should include:

- The possible risks of exposure to lead
- Details of appropriate exposure limits for lead as well as action levels and suspension levels.
- The results of the employer's assessment of the work
- The appropriate precautions and actions they should take to protect themselves and others
- The results of their health surveillance, as well as air monitoring, which would affect them personally.

Procedure – clinical assessment

The employer should notify the appointed doctor of the name of each person newly exposed or likely to be exposed to lead.

An initial medical assessment should be carried out on all new workers employed in an activity liable to expose them to lead, and on those who have been exposed to lead at work in a previous job in the last three months, irrespective of whether their exposure to lead in their new employment is likely to be significant.

The initial medical assessment carried out by an HSE appointed doctor should be carried out as far as is reasonably practicable before a person starts work which is likely to result in significant exposure to lead, and in any event no later than 14 days after first exposure.

At the initial examination, workers should be asked to provide written consent for the disclosure of biological test results to the employer and be given a copy of HSE's free leaflet *Lead and you*.

The assessment should include as a minimum the questions and examinations as laid out in the medical examination form FODMS98, which is annex 1 of the ACOP.

Consideration should be given to occupational record, medical history, personal hygiene and intellectual capacity to work with hazardous substances.

Habits such as smoking and nail biting may be relevant. Workers with poor personal hygiene are more likely to absorb excessive amounts of lead. A clinical examination must be conducted, noting problems such as extensive dermatitis. For individuals with anaemia, especially due to iron deficiency, consideration should be given to excluding them from work with lead until the condition is diagnosed and treated.

Samples should be taken for measurement of baseline blood-lead and haemoglobin levels and sent to an HSE-recognised laboratory to measure blood-lead levels. The units used are micrograms per decilitre.

Haemoglobin levels should also be measured.



Normal values and referral values

It is the appointed doctor's duty to review the blood test results to first determine if any worker has results that warrant suspension from lead work and referral to a specialist, or if action levels have been reached.

Action level means a blood-lead concentration of:

Woman of reproductive capacity	25 µg/dl
Young person (under the age of 18)	40 µg/dl
Any other worker	50 µg/dl

Suspension levels for different groups of workers

Women of reproductive capacity	30 µg/dl
Young persons (under 18)	50 µg/dl
Any other worker	60 µg/dl

Intervals for blood-lead measurements for various categories

Category	Blood-lead µg/dl	Interval between blood-lead measurements
A	Under 30	12 months (see note below)
B	30 and <40	6 months
C	40 and <50	3 months
D	50 and <60	3 months
E	60 and over	Less than 3 months

Outcome of surveillance and fitness for work

The outcome of the health surveillance is dependent on the category of worker. All workers who are not at action level or suspension level should be given their results and advised when they are due for a repeat blood test, as specified in paragraph 15.8.

Outcome of surveillance and guidance when exposure is to lead alkyls (organic lead compounds)

The general arrangements for medical surveillance of workers exposed to lead and lead compounds also apply to workers exposed to lead alkyls. Those with a recent history of psychiatric illness should not work with concentrated organic lead compounds, as relapses may be confused with lead poisoning. At least once a year, the medical assessment should include measuring blood and urinary lead levels.



Lead alkyls are readily absorbed from the respiratory and gastrointestinal tracts and through the skin. Once absorbed, lead alkyls and their metabolites are transported in the blood and widely distributed throughout the body. The highest concentrations are found in the liver, followed by the kidney, brain and muscle. Lead alkyls can cross the placenta and likely transfer to breast milk. The primary routes of excretion are by exhaling volatile organo-lead species and via urine and faeces.

The principal feature of lead alkyl poisoning is a rapidly developing and life-threatening encephalopathy. The individual might be irritable, restless and confused, perhaps intermittently at first. Ataxia and tremor may occur. As the condition progresses, the individual becomes increasingly disoriented and uncooperative. They may also be nauseous, have abdominal pain, and vomit. In extreme cases, individuals can become overtly psychotic and self-destructive or lapse into a coma, with subsequent convulsions or cardiorespiratory failure.

Lead alkyl poisoning is a medical emergency requiring immediate hospital admission. Receiving doctors should be aware of the diagnosis. Using chelating agents appears to be of little benefit. Supportive therapy, including sedation and life support, is the treatment of choice.

Biological monitoring for lead alkyl absorption should be conducted by measuring total urinary lead concentration. The latter is corrected for urinary creatinine concentration to account for differences in the volume of urine the kidney produces over a unit of time. This measurement should be used for initial and periodic medical assessments of workers exposed to lead alkyls.

Medical surveillance includes an annual medical examination, with additional interim lead concentration measurements undertaken at the discretion of the Appointed Doctor. The frequency of these measurements is mainly determined by the worker's previous lead concentration result, although more frequent testing may be required to establish a pattern or trend. The frequency will also depend on the risk assessment for the work being undertaken. Workers carrying out higher-risk activities may require more frequent testing because lead concentrations can change quickly, even where previous results have been within the normal range.

Maximum interval between urinary lead concentration measurements:

Worker category or urinary lead concentration	Maximum interval
All workers	6 weeks
Young persons aged up to 18	1 week
Under 95 µg Pb/g creatinine	6 weeks
95*–109 µg Pb/g creatinine	1 week
110 µg Pb/g creatinine and over**	At the doctor's discretion

Maximum interval between urinary lead concentration measurements for women of reproductive capacity

Urinary lead concentration	Maximum interval
Under 20 µg Pb/g creatinine	6 weeks
20*–24 µg Pb/g creatinine	1 week
25 µg Pb/g creatinine and over**	At the doctor's discretion

Note:

*Represents the level at which the worker will come under closer medical surveillance.

**Represents the level above which the doctor will certify the worker as unfit for work which exposes the worker to lead.



Action levels

No action levels have been set for workers exposed to lead alkyls.

Suspension levels

The urinary lead concentrations at which workers reach the suspension level are:

Worker category	Suspension level
Women of reproductive capacity	25 µg/dl Pb/g creatinine
Young persons aged up to 18	110 µg/dl Pb/g creatinine
Any other worker	110 µg/dl Pb/g creatinine

If the suspension level is triggered, an urgent repeat test should be requested. Every effort should be made to obtain the repeat test result within 10 working days of the initial result.

Where the initial result relates to a woman of reproductive capacity, the appointed doctor should consider whether to remove the worker from work involving exposure to lead alkyls until the repeat test result is available.

If the repeat test result is equal to or greater than the suspension level, the appointed doctor should suspend the worker from work involving exposure to lead alkyls.

Important: The suspension levels quoted above reflect the requirements applicable at the time of publication. The Health and Safety Executive is currently consulting on changes to the occupational lead regime, and the applicable exposure and suspension levels may be reduced significantly, potentially during 2028–2029. Readers should therefore check the latest HSE requirements and guidance before relying on these figures.

Outcome of surveillance action levels

The action levels for different groups of workers are set out in the Normal Values and Referral Values section.

The purpose of the action level is to:

- Warn the employer that a worker's blood-lead concentration (or urinary lead concentration, where there is exposure to lead alkyls) is approaching the suspension level
- Prompt the employer to investigate why it has been breached and to review the range and effectiveness of the control measures used, with a view to preventing recurrence and complying with statutory obligations
- Reduce the worker's blood-lead concentration below the action level to prevent their blood-lead concentration from reaching the suspension level.

Restrictions and suspension levels

The suspension levels for different groups of workers are set out in paragraph 15.8. This is the blood-lead concentration (or urinary lead concentration, where there is exposure to lead alkyls) at which the appointed doctor decides whether to certify removing the worker from exposure to lead.

When the appointed doctor certifies removing the worker from exposure to lead, it is the responsibility of the employer to comply with the certificate.



The employer should make every effort to preserve the worker's terms and conditions of employment and to redeploy the worker to alternative work that complies with any conditions certified by the appointed doctor in the worker's health record.

Where the employer cannot provide alternative employment and must suspend the worker from work, the worker should not return to work involving exposure to lead until the appointed doctor considers it appropriate. The appointed doctor will take into account:

- The worker's degree and duration of exposure to lead
- Recent blood-lead or urinary lead levels
- The results of any other biochemical tests
- The prevailing conditions in the place of work
- Whether a woman returning to work is still breastfeeding her child.

At the appointed doctor's discretion, the worker may return to work where exposure to lead is not significant, for example in another section of the factory. Before approving this, the appointed doctor should be aware of the conditions prevailing in the place of work, such as the expected lead-in-air levels and the general cleanliness.

Legal issues

The Control of Lead at Work (CLAW) Regulations 2002 (SI 2002/2676) came into force on 21 November 2002, revoking the CLAW Regulations 1998. The new regulations have been extended by the health requirements of the European Union's Chemical Agents Directive (98/24/EC), but their aims, and that of their supporting ACOP, are to:

- Protect the health of people at work by preventing or, where this is not reasonably practicable, adequately controlling their exposure to lead
- Monitor the amount of lead workers absorb so that individuals whose work involves significant exposure (as defined by the regulations) to lead can be taken off such work before their health is affected.

Applying the regulations

The regulations place a duty on every employer to prevent or adequately control workers' exposure to lead, irrespective of the source. For example, exposure to lead may result from work with lead or lead compounds carried out by the employer's own workers, or incidentally from the work of others, or from environmental factors, such as working on a polluted site.

The regulations apply to any type of work activity – handling, processing, repairing, maintenance, storage, disposal, etc. – which is liable to significantly expose workers and any other person to lead as:

- Metallic lead, its alloys, and all its compounds, including lead alkyls
- Lead when it is a component of any substance or material.

The lead must also be in a form in which it is likely to be:

- Inhaled – lead dust, fume or vapour
- Ingested – lead powder, dust, paint or paste
- Absorbed through the skin – lead alkyls or lead naphthenate.



The regulations do not apply to work with materials or substances containing lead where, because of the nature of the work, lead cannot be inhaled, ingested or absorbed, for example handling finished pottery products which contain lead.

Advice to the worker

Advice to all lead workers to be provided via distribution of the HSE publication Lead and you.

Advice to the employer

Give the advice above and signpost to HSE Control of lead at work (L132 Third edition, published 2002): Control of Lead at Work Regulations 2002, Approved Code of Practice and guidance.



23. Exposures to asbestos Dr Greg Palka, MD, AFOM

Introduction

The Control of Asbestos Regulations 2012 (CAR 2012)¹⁵⁸ place legal duties on employers to protect workers and others who may be exposed to asbestos through work activities. The aim is to prevent or control serious health risks, including mesothelioma, asbestos-related lung cancer, asbestosis and diffuse pleural thickening.

Where eliminating exposure is not reasonably practicable, employers must reduce exposure to the lowest level reasonably practicable (LLERP), applying the hierarchy of control measures. Alongside engineering and procedural controls, medical surveillance supports early detection of asbestos-related conditions.

Detailed information is available in Managing and working with asbestos – Control of Asbestos Regulations 2012 (L143, ACOP).¹⁵⁹

Definitions

- **Licensable work:** Work involving asbestos insulation, coatings, or AIB where exposure is not sporadic or of low intensity, and where the control limit (0.1 fibres/cm³ over four hours) may be exceeded (ACOP Reg 2).
- **Medical surveillance under CAR 2012:** A system of ongoing health checks required by law for workers exposed to asbestos.
- **Notifiable non-licensed work (NNLW):** Non-licensable work requiring notification – sporadic, low-intensity work which does not exceed the control limit (0.1 fibres/ml averaged over four hours), short activities involving non-friable materials, removal of non-degraded materials, encapsulation or sealing, air monitoring and control (ACOP Reg 3) (49).
- **Relevant doctor:** For licensable work, a doctor appointed by HSE; for NNLW, this includes any GMC-registered medical practitioner (MS34 paragraph 13).

Indications for medical surveillance

Under CAR 2012, employers are required to arrange appropriate medical examinations for any workers who carry out licensable work or NNLW.

Licensable asbestos work: Higher-risk activities with asbestos insulation, AIB, or coatings where the employer is required to hold a licence from HSE. This is work where exposure is not sporadic and low-intensity, or where the control limit (0.1 fibres/cm³ over four hours) may be exceeded.

NNLW: Specific lower-risk tasks (removing AIB for short durations) which require notifying the enforcing authority, and where exposure does not meet the exemption criteria for sporadic and low-intensity work.

Additionally, medical surveillance (including a chest examination) must be provided if recommended by HSE or a relevant doctor for any worker who may have been similarly exposed to a worker diagnosed with an asbestos-related disease attributable to that exposure.

An occupational health assessment by a relevant doctor may be advisable following significant inadvertent exposure.



Exemptions

Medical surveillance under Regulation 22 is generally not required for work with asbestos where exposure is genuinely sporadic and of low intensity and meets the exemption criteria outlined in ACOP L143 (paragraph 19). This includes short, non-continuous maintenance activities involving specific non-friable materials, where exposures are demonstrably well below the control limit.

Control of Asbestos Regulations 2012

Assessment of work which exposes workers to asbestos:

6. (1) An employer must not carry out work which is liable to expose workers of that employer to asbestos unless that employer has
- (a) made a suitable and sufficient assessment of the risk created by that exposure to the health of those workers and of the steps that need to be taken to meet the requirements of these regulations
 - (b) recorded the significant findings of that risk assessment as soon as is practicable after the risk assessment is made
 - (c) implemented the steps referred to in sub-paragraph (a).
6. (2) Without prejudice to the generality of paragraph (1), the risk assessment must
- (a) subject to regulation 5, identify the type of asbestos to which workers are liable to be exposed
 - (b) determine the nature and degree of exposure which may occur in the course of the work
 - (c) consider the effects of control measures which have been or will be taken in accordance with regulation 11
 - (d) consider the results of monitoring the exposure in accordance with regulation 19
 - (e) set out the steps to be taken to prevent that exposure or reduce it to the lowest level reasonably practicable
 - (f) consider the results of any medical surveillance that is relevant
 - (g) include such additional information as the employer may need to complete the risk assessment.

Training and competencies

Doctors performing medical surveillance under CAR 2012 must have specific competencies. These include a good understanding of occupational medicine principles, proficiency in taking a detailed occupational history (including smoking history and past/present exposure details), competence in respiratory system examination, performing and interpreting spirometry to recognised standards (ATS/ERS), knowledge for understanding and diagnosing asbestos-related diseases, and familiarity with CAR 2012 requirements and HSE guidance.

Certain components of the assessment, such as administering asbestos questionnaires and performing spirometry, may be undertaken by a competent occupational health (OH) technician or adviser with suitable training, and working under the supervision of a relevant doctor.

Appointed doctors (for licensable work): Medical examinations for licensable work must be conducted by a relevant doctor who has been appointed by HSE. Appointed doctors must demonstrate the qualifications, experience, facilities, and a comprehensive understanding of asbestos hazards and surveillance protocols as detailed in HSE Guidance for appointed doctors on medical surveillance of workers doing licensed work with asbestos (MS31 rev2).



Medical examinations for>NNLW may be undertaken either by an HSE appointed doctor or by any registered medical practitioner holding a licence to practise with the GMC, provided they have the required competencies. Specific guidance is available from HSE.¹⁶⁰

Equipment requirements

Employers are required to provide suitable facilities if medical surveillance is conducted on their premises.

Essential medical equipment for the examination includes:

- A stethoscope for clinical examination of the chest
- A BP cuff (to exclude hypertension prior to spirometry), medical scales and a height measurement scale
- A spirometer suitable for measuring FEV₁, FVC and the FEV₁/FVC ratio, which complies with current technical standards (such as ATS/ERS guidelines) for accuracy and quality control.

The relevant doctor may determine if other tests, such as a chest X-ray, are clinically necessary.

All measuring equipment, particularly spirometers, must undergo regular calibration and maintenance checks in accordance with manufacturer instructions and professional standards for accurate and reliable results.

Suitable arrangements for confidential record keeping and secure storage are required.

Schedule

The frequency of medical surveillance depends on the type of work.

Licensable work: An initial examination must be completed within the two years preceding the worker's commencement of licensable asbestos work. Examinations are then required at least every two years if the relevant exposure continues. The relevant doctor may advise a shorter interval if clinically indicated.

NNLW: An initial examination is required, not more than three years prior to the worker commencing>NNLW. Examinations must be performed at least every three years during the period of exposure. Again, the doctor may advise a shorter interval based on clinical assessment.

All medical examinations must be conducted during the worker's working hours and provided at the employer's expense.

Infection control measures

Standard infection prevention and control precautions must be observed.

Workers with symptoms suggestive of an acute infectious condition (new continuous cough, fever, etc.) should be advised to reschedule their appointment.

Medical staff must adhere to standard clinical infection control practices during the examination. This includes appropriate hand hygiene and the disinfection of equipment, following manufacturer instructions and local protocols. The examination environment must be clean, safe, and have facilities for appropriate clinical waste disposal.



Pre-appointment information

Workers should be provided with clear information prior to their appointment to ensure they understand the process and participate effectively:

- The medical surveillance is a statutory requirement to monitor respiratory health and aid early detection of potential asbestos-related disease.
- It is the worker's responsibility to provide the relevant doctor with the medical information required for the assessment.
- The procedures typically involve a questionnaire, a discussion of medical and work history, a clinical chest examination, and a lung function test (spirometry).
- Potential contraindications to spirometry: For example, workers with symptoms of an infectious condition or significantly high or uncontrolled blood pressure may be unable to perform the test safely and should declare this.

Employers are encouraged to provide the doctor with:

- The worker's job description and risk assessment information detailing potential asbestos exposure
- The date of the worker's previous asbestos medical examination and any advice or restrictions previously issued
- Details of the company's asbestos licence.

Procedure – clinical assessment

The medical surveillance assessment aims to detect potential early signs of asbestos-related lung disease. This involves a combination of history taking, clinical examination and objective lung function measurement. The assessment must include:

- A relevant medical and occupational history, including current respiratory symptoms, smoking history, detailed occupational history focusing on potential asbestos exposure (past and present, including type of work, materials, controls, RPE used) and exposure to other respiratory hazards.
- Relevant past medical history (particularly respiratory or cardiac conditions).
- Clinical examination focused on the respiratory system. Key findings to note include basal late inspiratory crackles (crepitations) on auscultation, finger clubbing, abnormalities of chest expansion or abnormal percussion note. Other factors, such as hand condition or facial hair, that affect RPE face fit may also be noted.
- Spirometry measuring FEV₁, FVC and the FEV₁/FVC ratio. The test must be performed according to recognised quality standards, ensuring acceptable technique and reproducible results.

Appropriate documentation must be completed, including:

- Consent form.

For licensed work:

- Respiratory Symptom Questionnaire (MSLW1), including occupational history
- Health Surveillance Record Form (FODMS100)
- Optionally, with consent, Asbestos Workers' Survey (FODMS75)
- Certificate of Medical Examination (FODMS72A)



Participation in the Asbestos Workers' Survey is optional. However, all workers must complete the official online MS75 consent form, regardless of whether they choose to participate. The form must record either their consent to take part or their decision to opt out.

For notifiable non-licensed work:

- Combined Respiratory Symptom Questionnaire and Certificate of Medical Examination (MSNLW1)

If abnormalities are detected during the assessment, the doctor may recommend further investigations or referral, such as chest imaging (X-ray or CT scan) or assessment by a respiratory specialist.

Examination records must detail findings and be stored separately from health records.

Further information is available in the HSE guidance for doctors (MS31 and MS34).

Normal values

The doctor must interpret examination and lung function test results (FEV₁ and FVC) in relation to predicted values derived from population reference values.

Referral values

The examining doctor may refer the worker to a specialist (typically a consultant respiratory physician). Common triggers for considering referral include:

- Abnormal respiratory findings on examination (e.g. basal crackles) or concerning symptoms (e.g. persistent cough, unexplained breathlessness, chest pain)
- Clinical suspicion of an asbestos-related disease
- A significant decline in lung function compared with previous results or results significantly below the predicted normal range.

Fitness for work and restrictions

Medical surveillance under CAR 2012 does not include determining fitness and focuses on health monitoring and detecting asbestos-related diseases.

The Certificate of Medical Examination (FODMS72A for licensed work, MSNLW1 for NNLW) confirms that statutory surveillance has been conducted and records the date. The certificate contributes to monitoring an individual's respiratory health trends.

Employers must maintain a system (which can be part of the health record) for scheduling and logging examinations for workers.

The surveillance may identify an occupationally relevant condition or impairment (for example severe asthma, significant cardiac disease) that could preclude the safe use of respiratory protective equipment (RPE), undertaking strenuous tasks, or working at height/in confined spaces. In such cases, the appointed doctor may advise the employer to refer the worker for a comprehensive occupational health assessment focused on fitness for their duties.

Workers may also require fitness assessments for hazards associated with their role (working at heights, confined spaces, driving, etc.) which are distinct from the CAR 2012 medical surveillance.



Legal issues

The core legal requirements for medical surveillance related to asbestos exposure are outlined in Regulation 22 of CAR 2012 and further detailed in the associated Approved Code of Practice (ACOP) L143.

Specific guidance for medical practitioners is provided by HSE in documents MS31 rev2 (for licensed work) and MS34 rev2 (for NNLW).

Key employer duties under CAR 2012 related to medical surveillance

For licensable work

- Ensuring exposed workers are under adequate medical surveillance by an HSE appointed doctor.
- Maintaining a health record for each exposed worker containing particulars approved by HSE (personal details, work type, location, dates, details of exposure or overexposure, RPE information, medical examination dates, etc.). Note: The relevant doctor maintains the confidential clinical records.
- Retaining this health record for at least 40 years from the date of the last entry.
- Keeping a copy of the Certificate of Medical Examination (FODMS72A) for at least four years.
- Providing workers access to their own health records upon request and providing HSE inspectors access to health records.

For NNLW

Keeping a register of workers carrying out NNLW, detailing the nature and duration of the activity and the estimated exposure.

Maintaining a recording and planning system for scheduling and logging examinations.

Reporting

- Certain diagnosed asbestos-related diseases (mesothelioma, asbestos-related lung cancer and asbestosis) attributable to occupational exposure are reportable by the employer under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013.¹⁶¹
- Unplanned release of asbestos fibres may constitute a “dangerous occurrence” reportable under RIDDOR 2013, irrespective of immediate injury.

Data protection

- Personal data collected during medical surveillance, particularly sensitive health information contained within clinical records, must be processed and stored by the relevant doctors in accordance with the requirements of the UK General Data Protection Regulation (UK GDPR)¹⁶² and the Data Protection Act 2018.¹⁶³
- Contracts between employers and occupational health providers should define responsibilities regarding record keeping, secure storage, retention periods and procedures for sharing information (certificates are shared with the employer and the worker).



Advice for the worker

Following the examination, workers should receive information on:

- Their current respiratory health status based on the assessment
- The health risks from asbestos exposure, particularly the significantly increased risk of lung cancer if they smoke, and preventative measures.
- Personal hygiene, giving up smoking, and the importance of correct fit and use of RPE
- Reporting any new or worsening respiratory symptoms promptly to their GP and/or Occupational Health
- Their right to access their personal health records held by the employer
- Recommendations for tests or adjustments if abnormalities were detected.

Advice for the employer

Employers receive the Certificate of Medical Examination following surveillance.

Key advice points for employers include:

- Maintaining health records and planning systems to comply with medical surveillance.
- If the surveillance identifies health issues that might impair a worker's fitness for aspects of their role (such as a respiratory condition affecting safe RPE use), the employer should arrange a dedicated occupational health consultation for a comprehensive fitness assessment and advice. This requires a separate worker's consent for sharing relevant clinical information.
- If an employer has concerns about a worker's general fitness for work, they should initiate their standard fitness-for-work assessment procedures, separate from the statutory asbestos surveillance.
- If the relevant appointed doctor advises that a worker has an asbestos-related condition due to occupational exposure, the employer must take specific actions under Regulation 22(9):
 - Ensure the worker is informed about the findings (typically by the doctor).
 - Review the risk assessment for the work activities associated with the exposure and implement any control measures.
 - Consider assigning the worker to alternative work where there is no likelihood of further asbestos exposure, taking medical advice into account.
 - Arrange for a health review (medical surveillance) of other workers who may have been similarly exposed, if such examinations are recommended by the relevant appointed doctor or by HSE.

Appendices

[Appendix one:](#) Example letter to a worker to participate in health surveillance

[Appendix two:](#) Occupational Health Surveillance Record

[Appendix three:](#) Anonymised surveillance group results

[Appendix four:](#) COSHH Assessment Proforma (Example)

[Appendix five:](#) Information before your hearing test

[Appendix six:](#) Information before your lung function test

Appendix One: Example letter to a worker to participate in health surveillance

Dear [Name of worker]

Your role has been identified as one that requires participation in statutory health surveillance. For instance, you may be exposed to hazardous chemicals that could irritate your skin or harm your health. Health surveillance is designed to safeguard your health and, where necessary, provide advice to your manager or refer you to your GP or a specialist occupational health professional. In exceptional circumstances, it may be necessary to provide advice to remove you from any sensitisers which have resulted in a significant disorder.

Health surveillance may be undertaken by the identified responsible person who has received training for this role. The responsible person may be one of your colleagues and is required to maintain any medical information you disclose as confidential. You may also be seen by an occupational health technician, nurse, adviser, physiologist or doctor.

This is a legal requirement under the Management of Health and Safety at Work Regulations 1999 and the Control of Substances Hazardous to Health Regulations 2002, as amended.

- You should only be expected to attend your health surveillance assessment during working hours unless other arrangements are required.
- You should complete a health questionnaire on at least an annual basis.
- You may request access to an alternative responsible person at any time if you have any concerns about confidentiality or conflict of interest.
- You will need to give your consent to have information about you stored securely.
- Withdrawal of consent does not apply to medical or health surveillance records that employers are legally required to retain under health and safety legislation. These records (which do not contain clinical information unless consented to) will continue to be held for the required statutory period regardless of consent status.
- Your explicit consent will be required prior to sharing any relevant information with your manager.
- If any issues are identified, you may be required to have further discussions with your manager to determine adjustments.
- You may be referred to your GP or an occupational health practitioner for further advice and/or diagnosis of any medical condition.
- You may request to have an assessment with the responsible person if you develop any concerns about your health, in relation to your health surveillance, before your planned recall date.
- You may be required to follow any advice, such as the use of PPE or avoiding certain gloves or chemicals.
- Should you fail to attend your assessment, your manager and/or HR will be notified.
- Should you decline to participate in the surveillance, your manager and/or HR will be notified to discuss the implications this may have on your job role. If the required health surveillance has not been completed, your employer may be unable to determine your fitness or suitability for the role and therefore whether you can be safely deployed. In such circumstances, the employer should undertake a management review, consider the requirements of the role and any reasonable adjustments or alternative duties, and manage the situation in accordance with the organisation's health and safety and employment procedures. I acknowledge that I will participate in a statutory health surveillance programme and have read and understood my obligations as outlined above.

Name (block capitals):

Signature:

Date:

Appendix two: Occupational health surveillance record

Worker name		Address (inc. postcode)	
Date of birth		Gender	
NI Number		Company	
Job Role		Start date	
Hazards		History of exposure in job	

Date of surveillance	
Hazard	
Type of surveillance	
Outcome /fitness for work	
Review date	
Name of responsible person	

Date of surveillance	
Hazard	
Type of surveillance	
Outcome /fitness for work	
Review date	
Name of responsible person	

Date of surveillance	
Hazard	
Type of surveillance	
Outcome /fitness for work	
Review date	
Name of responsible person	

The health surveillance/health assessment should be repeated in one year unless indicated otherwise above. Please arrange an occupational health assessment sooner if any concerns or symptoms of ill health are observed or reported. Managers should refer to this record and consider any adjustments advised. Managers should decide on any further health assessments where indicated and ensure risk assessments are monitored and recorded. This health record MUST be stored for 40 years from the date of last entry. It should be made available for inspection by HSE and others.

Appointed Responsible Person

Name (block capitals):

Signature:

Date:

Appendix three: Anonymised surveillance group results

1. General information

Date: (e.g. 29 April 2025)

Location: (e.g. Petersfield)

Surveillance Programme Title: (e.g. Workplace Noise Exposure Surveillance)

Purpose of Surveillance: (e.g. to assess the impact of noise exposure on hearing health)

Target Group: (e.g. all workers in the Production Department)

Surveillance Method(s): (e.g. hearing tests, questionnaires)

Data Collection Period: (e.g. 1 January 2025 – 31 March 2025)

2. Group results summary

Number of Individuals Participating: (e.g. 25)

Overall Health Risk Assessment (based on aggregated results): (e.g. High, Moderate, Low)

Summary of Key Findings: (e.g. a significant number of workers exhibited noise-induced hearing loss)

Specific Findings by Category: (e.g. by age, department or specific exposure – provide a table or chart summarising the results)

Category: (e.g. Production Department)

Number of Individuals in Category: (e.g. 15)

Percentage with Positive Findings: (e.g. 60%)

Specific Findings for this Category: (e.g. higher incidence of high-frequency hearing loss)

3. Individual summaries (if applicable, and depending on data privacy)

Individual ID (e.g. 12345) or Other Identifier:

Individual Name (if privacy allows):

Surveillance Results Summary: (brief summary of individual results)

Recommendations: (e.g. follow-up hearing test, modify work practices, wear hearing protection)

4. Conclusion and recommendations

Overall Conclusion: (e.g. The health surveillance programme revealed a concerning trend of hearing loss among workers)

Action Plan: (e.g. implement noise reduction measures, provide hearing protection, offer regular hearing tests)

Signatures: (Occupational Health Officer, Manager)

Appendix four: COSHH assessment proforma (example)

COSHH Assessment for:	
Material Code:	
The hazardous properties of the substance	
Information on health effects provided by the supplier, including information contained in any relevant safety data sheet	
The level, type and duration of exposure	
The circumstances of the work, including the amount of the substance involved	
Activities, such as maintenance, where there is the potential for a high level of exposure	
Any relevant occupational exposure standard, maximum exposure limit or similar occupational exposure limit	
The effect of preventative and control measures which have been or will be taken in accordance with Regulation 7 (Prevention or control of exposure to substances hazardous to health)	
The results of relevant health surveillance	
The results of monitoring exposure in accordance with Regulation 10 (Monitoring exposure at the workplace)	
In circumstances where the work will involve exposure to more than one substance hazardous to health, the risk presented by exposure to such substances in combination	
The approved classification of any biological agent	
Such additional information as the employer needs to complete the risk assessment	
Does the worker have any susceptible factors, such as pre-existing pregnancy, or a skin or respiratory condition?	

Date of Assessment:

Undertaken by:

Reference: The Control of Substances Hazardous to Health Regulations 2002 (COSHH). Statutory Instruments 2002 No. 2677. Available at: <https://www.legislation.gov.uk/uksi/2002/2677/made>

Appendix five

Information before your hearing test

Please read these instructions at least three days before your hearing test.

1. Your employer has a legal obligation to appoint a competent person to undertake a hearing test if you are exposed to loud noise at work. In brief, this applies when the noise level is greater than 85 dB.
2. Noise is considered loud if it is necessary to shout or raise your voice to communicate with anyone 1 metre, or 3 feet, away.
3. If you work in a safety-critical role such as operating a forklift truck, your employer needs to ensure you can hear all movements in the area and all safety alarms.
4. A hearing test is a screening test and takes 10 to 15 minutes.
5. If you are exposed to loud noise 24 hours before the test, this may cause a temporary shift in your hearing test result.
6. It is advisable to limit excessive noise exposure the day before testing, such as fireworks, motorcycling, loud concerts or shooting.
7. On the day of your test, please work as you normally would. The test checks how your hearing protection performs in your usual working conditions.

If you do not normally wear hearing protection in noisy areas but only wear it on the day of your test, this can affect the results.

It may cause something called a temporary threshold shift (TTS).

This means your hearing test could look better than it really is because your ears have had short-term protection just before the test.

To get accurate results, it's important that the test reflects your normal day-to-day working conditions.

8. Your assessment is an opportunity to check if your hearing protection is being fitted and worn correctly, so please bring that with you to the appointment.
9. If your test shows hearing loss, you may be requested to attend a follow-up test, or you could be referred to your GP or a specialist.
10. If you have a cold or congestion, this may affect your results, and your test may need to be postponed.

Appendix six

Information before your lung function test

Please read these instructions at least the day before your lung function test, as they include pre-test advice.

Lung function testing must be carried out safely for the tester and the worker. The lung function test is straightforward and quick. To get the best possible results for your test, read the following information:

- Your height and weight measurements are required in metric units.
- Your height and weight will be taken on the day of your test.
- Avoid smoking (if applicable and possible) for two hours before the test.
- If possible, avoid bronchodilators (asthma medication) for two hours before the test. If you are asthmatic and avoiding using your inhaler would make you ill, then apply common sense.
- Avoid caffeinated drinks for four hours before the test.
- Avoid alcohol for four hours before the test.
- Avoid a heavy meal one hour before the test.
- Avoid vigorous exercise for 30 minutes before the test.
- Avoid wearing restrictive clothing on the day of the test, such as a tight belt.
- You may wish to use the toilet facilities before the test.

If any of the conditions below relate to you, please get in touch with Occupational Health to determine whether you need to reschedule your appointment:

- *Active respiratory infection*
- *Pneumothorax (collapsed lung)*
- *Myocardial infarction (heart attack)*
- *Unstable angina/cardiovascular status*
- *Pulmonary embolism (blood clot in the lung)*
- *Current haemoptysis (coughing up blood)*
- *Untreated TB*
- *Recent eye surgery/increased intraocular pressure*
- *Recent abdominal surgery*
- *Recent cerebrovascular accident*
- *Thoracic, abdominal or cerebral aneurysm*
- *Acute disorders affecting test performance, such as nausea and vomiting*
- *Untreated high blood pressure*
- *If you are more than 12 weeks pregnant*

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