

- A closure (the take-home message).

The whole educational procedure must be followed by assessment and evaluation. Assessment may be summative (a final assessment) or formative (provides feedback to students).

Evaluation of the teacher, the content, the materials, as well as the programme should also be performed.

## Training programmes and credentialling in gastroenterology

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### INTRODUCTION

The practice of medicine and gastroenterology in particular has altered out of all recognition over the past 40 years. In the 1950's and 60's clinical "specialization" implied a hospital-based post in general medicine, general surgery, or gynecology. The proliferation of medical research after the Second World War, largely in America, paved the way for the establishment of subspecialties within general medicine and with expansion of knowledge and the increasing complexity of procedures. Most hospital specialists now devote essentially the whole of their professional career to the management of diseases of one organ or group of organs.

Specialization in medicine and the establishment of specialist societies has raised the question who should be referred to a specialist in a specific field. There is now a general acceptance that to become a specialist a doctor must not only pass a primary medical qualification and undertake a period of postgraduate training of a general nature, but he or she should then embark upon a course of training in the specialty leading to some form of certification that has legal standing.

Certification is an accepted part of the healthcare system. The rapid pace of change in technology and knowledge within medicine has given rise to concern that

doctors may not keep up to date with the advances in their specialty. An example has been the introduction of laparoscopic surgery, a technique that some older surgeons have had difficulty in coming to terms with. The idea that someone should be certified at a point in time and that it should stay in force until retirement is now in question. There is now a lobby which supports the view that doctors should undergo revalidation or recertification during their professional life to ensure that they remain competent and up-to-date.

### WHO SHOULD BE RESPONSIBLE FOR ACCREDITATION

Credentialling procedures vary among different countries. One problem with the of specialists is that medical practice in different countries has arisen in a historically diverse manner. The ultimate responsibility for ensuring safe medical practice should lie with the national government. In practice, governments are not competent themselves to regulate the activity of professionals. They, therefore, delegate this responsibility to quasi-government organizations composed the professionals themselves. In the European Union it is necessary to satisfy the European Board of Gastroenterology if a doctor wishes to have accreditation in more than one country of Europe. A further difficulty is that endoscopy, for example, is undertaken by radiologists, general practitioners, physicians, surgeons (or in Britain and America, nurses). Each country has to have its own form of credentialling with the opportunity, however, for reciprocal recognition of other countries or individuals.

### PRINCIPLES UNDERLYING CREDENTIALLING IN GASTROENTEROLOGY

When the responsibility for medical education passed from the apprenticeship system to the universities, a qualifying exam was instituted, following which the individual could practice independently. Later on it was recognized that a further period of apprenticeship was required after qualification leading to an "intern" year. In many countries now the intern year is followed by a period of general medical education, which may be terminated by an exit exam, following which the pupil moves to higher medical education within a specialty. Specialized postgraduate education used to follow the old apprenticeship system, but more recently it has been recognized that aspiring specialists will gain better experience by joining a rotational system in order to come into contact

with a greater variety of teachers. Rotational systems currently form the majority of most training systems internationally, perhaps including a period for research in the specialty, possibly an attachment abroad for a highly specialized module, or higher training in some endoscopic procedure. In countries where specialists are also expected to undertake part of the general internal medicine rota, as in the UK or Germany, the specialist will continue to undertake general medical duties with the expectation of dual accreditation in internal medicine and gastroenterology at the end of his/her period of training.

### **HOW TO SET UP AN CREDENTIALLING PROGRAMME**

Although the responsibility for credentialling must rest with the national government, professional organizations (with the involvement of Universities and colleges, medicine and surgery) should be ready to undertake or assist in this task.

The link between general internal medicine and a specialty is fundamental. Thus, the basis of gastroenterology is a thorough understanding of general pathology, therapeutics and acute medicine. The length of training varies from country to country, ranging from as short as 18 months in the United States to 4 years in Europe. The various systems should enable the trainee to become experienced in endoscopy, inflammatory bowel disease, hepatology and other important areas of practice. Gastroenterology must be taught in association with gastrointestinal surgery, pathology and radiology. Regular, joint meetings are essential for the discussion of cases. Trainees should cooperate with a nutrition team and attend meetings, where appropriate, with oncologists. Training in endoscopy is essential. In many countries gastroenterologists are expected to be competent in ultrasonography.

### **ASSESSMENT OF THE TRAINING CENTER**

Centers providing specialization must be independently and regularly evaluated, including inspection of the unit's facilities, talking to the trainers and interviewing the trainees. Each trainee should have a particular trainer to whom he or she can turn for advice and help.

For final certification, some countries have an exit exam. A written exam on its own is considered to be insufficient for credentialling in gastroenterology. Gastroenterology is a practical subject and involves dealing with

patients. Some form of practical assessment is necessary in order to identify the weaknesses and needs of the individual. It should be accompanied by some form of continual assessment, perhaps including the keeping of a log book, especially for practical procedures. It is important to remember, however that it is not the number of endoscopies performed that it is important, but the quality with which they are done. As indicated earlier, it is desirable for trainees to have experience in research, the presentation of cases and reviews of the literature.

On the other hand, reaccreditation is a more complicated issue. With the rapid advances being made in medical specialties, it can be no longer assumed that individuals will necessarily be up to date with advances in medicine and technology and continue to maintain a suitable status of practice. Design and application of a revalidation programme implies political and practical difficulties, as withdrawal of specialist status would deprive an individual of his livelihood and, on the other hand, not all gastroenterologists are expected to spend their career undertaking the full range of all the techniques that they are expected to be acquainted with at the time of their training.

This problem has been addressed in the UK by the Royal Medical Colleges. These organizations have the responsibility of maintaining educational standards, and have introduced the concept of a voluntary system of continued medical education which has now been redefined as "Continued Professional Development", which includes a minimum number of hours of in-hospital post-graduate education per year, combined with attendance at medical meetings (national and international). However, recent medical scandals have resulted in pressure for an accountable system, including a compulsory assessment of consultants every year, followed by their full assessment every five years. An alternative way to maintain medical services of high standards is a system of quality assurance of medical services (especially quality assessments of practical procedures, such as endoscopy). Although promising for the future, little has been achieved in this area yet. However, it must be stressed, that it is essential to ensure that doctors under-achieving become aware of this at an early stage and that facilities are available for them to deal with this, before an authoritative body erases (or limits) their registration. At the end of five years, a full assessment would be undertaken, at which time the specialist might be removed from the register if he/she had not measured up to an appropriate standard. Clearly there would be considerable difficulties in instituting such a system. Another way

to maintain high quality clinical care is to introduce a system of quality assurance.

These are a few ways to ensure high standards of medical practice by combining high quality specializing, continued professional development and the maintenance of a register of those who are competent to practice.

Credentiailling in medicine in one form or another has been in operation for millennia. The influence of technology and science in medicine today has led to specialization. Credentiailling methods have become more specific. The public now realizes that the possession of a medical degree does not imply omnipotence or perfection and there is a call, not only for credentiailling of specialists, but also for revalidation of those already credentiailled. These factors place a responsibility upon the profession to ensure the highest standards of medical practice by the provision of high quality specialist training, appropriate continued professional development and the maintenance of a register of those who are competent to practice.

### **SIGNIFICANT NOTES:**

#### ***Hippocratic Oath:***

“I will not use the knife, not even on sufferers from stone but will withdraw in favor of such men as are engaged in this work”

#### ***Credentiailling in Europe:***

- Monasteries
- Universities
- Guilds
- Colleges and professional societies
- Government

#### ***American Board of Internal Medicine***

##### ***Gastroenterology Training Requirements***

- 3 years of accredited training
- Including 18 months clinical gastroenterology
- Specific procedural requirements

#### ***UK Joint Committee on Higher Medical Training***

##### ***Gastroenterology SAC***

- 4 years full time (plus 1 year internal medicine)
- Includes one year option module

- Includes one year research
- Endoscopy training program according to a Joint Advisory Group

#### ***European Union of Medical Specialists***

##### ***European Board of Gastroenterology***

- Certifies training centers
- Accredits gastroenterologists
- Site visits
- 6 year training (including 2 years internal medicine)

#### ***Credentiailling in gastroenterology***

- Primary medical qualification
- Experience in general (internal) medicine
- Specialized gastrointestinal experience
- Training in special techniques
- An understanding of the basics of research
- An appreciation of the importance of medical audit and continued professional development
- An awareness of ethical principles

#### ***Training schemes in gastroenterology***

- Rotation or apprenticeship?
- Didactic or problem based?
- Research or exploration?
- Experience or supervision?
- Total competence or sub-specialization?
- Exam, assessment or interactive?

#### ***What should be incorporated?***

- Pathology meetings
- X-ray meetings
- Multidisciplinary groups
- Research/audit meeting

#### ***Revalidation***

- Rapid advances in knowledge
- Newer techniques
- Public concern
- Litigation

- Professional independence

### ***Chinese credentialling and revalidation***

- 600 AD examinations for qualification
- Physician rated according to successes and failure
- 1100 AD formal schools
- Professors fined for their students' poor performance
- 13 specialties by 14<sup>th</sup> Century

### ***De-credentialling in Ancient Babylon***

#### *Code of Hammurabi, 18th Century BC*

- "If a Physician make a large incision with the operating knife and kill him.....his hands shall be cut off"

### **REFERENCES**

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## **Credentialling in endoscopy - A multidisciplinary model**

J. Toouli, MD

Training in a procedural skill such as endoscopy is an ideal model to outline training programmes for health professionals. World wide the practitioners of endoscopy vary in their background and training. In some parts of the world, all of endoscopy is done by clinicians of internal medicine background whilst, in other parts of the world, it is solely the domain of clinicians with a surgical background. In most countries, a mix exists and this mix is expanding to incorporate clinicians from other specialties and, for some countries, nurse practitioners who carry out certain types of endoscopic procedures.

In Australia (for example), training is conducted by a conjoint committee for the recognition of training in gastrointestinal endoscopy.

### **SIGNIFICANT NOTES:**

#### ***What is endoscopy?***

- Diagnostic tool for digestive conditions
- Means for therapy of digestive conditions
- Mode for access to the digestive system

#### ***Modes for access to the digestive system***

- Endoscopy
- Open surgery
- Laparoscopy/thoracoscopy
- Percutaneous - image controlled

#### ***Endoscopists***

##### *Specialists*

- physician gastroenterologists
- digestive surgeons
- pediatric gastroenterologists

##### *Generalists*

- physicians
- surgeons
- radiologists

##### *Rural/remote area*

- general practitioners

##### *Others*

- nurse practitioners

#### ***"Who should do endoscopy?"***

"...those with an interest and practice in gastroenterology, whether it be medical or surgical and who have achieved the required standard of training."

#### ***Principles***

- Endoscopy is done by doctors who practice gastroenterology (physician or surgeon) and achieve a required standard of training
- Recognition of cognitive as well as procedural training

**Committee structure**

- Equal representation from physician and surgeon
- Representation from :
  - GESA (1 physician, 1 surgeon)
  - RACP (2 - physicians)
  - RACS (2 - surgeons)
  - Rural surgery and medicine (2)

**Guidelines**

- Learning under supervision of recognised endoscopist
- Approved facilities
- Combine cognitive and procedural training
- Principles and practice of cleaning and disinfection

**Requirements**

- Complete a minimum number of supervised procedures
- Maintain a log book of all procedures signed by supervisor
- Satisfactory report from supervisor
- Complete specialist training [Colleges] (gastroenterology or GI surgery)

**Supervisor**

- Endoscopist (physician or surgeon) in active, approved unit
- Recognized by Conjoint Committee in area of Endoscopy

**Endoscopy training**

- Gastroenterologists
  - upper endoscopy
  - colonoscopy
- Digestive (General) Surgeons
  - upper endoscopy
  - colonoscopy
- Optional
  - ERCP

**Credentialing**

- Hospital Boards seek information as part of deter-

mination of competence to practice

- No certificate
- No specific qualification - (Colleges)

**Summary**

- “Conjoint Committee” sets a standard of training in endoscopy for Australia
- Colleges and GESA underpin these standards

**Conclusion**

- Training in endoscopy is a model for training in procedural medicine
- Multidisciplinary requirements recognized
- Objectives of training defined

Results of training are accessible to evaluation and assessment

## Endoscopic Simulators

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A simulator as a training tool is well established, especially in aviation.<sup>1</sup> The airline industry has demonstrated that by using flight simulators, the skills of pilots may improve and mistakes be avoided, thus saving lives.<sup>2</sup> Therefore, it is natural to use simulators in medical training as well, especially in fields such as laparoscopy,<sup>3</sup> cardiology<sup>4,5</sup> and anesthesiology.<sup>6,7</sup> Changes in medicine, legal awareness and progress in technology have contributed to greater use of simulators in medical training.

Endoscopy requires a minimal number of procedures to achieve competence. Various organizations have different standards as to the minimal number of procedures needed. It ranges between 100-300 for esophagogastroduodenoscopy, 100 for colonoscopy and 100-200 for ERCP.<sup>8-11</sup> Therefore, any device which saves time would be valuable. An endoscopic simulator obviously saves time, as the trainee can learn and be tested quickly and safely, with less discomfort for patients, and less supervision time.