Practical and System specific guidance in Occupational Medicine

1. Framework for practice

At the end of Year 2 of specialist training

Be able to define occupational medicine, its relationship with work and health and the role of occupational health services in delivering clinical services in support of an organisation.

Demonstrate an understanding of the national and international context of occupational health and the role of government departments in influencing health and work.

Demonstrate a working knowledge of the EC legal and ethical framework relevant to health and safety legislation, employment law, occupational health law including disability legislation and other legislative frameworks, which apply to the individual worker and others in the workplace. This includes the requirements of reporting occupational injury and disease, the provision of industrial compensation schemes.

Be able to keep clear, accurate and legible contemporaneous records, use information systems and demonstrate an understanding of confidentiality with sensitive information.

At the end of Year 4 of specialist training

Be able to understand the determinants of role specific competency, and the role of occupational health services driven by factors such as type of industry, type of jobs and hence ‘exposures’, demography of workforce, culture within the society, sector, employers and employees.

Demonstrate national and International involvement in the specialty of occupational medicine and health including working with government either locally or nationally (e.g. Department of Health, National Health Service, NHS Plus, Department of Work and Pensions, employment services and public health specialists).
Demonstrate a good understanding of the relevant acts, regulations, codes of practice and guidance governing occupational health and safety law and be able to advise both workers and employers of their legal obligations, including ill health retirement, injury benefit and pension schemes. This includes being able to construct a good legal record in the form of a report to an appropriate standard and understand the role of the expert witness.

Demonstrate an understanding of the range of possible uses for clinical data and information and appreciate the dangers and benefits of aggregating clinical data and be able to use data to deliver reports on Occupational Health Services performance and outcomes. This includes the ability to use word processing as well as the use of spreadsheets, databases, and presentation graphics.

Demonstrate a robust ethical framework to handle difficult decisions in both the clinical setting and with colleagues (e.g. colleague’s behavior falling outside the boundary of the agreed or ethical doctor patient relationship or demonstrating poor performance) demonstrating a careful approach and considered the judgment.

2. Clinical practice.

At the end of Year 2 of specialist training

Be able to take and analyze a clinical and occupational history including an exposure history in a relevant, succinct and systematic manner from a worker/potential worker from various backgrounds who present/are referred to Occupational Health Services. Demonstrate the ability to structure the interview to identify their concerns, expectations, potential barriers to work, understanding and acceptance whilst understanding with different levels of technical understanding in an empathic manner. Demonstrate an understanding the consequences of therapeutic use of drugs, on health, safety and performance and the role of psychological, social, and domestic factors have in the occupational impact of chronic disease.

Be able to describe and detect clinical signs in the targeted examination of a worker/potential worker, define the patho-physiological basis of physical signs, and correctly identify potential differential diagnoses as a result of logically analyzing the results of the history and examination findings. This should include the ability to recognize patterns of symptoms found in patients presenting with disease and identifying non-occupational/environmental factors that may contribute to occupational / environmental disease or injury.

Demonstrate respect a worker/potential worker’s dignity and confidentiality, taking into account any cultural issues and demonstrate the ability to take informed consent allowing disclosure when appropriate. Appreciate the need for a chaperone and/or ‘advocate’ where appropriate. This includes the appropriate management of any ethical issues arising during the consultation.
Be able to agree an appropriate management plan and follow up taking into consideration any need for onward referral for further investigations, or specialist referral/referral to other agencies and including appropriate recommendations for workplace restrictions.

Demonstrate the ability to provide evidence of maintaining documentation of patient and employee encounters concisely, accurately, confidentially and legibly signed and dated where appropriate and write a concise, factual and understandable report for management. The report should maintain a patient’s right to confidentiality, recommending a management plan agreed with the worker which includes functional prognosis, reference to appropriate legislation, taking into account regarding assessment of ability in activities of daily living, physical, psychosocial and cognitive ability and motivation. It should demonstrate an awareness of requirements to adapt work to the capabilities of workers in the light of their physical and mental health and arrange follow up if indicated.

**By the end of Year 4 of specialist training**

Be able to meet the expected performance described above on the management of complex cases including consideration of rehabilitation, redeployment, work-place adaptation, retraining or ill health retirement. Consultations should demonstrate a robust ethical framework in which allows difficult decisions to be made competently. Reports should demonstrate an in depth understanding of the individual and workplace factors that may affect an individual, an accurate assessment of risk and appropriate recommendations to management in managing the worker with complex health needs including the appropriate use of organisational psychology and human factors.

**System Specific Guidance**

**Cardiovascular diseases**

Conditions of importance are ischaemic heart disease, cardiomyopathy, congenital heart disease, heart failure, peripheral vascular vascular disease. Performance required includes understanding underlying cardiac risk factors and the skills to evaluate a person’s ability to perform exertional work after a major cardiac event such as a myocardial infarction or coronary artery bypass graft surgery. In particular understand the risks associated with placing such workers in special assignments such as emergency response, hazardous waste, forklift, and respirator use. The knowledge of cardiac effects of asphyxiants (e.g. carbon monoxide, methylene chloride and cyanide) and other cardiotoxic substances within the workplace.

**Dermatology**

Dermatological conditions include occupational and environmental skin injuries and dermatoses, which may interfere or be exacerbated by work. Performance requires an understanding of the role of patch testing, the ability to interpret reports and their use in developing a management plan and advising on risk.
Otolaryngological conditions

Occupational and environmental ear, nose and throat conditions include allergies, rhinitis, pharyngitis, vocal cord dysfunction, laryngeal polyps, chronic inflammatory disorders, hearing loss or other occupationally related otological conditions. It also includes pre-existing conditions such as deafness that may interfere or be exacerbated by work. Performance includes giving advice on risk factors such as noise, the appropriate use of screening, interpretation of audiograms (including threshold shift).

Haematological/oncological conditions

Conditions include haematological conditions resulting from workplace exposures, adverse health conditions resulting from exposure of substances known or suspected to be carcinogens. Performance includes the interpretation of haematological investigations in the context of medical surveillance and post-exposure examinations to detect the health effects of exposure to haematological toxins such as benzene, lead, and arsine and also knowledge of the management of workers who are potentially immunocompromised as a result of treatment for cancer.

Infectious diseases and travel medicine

Performance requires an understanding of infectious diseases, including zoonoses and diseases picked up during foreign travel that might affect a worker/potential worker. Performance requires an understanding of prevention including immunization within the workforce and relating to foreign travel and advice on travel health including prevention and management ill health effects arising from poor hygiene and sanitation and blood borne, airborne, waterborne, food borne, and fomite borne disease including sexually transmitted disease.

Mental ill health

Performance requires knowledge and understanding of common mental ill health conditions and methods of taking a complete psychiatric and psychosocial history, carrying out a mental state examination and referring for specialist advice/intervention when appropriate, the potential impact on work including the impact of psychotropic medication. A knowledge of and ability to identify work-related psychological and psychosocial stressors, understand individual susceptibility and the use of coping strategies and changing nature of work to improve mental health is also expected. An understanding of workplace policies on mental health, alcohol and substance abuse and the role of workplace testing is also expected.

Musculoskeletal conditions

Performance requires the ability to assess diseases and disorders of the musculoskeletal system and associated disabilities with an understanding of occupational and non-occupational risk factors. Also be able to assess fitness for work in the presence of adverse musculoskeletal conditions including
workplace adjustments and redeployment as necessary with the ability to identify and manage workers with chronic musculoskeletal pain syndromes.

**Neurological conditions**

Performance requires an understanding the impact of neurological conditions including performing neurological and mental state examinations and assessing fitness for work. Understand the occupational and environmental exposures, which may result in neurological disorders and how to prevent exposure and be able to manage more complex cases on their rehabilitation and return to work.

**Ophthalmological conditions**

Relevant conditions for this competency include conjunctivitis, ultraviolet photokeratitis, foreign bodies, ocular chemical exposures and burns (including alkali, acid, and hydrofluoric acid). Understand the role of visual screening including detection of colour blindness, peripheral vision testing and screening of injury with use of lasers and ototoxic drugs the implications of poor vision for employment/assessment their fitness for work.

**Reproductive medicine**

Performance requires an understanding of occupational and environmental exposures that may cause adverse effects on male and female fertility, pregnancy, the foetus and the breastfed infant. Be able to advise on management of the pregnant worker in the context of legal instruments such as the Pregnant Workers’ Directive and in the specific context of known hazards to pregnancy outcome and have an understanding of sources of up to date reproductive toxicology and use such information to advise management appropriately.

**Respiratory conditions**

Performance requires an understanding of respiratory diseases (work-related, related to environmental exposure or respiratory conditions having an impact on workability) including interpretation of spirometry and challenge tests and advise on risk assessing work-related and environmental respiratory hazards.

3. **Fitness for work, rehabilitation and disability assessment**

**At the end of Year 2 of specialist training**

Be able to take a relevant clinical and occupational history from a worker/potential worker with chronic disease or recovering from a significant acute injury/ill health demonstrating good communication skills as described in domain 2, an understanding of clinical presentation and natural history illness the consequences of therapeutic use of drugs, on health, safety and performance and
the role of psychological, social, and domestic factors have in the occupational impact of chronic disease.

Be able to assess a worker/potential worker with chronic disease or rehabilitating from acute injury or ill health. This should include the identification and assessment of individual factors relevant to specific employment and may include assessing fitness for work against an existing standard where appropriate. This should include an assessment of capacity for work including prognosis through a comprehensive clinical and workplace based approach.

Demonstrate respect a worker/potential worker’s dignity and confidentiality, taking into account any cultural issues and demonstrate the ability to take informed consent allowing disclosure when appropriate and managing any ethical issues which arise during the consultation. Appreciate the need for a chaperone and/or ‘advocate’ where appropriate. Understand the assessment of fitness for categories of vulnerable workers including the older worker, women of reproductive capacity, young people and workers with a disability.

Be able to assess fitness for work including the statutory requirements for specific employment and be able to perform fitness to work medicals including pre-employment clinical assessments tailored to the potential role(s) within the organisation. (This should include the role of screening, periodic medicals.)

Be able to agree an appropriate management plan in the workplace setting demonstrating an understanding of the role of rehabilitation, setting realistic short, medium and long term goals and plan for monitoring and reassessment progress in the workplace. The management plan should be agreed in consultation with the patient and be tailored to their functional ability at each stage of their rehabilitation. It should take into consideration any need for onward referral for further investigations, or specialist referral/referral to other agencies. The plan should include reasonable workplace adjustments, recommendations to support services where appropriate and involvement of relevant stakeholders with the aim of negotiating adequate support in the management of the case.

Demonstrate the ability to provide evidence of maintaining documentation of patient and employee encounters concisely, accurately, confidentially and legibly signed and dated where appropriate and write a concise, factual and understandable report for management. The report should maintain a patient’s right to confidentiality, recommending a management plan agreed with the worker which includes functional prognosis, reference to appropriate legislation, taking into account regarding assessment of ability in activities of daily living, physical, psychosocial and cognitive ability and motivation. It should demonstrate an awareness of requirements to adapt work to the capabilities of workers in the light of their physical and mental health and the need to arrange appropriate follow up.
At the end of Year 4 of specialist training

Be able to meet the expected performance described above on the management of complex cases in which significant support and workplace adjustments are likely to be necessary. This includes consideration of rehabilitation, redeployment, workplace adaptation, retraining or ill health retirement. Consultations should demonstrate a robust ethical framework in which allows difficult decisions to be made competently.

Be able to perform a clinical assessment of disability and fitness for work post-injury illness including a comprehensive individual risk assessment showing an understanding of compatibility between the worker and the workplace, the role ergonomics and psychosocial and other hazards. This may include implementing other professionals’ recommendations without prejudice.

Management plans should demonstrate knowledge of measures that the employer, the employee, the workplace and other organisations may take to promote workability and support the functional capacity of all employees.

Reports should demonstrate an in depth understanding of the individual and workplace factors that may affect an individual, an accurate assessment of risk and appropriate recommendations to management in managing the worker with complex health needs including the appropriate use of organisational psychology and human factors.

4. Hazard recognition, evaluation and control of risk

By the end of Year 2 of specialist training

Be able to identify potential hazards in the workplace (e.g. physical, chemical, biological, psychosocial) and understand the effect they might have on health in all aspects of work: undertaking workplace inspections, examining routine and intermittent work activities, consulting workers and/or their representatives to provide their perception of hazards and adverse effects, considering long-term hazards to health.

Demonstrate an understanding of toxicology (absorption, metabolism and excretion of the main substances potentially hazardous to health), dose-response and dose-effect characterization: and the role of occupational exposure limits, biological monitoring, and biological effect monitoring.

Be able to characterize risk summarizing and interpreting the information collected in order to obtain a quantitative estimate of the human health risk identifying also the uncertainties in these risk estimates.

Demonstrate an understanding of practical methods of controlling risk using the hierarchy of control measures in a range of working environments, the role of occupational hygiene and ergonomics in improving health in a workplace. (This includes the ability to undertake quantitative measurements
or arrange and interpret more detailed measurements and advise on control measures.) Knowledge of the role of different professionals and committees involved in protecting the health and wellbeing of the workforce is expected. (This includes Health and Safety representatives, ergonomists, hygienists, engineers.)

Be able to write an evidence based report with recommendations to management on controlling risk with appropriate reference to relevant legal requirements in a range of working environments both industrial and office-based.

Demonstrate an understanding of the legal/statutory and organisational reporting requirements regarding health and safety and be involved in undertaking and evaluating relevant health surveillance and worksite data taking into account specificity, validity, reliability, sensitivity or the testing procedures. This includes different sources of information including toxicological reports and chemical data sheets, policy/governmental documents, specialist/legal reports, which can assist in advising on risk.

Demonstrate an understanding of toxicology of environmental pollutants and methods for identifying, assessing and controlling and preventing environmental hazards arising from industrial operations and processes or other sources/activities. Understand the relevant legislation to protect the environment from industrial pollution and the principles of integrated pollution control and incident control, including the roles of other professional groups with an interest/role in environmental health.

At the end of Year 4 of training

Be able to use of multiple sources of information including human factors, organisational culture, occupational health, safety and hygiene issues including the hierarchy of controls, assessing control systems designed to eliminate or reduce exposure; selecting appropriate personal protective equipment with the assistance of other experts as required; and advising on the ergonomic design of the workplace and working tools in advising management on the design of workplaces. This includes the concept of deterministic, multifactorial and multistage models, principles of causality, and interaction between exposure to harmful agents (genetically determined or acquired susceptibility).

Be able to assess evidence based health surveillance and ensure that such processes met legal requirements and guidelines. This includes the ability to quality assure surveillance through effective audit practices.

Be able to advise on, support and monitor the implementation of occupational health and safety legislation based on sound legal and ethical principles in order to assist in maintaining a strong health and safety culture within an organisation including the writing and presenting of reports.

Participate on relevant committees in the assessment of working environments, integrate risk assessment and be able to advise on implementation of health and safety and environmental policy
and law including evaluation of compliance with new legislation as it is introduced and effectively communicate risk where appropriate.

Be able to conduct an environmental impact assessment in so far as applicable to human health as directly determined by industrial activity, and to recognize and recruit other specialist input as appropriate. The assessment should include the identification of environmental hazards and relevant sources of information including their control, advise on the management of health risks from, and the control of hazardous exposure in the general environment arising from industrial activities. (This should include the health impact, evidence and controversies regarding global environmental changes including global warming, ozone depletion, ultraviolet radiation exposure; hazardous waste and electromagnetic exposure.)

5. **Business continuity, disaster preparedness and emergency management**

**At the end of Year 2 of training**

Understand the importance of business continuity within a workplace including the role of occupational health in advising on the contingency plans for potential pandemics such as influenza.

Demonstrate the knowledge and skills to recognized and institute appropriate emergency care for accidents, acute poisonings and common injuries and understand the referral process to specialist centers for emergency care.

Be able to evaluate and advise on first aid facilities in the workplace, complying with the relevant legal instruments.

Participate in the reporting requirements relevant to injuries at work that are statutory requirement or good management practice within the organisation including the reporting and investigation of critical incidents.

**At the end of Year 4 of training**

Be able to advise and contribute to business continuity planning in the workplace including planning for potential pandemics.

Be able to participate in disaster preparedness and emergency management including planning the mitigation of, response to, and recovery from disasters at specific worksite as well as for the community at large. This may include resource mobilization, risk communication, and collaboration with other agencies as part of an appropriate disaster response plan and should include healthcare/screening for the participants as well as the effective community.
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Demonstrate the use of accident and related statistics in informing management of changes in practice to improve the health and safety of the organisation fostering a strong health and safety culture.

Be able to establish emergency procedures and protocols for the clinical management of individuals involved in hazardous materials incidents, including substance-specific first-aid and medical management protocols.

Participate in the analysis of occupational accidents and diseases including errors and near misses showing an understanding of root cause analysis.

6. Service delivery and quality improvement

At the end of Year 2 of specialist training

Demonstrate an understanding of the principles of management, including the role of finance, human resources, evaluation of performance, marketing and project planning.

Understand the concepts of clinical effectiveness including clinical governance and their relationship in quality improvement, the role of regulatory and professional bodies/organisations in setting standards for quality improvement supporting clinical effectiveness (e.g. ISO 9001).

Demonstrate an understanding of evidence based medicine and methods of determining best practice including the design, implementation and evaluation of clinical practice guidelines and integrated care pathways, the advantages and disadvantages of guidelines and other protocols/procedures and show the ability to critically appraise research.

Be a willing participant in audit cycles and reviews of complaints, patient feedback initiatives and significant events, to improve service delivery and improve quality of service.

Demonstrate an understanding the principles of quality improvement programs, (both occupational health specific and also national programs used for quality assurance in the commercial setting) and how such programs can be used to improve clinical delivery.

At the end of Year 4 of specialist training

Demonstrate the ability to manage, and evaluate service delivery including recruiting, managing and professionally developing staff, managing budgets and business planning for the OHS.

Be able to plan, design, implement quality management/quality improvement programs, and other activities such as training to enhance an organisation’s performance. This includes the ability to respond appropriately to feedback including complaints and have systems in place to act on any failings identified; continuously learning from experience.
Understand the principles of marketing clinical services (including e-marketing) and tendering for business including negotiating contracts, service level agreements and role of outsourcing.

Understand the requirement for change within an organisation and how it might be managed at department level. This includes demonstrating an ability to write management reports with clear, cost-benefit analysis and appropriate recommendations and delivering the outcomes at board level, project manage a change in within the department and evaluate service delivery.

7. Leadership, policy development and professionalism

At the end of Year 2 of specialist training

Demonstrate the ability to be an effective member of a team including participating in effective multidisciplinary working, undertaking different roles within the team, effectively delegating and the ability to respect other team members.

Demonstrate treating colleagues fairly and with respect including supporting those who have problems with their performance, conduct or health Understand the importance and your role in responsibility concerns regarding the health of a colleague.

Reflect on own practice by participation in an appraisal and audit process.

Demonstrate the ability to organize yourself, effectively time manage tasks given.

Demonstrate the ability to make effective decisions in managing patients and giving advice to an organisation.

Be able to contribute to policy development that aims to improve clinical delivery of services and outcomes within the organisation.

At the end of Year 4 of specialist training

Demonstrate leadership skills in team working/multidisciplinary working including organisation and planning of activities, taking the lead in managing difficult situations and setting an example of expected behavior as a clinician.

Understand the requirement for effective policies to be in place within an organisation and be able to write and/or contribute to policy relevant to health of an organisation. This includes an understanding of legal implications in practice and the ability to reflect them in the development of policy.

Understand the extent of your own limitations and know when and from whom to seek advice in matters of personal actions, competence, health and fitness and participate in systems to protect your own health and colleagues including any audit/procedures introduced to ensure registration.
validation of practice, and that OHS are available for staff including immunization and other protective measures where appropriate.

Demonstrate that one-self is up to date with current practice through an understanding and commitment to continuing professional development, which may include reflection on relevant journal articles, material in electronic databases/internet, participation in a journal club or other discussion forum.

Understand the requirement to identify areas of weakness (what you don’t know you don’t know) and lead in personal educational planning through participation in appraisals, reflection on feedback from assessments and Annual Review of Competence Progression updating a Personal Development Plan accordingly.

8. Epidemiology and preventive health

At the end of Year 2 of training

Demonstrate the ability to conduct needs assessment on the workforce for targeting health promotion including the use of data such as sickness absence statistics and other pertinent information to organisations and employers as appropriate (considering medical confidentiality issues), in the prevention of ill health and advocacy of health and safety for the workforce.

Demonstrate an understanding of the principles of health promotion and health education including the socio-economic, lifestyle, genetic and other risk factors for disease, the major health risks relevant to populations of working age, and the impact of individual behaviour and lifestyle factors on health and well-being and be able to assess the needs for health promotion in a working population. This includes the ability to identify appropriate resources, use support agencies and influence key stakeholders in supporting health promotion campaigns.

Be able to organise, provide and evaluate health promotion programmes both occupational and non-occupational, relevant to working people and their families, including selecting priorities, liaising with other specialists responsible for environmental and community health; and taking account of the wider health promotion programmes and initiatives relevant to the working population.

By the end of Year 4 of specialist training

Be able to conduct a deep analysis of the working population and also the need assessment on the workforce for targeting health promotion including the use of data from periodic medical examinations, analysis of the ethical aspects of health screening and cost-benefit analysis of interventions.

Deliver effective workplace health promotion, (which is described as a continuous process for enhancing the quality of working life, health and wellbeing of all working people through improving
the physical, social and organisational work environment) and be able to evaluate and audit workplace health promotion programs, especially with regard to their relevance to occupational health hazards in the workplace and the control of non-occupational determinants of health and working ability.

Be able to determine management information needs and apply medical informatics, electronic health and patient care data, management information systems, and other computer technologies as required to track worker disability and return-to-work to support Human Resources in sickness absence management, deliver medical surveillance programs (including scheduling investigations documenting clinical data, and tracking, reporting and analyzing outcomes).

Be able to communicate to target groups including health professionals, legal profession, the public, and the media, in a clear and effective manner both orally and in writing, the levels of risk from real or potential hazards and the rationale for selected interventions to prevent ill health. This includes the ability to manage communication and reactions to a perceived or actual cluster of disease, episode of mass psychogenic illness or widespread exposure or perceived exposure to toxic materials.

9. Research methods

By the end of Year 2 of specialist training

Be able to demonstrate scientific enquiry in formulating a research question or identifying a problem resulting in expanding knowledge of occupational and environmental medicine.

Understand sources of scientific information, effective search strategies and methods of reviewing literature in order to answer the research question/problem and demonstrate critical appraisal skills to appraise the validity and usefulness of the scientific literature, draw conclusions and discuss implications of research findings.

Be able to write a research proposal that demonstrates an understanding research design methodology, data collection, appropriate ethical/consent issues and statistical analysis of data.

Be able to identify and secure necessary resources demonstrating an understanding of sources of research funding and the resources needed to effectively conduct research.

By the end of Year 4 of specialist training

Be able to conduct effective research including identifying a researchable question, conducting a literature review, appropriate data collection, an understanding of the use of computer based systems/databases in supporting research including recording of results.
Demonstrate an understanding of appropriate statistical methods, principles and application of epidemiological methods including interpretation and appropriate presentation of results cooperating with statisticians and other research colleagues as required.

Demonstrate the ability to communicate of new knowledge in a proper perspective to others verbally and in writing and the use the findings to change clinical practice as appropriate.

10. **Effective teaching and educational supervision**

**By the end of Year 2 of specialist training**

Demonstrate an understanding of the principles of educational theory and needs assessment in targeting teaching and developing educational resources.

Be able to present effectively using educational principles and use peer review to evaluate performance.

Demonstrate the ability to facilitate small group learning.

**By the end of Year 4 of specialist training**

Demonstrate the application learning theories and principles by delivering effective teaching to a wide audience and using formalized assessment/feedback to continuously improve performance.

Be able to provide a supportive learning environment within clinical practice for trainees and other team members with the aim of providing life-long learning. This includes being able to provide effective feedback in a constructive and objective manner helping to improve practice.

Understand all the qualities required as an educational supervisor, including developing skills to conduct an educational needs assessment, conduct formative and summative assessments and plan to acquire the skills to supervise trainees prior to taking up an educational supervision role.