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Sree Chitra's NURSING Manual





3rd Edition

PP Saramma
R Ashalatha

Foreword
K Radhakrishnan

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Outpatient Services

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INTRODUCTION

Outpatient department (OPD) is a distinct and important part of the hospital and the first point of contact between hospital and community. Out patient service is required to meet the growing health needs of the people.

VARIOUS OPDs

Outpatient department of the Institute is spread on the ground floor of medical block (Block I) and 'Maharani Setu Parvati Bayi Surgical Centre' (Block III). Outpatient service is offered in cardiology, cardiothoracic and vascular surgery (CVTS), neurology, neurosurgery, and interventional radiology. OPD for cardiology and CVTS is located in Block I, which is close to the main entrance of the hospital. Cardiology has 'New' OPD for newly registered patients, and 'Review' OPD for review cases and patients coming for elective admission as well as emergencies. Emergencies during odd hours will be attended by the staff nurse on duty who arranges medical support from the concerned discipline. CVTS OPD has congenital heart OPD, thoracic/vascular OPD as well as cardiac surgery OPD. OPD of neurology and neurosurgical services as well as interventional radiology is located in Block III, close to surgical reception. OPD functions from 7 am to 8 pm (or till all the patients are seen) except on Sundays, and other institute holidays.

MAIN FUNCTIONS OF OPD

Early diagnosis using the best possible modern medical techniques, ambulatory and domiciliary treatment for all cases, admission or referral to other hospitals, aftercare and rehabilitation for discharged patients, promotion of health through health education, training of medical, nursing and paramedical staff, and epidemiological and social research are the chief functions of the OPD.

FACILITIES IN THE OPD

There are two outlets in OPD for conveying information to the patients and relatives. Information ***counter-1*** is in medical block (Block I) near the patient waiting area and information ***counter-2*** is in surgical block (Block III) near

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entrance. The staff in the information counter deals with the patients coming for elective admission and patients without prior appointment. Necessary investigation requests are given as per the clinic protocol to patients with and without appointment.

There are two emergency rooms one in each block which is provided with the facilities for resuscitation. We have a blood collection room behind the information counter-1, where sample collection for various tests is done from 7.30 am to 5 pm . Lab requests, report entries and result collection are fully computerized. Patients/relatives can see/take a print out of their laboratory reports from user friendly 'Patient Kiosks' available in each block. Each consulting room is provided with a computer terminal with printer facility. Electronic medical record (EMR) is implemented in Cardiology OPD. When hospital number of a patient is entered, doctors can view the EMR, additional entries are made after examining the patient. A prescription is generated and patient is sent home with a print out of the same. OPD waiting areas one each in Block I and III, are provided with seating facility, television, patient Kiosk, drinking water, toilet facility and a refreshment counter.

REGISTRATION

A reference letter from a registered doctor in modern medicine is essential for the initial registration of patients under various disciplines. It is recommended to fix prior appointment for new registration. The registration date can be reserved either by telephone, post, e-mail or directly from the information counters. The appointment date for new registration is intimated to the person through given mobile phone numbers.

Registration begins at 7 am and lasts till 12 noon. The medical social worker (MSW) is responsible for registering and categorizing the patients according to socioeconomic status. On arrival of a new patient on the given date with necessary documents to the information counter, he/she is given an assessment data sheet by the medical social worker. Patient has to fill it and give it to the MSW. A file is generated by the MSW who gives a permanent hospital number to each new patient. Biodata of the patient is entered in the computer by the medical records department (MRD). After registration, the patient will be directed to the concerned department by the MSW, where they report to the sister on duty. Emergency registration is possible for reasonable cases with the permission of concerned consultant.

CONSULTATIONS

Newly Registered Patients

Senior resident doctors initially examine all patients, and document the findings. Afterwards the consultants see the patients, and advise investigations. To get investigation [X-ray, electrocardiography (ECG), Echo, blood tests, etc.] done,

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Table 4.1: Various special review clinics functioning in the OPD

Cardiology	Hypertension and CAD	Monday	8 am–4 pm
	EMF and Cardiomyopathy	Monday	8 am–4 pm
	Pacemaker clinic Heart failure	Tuesday Wednesday	8 am–4 pm 8 am–4 pm
	RHD clinic	Wednesday	8 am–4 pm
	Pediatric clinic	Friday	8 am–4 pm
CVTS	Prothrombin time checking Admission for surgery	Saturday Friday	
	Chitra Valve clinic	Friday	
Neurology	Movement disorder	Monday	10 am–3 pm
	Neuromuscular, multiple sclerosis	Tuesday	10 am–12 noon
	Sleep clinic (at Poojappura)	Tuesday	9 am
	Epilepsy clinic, KREP	Wednesday	10 am–1 pm
	Dementia clinic	Thursday	10 am–1 pm
	Stroke clinic	Friday	10 am–1 pm
	Autism Clinic	1st and 3rd Saturday	10 am– 1 pm
	Post op. Epilepsy clinic	Friday	2 pm–5 pm
Neurosurgery	Cerebrovascular	Monday	
	Neurooncology	Tuesday	
	Craniovertebral/spinal disorder	Wednesday	
	Base of skull tumor/endocrinology Pain clinic	Thursday Friday	2 pm–5 pm

Abbreviation: CAD: Coronary artery disease; EMF: Endomyocardial fibrosis; RHD: Rheumatic heart disease; KREP: Kerala registry for epilepsy and pregnancy; CVTS: Cardiothoracic and vascular surgery.

patients are directed to the concerned area after payment. Payment in the cash counters is streamlined with the help of token system. E-payment also is possible. Smart card payment is in the planning stage. Consultation to other disciplines, if required is done on the same day itself without further payment. For such consultation patients are sent with all documents to the concerned OPD with the assistant. Patients who require special investigations like treadmill test (TMT), Holter monitoring, electroencephalogram (EEG), magnetic resonance imaging (MRI) scan and those who require surgery will be given appointment through MRD, on written request from the concerned clinician. Finally, to make things easy for patients and hospital, they are advised to obtain an appointment for next review in review clinics of concerned specialty (Table 4.1).

PAIN CLINIC

Pain clinic started functioning in this institute on 31/03/2012. It is situated in the ground floor of SPBSC opposite to the pharmacy. The clinic functions

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on all working Fridays from 2 pm onwards. It is run by a team of doctors: Anesthetist, Physiatrist, Neurologist, Neurosurgeon, and Radiologist. The functioning of the clinic is coordinated by a nurse.

Patients with all types of pain including neck pain, back pain, pain in the extremities, muscular pain, facial pain (mainly trigeminal neuralgia) and all neuropathic pain are referred from different units of this hospital or from other hospitals.

Types of treatment available are conservative as well as interventional. Pharmacotherapy and physiotherapy for a reasonable period are the two steps of conservative therapy.

Pharmacotherapy includes medicines such as anti-inflammatory drugs (Ibuprofen, Diclofenac, Naproxen), weak opioids (Hyoscine, Bucopen), analgesics (Paracetamol, Tramadol), as well as anticonvulsants (Clonazepam, Gabapentin, Carbamazepine), and Dexamethasone, Duloxtine etc.

Physiotherapy is demonstrated in the department and the patient is instructed to continue the same at home. When conservative management fails interventional pain management is given with the consent of the patient which includes minimally invasive procedures such as injection of selected drugs in anatomically selected areas or ablation of the targeted nerve which includes transforaminal epidural steroid injection, sacroiliac joint intervention, radiofrequency ablation (RFA) in trigeminal neuralgia, temporomandibular junction intervention, lumbar plexus ablation, epidural steroid injection, vertebroplasty and kyphoplasty, RFA of stellate ganglion, laser intervention and ozone therapy. The procedures are done in catheterization laboratory. So far 1750 patients were treated in the clinic.

Review Patients

After remitting the review charge, the appointment card is given to MRD for retrieving the records, and patient is directed to the concerned OPD. Medical records retrieved in the MRD reaches the concerned OPD. It is the responsibility of the nurse to explain the prescription of the patient and direct them to MRD for getting next appointment. Staff nurse in OPD ensures that each patient record goes to the respective file and the files are returned to the MRD on the same day.

ADMISSION

Admissions are either elective or emergency based on the need and is fully computerized. Computer entry is done by the concerned doctors. After taking consent from patients and relatives, and making payment as per financial category of patient, an inpatient (IP) file is issued to concerned department from the MRD. Patients for elective admission are contacted through telephone or by letter, according to priority. Prior detailed explanation about the cost of admission, investigations, period of stay, etc. are given to the

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patient. Any patient requiring urgent admission are admitted immediately. If an acutely ill patient cannot be accommodated due to non-availability of bed, he will be sent to some other hospital immediately. For emergency admission, requiring life saving treatment, the referring doctor has to contact the concerned doctor in this institute before transferring the patient here.

On arrival of a client for elective admission doctor thoroughly examines and confirms that he/she is fit for undergoing the specified test/intervention/surgery. Those patients who are not fit for undergoing the planned procedure will be given another date for admission and necessary treatment also is advised.

After confirming the physical fitness of the patient, in case of surgical admission, the OPD doctor gives a blood donor slip to the relative. With the donor slip, the relative of the patient goes to the blood bank for making the necessary arrangements. The staff nurse takes consent in the admission record from the next kin of the patient. Sick and seriously ill patients are sent to the ward without waiting for payment and other admission formalities, which will be done later.

The patients awaiting admission for management require constant observation, attention and reassurance. After admission to the unit relatives or bystanders are not allowed to stay in the hospital with the patient. However, they have to stay outside the hospital, within 5–8 km and produce the local address before the patient gets admitted. Medical record assistant (MRA) collects the local address and issues visiting pass. The staff nurse in OPD informs the admission to the concerned ward. One Staff nurse accompanies the sick patients and hands over the patient to the assigned staff nurse in the unit along with the observations made, medications given and investigations done.

DUTIES AND RESPONSIBILITIES OF STAFF NURSE IN OPD

The OPD supervisor is in charge of the OPD. One ward sister, fifteen staff nurses, five unit helpers and seven cleaning attendants are working under her supervision. She has responsibility to oversee the care and comfort of patients waiting in OPD, cleanliness of the unit, maintenance of equipment and supply of materials and manpower deployment. The staff nurses' duty timings are arranged in seven different 8 hour shifts, i.e. 7 am–3 pm, 7.30 to 3.30 pm, 8 am–4 pm, 9 am–5 pm, 10 am–6 pm, 11 am to 7 pm, and 12 noon to 8 pm. In addition there will be eleven hours night duty (8 pm to 7 am) and five hours evening duty (3 pm–8 pm) on rotation. Each speciality unit is assigned to a staff nurse. Before starting the work, she ensures that the consulting rooms are ready with all equipment and necessary records. All the equipment in emergency rooms like defibrillator, ophthalmoscope, torch, laryngoscope, endotracheal tubes, and BP apparatus are checked for functioning. Oxygen points and suction apparatus are also checked. She checks availability of life

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saving drugs and ensures that adequate stock of consumables like syringes, needles, Povidon-iodine solution, cotton, gauze, suture materials, etc. are available.

It is the staff nurses' responsibility to see that all patients are properly directed and comfortably seated. While waiting in the OPD, she ensures that the patients have taken food and fluids and also medicines if any. Their toilet needs are attended. Breast feeding mothers are directed to the room meant for the same purpose.

We have introduced EMR for newly registered patients. As soon as the patients come after the registration process, height and weight of all ambulant patients are recorded. Patients are called for clinical examination in serial order.

One of the most important roles of the nurse in OPD, is carrying out the admission formalities. Patients who complete the formalities are directed to the concerned wards/intensive care unit (ICU) depending upon the availability of bed. Thus it becomes imperative from the side of the nurse to be aware of vacant bed positions in each unit. In the absence of vacant beds, patients are asked to check its availability on subsequent days.

Patients, who do not require further treatment or follow-up in the institute, are advised to meet the referring doctor/specialist. Before each patient leaves the hospital, see that the registration card of each patient is given. The nurse should also ensure that the patient has clearly understood the doctor's instructions; and cleared all doubts regarding prescription, review, admission, and appointment date.

MANAGEMENT OF EMERGENCY CASES IN OPD

Standard Operating Protocols

Patients with acute illness may come to OPD at any time. OPD nurses must be very competent in detecting and managing cardiac arrest, cyanotic spells, angina, pulmonary edema, acute myocardial infarction, acute stroke, and status epilepticus.

Management of Acute Myocardial Infarction

Receive the patient in an emergency trolley and provide comfortable position. Administer oxygen at a rate of 6 L/min via poly mask and inform the duty doctor. Check base line vital signs. Administer tablet sorbitrate sub lingually. Introduce intravenous (IV) line, collect blood samples for CPK (creatine phosphokinase), CPK-MB, hemogram, serum electrolytes (SE) and blood urea nitrogen (BUN). Take 12-lead electrocardiogram (ECG) and shift the patient to comprehensive acute coronary care unit (CACCU) immediately after informing the unit.

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Management of Acute Ischemic Stroke

Receive the patient in an emergency trolley, check base line vital signs and inform the stroke ICU and duty doctor. Check random blood sugar (RBS) using glucometer (GRBS). Start IV line with No. 18G cannula, in the right antecubital vein, and collect blood samples for PT, hemogram, serum electrolytes (SE) and renal function tests. Send the patient for CT angiogram immediately and to stroke ICU after CT.

Management of Status Epilepticus

Receive the patient in an emergency trolley. Clear the airway, i.e. do suction if needed. Keep patient in lateral position and administer oxygen 6L/min via poly mask. Inform the duty doctor. Start IV line and collect blood samples for serum electrolytes, and serum phenytoin level if on phenytoin. Check GRBS. Administer antiepileptic drugs as advised by the doctor (usually Lorazepam). Shift the patient to neuromedical intensive care unit (NMICU) immediately after informing the unit.

Management of Subarachnoid Hemorrhage (SAH)

Receive the patient in a trolley. Inform the duty doctor. Assess the Glasgow coma scale (GCS) score and check the baseline vital signs. Collect blood samples for hemogram, SE, GRBS and for grouping and cross matching. Shift the patient to neurosurgical intensive care unit (NSICU) immediately after informing the unit.

Appendix 1

VERY IMPORTANT PERSON'S VISIT (VIP'S VISIT) AND TACKLING OF ASSOCIATED EMERGENCIES

A very important person or VIP is a person who is accorded special privileges due to his or her status or importance. VIP protocol is to provide special attention to the VIPs who may reach the Institute with or without prior information. Protocols are to implement tasks, which has already been planned. VIP protocol is to provide acute or long term care to important persons if need arises while they are visiting Thiruvananthapuram district.

Being an institute of national importance under Department of Science and Technology (DST), we should be ready to meet any emergency situations (VIP protocol) whenever a national VIP like the President of India, Prime Minister of India, Vice President of India, and/or Air Chief Marshal visits Thiruvananthapuram District. In order to facilitate this, a medical team is kept alert, round the clock on receiving information. The team includes doctors from all relevant departments and nurses from OPD, as well as CCU in each shift to meet any emergency.

In OPD, the following things are kept ready.

- A fully equipped ambulance to meet emergency transportation needs (oxygen cylinder, cardiac monitor, defibrillator, all emergency drugs, IV fluids, etc).
- Anesthesia kit for resuscitation, intubation and artificial ventilation.
- Accessories for oxygen inhalation.

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- Dressing and suture trays are kept ready anticipating need for wound dressing or suturing.
- Tray with all emergency drugs ***(Table 4.2)***
- Povidone-iodine solution and ointment
- Alcohol-based handrub
- IV cannula and three way stop cocks
- Plaster, scissors and band-aid
- Vacutainers, syringes, needles, etc.

The team is given adequate instructions regarding protocol to be followed while a VIP arrives. Unless it is not so critical, no active management is done in the OPD. But if the emergency is so acute that shifting time also becomes very crucial, lifesaving measures are carried out in OPD and the patient is shifted with support of artificial respiration to CCU for definitive treatment.

Table 4.2: Drugs in emergency tray

S.No.	Name of drugs	No. of ampoules/ vials	S.No	Name of drugs	No. of ampoules/ vials
1.	Inj: Adrenalin	5	13.	Inj: Calcium gluconate	5
2.	Inj: Adenosine	5	14.	Inj: Heparin	1
3.	Inj: Amiodarone	5	15.	Inj: Lasix	5
4.	Inj: Aminophyllin	3	16.	Inj: Eptoin	10
5.	Inj: Atropine	5	17.	Inj: Diazepam	3
6.	Inj: Avil	3	18.	Inj: Lorazepam	3
7.	Inj: Deriphyllin	5	19.	Inj: Xylocard 2% (50 ml)	2
8.	Inj: Dexona	5	20.	Inj: Midazolam	3
9.	Inj: Efcorlin	5	21.	25% Dextrose	5
10.	Inj: Pantoprazole	5	22.	Water for injection	10
11.	Inj: Ranitidine	5	23.	Tab: Sorbitrate	10
12.	Inj: Sodabicarb	5			

Appendix 2

PATIENT BROUGHT DEAD TO THE OPD

When a patient is brought to the OPD and has no signs of life, the doctor is informed immediately, who examines the patient. If the doctor confirms death, it is then informed to the nearest police station, i.e. Medical College Police Station. If the police recommend postmortem examination, the body will be directed to the medical college mortuary after informing the nearest police station of the patient's domicile. A death certificate is not issued in this situation.

If the patient has signs of life and dies immediately after arrival in OPD, admission procedure is carried out and death certificate is issued if the doctor is convinced of the natural cause of death. If the doctor suspects any medicolegal problem, the police have to be informed as discussed earlier.

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CONCLUSION

A well-functioning computerized system for effective coordination among all clinical departments and other supportive services, with appropriate communication to the patients and their relatives helps to improve morale of both the staff and the institute. The care and services provided to the public go a long way in building up confidence in the people as well as the image of the Institute. The demand is much more than what we can provide. Therefore many a times, we are forced to politely explain to the patient/relatives the reasons for delays and discomforts. Nurse-patient relationships are important in the smooth and effective functioning of any Institute or hospital.

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The Sree Chitra's Nursing Manual, a unique manual written and updated by 120 experts, mostly critical care nurses of a world's renowned superspecialty institute, provides practical guidelines related to all aspects of cardiac and neuroscience nursing. This would be highly beneficial for cardiac nurses, neuro nurses and specialty nursing students globally.



PP Saramma MN PhD has thirty-one years of teaching experience in specialty nursing education. Her professional life in the Sree Chitra Tirunal Institute for Medical Sciences and Technology has a span of 37 years in various capacities. She has won the 'President's Gold Medal' for securing first rank in Master of Nursing from University of Delhi (1985) and the 'Best Nurse Educator Award' from Trained Nurses Association of India, Kerala State Branch. She has prepared practical manuals for specialty nursing education, published self instructional module for pregnant women with epilepsy 'You and your baby' in English and Malayalam.



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