

1951

Preceptorship training in medical education

Neil Benjamin Bentley
University of Nebraska Medical Center

This manuscript is historical in nature and may not reflect current medical research and practice. Search [PubMed](#) for current research.

Follow this and additional works at: <https://digitalcommons.unmc.edu/mdtheses>

Recommended Citation

Bentley, Neil Benjamin, "Preceptorship training in medical education" (1951). *MD Theses*. 1715.
<https://digitalcommons.unmc.edu/mdtheses/1715>

This Thesis is brought to you for free and open access by the Special Collections at DigitalCommons@UNMC. It has been accepted for inclusion in MD Theses by an authorized administrator of DigitalCommons@UNMC. For more information, please contact digitalcommons@unmc.edu.

PRECEPTORSHIP TRAINING IN MEDICAL EDUCATION

Neil Benjamin Bentley

Submitted in Partial Fulfillment for the Degree of Doctor of Medicine

College of Medicine, University of Nebraska

February 12, 1951

Omaha, Nebraska

PRECEPTORSHIP TRAINING IN MEDICAL EDUCATION

Preceptorship, from the Latin word "præceptor" meaning teacher, training has played an important part in the education of medical men since the beginning of the profession. It is not difficult to vision the earliest students of the art of healing getting their training from their predecessors by word of mouth and observation long before any means of formal education or even writing was in common use. Flexner (1), in his report to the Carnegie Foundation, tells us of early medical education. He conveniently divided the history of medical education in the United States into three eras; the Preceptorship, the didactic school, and the school of scientific discipline.

The preceptorship or apprenticeship system of medical education was still very much in vogue during the 17th and 18th century in this country. Under this system the future physician was indentured to some reputable practitioner at an early age. Here his service "was successively manial, pharmaceutical, and professional". First he ran errands for his preceptor and washed his bottles. Later he was permitted to mix drugs and spread plasters. When he was considered qualified he was finally permitted to take an active part in his preceptor's daily practice,----- "bleeding his patients, pulling their teeth, and obeying a hurried summons at night!" These students saw disease, but were only able

to distinguish and learn about them by their natural senses. Their training varied within large limits depending upon the capacity and conscientiousness of the master.

However, many of the most conscientious students did not go directly from this training into the practice of medicine. Beginning early in the 18th century they began to migrate to the medical centers of Europe, where they listened to the great men of medicine in the lecture halls and followed their footsteps through the hospitals. Many of these men returned to their own country and began to pass on the information that they had received in Europe. As early as 1750, informal classes and demonstrations, mainly in anatomy, were being held in this country. In 1762, William Shippen returned from five years training in Europe and began lectures in midwifery. The following year he added anatomy to his schedule. In 1765, John Morgan, a former European classmate of Shippen, convinced the College of Philadelphia that they should establish a professorship in the theory and practice of medicine. He himself occupied the chair, and with Shippen as his instructor in anatomy and surgery, Adam Kuhn, a Linnaeus-trained man, in materia medica, Benjamin Rush in chemistry, and Thomas Bond, who had been conducting ward walks at the Pennsylvania Hospital, made up the staff in the first truly formal medical college in the United States. This college did not supplant the preceptorship, but actually supplemented it. Their requirements

for entrance included a proficiency in Latin, mathematics, and philosophy, and the completion of an approved preceptorship. The college itself had a one year course complete with a lecture curriculum and hospital rounds. Upon satisfactory completion of this work, a bachelor degree was granted.

But this and a few other well-founded medical schools did not have smooth sailing ahead. The Revolutionary War threw them into chaos. Soon many other schools were founded which did not have the sound bases as did their forerunners. Davis(2) tells us that between 1810 and 1876, 73 new schools were started. Although a few of these were founded on a sound basis patterned after their forerunners, most of them were private, money-making institutions founded mainly for the commercial exploitation of their students. It is here that preceptorship training was to become only nominal and soon fade out of the picture completely. Students of these schools were required only to have the money to pay the fees. They only had to register with some practitioner at his office and never see him again. There were no laboratories and no clinical teaching. Graduation from such a school depended mainly on payment of fees, and many were of as little as six months duration. This was the didactic period, the dark ages of medical education in America.

However, during this period there were a few well-founded medical schools. These and their sound predecessors still pro-

duced many students that crossed the Atlantic to Europe. In 1827, a meeting was held of representatives of these schools in an attempt to formulate certain requirements before one could be licensed as a practitioner. However, the other schools were too numerous and too remunerative to their instructors, and nothing was accomplished. It was not until 1846, when Nathan Smith Davis was able to stir up enough agitation to cause the formation of the American Medical Association that much along these lines was accomplished. From that time until the present there has been a gradual raising of entrance requirements, a revision of medical school curricula to include didactic, laboratory, and clinical teaching, and a grading of work to insure that the graduate is a competent physician. The greatest single stimulus toward this goal has been the establishment of state medical boards. This is Flexner's era of scientific discipline, where the students return to the patient equipped not only with his well-trained natural senses, but also with the instruments and procedures learned in the laboratories and the hospitals. And it is during this period that the preceptorship training has been revived. Not in its original status as all important, but rather this time to supplement the medical school rather than to be supplemented by the formal education. Today educators fully realize the importance of the human element in medical education. Consequently, along with the didactic courses, the laboratory work, and the clinical

work in the hospitals, medical schools are again adopting the preceptorship into their curricula as an important part of the training of their students.

A recent survey (3) shows that at the present time thirteen schools offer preceptorships with general practitioners as part of the medical school curriculum. That this type of training is definitely on the increase is well proven by the fact that nine of these thirteen schools have started their preceptorship training programs within the last two years. In order that a new fad might not result in some of the folly of past changes in medical education, it may be predicted that this method of teaching will be subjected to a critical analysis by medical educators before it is completely accepted and integrated into the present medical education program universally. It will be necessary for the schools that offer this type of training to prove that in a decentralized program of this type adequate educational standards can be maintained. It is said that if close cooperation and understanding between the educational institutions and the preceptors can be maintained, and an adequate system be worked out, the rediscovery of the preceptorship may come to be judged one of the significant innovations in modern medical education.

In an attempt to further describe this system of training in modern medical education, a twelve weeks' preceptorship with

a general practitioner under the sponsorship of the University of Nebraska College of Medicine has been analysed. The preceptor is a graduate of this school in the class of 1928. He interned for a year at the Henry Ford Hospital in Detroit, Michigan, and then came to the town where he has remained ever since as a general practitioner. The town has a population of 1200 and is located in the midst of the farming area of northeast Nebraska. There is another MD in this town, also a general practitioner. The town itself is typical of the small farm communities of this area. It has no hospital, but is located within fifteen miles of three different hospitals. The practice itself is also typical of the general practitioners of this area. Actually, it is an active practice of over seven hundred and fifty patients. Many of these patients were delivered and attended throughout their lives by the doctor himself, so medical and personal histories are nearly as complete in the doctor's memory as they are in the filing cabinets. The office itself contains the consultation room, the examining room, the minor surgery, the x-ray room, the laboratory, and an emergency bedroom or recovery room.

Arrangements for this preceptorship were made by the College of Medicine after the doctor had replied to a formal questionnaire that he was willing to undertake the duties of a preceptor. These questionnaires were sent to a number of competent general practitioners throughout the state after being investi-

gated by a committee from the staff of the college. The student is allowed as far as possible to select from this group of preceptors the one with whom he wishes to spend twelve weeks in training. After the arrangements are made, the student presents himself to his preceptor and the training begins.

The number of cases that the student will see during his preceptorship will vary with the season of the year, the size of the practice, and even the weather. Table I lists the total number of visits that were logged during this particular twelve weeks preceptorship. It also shows by further breakdown just how many were office visits, hospital visits, and house calls.

Month	Total visits	Office visits	House visits	Hospital visits
Sept.	407	315	61	27
Oct.	530	432	52	39
Nov.	393	328	22	40
Total	1330	1075	135	106

Table I. Types and number of visits during a twelve weeks preceptorship.

These visits represent more than six hundred actual patients.

It was the custom of both the preceptor and the student to see these patients at the same time. The preceptor frequently asked the student for opinions and recommendations concerning the problems involved. In this manner the student was thrown into direct

contact with both the patient and the patient's family. This was very good training and made it possible for the student to see patients on his own with much more confidence than before. After the patient had gone, the preceptor then explained why certain things had been said and also pointed out any mistakes that the student might have made.

Table II is a summary of the dermatological cases that were seen. Those cases listed as "Fungus infection (skin)" were actually secondary infections of small abrasions and lacerations of the skin. This summary is a close approximation of the average

Fungus infection (skin)	15	Tinea versicolor	3
Allergic dermatitis	8	Impetigo	2
Scalp ringworm	6	Shingles	2
Dermatitis venenata	5	Scabies	1
Total		42 patients	

Table II. Dermatology cases.

number and types of cases seen throughout the year. It is felt that actually seeing these few cases with their subsequent treatment and progress was far more valuable training than any sort of didactic instruction.

Table III is a summary of the gynecological cases that were seen. In these cases both the preceptor and the student examined the patient and compared findings and impressions. This

Menopausal syndrome	6	Senile vaginitis	1
Cervical erosion	5	Ovarian hormone deficiency	1
Sterility problem	2	Cystocoel & rectocoel	1
Dysmenorrhea	2	Post D & C hemorrhage	1
Menometrorrhagia	2		
Total		21 patients	

Table III. Gynecology cases.

made it possible for the student to very much augment his knowledge of pelvic examinations, and was very good training of his natural senses. Treatment and subsequent observation of the progress of the different cases was also very rewarding.

Table IV on the following page represents the cases that could be classed as internal medicine. The total number of these cases is the greatest of any one type and represents 25.3 percent of the total cases over the twelve week period. It was in these cases that the student received the major part of his training in developing the so-called "natural senses". The general practitioner in the small community does not have the advantages of complete laboratory facilities. Nor does he have the complete regiment of expensive complicated instruments that the specialist can depend upon such instruments as the stethoscope, ophthalmoscope, otoscope, blood pressure cuff, and x-ray. His laboratory facilities consist

<u>CARDIAC</u> 40 patients	<u>PULMONARY</u> 11 patients
Hypertension (arterioscl) 18	Tuberculosis - arrested 9 active 1
Hypertension (obesity) 14	Pleurisy 1
Hypertension (primary) 2	<u>HEMATOLOGY</u> 8 patients
Cardiac decompensation 3	Pernicious anemia 3
Acute coronary accident 2	Non-specific anemia 4
Paroxysmal tachycardia 1	Sprue 1
<u>GASTROINTESTINAL</u> 29 patients	<u>MISCELLANEOUS</u> 23 patients
Acute gastroenteritis 9	Vitamin deficiency 6
Hemorrhoids 5	Diabetes mellitus 4
Cholecystitis 4	Hypothyroidism 3
Vincent's angina 3	Myositis 2
Thrush 2	Rheumatoid arthritis 2
Enterobius vermicularis 2	Gangrene 2
Amebic dysentery 1	Varicose ulcer 1
Colic 1	Poliomyelitis 1
Peptic ulcer, gastric 1	Carcinoma of mandible 1
Ulcerative colitis 1	Multiple myeloma 1
<u>ALLERGY</u> 13 patients	
Hay fever 7	
Asthma 6	
Total 124 patients	

Table IV. Internal medicine cases.

a microscope for doing blood counts and examining specimens, a few test kits that enable him to do blood sugar and similar determinations, and a minor array of chemicals that enable him to test the various components of urine. To a much higher degree than any other type of physician, he must depend on the patient's history and physical examination to give him the diagnosis. But again he has one advantage--- that of knowing the patient, the patient's family, and many details of the patient's life that most other types of physicians would not know. This indeed is a great aid.

The diseases listed in this table and classed as internal medicine cases have been arbitrarily listed in consideration of the means by which they are most usually handled by the general man. Perhaps the outstanding ones in this list are the two diseases that are generally considered surgical in nature; hemorrhoids and peptic ulcer. These diseases are treated by the general man medically and surprisingly few of them ever come to surgery. Hence they are listed as internal medicine cases.

It is also interesting to note the treatment that was used. It varied considerably from treatment as seen in medical school hospitals and outpatient clinics, and more or less gives the student and insight into therapy, some new and some old. Specific treatment varied from the almost outlawed potassium thiocyanate for hypertension to the use of the very modern cortisone. New drugs are detailed to the general man by the armloads, and it is

impossible for him to try them all. But he is able to try many, and his therapy regime for specific disorders comes to rest finally on the ones that have proven to be the most effective for his patients. It is interesting to note that 187 injections of penicillin, 74 of liver, 27 of salyrgan, 24 of estrogens, 10 of bismuth, and 9 of vitamin B12 were given in a twelve week period. Prophylaxis in the same period included 92 triple vaccine injections, 6 small pox vaccinations, and 2 tetnus-gas gangrene antitoxin injections. There were also 44 cold and allergy injections. Diagnostic procedures included 54 hemaglobin determinations, 43 red cell counts, 34 white cell counts, 19 differentials, 7 sedimentation rates, and 3 blood sugar determinations. 81 urinalyses were also done.

Table V lists the patients that could be considered as neuropsychiatry patients. This total of 13 patients is 2.7% of the total number of cases seen. However, the patients that are listed

Psychoneurosis, anxiety state	5
Enuresis	2
Chronic schitzophrenia	2
Affective disorder	2
Mental deficiency	1
Parkinsonism	1
Total 13 patients	

Table V. Neuropsychiatry cases.

in this table are only those who had no complaint other than those judged neurologic or psychiatric. It does not include the many, many patients with organic pathology or insufficiency who counted on their weekly visits to the doctor's office as a chance to ventilate their feelings into a sympathetic and understanding ear as their organic ills were cared for.

Table VI lists the obstetrical cases. It is to be noted that in this list there are only three deliveries listed. This particular twelve week period was far below average as far as the number of deliveries was concerned. The practice averaged better than fifty deliveries a year for the past five year period, so it is concluded that the 38 patients (7.8%) represent somewhat less than the true average sample.

Hospital deliveries	2
Home deliveries	1
Prenatal visits	31
Postpartum visits	4
Total 38 patients	

Table VI. Obstetrical cases.

Table VII lists the eye patients. These 24 patients represent 4.9% of the total number of patients seen. Of these approximately 80% were foreign body or traumatic lesions. The most interesting aspect of these cases is in regard to the patients

Removal of foreign body	17	Meibomian gland infection	1
Scleral laceration	2	Pink-eye	2
Conjunctivitis	2		
Total 24 patients			

Table VII. Ophthalmology cases.

with foreign bodies in their eyes. These patients arrived at the office at all hours of the day and evening for the removal of foreign bodies that had been present for a matter of minutes to days. The training that the student received in the locating and removal of these foreign bodies is deemed extremely valuable and such training is probably not available by any other means.

Table VIII (79 patients, or 16.1%) lists those cases that are classed as orthopedics. It is interesting to note that almost one-half of these cases are fracture patients. Without exception these patients were diagnosed, manipulated into position, and put up in plaster casts or splints in the office. Xrays were taken routinely before manipulation and a week after casts were applied. After manipulation fragments were checked for position and alignment by means of the fluoroscope. Also outstanding in this list is the fact that in this twelve week period five herniated intervertebral disks were seen. Diagnosis in these cases was made mainly by the patient's complaints and the neurological examination. Routinely these cases were referred to a specialist for confirmation

<u>FRACTURES</u> - 36 patients		<u>SPRAINS</u> - 14 patients	
Rib	6	Ankle	7
Ulna	5	Wrist	3
Radius	5	Knee	2
Finger	4	Shoulder	1
Toe	3	Foot	1
Clavicle	3	Muscle and bone bruises	14
Tibia	2	Herniated intervertebral disk	5
Fibula	2	Senile osteoporosis	4
Olecranon process	2	Callous, foot	3
Os calcis	1	Dislocated shoulder	2
Inner plate of orbit	1	Flattened transverse arch	2
Epiphysis of femur	1	Acraon ligament tear	1
Avulsion of adductor tub.	1	Exostosis, foot	1
		Torn adductor	1
Total 79 patients			

Table VIII. Orthopedic cases.

of diagnosis and proper treatment. This represents a fair average of the number of these cases that are seen by the general man in a farm community. This twelve weeks period included all of the football season. The preceptor was the team physician for the local high school, and consequently the number of sprains and bruises on this list is probably unusually high for the general average.

The otorhinolaryngology group (32 patients, or 6.5%) are listed in Table IX. This list does not include 136 upper respiratory

Ulcerative stomatitis	9	Tonsillitis, chronic	2
External otitis	8	Punctured ear drum	2
Epistaxis	6	Laryngitis	2
Chronic sinusitis	3		
Total		32 patients	

Table IX. Otorhinolaryngology cases.

infections or ear, nose, and throat examinations of thirty grammar school children. Of the upper respiratory infections approximately 40% had associated otitis media, which are also unlisted. It is believed that including these cases in the analysis of the preceptorship would distort the picture unnecessarily and hence are best omitted. This number of such cases is also probably excessive for a general average. Such numbers in a twelve weeks series is also probably seen only in the spring and fall months.

Surgery cases (103 patients, or 20.9%) are listed in Table X. It is interesting to note that in this series only about 10% of the patients involved hospital procedures. Thirty per cent of the patients were those that required only elective office procedures. All of the rest, or sixty per cent, were classed as traumatic, and consisted of lacerations, puncture wounds, burns, and foreign body removals. Here the student obtained much experience

<u>HOSPITAL</u> - 11 cases		<u>TRAUMATIC</u> - 60 cases	
Appendectomy	4	LACERATIONS - 47	
T & A	3	Finger	17
Amputation, leg	1	Scalp	7
Cystostomy	1	Calf of leg	6
Inguinal hernia	1	Eyelid	4
Ileostomy	1	Eyebrow	3
<u>OFFICE</u> - 32 cases		Lip	3
Incision & drainage	16	Others	7
Paronychia	7	PUNCTURE WOUNDS - 6	
Stitch abscesses	3	Foot	3
Varicose veins	2	Others	3
Strangulated mole, axilla	1	BURNS - 4	
Removal bone chip	1	Upper extremity	3
Removal moles, eyelid	1	Lower extremity	1
Sebaceous cyst, ear	1	REMOVAL OF FOREIGN BODY 3	
Total 103 patients			

Table X. Surgery cases.

in suturing, as a total of one hundred forty-eight sutured were required to close these wounds. Five major accidents were involved in this series --- two corn picker hands, numerous deep lacerations of the legs of a child that became entangled in a grain elevator, one automobile-pedestrian accident, and one

major automobile accident involving two persons.

Table XI (14 patients, or 2.9%) are those cases that are considered as urology. Of these cases only three were treated

Benign prostatic hypertrophy			4
Urethral stricture with urinary retention			1
CA of the bladder	2	Hydroureter	1
Nephritis	2	Bruised kidney	1
Cystitis	1	Gonorrhoea	1
Syphilis	1		
Total		14 patients	

Table XI. Urology cases.

surgically. Of these three one was considered to be a surgical emergency and was operated immediately. Here the student was privileged to observe first hand the general practitioner when faced with a problem which he would have gladly referred had he been able to have the time.

In the above tables an attempt has been made to analyse a modern twelve weeks preceptorship. It will be noted that some of the special branches of medicine have been neglected. It is felt that this has been necessary in order that a true and clear picture of the preceptorship be presented. Pediatrics has been omitted although a conservative estimate indicates that some forty per cent of the patients seen were below the age of fourteen.

However, these cases have been included in the tables under the proper designations of the branches of medicine. It is felt that essentially the practice of pediatrics does not vary greatly from the general practice of medicine. In the cases that were seen during the preceptorship period there were none that are related to children alone, hence it is felt that placing some forty per cent of all of the cases in a separate table would distort the overall picture greatly.

Radiology is another notable omission. Xray served as a diagnostic aid only in this general practice. No attempt at radiation therapy was ever attempted. However, all radiological procedures were done at the office, and all but the most obvious films were sent to a specialist for confirmation of diagnosis. In this twelve weeks period a total of ninety-one xray pictures and thirty-one fluoroscopic examinations were done. The xray pictures included the usual films of the extremities and also two uterograms, two retrograde pyelograms, and two IV pyelograms.

The above analysis of the preceptorship is interesting from the aspect that it serves as a picture of the type of cases that the man in general practice is seeing today. However, it has a far more interesting and important meaning when these statistics are compared with the educational program of today's medical schools. Major trends in medical education today seem to be aimed at training medical students to be general men (4)

DERMATOLOGY	██████████ 42 patients - 8.6%	██████████ 41 clock hours - 2.3%
GYNECOLOGY	██████████ 21 patients - 4.3%	██████████ 134 clock hours - 7.4%
INT. MEDICINE	██████████ 124 patients - 25.3%	██████████ 540 hours - 30%
NEUROPSYCHIATRY	██████████ 13 patients - 2.7%	██████████ 243 clock hours - 13.5%
OBSTETRICS	██████████ 38 patients - 7.8%	██████████ 195 clock hours - 10.8%
OPHTHALMOLOGY	██████████ 24 patients - 4.9%	██████████ 75 clock hours - 4.2%
ORTHOPEDECS	██████████ 79 patients - 16.1%	██████████ 87 clock hours - 4.8%
EAR-NOSE-THROAT	██████████ 32 patients - 6.5%	██████████ 29 clock hours - 1.6%
SURGERY	██████████ 103 patients - 20.9%	██████████ 416 clock hours - 23%
UROLOGY	██████████ 14 patients - 2.9%	██████████ 43 clock hours - 2.4%
Total patients seen 490		Total clock hours 1803
Preceptorship ██████████		Formal education ██████████
<p>Note: The above table does not include: 136 upper respiratory infections. 30 ENT examinations of grammar school children. 5 life insurance examinations.</p>		

Table XII. Preceptorship vs. Formal Education.

in the field of medicine. Table XII is a comparison of the percentage of patients seen during the twelve weeks period to the percentage of clinical hours devoted to comparable fields of medicine in one of today's medical colleges (5). In observing the general picture it is surprising to note that the cases seen and the time spent in formal education seem to agree fairly well.

However, when the individual divisions are considered within themselves, several important discrepancies are to be noted. An attempt to consider each division in much detail would be far too great a task for this paper. It is felt that mention of each with special reference to the major discrepancies would be worth while.

First, let us consider dermatology. The 42 patients that were seen represent 8.6% of the cases, while 2.3% of the formal education was devoted to this subject. It was noted during the preceptorship that the student was very much at sea not only as to diagnosis, but also as to treatment when many of the dermatological cases presented themselves. Dermatology is a subject in which the diseases must be seen to be recognized in the future. It is felt that in this particular instance more formal clinical training would be of great value to the student.

Gynecology with 2.3% patients and 4.3% formal training is felt to be well within the proper ratio. Internal medicine is noted to have almost five percent more formal training than actual cases seen. It is felt that if some of the repetition in the formal training could be eliminated, some of the difference might well be relegated to dermatology. Examining the internal structure of the cases seen (Table IV) reveals that the formal training within the field of internal medicine is very well distributed.

In neuropsychiatry there is a great discrepancy between the number of patients seen and the actual training received by the student at the medical college. However, this table only lists patients that are without proven organic pathology and does not include the many, many patients that have both organic and functional difficulties and view the weekly visit to the doctor's office as a chance to ventilate some of their feelings into a kind and understanding ear. It is felt that this excess of formal training is necessary in this particular field in order that the student be given every opportunity to learn in advance the mechanisms of this specific field and their manifestations in almost every patient that is seen.

The formal training in obstetrics seems to be too great for the number of cases that were seen. However, in this instance it is well to note that the number of deliveries for the twelve weeks period was far below the yearly average. Hence it is felt that this is not a true picture, and that the balance is very probably more equal than the statistics seem to indicate. In the consideration of the ophthalmology picture, it seems at first glance the percentages are very well balanced. However, when Table VII is again referred to, it is noted that of the twenty-four patients seventeen were in because of foreign bodies in the eye. This seems to indicate that traumatic lesions are far more important to the general man than the distribution of formal

Education in eye would indicate.

Orthopedic cases show the greatest variation from the formal education. Here again referring to Table VIII seems to indicate that the half of the patients that do not fall under the fracture group were adequately taken care of by formal education. However, the other half of the patients that fall in the fracture group made up the bulk of the patients in this particular branch that the student felt most inadequate to handle. Perhaps this is the reason that many of our older physicians say that the best thing to do when you see a fracture patient walk in the front door is to "run out the back door". It is again felt that here the student received inadequate training in the common fractures while in medical school. It is realized too, that in this instance suitable patients for instruction would be very difficult to obtain for instruction purposes unless an active emergency room were in operation.

Otorhinolaryngology presents much the same picture as far as deficiency in education is concerned. However, in this instance the student did not feel quite as inadequate as in fracture cases.

Surgery appears to have a rather good balance in the overall percentages. However, again when we refer to the table of surgery cases, it is apparent that there are certain definite deficiencies. Of the surgery cases that were seen approximately

ten per cent required hospital surgery. Thirty percent required simple office procedures. The remaining sixty per cent of the cases were those that fell under the traumatic group --- lacerations, burns, puncture wounds, and foreign bodies. Here again the orientation of the surgery curriculum is such that the smallest number of cases that are seen in general practice are given the most time in formal education. The major difficulty lies in the fact that the traumatic surgery that makes up a total of more than all of the rest of the surgery cases combined receives little note in medical colleges. Here again to relieve this situation fully it would be necessary to have a full time emergency room to obtain suitable patients for teaching purposes.

Just a note about urology. It appeared to the student that this particular branch of medicine shows the best balance of any heretofore mentioned. The student felt that he was more adequately prepared for these patients as a group than any other. It may be added without reference to any table or compiled statistics that the student felt most incompetent in the field of radiology. In general practice it is necessary that the doctor himself operate his xray equipment or teach an assistant to do it for him. To the doctor falls the task of reading his own films and interpreting his fluoroscopic examinations. The student felt that he had been in a way cheated by the medical college in not being taught the rudiments of radiologic technique.

The above discussion and comparisons might well be considered one of the most valuable assets in medical education. Modern medical schools in their striving to train their students to be general practitioners (5) might well use statistical analyses of preceptorships as a means of adjusting their curriculum to the needs of the general man. It is here that the schools may obtain definite comparisons between their time allotted to teaching and the patients that are most commonly seen in general practice. It is through analyses like this that the student who is planning on entering general practice might well base his selection of an internship. It would seem by comparing an analysis of a preceptorship to the annual statistics of hospitals that he might well be on the track of a scientific way to select an internship that is most favorable to his needs and desires.

But these are not the only advantages of a preceptorship. In view of the apparent inadequacies of the present system of medical education, the preceptorship itself seems to be an ideal place for the student to learn the things that are omitted from formal education. Here he has all of the patients that he will have in his own office some day, and still he has an older, experienced man by his side to instruct him just at the time when it will do the most good. It is merely another example of "learn by doing" under the most ideal conditions. Other advantages are also apparent. O'Hara (6) feels that the social aspect of medicine

should be emphasized. What better way is there than to place the student in community life of a small town where he soon becomes acquainted with his patients and not only their illnesses? Moore (7) and Bardeen (8) feel that close cooperation between instructor and the student in a daily practice is very much more adequate than an instructor and a student in a medical college. Cole (9) summarizes the advantages very well with statements that indicate that correlation and the range of practical work are his criteria for believing in the preceptorship system. It is in this system that the student gets the opportunity to humanize his attitudes and associations. He is here able to correlate the theory and the art of medicine. He is better able to correlate the specialities which often times seem quite disjointed in formal education. He is here able to become acquainted with the stress of economic necessity. He develops self assurance, self reliance, and resourcefulness when forced, or permitted as the case may be, to see patients on his own. He is able to form opinions on basis of merit and first-hand observation, and at close range, of principles, ethics, and ideals as actually practiced as contrasted to those taught in the classroom. He is able to view "medical practice stripped of glamour and from an economic point of view". It is in these things that the value of the preceptorship system is evident. Another point that might be well worth mentioning is the fact that the students with their notoriously profound questions

act as a stimulus to the preceptor. In this way he is stimulated to keep abreast of medical science. It is in this manner that the whole practice of medicine within a state might well be kept up to date and not become bogged down for lack of stimulation.

Although the advantages of the preceptorship method of training are numerous and apparent, there is one essential that must be met, or the whole program might well be classed as a detriment to medical education. The problem simply stated is that in any decentralized program such as this it is extremely difficult to insure that the preceptorship makes the most of its opportunities. It is of course impossible for the central school to closely supervise the work of preceptors. Hence, it must use great judgement in the selection of those practitioners who are to be preceptors. They must be competent men, fully willing to give of their time, and adequate as instructors. The preceptor and the student must be carefully selected to be sure that a clash of personalities might not result. This selection of preceptors and their students is the basis on which the whole system rests. Should this selection be inadequately made, the whole preceptoral system might well become a detriment to medical education. It is on this basis that the schools that are now offering preceptorships must prove adequate, or the system will never be accepted by medical educators universally as a definite and necessary aid to modern medical education.

SUMMARY

The preceptorship or apprenticeship system of medical education was the earliest type that existed in this country. In 1765 the first medical school was established at the College of Philadelphia to supplement this system of teaching and make available to students in this country the formal education that was common in Europe. During the Revolutionary War period many medical schools that were merely commercial enterprises for the exploitation of students were organized, and the preceptorship system began to decline and finally fell by the wayside. It was not until 1846 with the founding of the American Medical Association that these commercial enterprises were able to be forced to slowly withdraw from the field of medical education. From that time until the present, there has been a general trend toward the founding of medical colleges and medical curricula on a sound scientific basis. The modern medical college is primarily interested in training its students to become good general practitioners. It is in this striving for better training that the preceptorship system is being revived, this time to supplement the medical college training. Thirteen such programs are in operation at this time.

A preceptorship of twelve weeks duration sponsored by a modern medical college has been analyzed. The patients that were seen by the preceptor, a general practitioner in a

rural community of 1200 population, and the student have been compared to the formal training that is offered by the medical college. The balance and imbalance between the two have been discussed, as have the advantages and disadvantages of the preceptorship system as a supplement to modern medical education.

CONCLUSIONS

The preceptorship system of medical education as a supplement to formal training has one real disadvantage. It is the fact that in any decentralized system such as this, it is a virtual impossibility for the central medical college that sponsors the training to closely supervise the work of the preceptors and their assigned students. It is the task of the medical college to select preceptors that are capable instructors and willing to give of their time. It must also carefully match preceptors and students so that no clash of personalities exists. Only in this manner may the preceptorship system prove a valuable aid in modern medical education and come to become accepted universally.

The advantages of the preceptorship system may be listed in three main groups. The medical college may gain from the system first by analysing the cases seen during the training and then adjust their curriculum to the needs of the general practitioner. This training is also a method by which the medical

college may provide its students with certain important training that is impossible to provide in university hospitals. To the student it gives the chance to receive this valuable training. It gives him the opportunity of individual instruction. It develops his self assurance, self reliance, and resourcefulness. He is able to form opinions on the basis of merit and better correlate the specialities. It introduces him to the economic and social aspects of the practice of medicine. To the preceptor it offers a stimulus to keep abreast of medical science, and in this manner the whole medical practice of the state may be kept from becoming stagnant and out of date by the preceptorship system of instruction in modern medical education.

BIBLIOGRAPHY

1. Flexner, Abraham, Medical Education in the United States and Canada, Boston, D.B. Updike, 1910, vol. 1, pp. 3-28.
2. Davis, N.S., Contributions to the History of Medical Education, Washington, 1877, p. 41.
3. Editorial, The Medical Schools and General Practice, J.A.M.A., 144:184, (Sept. 9), 1950.
4. Bulletin of the University of Nebraska College of Medicine, 1950-1951, pp. 24-25.
5. Lueth, H.C., Training of Medical Students for General Practice, J. Omaha Mid-West Clin. Soc., 9:11-13, (Jan.), 1948.
6. O'Hara, Dwight, Today's Trends in Medical Education, New Eng. J. of Med., 243:40-43, (Jul. 13), 1950.
7. Moore, John Walker, Preceptor Method in Teaching, J. A. Am. Med. Col., 21:323-326, (Nov.), 1946.
8. Bardeen, C.R., Modern Preceptorships, J. A. M. A., 90:1177, (Apr.), 1928.
9. Cole, L.R., Preceptor System Plan, Proc. Ann. Cong. M. Ed., 1931, pp. 47-49.