

An Introduction to Medicine and Surgery

This introduction to the field of Medicine and Surgery was brought about by comments received from both qualified Allied Medical Practitioners as well as previous year's students. To a large extent, the Allied Medical Field is reliant on referrals from and to various Medical Practitioners. The divisions within the medical field (intellectual and not political or otherwise!) are diverse and complex. Many previous students have felt overwhelmed and "at sea" when dealing with their colleagues – this introduction was developed to provide you with an overview of the field with which you are going to have the most clinical interaction, now and in your later years of clinical practice.

The Qualification of Doctors

The undergraduate medical degree which must be completed before the title of *Dr* is officially used is (in most Commonwealth countries), in fact, two undergraduate degrees – those of Bachelor of Medicine and Bachelor of Surgery. This degree is a 5 or 6 year course, depending on the university. Many universities now offer shortened routes to the same degree for suitable graduates of other degrees – so-called graduate entry programs (GEMP).

After the university qualification is obtained, the graduate is entitled to use the title *Dr*, but may not practice independently until a certificate of independent practice is issued by the Health Professions Council of South Africa (HPCSA). At present, this can only be obtained after 2 years of internship and 2 years of community service. After this, the doctor may begin general practice (GP) or may choose to undertake additional training to become a specialist.

The Qualification of Specialists

Speciality (or specialty in the US) training can only be started once the statutory requirements have been fulfilled, as documented above. To some extent, doctors have always been divided by speciality, since interest and patient demand drive the type of patients that seek out treatment by one practitioner over another. This has been true since the dawn of medical care. The particular system of modern medical specialities evolved gradually during the 19th century. Informal social recognition of medical specialization occurred before the formal legal system, which varies from country to country.

The various specialities can be classified along several axes. These are:

1. Surgical, internal medicine or laboratory based
2. Specific Patient populations
3. Diagnostic or therapeutic
4. Organ-based or technique-based

The most enduring division has been into surgical, medical and laboratory based specialties. The additional divisions of diagnostic / therapeutic and organ / technique based are somewhat blurred but can be used in addition to the first 2 to further describe a speciality.

1.1 The Surgical Specialities

Most surgical disciplines require basic training in general surgery before undertaking surgical training in their field of interest. The basic surgical training takes at least 2 years, followed by 3 years for general surgery or 4 years for the specialist divisions. Super-specialist branches of general surgery require an additional 2 years of fellowship training after the 5 years of general surgery.

Here are the most common branches of Surgery:

1. General (Specialist) Surgeon (5 Years)
 - a. Super-specialist Surgeons (7 Years [5 general surgery + 2 super-specialist])
 - i. Vascular Surgery
 - ii. Transplant Surgery
 - iii. Oncological Surgery
 - iv. Surgical Gastroenterology
 - v. Colo-rectal Surgery
 - vi. Hepato-biliary Surgery
 - vii. Endocrine Surgery (Including Breast Surgery)
 - viii. Pediatric Surgery
 - ix. Trauma Surgery
2. The Specialist Divisions of Surgery (6 Years [2 general surgery + 4 specialist])
 - i. Plastic & Reconstructive Surgery (Including Hand Surgery, Cranio-facial Surgery, Microsurgery and Cosmetic Surgery)
 - ii. Neurosurgery (Including Spinal Surgery and Skull-base Surgery)
 - iii. Orthopaedic Surgery (Including Hand Surgery and Spinal Surgery)
 - iv. Maxillofacial Surgery
 - v. Otorhinolaryngology (ENT Surgery)
 - vi. Ophthalmology (4 years as it does not require the 2 years of general surgery)
 - vii. Urology
 - viii. Cardiothoracic Surgery

1.2 The Medical Specialities

Specialist medical training requires 4 years of training in Internal Medicine, after which the doctor may be referred to as a “Specialist Physician” or “Internist”. The super-specialist branches of medicine (just like those of surgery) require an additional 2 years of fellowship training. The Specialist Divisions of Medicine (similar to their surgical counter-parts) require 4 years of training in that particular field, and although many of these doctors do 1-2 years of internal medicine training first, in many cases this may not be a requirement (unlike surgery).

Here are the most common branches of Medicine:

1. Specialist Physician (Internist) (4 Years)
 - a. Super-specialist Physicians (6 Years)
 - i. Cardiology
 - ii. Pulmonology (Respiratory Medicine)
 - iii. Endocrinology
 - iv. Rheumatology
 - v. Medical Gastroenterology

- vi. Nephrology
- vii. Infectious Diseases (May also have a base in Clinical Microbiology)
- viii. Critical Care / ICU (May also have a base in Anesthetics)
- ix. Geriatrics
- x. Hepatology
- xi. Neurology
- xii. Medical Oncology
- xiii. Clinical Haematology
- xiv. Tropical Medicine and Venereology (Overlaps with Infectious Diseases). A very specialized branch of this field includes HIV Medicine because of the epidemic nature of the disease and the increasing complexity of both treatment and complications of the disease.

2. The Specialist Divisions of Medicine (4 Years)

- i. Dermatology (Dermatological Surgery requires additional 2 years)
- ii. Radiology (Interventional Radiology requires additional training)
- iii. Accident and Emergency (A&E) Medicine
- iv. Psychiatry (Child and Adolescent Psychiatry require additional training)
- v. Nuclear Medicine
- vi. Radiotherapy (Radiation Oncology)
- vii. Family Medicine
- viii. Physical and Rehabilitative Medicine – Overlaps with the following:
 - 1. Occupational Medicine / Preventative Medicine / Public Health
 - 2. Palliative Care
 - 3. Aviation Medicine / Hyperbaric Medicine
 - 4. Aesthetic and anti-ageing Medicine (not presently a regulated training specific division – but additional training is required)
- ix. Clinical Neurophysiology (May also be an allied discipline, with a PhD)

1.3 The Laboratory Based Specialities

These specialities usually require basic training in pathology, which may then be pursued as a speciality in its own right (similar to specialist surgeons and physicians) or a specialized branch of pathology may be followed. Most training programs require 4 years of training.

Here are the most common Laboratory based Specialities:

- 1. General Pathology
- 2. Haematology (Haematological Pathology is different to Clinical Haematology as these specialist do not see patients in a clinical scenario, but perform slightly lab-based work)
- 3. Immunology
- 4. Microbiology
- 5. Anatomical Pathology
- 6. Forensic Medicine
- 7. Clinical Chemistry (Chemical Pathology)

2. The Special Population Specialities

These are specific branches of specialist practice dedicated to certain population groups and include Anaesthetics, Obstetrics & Gynaecology and Paediatrics. All these training programs require 4 years of training and their super-specialists require an additional 1-2 years of fellowship training:

Here are the Special Population Specialities:

1. Anaesthetics (Aka Anaesthesiology)
 - a. Critical Care (May also have a base in Internal Medicine)
 - b. Pain Management
2. Obstetrics & Gynaecology
 - a. Fertility Medicine (Aka Reproductive Medicine)
 - b. Foetal Medicine
 - c. Gynaecologic Oncology
 - d. High-Risk Obstetrics
 - e. Uro-gynaecology (may also have a base in Urology)
3. Paediatrics
 - a. Neonatology (babies up to 30 days old)
 - b. Super-specialist Paediatrics – The same super-specialist branches of Adult medicine may also be applied to paediatric populations, such as paediatric cardiology, paediatric endocrinology etc.

3. Diagnostic and Therapeutic based Specialities

The division along the axis of diagnostic versus therapeutic may seem nonsensical at first, since all branches of medicine are involved with diagnostic medicine to some extent, in the care of their patients (the surgical adage of “open and see” is generally frowned upon!). However, the primary thrust of a specialist’s work determines on which side of this axis they will practice. All surgical disciplines are *de facto* therapeutic in essence, as are most medical disciplines. Many medical disciplines have surgical counterparts and a symbiotic (and sometimes antagonistic!) relationship exists between them. Consider the medical discipline hepatology, where the specialist provides diagnostic and supportive care for patients with liver disorders, but will refer the patient to a hepato-biliary surgeon for operative interventions on the liver, if applicable. The surgeon may then refer the patient back to the physician for further long-term care.

Some specialities are strictly diagnostic in nature – primarily the laboratory-based specialities, such as chemical pathology and the imaging specialities such as nuclear medicine and radiology. Clinical neurophysiology is another strictly diagnostic based speciality.

4. Technique and Organ based Specialities

Again, the division between organ and technique based may seem a tautology since all disciplines have techniques and skills which are highly specialized. Many of the super-specialist fields are related to an organ system (or indeed a collection of organs). Examples such as orthopaedic surgery, colo-rectal surgery and transplant surgery are evidence of this. Other fields are not confined to a particular organ but utilized a set of specialized techniques such as plastic surgery or trauma surgery.

Other fields are really strictly limited to a single special technique, such as nuclear medicine (the use of radio-active isotopes in specific imaging) or radiotherapy (the treatment of conditions [usually cancerous] by controlled radiation exposure).

Some fields may be impossible to classify because of their broad scope of practice, or counter-intuitively by their narrow scope of practice. Consider interventional cardiology (a medical discipline), where both diagnostic and therapeutic maneuvers are executed in a specialized surgical suite (surgery), on the blood vessels (organ system), using minimally invasive balloon dilation and stenting (technique).

What's the Point?

These axes of division may seem redundant; nevertheless, the divisions above are helpful in the broad classification and understanding of what a particular practitioner regularly undertakes. The importance of knowing this is to guide your interactions with your medical colleagues. This applies to both referrals (and updates) **TO** a specialist, as well as referrals **FROM** a specialist.

The ability to refer a patient to the correct specialist will result in quicker definitive management as well as lower cost to the patient, which will enhance patient returns and additional patient and specialist referrals. Both of these aspects are essential to business success in your future private practice. Collegial working relationships are an additional underappreciated bonus! Finally, a simple phone call to a colleague often goes a long way to resolving confusion and improving relationships (hopefully this works both ways).

Referrals to and from Medical Practitioners

Most medical practitioners (and specialists in particular) are especially poor in providing adequate details in their referrals. This is clearly not good for either the patient or the treating Allied Practitioner. The general rule is that while each practitioner's note taking may be as elaborate or simplistic as they prefer, all information that is **RELEVANT** to the case and which may have an impact on outcome should be communicated. This is for the ultimate good of the patient.

Consider a patient with a hand injury. The instruction: "SPLINT" printed across the referral form is both poor etiquette as well as a medico-legal hazard. An overzealous 4 page referral is likely to result in critical information being missed.

What things may be of relevance? Factors such as an exact description of the injury and the techniques of repair are essential. Demographic factors may also play a critical role in the selection of best rehabilitation techniques – the dominant hand of a professional musician and the non-dominant hand of an illiterate migrant worker may require vastly different techniques to achieve the best possible outcome **for that patient's circumstances**. All relevant factors should be included. I personally find that an email is best for simple cases and a phone call more useful for complex cases where a discussion is helpful in formulating the best rehabilitative program. Many practitioners devise tick box forms to assist in improving referrals!

When referring a patient to a colleague or providing an update, again consider what factors will be relevant for the specialist to know. Remember that the Allied Practitioner will often see the patient a great deal more than the specialist and additional factors which are influencing the result may

have come to light in the course of treatment. Do not repeat information that is already known to the specialist (such as stable medical conditions), but any factor that is changing your therapeutic approach deserves a mention (such as admitted drug addiction for example). Critical factors such as observable progress (like ROM) and compliance are always included, as is your continued management plan. It is good to be succinct in your approach since most specialists are chronically time pressed. Finally there is no need for effuse praise for surgical work in an update letter (I know when I've done good work!).

An example of an actual letter is included below for your benefit.

PROGRESS LETTER

13 May 2009

RE: MR *name deleted*

DIAGNOSIS: ELECTRICAL BURNS OF LEFT HAND

Mr *Name Deleted* has attended therapy regularly. He has progressed well.

Current range of movement:

| | IF | MF | RF | LF |
|------|-----|-----|-----|------|
| MP | 95° | 90° | 90° | 100° |
| PIPJ | 85° | 90° | 90° | 90° |
| DIPJ | 45° | 40° | 40° | 45° |

Mr *Name Deleted* is coping well with ADLs, however is not yet back at full duty work.

Strengthening commencing. Scars are healing well although area over volar surface of the palm is slightly hypertrophic. This is currently being treated with scar massage, pressure garments and silicone.

Thank you for this referral.

Kind regards

Dershnee Devan

OCCUPATIONAL THERAPIST