EUROPEAN INDUSTRIAL PHARMACISTS GROUP

Guidance on CPD for QUALIFIED PERSONS

EIPG Guidance on CPD for QP

Continuing Professional Development for *Qualified Persons*, *Technical Directors* and other *Responsible Persons*

A. Introduction

Maintaining competence throughout a career during which new and challenging professional responsibilities will be encountered is a fundamental ethical obligation for all those working in the pharmaceutical industry .

This is particularly important for the *Qualified Persons*, *Technical Directors* and other *Responsible Persons* involved with batch release of product, as Annex 16 of the GMP directive at paragraphs 8.3 and 8.4 requires them to maintain an up to date body of knowledge and competence throughout their professional working lives.

Furthermore, there is a general requirement on pharmaceutical companies who hold Marketing Authorizations (MAs) to '….*to take account of scientific and technical progress and introduce any changes that may be required to enable the medicinal product to be manufactured and checked by means of generally accepted scientific methods.*.' (Article 23 of Directive 2001/83/EC).

This can only be achieved by a personal commitment to **Continuing Professional Development (CPD).**

EIPG has recognised this personal responsibility and has developed this **Guidance** to provide a framework within which this obligation can be met.

B. Definitions

The concept of **Continuing Professional Development** (**CPD**) can be defined as:
"the responsibility of an individual for systematic maintenance, development and broadening of knowledge and skills, to ensure continuing competence as a professional, throughout their careers."

CPD is more than participation in **Continuing Education** (**CE**) which, on its own, does not necessarily lead to positive changes in professional practice. **CE** is, however, an important part of a structured **CPD** programme, personalised for each *Qualified Person*.

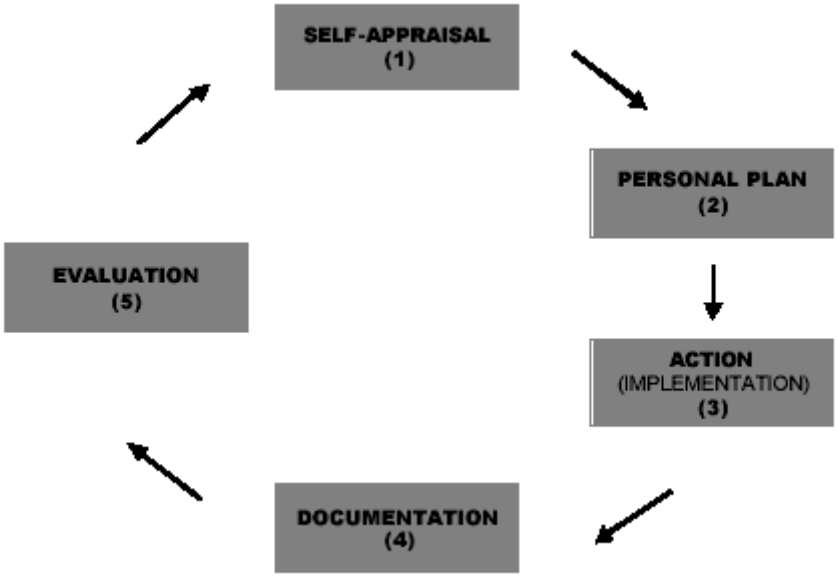
The process should be visible to ensure credibility to the public.

A structured programme of CPD must be actively managed to be effective and will include
- Self appraisal
- Personal plan
- Participation
- Action (implementation)
- Evaluation

It must be an ongoing, cyclical process of continuous quality improvement by which the Qualified Person seeks to maintain and enhance their competence in both current duties and anticipated future service developments.

An illustration of the cyclical programme is described in the following paragraph.

C. The five step cyclical process for CPD



Definition of steps:

1. **Self Appraisal** - identification of *Continuing Professional Development* needs may be accomplished by one or more of the following :
- Personal assessment
- Performance review by a manager
- Audit exercise undertaken with others
- Requirement of professional or health authority

2. **Personal Plan** – identify resources and actions required to meet personal CPD needs.

3. **Action** – participate in CPD programmes (including presentations, tutoring, formal and informal meetings, workshops, short courses, teaching, talking with colleagues and experts, mentoring, formal education programmes, among other methods).

4. **Documentation** – keep records of all CPD activities completed and provide that documentation when required.

5. **Evaluation** – evaluate personal benefit from participation in any significant CPD activity. The following questions should be asked and answered :

- Were the addressed needs met ?
- How has my practice improved ?
- How has my work benefited ?
- Did learning breakdown ? If so, why ?

Then re-enter the cycle to ensure continuing professional development.

D. The core knowledge elements of a Qualified Person

Throughout his /her professional career, the *Qualified Person* will be expected to demonstrate a thorough understanding and up to date knowledge of the following core elements:

1. Pharmaceutical law and administration

The *Qualified Person* must ensure that all legislative obligations are fully satisfied before any product is released for sale or for clinical studies.

Therefore, a *Qualified Person* must have a comprehensive knowledge of all current European and National legislation relating to the manufacture, storage and supply of licensed medicinal products and the interpretation of the following :

- European pharmaceutical directives (including but not limited to 2001/83/EC 2001/82/EC, 2001/20/EC, 2003/94/EC, 2004/24/EC, 2004/27/EC, 2004/28/EC)
- European Commission Eudralex volumes 1-10
- Any national Medicines Acts as they apply to medicines and veterinary legislation
- Marketing, Manufacturing and Wholesaler Authorisation requirements and responsibilities
- the role, legal status and structure of the European Pharmacopoeia
- the role of the European Medicines Agency (EMEA), and the role of the national Regulatory Agencies
- Procedures for dealing with customer complaints, defective medicinal products and product recalls
- The International Conference on Harmonisation (ICH) legislation and guidelines
- Mutual Recognition Agreements (MRAs)
- Pharmaceutical Inspection Co-operation Scheme (PICS).

2. Role and Professional Duties of a Qualified Person

All *Qualified Persons* should discharge their professional duties in accordance with the "**EIPG Code of Practice for Qualified Persons"** (last issue on October 2004).

It is the responsibility of the *Qualified Person* to certify that a product has been manufactured in accordance with its Marketing Authorisation or Clinical Trial Application and in compliance with Good Manufacturing Practices (GMP).

The *Qualified Persons* might not have direct line responsibility for many of the activities which could affect compliance with Marketing Authorisation, Clinical Trial Application or GMP's. However, they must be aware of any incidents or deviations which may influence their decision to release a batch.

They must therefore have an up to date knowledge and a thorough understanding of the following:

- the principles and practice of Current GMP and Quality Assurance as given in European Directives and Guides on Good Manufacturing Practices
- the preparation for and management of Regulatory Inspections
- the conduct and obligations of Marketing Authorisation holders or sponsors.

3. Quality management systems

The manufacture of pharmaceutical products requires the establishment and implementation of an effective *"Quality Management System"* (*QMS*). The concepts of QA, GMP and Quality Control (QC), which are inter-related, form the basis of such a system for the manufacture of pharmaceutical products.

Therefore, *Qualified Persons* must have an up to date knowledge and a thorough understanding of the following:

- the philosophy and basic principles of QA
- the design criteria for an effective *QMS*
- the principles of auditing and self inspection
- deviations and change control
- documentation and record keeping
- the interpersonal skills (leadership, delegation, communication, etc) necessary to implement an effective *QMS*
- the concepts associated with risk management and skills in risk assessment
- the principles of design, selection, qualification and maintenance of premises, equipment, utilities and services
- the principles of purchasing, vendor auditing and supplier certification
- production planning, scheduling, and inventory control
- the interface between QA and the Development, Regulatory Affairs and Marketing Departments
- the skills and competences needed to provide effective Good Pharmaceutical Manufacturing Practice training
- organisational structures and reporting relationships
- principles of technical agreements and auditing in contract giving and acceptance

E. Additional knowledge elements of a Qualified Person

Next to the core competencies, additional knowledge elements have been identified as follows.

4. Mathematics and statistics

The practical application of basic statistical tools in pharmaceutical production and QA is essential in demonstrating the capability of processes or the acceptability of materials.

Therefore, the *Qualified Person* should have current knowledge of at least the following:

- Statistical Process Control
- Sampling Schemes (*Annex 8 to EU GMP guidelines*)
- Use of statistics during the evaluation of *Product Quality Review*
- Process Control Charts
- Statistics applied during analytical method validation and manufacturing process validation.

5. Medicinal chemistry and therapeutics

The *Qualified Person* must have an understanding of the actions and uses of medicines in clinical practice in order to judge their significance for the manufacture of sales material or clinical trial supplies. Evaluating the significance of cross-contamination hazards or product complaints are examples where such knowledge is important.

Therefore, a current knowledge of the following is required:

- basic physiology
- general aspects of chemical structure/pharmacological action relationships
- summary of key therapeutic drug classifications with examples
- examples of disease states and their treatment with medicinal products
- general absorption, distribution, metabolism and excretion of drugs
- principal routes of drug administration
- role of the company medical department
- pharmacovigilance related to drug safety monitoring
- general implications of clinical knowledge of drugs upon facility design, plant segregation/isolation, cleaning verification and production scheduling.

6. Pharmaceutical formulation and processing

The formulation and processing conditions employed in the manufacture of medicinal products have a significant effect upon their safety, quality and efficacy.
Even subtle changes to the input materials and/or processing conditions can have a profound adverse effect on content uniformity, stability, bioavailability, and other attributes which are not detectable by routine QC testing.

It is vitally important that the *Qualified Person* has an up to date understanding of the following principles of formulation and pharmaceutical processing to ensure that informed release decisions are made:

• the major processing techniques, their limitations and critical control parameters
• the factors that could potentially affect content uniformity, stability (chemical, physical and microbiological) and bioavailability in manufacture
• the principles of process validation and control
• the principles of technology transfer and production scale-up
• pre-formulation studies and product development
• excipients characteristics and performance
• the storage and distribution of materials and finished products
• the principles of process analytical technology (PAT).

7. Pharmaceutical microbiology

The *Qualified Person* must understand the significance of the presence of bacteria, yeasts, moulds, viruses and toxins in pharmaceutical raw materials, products and production environments.
They must understand how to prevent contamination by good product design, GMP and control over starting materials, intermediates, finished products, production plant and processes, people and the environment.

Therefore, the *Qualified Person* must have current knowledge of the following:

• sources and types of micro-organisms as related to pharmaceutical production
• production of sterile and non-sterile products and associated environmental controls
• principles of aseptic production and terminal sterilisation procedures
• bacterial endotoxins and pyrogens: their sources, removal and detection
• TSE contamination and control on starting materials and finished products
• microbiology of water, its production and distribution systems
• microbiology of non-sterile production environments and products
• sterilisation and disinfection methods
• interpretation of microbiological data
• validation of microbiological test methods
• microbiological specifications
• selection and use of preservatives
• microbiological test methods used in routine manufacture and product development
• rapid methods of microbiological testing.

8. Analysis and testing

The sampling and testing of materials does not by itself assure product quality. It must be seen as one part of a comprehensive "*Quality management system*", including QA and GMP, which must be correctly implemented and controlled.
The data generated by laboratory testing of samples must be evaluated before materials are released for sale.

Therefore the *Qualified Person* should have current knowledge of the following:

• cGLP and cGMP for QC lab
• quality control of sterile and non-sterile dosage forms
• interpretation of analytical data and non-conforming results

• the principal qualitative and quantitative analytical methods in common use
• analytical chemistry as relevant to the properties of medicinal products and materials
• the principles of method selection and validation
• the design of sampling regimes
• biological test methods and interpretation of results
• physical and organoleptic testing
• stability testing (protocols & stability indicating methods)
• the significance of degradation, contamination and adulteration of pharmaceutical materials
• the types, purpose, significance and management of systems of in-process control
• the requirements of *International Conference on Harmonisation* (**ICH**) for method validation and stability testing.

9. <u>Pharmaceutical packaging</u>

It is a requirement of GMP that holders of Manufacturing Authorisations establish procedures for their packaging operations to minimise the risk of cross-contamination, mix-up or substitutions.
The *Qualified Person* must understand the importance of controlling packaging components (both primary components and printed packaging materials) throughout the supply chain to assure the quality of finished products.

Therefore, the *Qualified Person* should have current knowledge of the following:

• control of packaging components by suppliers and throughout production
• the chain of systems which ensure the integrity and accuracy of textual information from originator to routine production
• the layout and organisation of packaging operations
• causes of label and other printed component mix-ups
• packaging and labelling processes and equipment
• the testing of packaging materials including pack integrity testing
• product security (automated systems, reconciliation, line clearance etc)
• in-process controls
• effects of packaging materials on product stability
• selection of packaging materials
• tamper-evidence and anti-counterfeiting measures.

10. <u>Active pharmaceutical ingredients and excipients</u>

The *Qualified Person* must understand the influence of manufacturing pathways and associated physical and physico-chemical attributes, of both active pharmaceutical ingredients and major excipients, on the quality of the finished dosage form.

Therefore, current knowledge is required of the following:

• the steps commonly taken in the synthesis of active pharmaceutical ingredients (including biopharmaceuticals), their purpose and limitations
• the GMP requirements for the manufacture of active pharmaceutical ingredients
• the generation of impurities, their identification, quantification, and elimination
• the physico-chemical and biological properties of active pharmaceutical ingredients and

excipients, and their effect on the attributes of the final dosage form
• the specific requirements for bulk materials intended for sterile products
• the nature of controls for the manufacture of bulk biological and biotech products
• the supply chain management for active pharmaceutical ingredients

12. Investigational medicinal products

The manufacture, packaging and distribution of investigational medicinal products (IMP's) must be controlled. There are significant differences between the manufacture of IMP's and licensed dosage forms. The *Qualified Person* must understand these differences together with the safeguards required to assure the quality of IMP's supply (EU GMP guidelines, Annex 13).

Therefore, the *Qualified Person* must have current knowledge of the following:

• specific GMP's associated with the manufacture of investigational medicinal products
• the control of active and placebo forms
• the control of manufacturing process, including validation and change control
• the control of packaging operations and blinding
• the control and release of IMP's
• the control and release of comparators
• effective batch documentation, sampling and batch release
• change control and material traceability
• controls surrounding the procurement of clinical trial supplies
• the principles of clinical trial design and Good Clinical Practice (GCP).

F. Recording (Paper /Electronic)

Quality assurance systems for **CPD** activities need to be established against learning objectives and this could be captured by electronic systems.

EU directive 2003/94 Article 7(4) requires that all personnel (including the QP) "*receive initial and ongoing training, the effectiveness of which shall be verified, covering in particular the theory and application of the concept quality assurance and Good Manufacturing Practice, and where appropriate the particular requirements for the manufacture of investigational medicinal products*."
This requires that each person shall undergo assessment to determine the effectiveness of the learning undertaken as part of the **CPD**.

It is usual that each year the ***Personal Career Development Programme*** is reviewed and learning objectives defined for the coming year. This process is best carried out as part of the persons annual appraisal, however self employed persons may need to carry out this process personally. This will then become part of the ***Personal Development Plan*** for the coming year and should be documented together with the *actions taken* on each *learning objective*.

At regular time intervals (suggested annually) an ***Evaluation*** must be carried out. This should be done by the person for whom the **CPD** relates or by an independent assessor who can give feed back. This assessment is often carried out as part of the annual company appraisal, however an

independent *professional assessment* could beneficial due to the greater mobility of labour both between companies and member states of Europe.

Appropriate records on *Personal Development Plan, Actions taken and Evaluation* are to be maintained as part of the documentation proving staff training as required by GMP inspectors.

In order to carry out *professional assessments* associations may require the **CPD** to be recorded in a standard format for ease of review and some Professional Bodies even have an online service which requires the professional to update regularly.

Acknowledgements

This Code is based on the definitions described in the **FIP** "*Statement of Professional Standards for Continuing Professional Development"* issued on September 2002 and the knowledge elements listed in the "*British Joint Study Guide to the Knowledge and Practical Experience required by Qualified Persons in the Pharmaceutical Industry"* dated 2006.

April 2007