A) INTRODUCTION

Definition

Occupational medicine is the study and practice of medicine related to the effects of work on health and health on work. Its desired goals are the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations.

Training Objectives

The aim of this programme is to provide trainees with knowledge and understanding of the health and welfare of people at work. The qualification is intended for medical practitioners who wish to become specialists-in-training in the field of occupational medicine.

There is an academic phase of the programme. The academic phase of the training consists of an approved course of study in Occupational Medicine in an accredited institution. It may take up to one academic year full-time, or longer if done part-time.

As the academic training is an essential component of the training programme. The specific objective of the course is to provide sufficient knowledge and skills to medical graduates so that they can undertake postings as specialists-in-training in Occupational Medicine.

By end of the training, the trainee is expected to acquire the following knowledge, skills and competencies:

**Clinical**

(a) Apply clinical skills in order to diagnose, assess and advise on the management of disease and injury in relation to work
(b) Investigate occurrences of all occupational illnesses
(c) Determine the relationship between health and fitness to work
(d) Undertake biological monitoring for markers and effects of workplace hazard exposures
(e) Advise on the impact of major contemporary health issues on the workplace and measures for its mitigation.

**Epidemiology**

(a) Plan, conduct and analyze epidemiologic studies, including surveys in the workplace, with the appropriate use of biostatistics
(b) Assess health needs of the working population, in the context of health research and health care planning and evaluation
(c) Critically review, appraise and disseminate health information in the practice of evidence-based health care
(d) Investigate and control/manage outbreaks of adverse health occurrences, including outbreaks, of communicable and non-communicable diseases, using relevant approaches and technologies

**Workplace Health Risk Assessment**

(a) Undertake assessments of the working environment in order to recognize, evaluate and control physical, chemical, biological, ergonomic and psychosocial hazards in the workplace
(b) Undertake appropriate exposure monitoring of environmental hazards
(c) Assess tasks and analyze job requirements
(d) Evaluate and manage risk to health
(e) Lead the implementation of an occupational health management system

**Legal and Regulatory standards**

(a) Interpret the legislative and, regulatory and medico-legal aspects of occupational health and safety and be able to apply these in occupational health and safety practice
(b) Assist in legal compliance
(c) Where possible, implement best practice standards

**Management**

(a) Understand how organizations function
(b) Implement changes to protect and promote the health of workers
(c) Lead an occupational health team and monitor occupational injury and illness

**Environment Impact Assessment**

(a) Assess health impacts of workplace activities on the general environment
(b) Advise on the effects on humans of external physical, chemical biological, psychosocial and mechanical factors in the general environment. The competencies required in occupational medicine are equally applicable to environmental medicine, though important differences, such as those associated with population size and dose, apply.

**Practice Communication Skills**

(a) Able to effectively communicate knowledge and opinion at individual, corporate, organizational and community levels in order to put the principles and concepts of occupational health into practice
(b) Advocate for occupational health programmes and resources;
(c) Work effectively with relevant stakeholders

**(B) PROGRAMME OVERVIEW**

**Traineeship Duration for Basic Specialty Training**

This covers 3 years, leading to the examination for the M.P.H. (Occupational and Environmental Health specialization). The outline is as follows:

Post registration

<table>
<thead>
<tr>
<th>Year</th>
<th>Phase</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Clinical phase – Start of traineeship</td>
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<tr>
<td>2</td>
<td>Practical phase – Full-time Occupational Medicine or Public Health Medicine experience</td>
</tr>
<tr>
<td>3</td>
<td>Academic phase – Occupational Medicine Course</td>
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</tbody>
</table>

End-Point M.Med (Occupational Medicine) or M.P.H. (OEH specialization) Examination
Traineeship Duration for Advanced Specialty Training

Year 4  
Advanced training – Full-time Occupational Medicine Experience

Year 5  
Advanced Training – Full-time Occupational Medicine Experience

End-Point  
Successful completion of Exit Examination

(C) ADMISSION REQUIREMENTS

Entry Criteria/ Pre-requisites

Applicants must fulfill the following entry criteria/ pre-requisites as stated below:

For Basic Specialty Training

Medical graduates who are fully registered and minimum two years post M.B.B.S. or equivalent are eligible to enter the training programme.

For Advanced Specialty Training

The trainee must:
• have obtained a relevant post graduate degree e.g. M.P.H.(OEH specialization) or equivalent;
• have successfully completed a recognized basic training programme of at least 3 years;
• be certified fit to commence on the advanced training programme by a recognized specialist in the field;
• submit two referee reports on his character and competence which have to be accepted by the Specialist Training Committee
• have been accepted by a recognized training institution for advanced training;
• have registered with the Singapore Medical Council

(D) TRAINING SYLLABUS AND REQUIREMENTS

Detailed Syllabus

Year 1: General Clinical Phase

The trainee should have one year of general clinical experience to ensure that he has a good appreciation of the breadth of clinical problems encountered in the community. The preferred postings (of at least 3 months) would include general medicine, general surgery, orthopaedics, accident and emergency, and community health service (Outpatient Service). The other specialized postings that are also recognized include respiratory medicine, ENT (ear, nose, throat) and dermatology.

Other specialized postings may not be recognized or they may be partially recognized by the STC up to a maximum of 3 months within the 1 year of General Clinical Phase (for instance, STC can elect to recognize 3 months for a 6 month posting.). They would include disciplines like anesthesia, urology and hyperbaric medicine.
Year 2: Practical Phase – Full-time Occupational Medicine and/or Public Health Medicine

The trainee should have at least one year's working experience in occupational medicine in any of the following:

- Occupational Health Department of the Ministry of Manpower
- Armed Forces; recognition varies on basis of national service or regular army appointment (the STC may not fully recognise certain military postings due to the limited occupational medicine exposure during the posting)
- University departments of Occupational/ Public Health
- Health practice in the private sector; recognition will be considered on individual merit

Year 3: Academic Course MPH or equivalent

The general aim of the course is to provide medical trainees with sufficient knowledge and skills to undertake postings as specialists-in-training in OM. It may take up to one academic year or longer, if done part-time. The course also includes the writing up of a project in the form of a practicum report.

Year 4 and 5: Advanced Specialist Training – Full-time Occupational Medicine

The training covers 2 years leading to a formal exit assessment. The training period will commence from the date of admission to the programme, without any backdating.

The candidate is required to:

- Submit in written form one project/assignment report for acceptance by the STC
- Publish as a first author, one paper in a peer reviewed scientific journal
- Fulfill teaching duties
- Successfully complete the National Occupational Medicine Training Programme
- Maintain a log book of activities to be reviewed with supervisors on a regular (at least quarterly) basis
  - Cases managed
  - Conference participation
  - Workplace projects and activities
  - Review of scientific papers

The log book will also be reviewed by the Specialist Training Committee regularly (usually 6 monthly) for appraisal

(E) INSTITUTIONAL REQUIREMENTS (FACILITIES & RESOURCES)

Outpatient facilities should be available to provide Trainees with the range of experience in dealing with working patients and patients with work-related diseases.

The Trainee should have access to the library which should have well established and reputable Occupational Medicine journals. Other administrative support including computer and training facilities should be available.
(F) SUPERVISION OF TRAINEES

All AST trainees will be supervised by a designated consultant/ supervisor but in general all the consultant staff will be duty bound to take an active part in teaching. Assessment of progress and log should take place at least 6 monthly.

The supervisors should be full-time and in full Occupational Medicine Practice.

Advanced Specialist Trainees can be appointed to supervise Basic Specialist Trainees (1st and 2nd year trainees) as they would have just completed their intermediate examinations and could impart their knowledge to their juniors. However, formal appointment of ASTs as supervisors for BSTs should only be carried out if the current supervisor to supervisee ratio could not be met. In addition, appointed ASTs will only be allowed to supervise 1 BST at any one time.

For departments with ASTs as supervisors, the AST’s supervisor would be the Countersigning Officer for the BST supervised by the AST. In this arrangement, specialist-supervisors (consultant / senior consultants) would be allowed to supervise up to 3 trainees concurrently, with a ratio of 1 AST and 2 BSTs (Refer to Circular 042/07 Supervision of Junior Trainees By Senior Trainees - Annex A).

Associate Consultants/supervisor may supervise up to a maximum of 2 BSTs or 1 BST and 1 AST (with minimum of 2 years training gap. E.g. 1st year Associate Consultant may supervise 1st year AST).

(G) ASSESSMENT AND FEEDBACK

Assessment

For all trainees, AST and BST included; the supervisors’ assessment reports are to be submitted to the JCST every 6 months for review by the STC. The assigned Supervisors must also meet up with their own trainees to discuss training performance on a regular basis.

The time and effort committed by an AST towards supervising a BST should be taken into account in the appraisal of the appointed AST.

Feedback

Six-monthly interviews with the trainees should be conducted to ensure that the training objectives for each rotation have been adequately met, as well as to monitor for any difficulties in workload and training activities. Feedback forms should also be provided at the end of each posting, and the programme supervisor is responsible for collating the results and instituting the appropriate changes to the training programmes.

(H) EXIT EXAMINATION

Application for Exit Exam

No application is necessary for the exit examination. However, the exit examination should not be more than 6 months from the completion of the NOMTP.
Eligibility for Exit Examination

An AST trainee is eligible to appear for the exit examination at least 3 months from the completion of his AST postings if he has satisfied all the requirements set out under (D). In certain situations, the trainee may apply to sit for the Exit Examination if he has not published the journal paper. If he clears the exit examination, he will have 12 months to achieve the necessary publication. If there is no publication within that period, the candidate would be deemed as having failed to satisfy the criteria of the Exit Examination.

Exit Examination Format

The examination will be in four parts:

- Review of work and training of candidate according to submitted portfolio. The assessment panel may seek clarification or ask questions on the candidate's training experience. The candidate must demonstrate expertise in dealing with occupational medicine/occupational health (OM/OH) matters if consulted by management.
- Discussion of one or two case(s) in occupational medicine / project(s) undertaken. The write-up(s) will be prepared and made available to the assessment panel.
- Critique and discussion of one or two paper(s) in occupational medicine. The papers should preferably, but not necessarily, be on a topic related to the candidate's general area of work. The paper(s) should be given to the candidate at least a week before the assessment.
- General review of occupational medicine knowledge. This section is for the candidate to demonstrate expertise in a wide range of OM/OH. The candidate must show an ability to apply his/her knowledge and skills in various situations. He/she must also be able to discuss recent scientific developments in OM.

(I) GENERAL GUIDELINES

Please refer to Annex 1 for General JCST Guidelines on the following:

- Leave Guidelines
- Training Deliverables
- Retrospective Recognition
- Changes to Training Period
- Part-time Training
- Overseas Training
- Withdrawal of Traineeship
- Exit Certification

(J) APPLICATION FOR AST TRAINEESHIP

Eligible doctors may enquire with the Joint Committee on Specialist Training (JCST) Secretariat on the next AST intake exercise.

Shortlisted applicants will be required to attend an interview.

Overseas graduates with equivalent training qualifications will be considered on its own merit.

All successful applicants will be issued with an offer letter of traineeship and are required to revert with their acceptance of traineeship offer to JCST. All successful applicants must be formally registered as a Trainee with the JCST Secretariat prior to commencement of traineeship.

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