

WHAT IS A CLINICAL CLERKSHIP?

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INTRODUCTION

The field of basic science in medical education for both osteopathic and allopathic follows the conventional model of classroom teaching paired with laboratory experiences. Clinical sciences are taught in practice-based settings such as hospitals, physician offices, ambulatory care centers, surgical centers, and health departments with supervised hands-on experiences. Formal educational experiences are necessary as the foundation of clinical medicine, but the goal is to consolidate clinical skills and complement classroom learning in a structured physician-patient environment.¹ The value of a clinical clerkship is in the application of direct care with patient reaction based on learned information. This hands-on experience gives students a unique opportunity to bridge the academic and practice-based worlds to gain the skills necessary for health care providers.

WHAT IS A BASIC AND CLINICAL SCIENCE?

Basic science refers to the basic principles of how anatomy and physiology function under normal conditions. They are taught before clinical sciences to give students the necessary foundation for basic thinking and understanding of the human body functions and systems. GenEdCore basic science courses are required as gen ed or degree defined requirements in undergraduate medical education and are applied in broad perspectives. Medical schools integrate the basic sciences in a clinical aspect.

THE CLINICAL CLERKSHIP

Clerkships are full immersion learning experiences in practice-base facilities, where students will have one-on-one patient interactions and application of clinical sciences. This real-world educational experience is what separates clinical sciences from basic sciences. Under supervision, students have their first experience of patient care during their rotations. They are responsible for obtaining information and determining the final treatment plan. The interaction and realities of patient care have the greatest impact on the transformation of the student.

DIFFERENTIATING CLINICAL CLERKSHIPS

On the most basic level, clinical clerkships are divided up into “core” rotations and elective rotations. The core rotations required at most American medical schools include family medicine and internal medicine (both medical, clinical sciences); gynecology/obstetrics and pediatrics (both general clinical sciences); and surgery (clinical surgery sciences).² Students begin their core rotations during their 3rd year. As they complete the core rotations, they are expected to “find what they love” and tailor their elective rotations to their future career during their 4th year.³

ACADEMIC CREDIT & THE CLINICAL CLERKSHIP

Academic credit is usually determined by “credit hours.” The Carnegie Unit is the standard measure and is figured as 800 minutes of direct interaction per credit hour. In medicine, this has been translated to one week of a clerkship is equal to one credit hour. Within this, there is an expectation of 2.5-3 hours of the day of didactic education supplemented by 5-6 hours of experiential learning. There has been a need for students to spend longer periods of time within the hospital because defining when a specific medical condition or intervention will take place is difficult to predict.⁴ It is common in the educational world to require longer periods of learning time when self-discovery and introspection are necessary parts of the education process. For example, laboratory courses require 1600-2400 minutes for a credit hour with a wider variability in hours required for a laboratory section than for a lecture section.

MEDICAL ACTIVITIES & PROGRESSIVE RESPONSIBILITIES WITHIN CLERKSHIPS

As medical education moves towards an outcome-based model of education, where clinical knowledge, skills, and attitudes are identified, the need to evaluate students on each discrete observable area is becoming increasingly important. As students complete each activity to a predetermined skill level, the student is entrusted to complete that skill without supervision. These medical activities are tracked as student progress through the clerkship rotations.

HISTORY OF CLINICAL CLERKSHIPS

It was not until the mid-1800s that patients were introduced as educational components of physician training. At that time a clerkship was only offered as an elective or at an additional fee. This was done as to not disillusion potential students. Until the 1900's medical students "heard much, saw little, and did nothing."

Clinical clerkships began to separate from the traditional classroom environment in the early 1900's. The first true clerkship occurred in 1927 when Northwestern Medical School in Chicago designated a single individual responsible for multiple learners in a hospital.⁵ Following in Northwestern's path, the University of Oklahoma in 1927 developed a clinical clerkship for their 3rd year students, that included one and a half hours of daily supervised instruction.

Discussions during this time centered on what was taught to students, what the student role was, and when students elicited reflexes whether they were performing and practicing medicine or physiology. When students took part in surgery, they were no longer practicing anatomy; they were practicing surgery. Clinical medicine was believed to be training in "methods."

In the 1940's the idea of the clerkship evolved into a way of utilizing care for the patient and education for the student. Since clinical work is inexact and vague, it was considered less academic, but necessary to the education of future physicians. 3rd year medical training began in the hospital wards, and 4th year medical training moved into the less structured environment of the clinics.⁶

THE HOSPITAL & THE CLINICAL CLERKSHIP

By the 1960's Clerkship training in outpatient clinics was waning. This facilitated the move of clinical clerkship into hospitals, thus addressing the educational needs of the students and filling workforce needs of the hospitals. Advocates for training physicians exclusively in hospitals have been vocal and powerful. Arthur Dean Bevans, chair of the AMA Council on medical education stated, "Competent practitioners of medicine can be trained, but one way, and that is in the hospital and the dispensary."⁷ The departmental approach to clinical clerkships has further developed to reflect hospital organization.⁸

PREPARATION FOR CLINICAL CLERKSHIPS

Entrance into clinical clerk rotations in medical school is a natural progression from the successful mastery of the basic sciences. There is little formal preparation for this part of medical students' training.⁹ An evaluation process was completed before giving students access to actual patients. (A copy evaluation sheet of student being given patient access).

LABORATORY VS. PRACTICAL TRAINING

American medicine since the Flexner report pursued a model similar to the German medical model. This system emphasized the use of laboratory and diagnostic testing to obtain discrete and reproducible results. Laboratory training is intended to isolate specific aspects of a concept, which can be easily taught and assimilated into the learner's repertoire. Whereas laboratory dissection is intended to explain the practical aspects of applying anatomy.

The emphasis on the German model of education and the prominence given to data acquisition led to a de-emphasis on history and physical examination. Conversely, the Italian and French models of education focused on history and the physical examination of patients. Osteopathic medicine pursued the study of anatomy more rigorously and emphasized a focus on the patient which mimics the Italian and French models of medical education.¹⁰

CLERKSHIPS TODAY

Today clerkships still have significant variability. There is considerable discussion on the sequence of clerkships and the effects on students. 3rd and 4th year clerkship rotations are considered very different experiences.

Schools often look at 3rd year clerkships as primary building blocks of clinical experience. Structure and oversight it is considerably greater than in many 4th year clerkships. The program directors examine the situations students are exposed to during the clerkship and develop a complete curriculum, supplementing knowledge gaps as needed. For example, an analysis of a student in a summer general medicine clerkship when influenza is not widespread, would demonstrate a need for supplemental education for clinical signs, symptoms, and treatment of influenza in the differential diagnosis.

KEY PLAYERS: CLERKSHIP DIRECTORS, COORDINATORS, DME'S, DIO'S, THE OFFICE OF MEDICAL EDUCATION AND CLINICAL DEANS

The educational aspect of the clinical clerkship is shared by the preceptor (faculty or staff) - who is with the students regularly, and the academic administration (Clinical Dean, Director of Education or Director or Designated Institutional Officer) - overseeing the educational process. Core clinical clerkships generally have a clerkship coordinator who is in charge of scheduling and logistics and a clerkship director - who oversees the clinical aspects of the training.

CRITICISM OF THE CLERKSHIP CENTRIC METHOD OF MEDICAL EDUCATION

Departmentally based education is structured on a fee for service environment, which is rapidly changing into an integrated system of care. Keeping education departmentally based removes the trainee from the process of care and the experience of patients.¹¹

CONCLUSION

Healthcare clinical clerkships have not evolved to meet the needs of the future healthcare system.

Tyler Cymet, DO, as Chief of Clinical Education, develops, coordinates and implements AACOM activities related to clinical education, from undergraduate medical education through residency, with an emphasis on clinical faculty development and coordination.

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