

**KING FAISAL SPECIALIST HOSPITAL AND RESEARCH CENTRE
NURSING AFFAIRS**

**Scope of Service
HEMODIALYSIS**

Unit Description:	Hemodialysis
Monthly Patient Volume:	1,100 – 1,500
Nurse Patient Ratio:	1:1 Acute patients (needing more frequent monitoring) 1:1 Pediatric patients (unstable without sitter: 2:1) 1:3 Chronic patients (depending on patient stability)

Scope of Service

KFSH & RC Hemodialysis (HD) units are hospital-based units providing acute hemodialysis, chronic hemodialysis and hemofiltration to adult and pediatric patients. The patients are categorized as having acute renal failure or end stage renal disease and many have multiple medical diagnoses. (Hemoadsorption/Direct Adsorption of Lipoproteins (DALI) procedure is also provided for selected patients with history of homozygous congenital hypercholesteremia) *. The majority of the patients are in the 12 to 75 year range. Their treatment regimen require close monitoring and prompt nursing intervention when necessary, to ensure a safe and comfortable treatment.

Frequent Procedures/Services/Functions

Patient care providers include nephrologists, head nurse, registered nurse, nurse clinician, nursing coordinator, ward clerk, patient care assistant, translator, social worker, and dietitian. The hemodialysis nursing staffs have specific training in hemodialysis, hemodiafiltration and Hemoadsorption that encompasses anatomy, physiology, pathophysiology, hemodialysis and Hemoadsorption theory, patient care, hemodialysis and Hemoadsorption machines technology.

The unit utilizes the following nursing diagnostic and therapeutic modalities to facilitate patient care:

- Patient assessment pre during and post-hemodialysis
- Hemodialysis equipment assessment pre during and post hemodialysis
- Patient assessment pre, during and post Hemoadsorption procedure
- Hemoadsorption equipment assessment pre, during and post treatment
- Vascular access care and venipuncture
- Hemodialysis technology theory including:
 - Fluid and electrolyte balance in general and pertaining to hemodialysis therapy
 - Hemodynamic monitoring pertaining to dialysis machine functions
- Hemoadsorption/DALI technology theory including:
 - ACD-A infusion and observation for signs and symptoms of hypocalcemia
 - Hemodynamic monitoring pertaining to Hemoadsorption machine functions
- Non-invasive blood pressure monitoring; invasive BP monitoring in the ICU in collaboration with the ICU nurse.
- Medication administration
- Pain management
- Oxygen therapy and pulse oximetry

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- Anticoagulation therapy
- Safety management
- Psychosocial care
- Patient and family education
- Infection control
- Multidisciplinary patient conferences
- Dietary and nutritional education

Hours of Operation

The unit provides acute and chronic hemodialysis twelve hours per day, six days per week. An on-call person is available to cover acute cases when the units are closed.

GOALS OF DEPARTMENT

- To provide high quality hemodialysis care for patients with acute and/or chronic end stage renal disease on a 24-hours, seven days per week basis.
- To provide safe hemodialysis therapy which is free of preventable complications to each patient?
- To provide an isolation area for the care of hepatitis positive patients, and thus protect other patients and staff from possible contagion.
- To provide qualified staff who deliver high standard of care to patients with acute and/or chronic end stage renal disease.
- To provide the incentive for maximum rehabilitation for the patients with end stage renal disease
- To provide support for patients with end stage renal disease, who are being prepared for renal transplantation?
- To provide educational materials regarding renal replacement therapy for patients with end stage renal disease.
- To provide Low Density Lipid (LDL) Apheresis therapy for patients with homozygous congenital hypercholesteremia that diet and other medical management do not controlled.

CRITERIA FOR ADMISSION TO SERVICE

Criteria for treatment in the Acute Hemodialysis Unit (AHDU):

- a) Patients identified by the nephrologists with inadequate renal function to preserve life and who are stable are transferred off their home unit for treatment in the AHDU.
- b) Patients who are unstable and do require continuous vital signs monitoring, continuous narcotic drips, epidural pain control, IV anti-arrhythmic medication requiring cardiac monitoring or titration, mechanical ventilation, suicide precautions, arterial line, strict room isolation, negative pressure isolation to prevent cross-infection or following radiation/chemotherapy will have hemodialysis at the bedside.

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- c) Patients who are admitted through EMS with hemodialysis related emergencies as in (a) and are stable are treated in the AHDU during normal hours of operation, otherwise at the bedside as in (b).
- d) Patients with history of homozygous congenital hypercholesteremia who are referred by the Nephrologists for maintenance Hemoadsorption therapy.

Criteria for treatment in the Chronic Hemodialysis Unit (CHDU):

- a) Patients who meet the eligibility requirements for King Faisal Specialist Hospital and are stable for outpatient care.
- b) Patients who are for renal transplantation, with priority given to those patients who have living donors.

STAFFING PLAN

Number and Mix of Staff

A great deal of collaboration; between the hemodialysis nurses/ Physician and all the critical care area and the inpatient units where the hemodialysis patients are admitted, required to facilitate the hemodialysis treatment in a timely and cost effective manner for both chronic and acute hemodialysis patients.

Shift/ patient assignments are made by the head nurses/ charge nurse and are based on patient acuity and the unit needs. Charge nurse usually does not take patient assignment.

The hemodialysis staff team include the following:

- Medical Director
- Nephrologists
- Assistant Nephrologists
- Head Nurse
- Nurse Clinician
- Nursing Coordinator
- Staff Nurse I
- Staff Nurse II
- Staff Nurse III
- Ward Clerk
- Patient Care Assistant
- Dietitian
- Social Worker
- Clinical Engineer

Methods of adjusting to staff variance.

Due to the specialized nature of hemodialysis procedure and the need for ongoing practice in this nursing care area to maintain competent skills; Hemodialysis units can not use the Float-in Float-

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out pool. When additional staff is required the Head Nurse/ charge nurse review the patient acuity, and the nurse/patient assignment is adjusted 'if Possible' otherwise staff is called from the unit "Overtime availability list". If no staff available; the nephrologists are contacted to prioritize the patient hemodialysis treatment needs.

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Qualification of Staff

Qualifications/Licenses/Certifications Required of Staff

Medical Director	American Board Certified in Nephrology (or equivalent) with at least four years experience at King Faisal Specialist Hospital
Staff Nephrologists	American Board Certified in Nephrology (or equivalent) with one year experience or after certification.
Assistant Nephrologist	American Board Certificate in Medicine (or equivalent; MRCP is acceptable) with one to two years experience in Nephrology.
Head Nurse	Graduate of Professional School of Nursing Six years acute care hospital nursing with Two years in a supervisory capacity. Current license to practice
Nurse Clinician	Graduate of Professional School of Nursing Three years acute care in Western Hospital Two years hemodialysis nursing experience
Staff Nurse I	Graduate of Professional School of Nursing Three years acute care in Western Hospital Current license to practice
Staff Nurse II	Graduate of Professional School of Nursing Three years acute care hospital nursing Two years hemodialysis nursing Current license to practice Bilingual - Arabic/English preferred
Staff Nurse III	Graduate of Professional School of Nursing Two years post graduate hospital experience Current license to practice
Ward Clerk	High School Graduate Fluent bilingual - spoken/written - Arabic/English preferred Computer skilled preferred
Patient Care Assistant	High School Graduate Bilingual - Arabic/English preferred
Social Worker/ Dietitian/ Biomedical Engineer	Qualifications as required by the hospital standard

How are in-services/continuing education programs provided to maintain staff competency?

Continuing education is offered through NER (Nursing Education and Research) and through Staff Development at the unit level coordination by the clinical instructor and the nurse clinical coordinator. A monthly education calendar is published and distributed to the units - staffs are encouraged to attend any of the in-service/conference, especially those related to nephrology.

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Unit based educational activities include lectures by other members of the health care team or poster/bulletin board presentations.

Annually the staff members do self-assessment and review of skills. To improve staff performance peers review each other identified deficiencies.

Mandatory check competencies:

- Initial competency (orientation checklist)
- Organization competency BCLS/ACLS
- Any new implemented process procedure
- Adult physical Assessment
- Pediatric physical Assessment (SNI/SNII)
- Computer usage

Annual competencies:

- Hemodialysis Annual skill review
- Point of Care Testing
- Age specific
- Performance Improvement
- Waste Management/Hazardous
- Fire and Electrical Safety
- Infection control
- Wound care
- Blood transfusion and Adverse Reaction

METHOD OF COMMUNICATION WITH OTHER DEPARTMENTS

Internal and External Methods of Communication

Inter-departmental communication is conducted through telephone, e-mail, fax, memo, and in person. Multi-disciplinary meetings are set to discuss issues that require information from several departments and/or which require in-depth systems analysis/information sharing to formulate plans.

Describe Collaborative Relationship with Other Departments

The Hemodialysis Unit strives to maintain open communication with all departments.

The Hemodialysis Units hold multidisciplinary health-care team meetings, at least quarterly, to address issues related to the unit operations. The team consists of the Medical director, Nephrologists, Head nurse, staff nurses, social worker, dietitian, and clinical engineer. Standing business includes review of all significant incidents, hospitalization rates, and adequacy of hemodialysis statistics, patient complaints, equipment problems, and water bacteriology report.

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The HDU staff collaborates with other departments on the committees and councils that are on-going within the hospital e.g., Renal Transplant teams, Nursing Practice, Infection Control and Pharmacy Committee, to name a few in which our staff members participate.

DISCHARGE CRITERIA

Hemodialysis staffs work with other hospital health discipline dietician, social service, patient relation, transportation, pharmacy, health education, and the physician to implement discharge planning when required to include:

- Hemodialysis discharge summary
- Supply
- Transportation
- Teaching needs
- Medication
- Follow up appointment
- Communication with the patient home hemodialysis unit

PLAN TO IMPROVE QUALITY OF SERVICE

Multidisciplinary health-care team meetings are held bi-monthly to address issues related to the selected patients' plan of care. Each Chronic HD patient is reviewed at least once per year. The team consists of the medical director, Nephrologists, head nurse, primary care nurse, social worker, dietitian, the transplant Coordinator and the CAPD Coordinator. A details medical summary is presented and discussed at this meeting.

The environment of care is evaluated at least two times each year by a multidisciplinary team consisting of a representative from the Safety Department, Clinical Engineering, and the hemodialysis Nurse Manager.

Hemodialysis staffs are involved in the performance improvement process by gathering data, completing log sheets, and reviewing the QI bulletin board to keep informed of the progress towards meeting goals.

* Under MCO approval