

**Internship
at
DM Healthcare – Aster Medcity
(KOCHI)**

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CHAPTER 1

INTRODUCTION

Aster Medcity provides comprehensive healthcare of the highest quality that revolves around its 9 Centre of Excellence. An integrated healthcare township that has exceptional infrastructure. Aster Medcity is set to surpass all current notions of healthcare .Conceptualized to give you the best-in-class environment. Aster Medcity offers primary, secondary, tertiary, and quaternary healthcare in a setting that is conducive for good health.

- Developed across a 1 km waterfront on 40 acres at Cheranalloor, Kochi.
- A multi-speciality hospital flanked by 9 Centre of Excellence.
- 3.2 million sq. ft. built up area in phase 1 and 2.
- 575 beds in phase 1,500 beds in phase 2.
- Green building concept designed for LEED Gold Certification.
- 500 seat medical convention centre.
- The township has the capacity to accommodate around 10,000 people.
- Has a helipad and boat jetty enabling quick air and marine connectivity.

1.1. VISION: “A caring mission with a global vision”.

1.2. MISSION:-

- Become the preferred provider of high quality comprehensive healthcare to the mankind.
- Be an employer of choice to the job seeker.
- Pursue clinical and service excellence and set benchmarks in patient care, research education and social responsibilities through a compassionate and motivated team.

1.3. VALUES:-

- Integrity
- Passion
- Respect
- Excellence
- Unity
- Compassion

1.4. The Aster 9 Centre of Excellence (Services Provided)

1. Aster Cardiac Sciences
2. Aster Orthopaedics
3. Aster Neurosciences
4. Aster Oncology
5. Aster Gastroenterology and Hepatology
6. Aster Nephrology and Urology
7. Aster Women's Health
8. Aster Child Health
9. Aster Plastic Surgery and Aesthetics

1.4.1. ASTER CARDIAC SCIENCES:

As one of the flagship institutes of the group, the Aster cardiac sciences will bring together an exceptional team of Cardiologists and Cardiac surgeons to work collaboratively in order to provide comprehensive cardiac care. Equipped with cutting-edge technology to diagnose and treat cardiovascular diseases, the institute will encompass cardiac catheterization laboratories with lowest radiation, Biplane systems, Hybrid Cath lab, Echo Gating, Intravascular and Intracardiac ultrasound, fractional flow reserve measurements and 3D mapping systems, high end cardiac imaging including Single Photon Emission Computed Tomography (SPECT) and Positron Emission Tomography (PET CT)

The Cardiac sub specialties will include: Interventional Cardiology, Cardiac Electrophysiology, Advanced Cardiac Imaging, Heart Failure/ Heart Transplantation, Paediatric Cardiology, Cardiac surgery Procedures like Coronary Artery Bypass Graft-CABG (off and on pump), Valve replacement and repair, and newer procedures like Percutaneous Valve Replacement, Renal Denervation Therapy and Robotic Cardiac Surgery. Paediatric Cardiac surgery is also available for patients with Congenital heart diseases such as Transposition of the great Artery, Ventricular septal defect, Atrial septal defect, and valve repairs.

1.4.2. ASTER ORTHOPAEDICS:

Aster Orthopaedics is somehow different because of its various sub specializations led by experts. The nine subspecialties which it includes-

- Joint Replacement (Hip, Knee, Ankle, Shoulder and Elbow)
- Spine Surgery
- Sports Medicine
- Hand Surgery
- Paediatric Orthopaedics and Tumour Surgery

The CoE will include: Diagnostic, surgical and rehabilitative services for bone, joint and connective tissue disorders, bone banking facilities and integrated operation suites, further aided by dedicated digital X-ray units in Orthopaedic OPD itself. It is supported by 256-slice iCT, 3 Tesla MRI, PET scan and SPECT scan. They are supported by a state-of –the –art physiotherapy division manned by internationally qualified Physiatrists and Physiotherapist. The presence of Rheumatology consultants will complete the scope of services provided.

1.4.3. ASTER NEUROSCIENCES:

Equipped with Internationally acclaimed physicians and surgeons, the Aster Institute for Neurology and Neurosurgery shall facilitate the treatment of disorders of the brain and the nervous system. The institute will offer a full range of diagnostic and therapeutic modalities of Neurology and Neurosurgery. The institute will have additional dedicated programs for Neuropsychology, Neuro-rehabilitation and Interventional Neuro-radiology.

The CoE will include: - Expert teams for Dementia, Epilepsy, multiple Sclerosis and Stroke, cutting-edge treatments for movement and Behavioural disorders including deep brain stimulation, advanced Neurologic and Neurosurgical techniques for brain tumours and Neurovascular problems.

1.4.4. ASTER ONCOLOGY:

Aster oncology provides full range of preventive, curative and palliative care with a multidisciplinary team of medical, surgical and radiation Oncologists. Aster Oncology will collaborate closely with the Centre of Excellence in cancer treatment, using evidence-based pathways for providing exceptional care.

The CoE will include:-Advanced True Beam HD Liner Accelerator the **first one in Kerala**. It has cyberknife precision with high treatment dose and unflattened beam. Aster Oncology also has a Positron Emission Tomography-Computed Tomography (PET CT) for molecular imaging, Digital Mammography for complete breast screening and equipments for quaternary treatments such as Bone Marrow/Stem Cell transplantation, Stereotactic Radio surgery and Radiotherapy (SRS/SRT).The COE will include a dedicated centre for Chemotherapy, and an integrated Brachytherapy unit. Aster Oncology has a multimodal approach to cancer treatment that will be assisted by joint teams and tumor boards looking at optional solutions.

1.4.5. ASTER GASTROENTEROLOGY AND HEPATOLOGY:

The Aster Institute for Gastroenterology and Hepatology will have a team of Gastroenterologists, Hepatologists and Gastrointestinal surgeons, who focus on providing comprehensive, high quality multidisciplinary care of digestive, pancreatic and liver disease.

The CoE will include:- modern diagnostic and treatment tools including Endoscopic ultrasound,Minilaparoscopy,Double Lumen Enteroscopy and Therapeutic Endoscopy, Laparoscopic surgical and interventional treatments, transplantation programmes for liver ,pancreas and small bowel.

1.4.6 ASTER NEPHROLOGY AND UROLOGY

The Aster Institute for Nephrology and Urology offers adult and pediatric treatment facilities for end stages renal diseases like chronic Glomerulonephritis, diabetic Nephropathy and hypertension related renal disease through a multidisciplinary team of Nephrologists, Urologists and interventional Radiologists

The CoE will include:- advanced dialysis programmes, Renal Replacement Therapy, Haemodialysis, Renal Transplantations, Robotic and Laparoscopic as well as the latest laser-based treatment facilities.

1.4.6. ASTER WOMEN'S HEALTH

Equipped with the highest level of expertise in a wide range of women's clinical care, the Aster Institute for Women will offer world-class treatment for all aspects of women's health care under one roof through a dedicated team of physicians, nurses and other health professionals who understand unique health needs of women.

The Patient care programs will include: Prenatal Diagnosis, Obstetrics, Reproductive Health, General Gynaecology, Gynaecology and Breast Cancer Programme, and Urogynaecology and Continence Programme.

1.4.7. ASTER CHILD HEALTH

Dedicated exclusively for the young ones, the Aster Institute for Children will provide comprehensive Paediatric healthcare with state-of-the-art facilities - delivered through expert world class professionals encompassing a wide range medical and surgical sub specialties.

The sub specialties will include: General Paediatrics, Adolescent Medicine, Paediatric Allergy and Immunology, Paediatric Anaesthesia, Paediatric Cardiology and Cardiothoracic Surgery, Paediatric Critical Care, Paediatric Dentistry, Paediatric Emergency Medicine, Paediatric Endocrinology, Paediatric Gastroenterology, Hepatology and Nutrition, Paediatric Haematology and Oncology, Paediatric Infectious Diseases, Paediatric Neurology and Development, Newborn Medicine and Neonatal Intensive Care, Paediatric Ophthalmology, Paediatric Orthopaedics, Perinatal and Foetal Medicine, Paediatric and Adolescent Psychiatry, Paediatric Pulmonology, Paediatric Surgery and Solid Organ Transplantation.

1.4.8. ASTER PLASTIC SURGERY AND AESTHETICS

The Aster Institute for Plastic and Aesthetics will have a collaborative team of plastic and reconstructive surgeons; Cosmetologists specialized in laser and advanced therapies, and

Orthodontists. The goal of the institute is to emerge as a leader in the development and application of innovative treatments in plastic surgery and cosmetology.

The institute will include: plastic surgery, cosmetic surgery, Maxillofacial Surgery, Related dentistry and Dermatology Programmes at par with international standards, and an experienced Bariatric Surgery team to provide weight loss management and follow up care.

1.5. Aster Medcity stand top among other Healthcare providers (Private), in terms of medical Equipments -

1. Robotic Surgery (**First in Kerala**)
2. Advanced Radiology with 3.0 T MRI, 256 slice CT (**first in private hospital in Kerala**)
3. Digital ICUs
 - a. No paper work in ICUs (Clinical charts in digital and automatic, may be integrated to HIS and **ICCA** for medications, to medical equipments such as ventilators patient monitors, syringe, infusion pumps)
 - b. Ceiling mounted Pendants to carry equipments, electricity, Medical Gases to provide ease of care.
4. Hybrid OR (Biplane C Arms with Operation theatre facility; OT lights, Anaesthesia machine, Pendants, Laminar air Flow etc (cathlab can be switched to operation theatre immediately, with C arm parking at a corner)
5. State of the art Operation theatre
 - a. Operation Theatre integration(Asia Pacific's first Truly digital integration system, Karlstorz OR1 Fusion) with latest advanced facility) Integrates PACS, HIS, video recording into and controllable through a single monitor available to surgeon or his assistance. Can transmit the video & audio (two ways) from OT and to the convention centre.

- b.** Truly Modular OT (Factory fabricated Wall panels with surgeon control panels, storage box, Automatic sliding doors etc.)
 - c.** Auto pilot facility Anaesthesia Machine.
 - d.** Isocentric C Arm
- 6. Automatic Drug Dispensing Pharmacy (Robotic)
- 7. Pneumatic chute (to avoid time lapse in medicine, sample dispensing)
- 8. Oncology Department with True beam LINAC and HDR Brachytherapy.
- 9. Nuclear Medicine department with PET CT, Gamma Camera
- 10. Digital Telemetry (Patient vitals transferring through Wi-Fi access points) makes loss of patient vitals ideally zero. (Patient vitals will be always monitored at his/her base nursing station when the patient (*carrying a vitals monitoring transponder) is moving around the hospital premises).

1.6. Departments Visited:

1.6.1 Housekeeping:

The housekeeping department using colour coding mops in order to avoid intermixing of infections.

Colour coding of mops:

- Yellow: High risk area
- White: OT
- Blue : General area
- Red: Bathroom
- Green : Patient room or wards

Table No: 1.1 shows the Biomedical waste management.

Elements	Area	High Risk	Medium	Low Risk
BMW	From patient area to Janitors room	01 hrs	03 hrs	04 hrs
BMW	From Janitor room to BMW Storage centre	02 hrs	04 hrs	06 hrs
BMW	From BMW Storage centre to BMW dispose area by Image	Once in a day		

1.6.2. MRD (Medical Record Department):-

Aster Medcity is a paperless hospital. Provision for the MRD users to scan all the patient files and upload the scan files to the patient registration number and assign the code as per the diagnosis according to ICD 10.

Learning:

- Cut off time for the diagnosis entry.
- Option will be available to upload and view patient scanned files.
- Inter facility document viewing option.
- Provision to generate age wise, nationality wise, gender wise disease statistics report.

1.6.3. CSSD:-

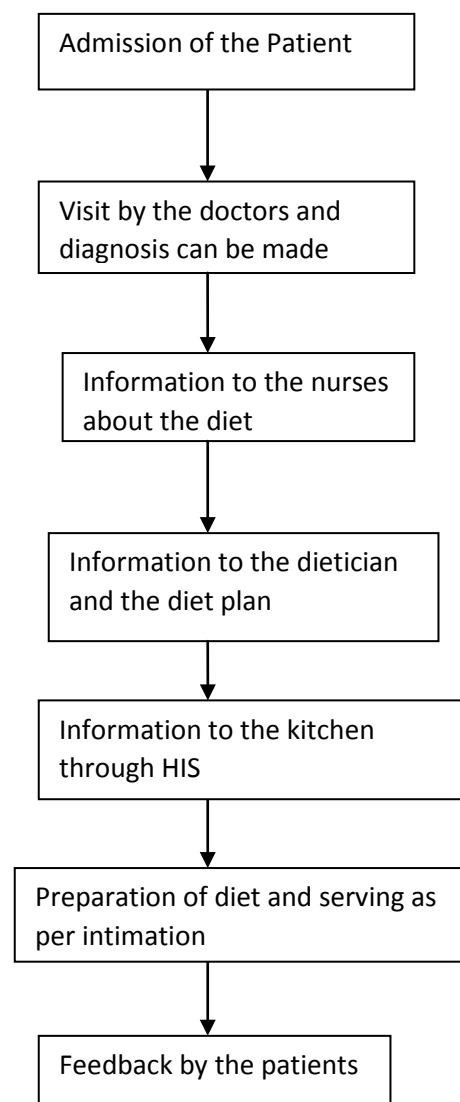
Sterile supplies continue to be a major support area in the hospital. Central Sterile Supply Department (CSSD) is located in the lower ground floor. Major responsibilities of CSSD

include cleaning, processing and sterilization of surgical instruments, treatment trays and sets, dressings, rubber goods (catheter, tubing) etc. It is also responsible for economic and effective utilization of equipment resources of the hospital under controlled supervision.

1.6.4 CATH LAB:-

In Aster Medcity, 3 Cath labs are there, out of three one is Hybrid cath lab. Since it is in commissioning stage we are facing many problems with equipment installation. The ideal humidity for cath lab equipments to be 55-60. But it is not coming down to that level. It fluctuates between 75-80. The main reasons behind it that AHU is not properly designed.

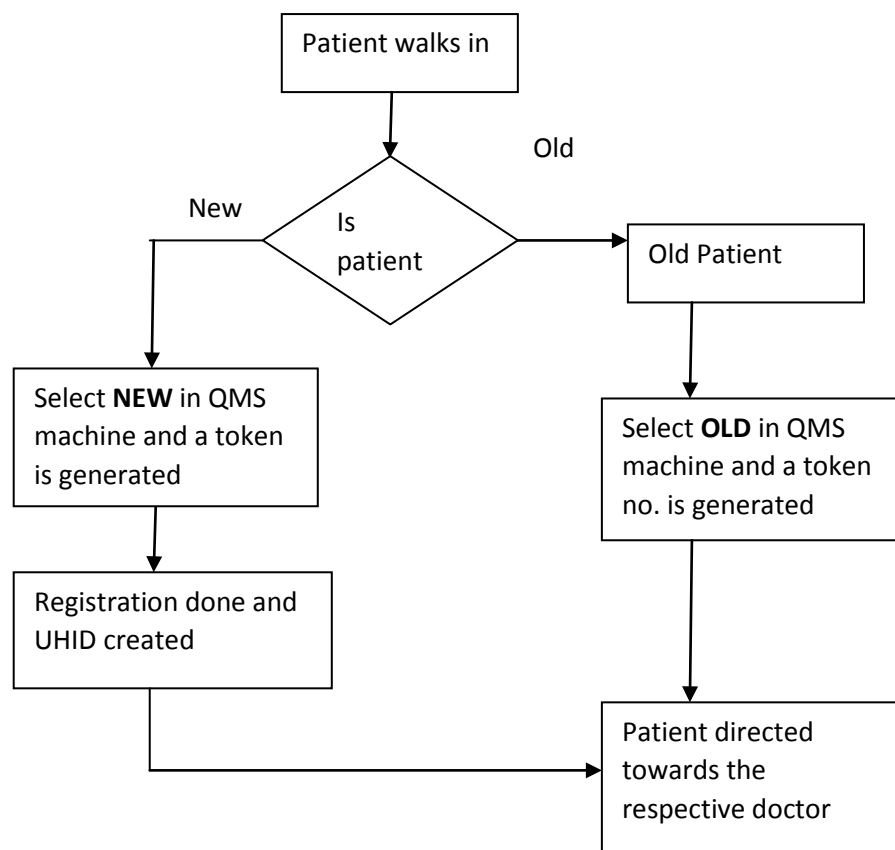
1.6.5 Food and Beverages Department:



Learning: The kitchen is not yet ready from the project and installation point of view (Crown work and kitchen equipments need to be installed, Gas connection need to be connected).So the prepared food is being provided from outside in Aster .Sometimes there is delay in serving and also food quality is being compromised.

Suggestions: There should be in-house kitchen facility so that patient food services cannot get delayed and quality is also not being compromised.

1.6.6 OPD WORKFLOW:-



Learning:-

- QMS is helpful in managing queue when patient flow are high.
- Demographic details of old patient has already been captured in HIS, so if patient comes again, no need to fill the details again and patient can be directly send to the concerned Doctor without any delay.
- Prior appointment can save the patient's time.

Suggestions:-

- Registration here is solely dependent on HIS, so while entering the details if power goes, the user has to enter the details again. So there should be some provision for that.