

The Use of Auxiliaries in Performing Medical-Surgical Procedures and Sorting Patients in the O.P.D

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INTRODUCTION

In recent years the training and efficient use of auxiliaries in providing health care has become an increasingly important concern in both developing and developed countries.

The use of auxiliaries is not new in Nepal. There have been sorters, dressers, AHWs, CMAs, HAs, AHWs. However, the utilization of auxiliaries to perform many of the technical and clinical skills of doctors in hospitals has not been very well developed in this country nor in most of Asia. Nepal's auxiliaries have been trained to perform nursing procedures, dispense medicines and give simple primary care. There are some hospitals in Nepal where auxiliaries are used to perform some of the busy doctor's numerous tasks, but more often most procedures are performed by the doctors themselves.

Over the past 10 years in the three hill hospitals of the United Mission to Nepal (Tansen in Palpa, Amp Pipal in Gorkha and Okhaldunga) auxiliaries have been trained as doctor's assistants to perform many of the doctor's routine tasks. It is the intent of this paper to report on why these doctor's assistants were trained; how they are utilized and some reflections on the methods of their training. This report, in addition to my own experience, includes many remarks, evaluations and recommendations from two other

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doctors in the UMN who have had considerable experience in training and supervising medical and surgical auxiliaries--Dr Del Haug, Medical Director of Tansen UMN Hospital and Dr Tom Hale, Medical Director of Amp Pipal UMN Hospital Gorkha.

A number of experts on international health have stressed the importance of the auxiliary as the backbone of health care in developing countries (see references 1, 4, 8, 9, 10 in bibliography). Among them is Dr. Carl E Taylor of Johns Hopkins University. He is particularly concerned about this subject and is very aware of its particular relevance to Nepal. Many of the remarks in this paper either arose from inspirations from Dr. Taylor or have been shared with him through personal communication on numerous occasions over the past nine years.

Dr. Taylor, from his experience and clinical research in India, has demonstrated the success of the use of auxiliaries in clinical as well as preventive medicine both in terms of clinical effectiveness and cost effectiveness. His studies showed that 90% of primary medical care can be 'routinized' so that diagnosis can be made and simple treatment given by auxiliaries in rural India. The routine of recognising common 'patterns' which he developed was the basis of the early training programmes which I developed in Tansen. The concept works in Nepal as well as in India.

Why is this system of low priority and so little used ? Dr. Taylor recognised early what I confirmed later on, that the greatest barrier to the acceptance and full utilization and development of health systems based upon auxiliaries was the resistance of the medical profession itself. Speaking of this, Dr. Taylor wrote:

"There seems to be a great mystique about the initial contact between the public and the health profession. Physicians attach this mystique to themselves with great determination as something sacred. Patients, too, have come to think they have some sort of inherent right to see a doctor, but it has been repeatedly demonstrated that this can be changed. Deeply ingrained in the most deeply held value systems of doctors is belief that is the absolutely unethical not to see every patient who comes even there is no 'laying on of hands'. There is an almost magical belief in the healing power of a mere face to face confrontation of a few seconds, the ancient Indian term for this is 'darshan'. This ritualistic rigidity interferes more with good medical care around the world than most other carry-overs from the days when medical care depended primarily on magic and manipulation of supernatural forces. I consider

this vestigial and egotistical 'halo effect' on the part of physicians to be more of a barrier to medical progress than popular belief in sacred incantations and charms."

This article will describe two quite different types of doctors assistants:

- a) auxiliaries who perform surgical and medical procedures and
- b) the out-patient 'sorter'.

A. AUXILIARIES WHO PERFORM SPECIAL PROCEDURES

1. The Surgical Assistant

Surgeons have always been the first to utilize auxiliaries to help lighten their load of technical activities. Many decades ago in very busy bush hospitals in Africa, auxiliaries were trained to perform, very competently, specific surgical procedures. Using several auxiliaries, one doctor could supervise several operations at one time. For many years auxiliaries of all levels have been applying and removing plaster casts for fractured limbs; have performed appendectomies, vasectomies, incisions of abscesses, and excisions of small growths. This use of auxiliaries has unfortunately been much more widespread in Africa than in Asia.

However, in our UMN hospitals in Nepal, auxiliaries have been used extensively to perform minor surgical procedures for many years. In addition to the procedures mentioned above, other procedures include: suturing minor lacerations, excising teeth, passing urethral sounds, performing circumcisions and dorsal slits for phimosis, applying skin traction on fractures, applying figure of eight bandages for fractures of clavicle and sling and swath for fractures of humerus. While plastering fractures not requiring manipulation is one of the included procedure taught by Dr. Hale in Amp Pipal because of the expense of plaster.

A number of the surgical auxiliaries in our hospitals also learn the skill of giving trilene and sometimes other anesthesia for minor procedures. Extensive practical training programmes have also resulted in extremely competent anesthetic auxiliaries. This programme has been particularly effective in Tansen where there has been a series of trained anesthesiologists and anesthetists working very closely with the auxiliaries for several years. Dr. Haug notes that one of the more recently trained auxiliaries, Huma Nath Regmi, was able to progress more rapidly because of his ability to grasp more involved physiology and anesthetic problems as he had just completed the CMA course in Tansen. This is perhaps one area where a solid medical background is particularly helpful.

The details of the training of specific individuals in this category will not be discussed in this paper.

2. The Medical Assistant

When I first began working as internist (physician) in the Tansen Mission Hospital in late 1970, I found that I was spending about 50% of my very busy days performing numerous diagnostic and therapeutic procedures. I wished that I could have been devoting more time to supervising and teaching in the clinical laboratory, teaching nursing students and researching the many new problems I was seeing.

Already there were a number of surgical auxiliaries performing specific tasks in the hospital, X-ray assistants, and pharmacy assistants and operating room assistants. Therefore I requested that Gunakar Gaire, a male nurse who had just completed his training in the old Tansen Hospital nurses training school, be assigned to work with me. As a final year student, he had assisted me in the O. P. D. and I know that, while he did not have SLC, he was an eager and quick learner and was very clever with his hands. I then set out an on-the-job, mostly informal training programme.

Over the first year, I taught him to perform the following procedures:

- (a) Lumbar puncture
- (b) Thoracentesis
- (c) Paracentesis
- (d) Taking electrocardiogram
- (e) Taking spirogram

At the beginning when one of these procedures came up, we discussed the procedure together, going over the technique, the equipment required and the possible difficulties that could arise. Then for the first 2 or 3 times he observed as I performed the procedure. As I did the procedure, I would go over each step very carefully. The last step was to properly label the fluid obtained, fill out the proper forms personally, take the specimen to the laboratory and return the procedure tray to the central supply, record the procedure in the minor procedures record book and finally to make follow-up checks on the patient. In the case of electrocardiograms, it meant placing the leads properly, obtaining a technically satisfactory tracing, properly mounting the strips from all the leads on a card and then keeping them filed for future reference.

Once I felt he understood all the steps and the dangers, I then allowed him to perform the procedure on the first patient in whom the procedure would be relatively uncomplicated. (A definite pleural effusion, a large 'free' ascites; often an older child requiring a lumbar puncture). I made sure each step was done in the proper way. I assisted and observed him perform these procedures a number of times until I felt confident in his ability. Often it was necessary to actually put gloves myself and help with last steps. But with Gunakar this was not often necessary, as he developed the proper 'feel' very quickly and very soon he became very skillful—in a much shorter time than I had required as an intern and resident.

Nevertheless, after that I would watch once in a while to be sure bad habits never were being developed. He was encouraged to always ask for help if a problem arose and I was always available to help in these situations. He knew this and never hesitated to call me. This relationship of trust and confidence along with an attitude of conscientiousness and concern for the patients was extremely important.

After he was very confident in these procedures, I then taught him, as well as two of the laboratory technicians, how to perform sternal bone marrow aspirations. Later I taught him to perform liver aspirations for amoebic abscess of the liver, to pass naso-gastric tubes and even Bogie dilators on a patient with achalasia.

Also during this time I helped him to develop appropriate health education messages to individual and small groups of patients in the O. P. D. As he was artistic and creative, this was very successful as well. Since he had spent every day with me in the O. P. D. he also knew the standard health education messages I gave for various medical conditions. Many many times I have heard him give these exact same messages in far better Nepali, you can be sure.

Incidentally, having helped to set up the miniature radio fluorogram chest x-rays for me to read every day, he also became rather skilled at reading basic chest x-ray patterns.

Seeing how successful this training was and how competent Gunakar had become, with the help of some of the other doctors I set up training programmes for several other auxiliaries to learn some of these skills. By this time I had learned a lot about the training process and prepared a short supplementary series of 1-2 hour weekly seminars to discuss each procedure. However, the real training was done on the job in the O. P. D. and on

the wards. Although most of the instruction was given by myself and several other doctors, Gunakar himself also did much of the training—not only for the younger Nepali auxiliary staff but also for over a dozen Western medical students who have been coming to Tansen for 2-3 months electives over the past 10-12 years.

B. 'O. P. D. SORTERS' * (MEDICAL ASSISTANTS)

"The key to making the best of the (O. P. D.) facilities available is a proper appreciation of the role of the doctor and the auxiliary. Nowhere is the DOCTOR'S ROLE AS ORGANISER, TEACHER AND CONSULTANT TO A TEAM OF AUXILIARIES more important than it is in the Outpatient Department. The only way in which huge numbers of patients can be seen is for medical assistants.....to see most of them. Some means must be found whereby the common, mild and easily recognisable complaints can be dealt with by these auxiliaries, without wasting the scarce time of a doctor."⁸

Many doctors, when shown the abilities of auxiliaries able to perform technical procedures requiring manual skills, are ready to accept and utilize these assistants. But most doctors are reluctant to turn over to auxiliaries the job of diagnosing and treating patients. They say that performing manual skills is one thing but to make medical decisions in the care of patients is quite another. Unfortunately, in towns or cities where all health care has been provided only by doctors, the people also desire to be treated only by doctors.

But the situation for most of the population in Nepal is that there are very few, if any, doctors available for them. For those near enough to district centres or towns, a doctor may be accessible but usually he has so many patients, to see that he is able to give only a few minutes to each patient. Furthermore, most doctors are taught in medical school to rely heavily on sophisticated laboratories and X-ray facilities to help them make more difficult diagnoses. The results are that the doctors themselves frequently diagnose only a limited number of very common problems or make uncertain diagnoses of less uncommon problems.

It has been frequently demonstrated that an auxiliary trained to recognise common symptom complexes can diagnose the 10-15 common problems which make up about 75% of the problems that people present with in Nepal. Furthermore, they are much more

* 'Sorter' is a term borrowed from Maurice King's book 'Medical Care in Developing Countries'.

effective in providing appropriate explanation and health education. This is true first because they have the time and second because their level of language and terminology is closer to the patients than is that of the doctors.

However, recognising common problems is only part of the job of the O. P. D. Sorters we have trained in our mission hospitals. The word 'sorter' means one who sorts out the uncommon or difficult problems from the common ones. The sorter is also responsible for recognising more complex patients and referring them to the appropriate doctor in the hospital. Usually he writes an initial history and orders what he thinks are appropriate lab tests. This then saves the busy doctor a great deal of time and provides him with useful information when he first sees the patient.

In a busy O. P. D. this means:

- a. each patient has an opportunity to give a full history of his problems.
- b. doctors can spend a greater portion of their time giving detailed attention to more difficult or complex problems.
- c. doctors are freed from seeing routine patients in the O.P.O. and have more time for care of sick in-patients and out-patients, administrative work, teaching and supervision.
- d. patients receive appropriate care more quickly.

The training of Sorters has gone through several stages at Tansen Mission Hospital:

1. The First O. P. D: General Sorter

Lochman Shakya was the first 'sorter' trained by me at Tansen in 1972. He already was a very experienced male nurse who had spent some time in nearly every department of the hospital. He had good judgement and was intelligent. His training was mainly simply working in the same room with me for about six months. I was immediately available for questions and consultation and was also able to hear what was going on in his corner while also seeing patients myself. This was supplemented by a series of about 20 weekly seminars on various conventional medical and surgical problems.

This initial experiment proved to be successful in providing good care while taking the strain off the busy doctors. Moreover, patients were fully satisfied.

2. Specialized O. P. D. Clinic Auxiliaries

The second stage was the training and use of specialised auxiliaries in specific medical areas—namely Tuberculosis, Leprosy and in Under 5's Clinic.

a. Tuberculosis

As internist at Tansen, one of my responsibilities was the care of the Tuberculosis patients who came to the O. P. D. for help (about 20 patients every O. P. D. day) and also the 5 or 6 who were sick enough to be hospitalized at any one time. Also I worked together with the Community Health Department in the complicated programme of case finding, referral, follow-up of patients on medicines and contacts and defaulters follow-ups.

At this stage we did two things. First, we connected to the system of patient-retained records and secondly, auxiliaries began to run the TB service calling for the doctor's help only on difficult problems. They were able to do this by our setting up a TB patient management protocol, which the auxiliaries were familiar with and followed in treating the clinic patients.

b. Leprosy

A couple of years later we sent the first of several auxiliaries to the Green Pastures Leprosy Hospital and Training Centre in Pokhara for the 3 month Junior Leprosy Worker training and later for the advanced training. These workers have since taken over the running of the very busy (and growing) Outpatient Leprosy Service in Tansen under the direction of Dr Rub Ferguson and, later, Dr Del Haug. It is significant that the first man, Pradip, who was sent for training had been simply an O.P.D. helper with no previous health training. Now he is an extremely competent and complete Leprosy auxiliary.

c. Under 5's Clinic

In the under 5's clinic several auxiliaries have been used, but the most effective has been Rebecca Sherpa, an experienced auxiliary nurse who now runs the clinic, calling for consults from the pediatrician only on several children and pregnant mothers each day.

3. Full Implementation of Sorter System

The third stage came several years after the initial O.P.D. sorter had been found to be

very successful and the doctors became convinced of the safety, effectiveness and efficiency of the sorter system. This was a re-structuring of the O. P. D. under the direction of Dr. Del Haug. In this new system, begun in about 1975, nearly all patients are first of all seen by one of about 4 or 5 'sorters' (or 'medical assistants' as they called in Tansen). The doctor in charge of the O.P.D. checks over and signs each patient's card and sometimes checks the patient, particularly if the medical assistant has any questions. As far as possible, wherever a doctor sees a patient referred to him or her, the medical assistant who first saw the patient is called in to see the patient with the doctor. This serves several purposes:

- a. to provide the most complete work-up on the patient.
- b. to develop the atmosphere of doctor and assistant working together as colleagues.
- c. reinforcing the confidence the patient has in the auxiliary.
- d. serves as a teaching/learning opportunity.

This system is efficient and effective. Patients are seen more quickly and doctors are free to perform other duties, seeing only the more difficult patients in the O. P. D. It is also cheaper for the patient and for the hospital.

4. Amp Pipal

In Amp Pipal hospital there is a slightly different and yet extremely efficient system. It could be called a 'double-sorting' system: As each patient enters the O. P. D. with their record, two or three minimally-trained nurse aids ask what the main problem is. According to the patient's answer, the nurse aid may:

- a. take a temperature.
- b. order a urine or stool exam.
- c. send the patient directly for a dressing.
- d. have the patient wait.

After the lab test is ready, the patient is then seen by one of two health assistants who function as sorters. They then take care of the common problems or get immediate consultation or directly refer to a doctor for a specific problem. Incidentally, simultaneously in another section of the O. P. D. an MCH clinic is being held by another group of auxiliaries, while in another room 2-3 auxiliaries perform various minor surgical procedures. This system works very well. A truly amazing variety of diagnoses and patient management occurs every day with generally only two doctors in part-time attendance.

The principle of clear communication is nowhere more clearly evident than the explanation given to women who require the insertion of a cervical pessary by one of the nurse aids. It is clear, practical, correct and the women understand.

C. QUALIFICATIONS, TRAINING AND SUPERVISION

In this final section, I would like to share some practical points on whom to select for training and how to do it. These points come not from any specific study but simply from the reflections on the subject by myself, Dr. Haug and Dr. Hale.

1. Qualifications

- a. Initially, I felt there should be some certified medical training. Now it seems clear that, while this is necessary for certain auxiliaries (Sorters, Anesthetists), it is not necessarily a requirement for others (lower level surgical auxiliaries).
- b. Good judgement, 'coolness',
- c. Desire to do a 'perfect job', but knowing when to ask for help and knowing own limitations.
- d. Ability to take criticism.
- e. Conscientiousness, enthusiasm and willingness for hard work.
- f. Willingness and desire to learn more.
- g. Good manual dexterity.
- h. Ability to communicate well.
- i. Desire to help others and a pleasant manner.

It should be noted that far more important than background, education and certificates is proper attitude, a willingness to learn, basic intelligence and good judgement and skillful hands.

2. Training

The most important principle on which all three of us feel very strongly is that the training of all the types of auxiliaries mentioned should be basically on-the-job and practical. Over the years I have developed outlines for sets of training seminars which basically cover common symptoms, signs, problems and procedures. Most of the basic concepts are found

in the Medical Problems CMA Instructors Manual⁷, edited by Dr Prakash Sayami and myself and in the excellent training manual by Dr B J Essex, Diagnostic Pathways in Clinical Medicine³.

However, clearly these are of secondary value and are of most benefit when they come as a result of a practical experience with a patient or when the subject has come up. (eg, The most appropriate time to discuss ascites is just after you've seen several patients with ascites and have possibly even performed a paracentesis). The only value of having a prepared list of seminars are:

- a. Facilitates scheduling when it involves several doctors (which is always an excellent idea).
- b. It sets aside a specific time which otherwise will not happen if left to chance.

In section 2 on the Medical Assistant, I described in general the pattern of training for Gunakar. It would be well to mention how Dr Haug trained Gyanu Rana as a female O. P. D. Sorter who had had years of experience as an auxiliary ward nurse.

First, while Dr Haug took histories, Gyanu wrote them down. This was an opportunity to learn many new terms and to appreciate why certain information was important and how information was obtained. Specific discussion and review covered one system at a time. Then major symptoms were discussed—such as fever, pain, menorrhagia etc.

Then Gyanu would take the histories while the doctor listened and wrote down notes on the chart.

Then the physical examination was learned, one system at a time. Since many of the complaints are gynecological, much stress was placed on the pelvic examination. (It may now be said that doctors, including myself, ask Gyanu to confirm their findings on the pelvic examination. Few doctors are able to interpret the clinical situation better than Gyanu.)

The next step was to begin discussing differential diagnosis, appropriate investigations and proper management of various common problems. This was done not in the classroom but rather at the time of seeing the patients in the O. P. D.

Dr Haug feels that after these skills are established, then discussions of detailed anatomy and more specific clinical situations can be held. Here again, the concept of teaching common patterns and routines should be emphasized.

3. Supervision

Finally, is the importance of good supervision and on-going training. One very serious danger in using auxiliaries is to 'turn things over' to them once they have a basic competence. This must never happen. Frequent supervision and checking is important. Dr Hale teaches surgical procedures by teaching a list of very specific steps which must always be performed the way he has taught it. He will occasionally check to see if these are being followed. He will also ask to 'inspect' suturing or dressings or casts. He remarks "I expect perfection-and I get it quickly". His most important rule is "Call immediately if there is any problem". This rule is followed because he is always available and willing to take whatever time is necessary. This kind of supervision is appreciated by assistants and their quality of performance remains high.

These comments also point out another principle. Although several doctors may be involved in the training of their particular areas of interest and skills, it is best if one doctor is responsible for the areas of interest and skills, it is best if one doctor is responsible for the supervision. He must consider this as one of his most important clinical jobs.

CONCLUSION

Medical auxiliaries can perform specific and very useful clinical tasks in district hospitals as well as health posts in Nepal. The United Mission to Nepal has trained and utilized such auxiliaries in their three hill hospitals in Nepal. Various types of surgical, medical and out-patient 'sorter' auxiliaries have been discussed. Some reflections on principle of selection; training and supervision have been given.

It is hoped that this report will help to break down the barrier to the use of such auxiliaries, since this system changes the role and 'mystique' of the doctor. It would seem that with Nepal's great shortage of doctors and present health care system, the use of such auxiliaries in district hospitals could multiply the effectiveness of the limited doctors and help provide better medical care for the people of Nepal.

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