JABATAN KESIHATAN NEGERI SARAWAK
HOSPITAL KANOWIT

DOCUMENT: **DEPARTMENTAL OPERATIONAL POLICIES – CHRONIC DIALYSIS SERVICES**	
DOCUMENT NO: **HKAN/P&P/13C**	EDITION: **6TH**
EFFECTIVE DATE: ***02.01.2023***	NO. OF PAGE: ***25***

DOCUMENT: **DEPARTMENTAL OPERATIONAL POLICIES - CHRONIC DIALYSIS SERVICES**

OBJECTIVE: **To create a conducive and safe environment and provide comprehensive care for patients and health care workers.**

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OPERATIONAL POLICIES

All MOH hospitals with a resident nephrologist(s) shall establish a nephrology department/unit. The department/unit shall provide general nephrology services, Renal Replacement Therapy (RRT) for acute and end stage renal failure and consultation on renal, fluid and electrolyte and acid-base disorders to other clinical services in the hospital. The nephrology unit/department shall also undertake the training of allied health staff and doctors in the field of nephrology and RRT. The department/unit shall also play an advisory role to the director and the Medical Advisory Board of the hospital on all matters relating to the nephrology service.

RRT for ESRD shall be an integrated program consisting of haemodialysis, peritoneal dialysis and renal transplantation. Patients can and shall be transferred from one RRT treatment modality to another as and when necessary. This will ensure the care of ESRD patients shall be a seamless continuum. All ESRD patients shall be given counselling by the nephrologist and trained allied staff on the various modalities for RRT to enable him/her to make an informed decision. As a general policy the nephrology service will advocate 'transplant first' for all suitable ESRD patients.

In general, RRT for end stage renal failure (ESRF) in MOH facilities shall not be provided for non-Malaysian citizens. Exceptions may be considered in cases where non-citizens with ESRF request to have a kidney transplant done from a live related donor, provided the patient subsequently returns to his country for follow-up.

ADMINISTRATION: STAFF ROLES AND FUNCTIONS

The head of department shall be responsible for the overall administration of the department's activities and the clinical units in the department i.e. general nephrology, dialysis, transplant unit and the critical care nephrology/referral unit. Each unit head (where more than one consultant/specialist exists) shall be responsible for the administration, organization, development, QA and CME activities, research etc in each of their units.

Ideally, a senior allied health staff in the capacity of a supervisor shall be identified to oversee, regulate and administer the day-to-day services and activities involving the renal replacement therapy programme i.e. HD unit, PD unit, transplant unit and the predialysis clinic. The person shall possess suitable experience and skills and have completed a post basic renal nursing course. Another senior allied health staff in the capacity of a nursing matron shall be identified to oversee, regulate and administer the day-to-day service and activities involving clinical services i.e. the nephrology ward (if existing), general nephrology clinic and the national renal registry.

A nursing sister shall be responsible for the administration of the nephrology ward. It is preferred that the person had undergone a post basic renal nursing course in order to be familiar with nephrology related nursing processes and provide effective guidance to the nursing staff under her supervision.

The haemodialysis unit shall be headed by a sister or senior assistant medical officer while the PD unit shall be headed by a sister or a senior nurse as the team leader. Both the haemodialysis and PD managers will be responsible to oversee, regulate and administer the day-to-day services and activities involving their respective units.

Administration of dialysis related activities e.g. quality control, QA studies, ordering stocks, stock flow tracking and trending, budgeting etc and setting up of new dialysis unit shall be under the HD manager and PD manager.

Assistant Medical Officer and Staff Nurse

Individuals with suitable qualifications and had preferably completed a six month post basic renal nursing course. His duties are:

a) To provide haemodialysis treatment to patients with acute and end stage renal disease.
b) To perform on-call duties as per roster.
c) To recognize acute complications of haemodialysis, take remedial measures and inform doctor.

d) To counsel and educate patients on dietary control, medication compliance and basic functions of haemodialysis machine.
e) To adhere to infection control policies.
f) To comply with nephrology practice protocols and guidelines.
g) To trace laboratory investigations, compile the haemodialysis records and document the patients' progress in the patients' case notes.
h) To collect patients' data for National Renal Registry.
I) To attend CME activities.

Haemodialysis Services

All MOH hospitals shall establish a haemodialysis unit. The unit shall provide outpatient and inpatient haemodialysis treatment.

Requirements for Haemodialysis Units:

1. Location

A HD unit shall be located within the hospital or within its grounds. In the latter situation, the HD unit shall be in an area which is easily accessible to the patients who receive the treatment on a regular ambulatory basis. At the same time, the unit may dialyse patients from the wards. As such the unit shall be connected to the main hospital by covered corridors to enable safe and easy transport of patients. Other considerations in locating a HD unit shall include:

- easy access to vehicles delivering machines consumables disposables.
- availability of adequate water pressure for the HD, Reverse Osmosis (RO) and reprocessing machines.
- security for patients, staff and equipment.

2. Water System

- Adequate uninterrupted water supply is a prerequisite to effective haemodialysis treatment.
- Every haemodialysis treatment shall use water treated by an RO system to ensure purity of the water; ultrapure water treatment system is preferred.
- The water quality shall meet the Association for the Advancement of Medical Instrumentation (AAMI) standards (AAMI RD62:2006). (Refer to Appendix 1)
- Regular chemical analysis of water quality shall be carried out 3 to 6 monthly.
- Monthly tests for endotoxin and bacterial colony counts shall be performed.

3. Equipment and Consumables (Refer to Appendix 2)

• Haemodialysis Machines

The MOH Nephrology service shall provide HD machines which are modern, cost effective and with all the monitoring and other features that will ensure efficient and safe haemodialysis. Only machines approved by major regulatory authorities e.g. FDA, EMEA and Japan Ministry of Health shall be purchased. All HD machines shall be serviced regularly according to the manufacturer's recommendations.

The recommended number of haemodialysis stations depends on the category of hospitals:

- State Hospitals – 30 to 50 haemodialysis stations.
- Hospitals with specialists - 20 to 40 haemodialysis stations.
- Hospitals without specialists - 5 to 20 haemodialysis stations.

• Consumables

- Synthetic membrane dialysers may be reprocessed using appropriate and safe reprocessing techniques. Dialysers with biocompatible synthetic membrane are preferred.
- Blood lines shall be procured that can be universally used in all types of machines. Blood lines shall not be reused.
- Dialysate shall be formulated and used according to current international recommendations. There shall be a number of different formulations to meet specific patient needs. Dialysate concentrate in the powder form is preferred.

• Reprocessor Machines

- Automated reprocessors with pressure check and fibre bundle volume measurement shall be used.

4. Continuous power supply for uninterrupted haemodialysis treatment.

5. Standard of care

- Haemodialysis shall be performed three times weekly for at least 4 hours. Individual patients with specific problems may require more frequent dialysis.

- Dialysis adequacy shall be estimated 3 monthly and the dialysis dose shall be adjusted to achieve a delivered KT/V of at least 1.2 or a Urea Reduction Ratio of at least 65%.
- Hepatitis seroconversion is a sentinel event and every case shall be notified and the infection control practice in the unit shall be thoroughly reviewed.
- Death while on HD treatment or soon after shall be notified and an investigation be carried out to determine its cause.

6. Operational hours
   - Where feasible a haemodialysis unit shall run at least three shifts of haemodialysis daily six days a week to optimize the use of resources.

7. Fees
   - Patients shall be charged according to the Fees (Medical) Act 1982.
   - The fees shall be collected by authorised personnel according to established financial procedures.

8. Screening

All patients for haemodialysis shall be screened for viral infections:
   - Prior to being accepted for treatment, patients shall be screened for HBsAg, anti HBs, anti HCV and anti HIV.
   - HBsAg and anti-HCV shall be performed every 3 months.
   - Anti-HIV shall be performed every 6 months.
   - Confirmed anti-HCV and HIV positive patients may not require repeated serologic tests.
   - Patients who are HBsAg negative and have anti-HBs antibody titre less than 100 IU/L shall be vaccinated.

9. Infection Control

All haemodialysis centres must practice strict infection control:
   - The haemodialysis unit shall follow the policies and practices as determined by the National Advisor of Nephrology services.
   - An infection control team shall be identified to activate, regulate, monitor and report infection control activities including staff training, case detection, documentation and audit activities.
   - Strict adherence to the guidelines for universal precautions by the staff shall be practiced at all times. (Refer to Appendix 3.)

10. Isolation and Reuse
   - Patients with Hepatitis B shall be dialysed in a separate room with dedicated machines and reprocessing facilities.
   - Patients with Hepatitis C shall be dialysed in a separate room with dedicated machines and reprocessing facilities.
   - The decision to provide long term haemodialysis to HIV patients shall be individualised. These patients shall be dialysed separately and the dialyser shall

NOT be reprocessed unless there is a dedicated HIV dialysis unit whereby dialysers of HIV patients can be reprocessed.

- The disposal of blood lines and dialyzers shall follow the MOH recommendations on disposal of clinical wastes.

Patient Selection For Centre Haemodialysis

Selection of patients for long term haemodialysis in the haemodialysis unit shall be under the purview of a selection committee. This committee shall consist of specialists in the Department of Nephrology and senior allied health staff from the dialysis unit. A consultant nephrologist shall chair this selection committee. The selection process and selection criteria are as follows:

a) Waiting time

- The duration on the waiting list is the major criteria for acceptance.

b) Priority group

The following groups of patients will be given top priority and will be accepted into the MOH dialysis programme once vacancy is available.

- Patients who had undergone a living related or local cadaveric renal transplantation at MOH hospitals and now require dialysis because of failed graft.
- Dialysis patients in MOH hospitals who require a change in dialysis modality.
- Patients transferred from other MOH dialysis units.
- Children.

c) Government employment Vacant dialysis slots will be distributed among government (and their dependents) and non government employees/others.

d) Co-morbid factors and potential for rehabilitation.

e) Distance to the haemodialysis unit.

f) Social economic status.

g) Number of dependents (unemployed spouse and children below 18 or children who are studying).

h) Age of patient.

i) Availability of dialysis opportunity, resources or assistance (Baitulmal, SOCSO, employer, JPA etc).

j) Dialyzing at subsidized/NGO units.

k) Dependency.

The above selection criteria cannot be enforced strictly as selection of patients for RRT involves other human and clinical factors including patient's choice. Hence these criteria remain a guide and other criteria especially clinical may be considered at the discretion of the selection committee. Chronic haemodialysis is not recommended in the following groups of patients and prior consultation with a consultant nephrologist is required before offering haemodialysis treatment:-

- Patients with terminal illnesses e.g. terminal cancers, full blown AIDS, terminal end organ failure (liver, heart, lungs etc.).
- Patients with persistent hypotension.
- Patients with very poor quality of life e.g. bed ridden, dementia, etc.
- Patients with extensive coronary artery disease and not suitable for any form of coronary intervention.
- Patients with severe vascular disease where creation of any form of vascular access is unlikely to be successful. The patient and immediate family members shall be informed of the reasons for the decision and the patient may be offered alternative treatment if indicated.

Manpower (Appendix 4)

1. The haemodialysis team shall consist of:
   - Nephrologist
   - Clinical specialist and/or medical officer
   - Dialysis manager
   - Trained allied health staff
   - Attendants
   - Access to the services of medical social worker, dietician, renal pharmacist as required.
   - The staff to patient ratio may vary depending on the case mix and the staff experience. There shall be a minimum ratio of trained staff nurse (or equivalent) for every 6 patients on haemodialysis in the same treatment shift.

2. The responsibilities of the haemodialysis allied health staff shall include:
   - To provide safe and adequate dialysis to all patients.
   - To train patients for self-care when possible.
   - To assist in counselling of new patients for haemodialysis.
   - To assist in clinical audit.
   - To provide data to the national renal registry annually.
   - To assist in the haemodialysis clinic.
   - Maintain and update the potential cadaveric renal transplant list.

Haemodialysis (HD) Clinic

a) The HD clinic is dedicated for the follow up of patients that are on chronic haemodialysis in the Ministry of Health units and home units.

b) The objective of the clinic is to review HD patients every 3 months or more frequently if indicated to ensure that the patients receive optimal care.

c) During each clinic visit:

- The patients shall receive a physical examination including an examination of the vascular access.
- The patients' dialysis charts and laboratory tests shall be reviewed including an assessment of dialysis adequacy.
- Complications of ESRD and haemodialysis such as cardiovascular disease, renal bone disease, anaemia and malnutrition shall be assessed.
- The patients shall receive dietary advice and be referred to a dietician when necessary.

d) Other services: specialized clinics (for example vascular access and mineral bone metabolism clinics) shall be established whenever feasible.

Renal Transplantation Services

Renal Transplantation shall be the preferred RRT for suitable patients with ESRD. In providing such a service the Ministry of Health shall ensure that it abides by all the guidelines provided by international organisations like the World Health Organisation and the Transplantation Society especially on issues of ethics. Renal transplantation surgery and the immediate post transplant care shall be performed only in designated centres. However, the subsequent management of the renal transplant patients can be done in any MOH hospital with a resident nephrologist.

Types of live renal donor

Potential renal donors shall be assessed thoroughly to ensure suitability for transplantation. The medical criteria are listed (as below). The types of renal donors are:

1. Live related donor

Live related donor implies a genetically related first and second degree family member. Other members shall be assessed by the Unrelated Transplant Approval Committee(UTAC) in the Ministry of Health.

2. Live emotionally related donor

The live emotionally related donor shall be the legally registered spouse of the recipient.

3. Live unrelated donor

Live unrelated renal donation shall not be accepted. However in exceptional cases, the case shall be referred to UTAC for approval before proceeding with the work-up.

Deceased Donor Renal Transplant waiting list

All suitable potential recipients shall be placed on the national deceased donor waiting list. Patients are selected based on the criteria established by the Malaysian Organ Sharing System(MOSS)

MEDICAL CRITERIA FOR POTENTIAL LIVING RELATED RENAL DONORS

1. The donor must be between the age of 18 and 65 years.
2. There must be no history of diabetes, hypertension, malignancy, heart disease, renal disease, renal calculi and gout. There must be no history of drug addiction and high risk sexual behaviour.
3. Donor's body mass index of less than 30.
4. Donor must be seronegative for HIV.
5. The donors shall have acceptable results for the following laboratory investigations:

- Appropriate ABO compatibility.
- Normal full blood count and coagulation profile.
- Normal urine full examination and microscopy.
- Normal renal profile.
- Creatinine clearance > 80 ml/min.
- 24 hour urine protein < 300mg.
- Normal liver function tests.
- Anti-nuclear factor (ANF), anti-double-stranded de oxyribonucleic acid antibody (dsDNA) – negative.

HAEMODIALYSIS SAFETY MEASURES

STAFF

Staff with Hepatitis B,C positive are not allowed to work in the unit.

All HDU staff MUST have Hepatitis B screening yearly,if no antibody the staff shall be vaccinated according to schedule.

All new staff MUST be trained on Universal Precaution and procedure once they are in the unit.

Aseptic technique should be maintained throughout the procedure or treatment from patient to patient.

PATIENT

All new patient subjected to chronic haemodialysis treatment must have their blood test done. Eg :HB,VDRL,blood group screening for Hepatitis status,Hepatitis antibody,HIV before starting HD treatment in the Unit.

Patient must be vaccinated if their antibody is negative.

Transit in or out or returned back from transit patient should screening for Hepatitis status.

New cases or first initiating treatment in dialysis, patients shall explained the deed of the consent by attending medical practitioner/renal trained staff and signed by the patient, staff, and the witness. (Appendix 5)

Patients should be explained and signed about the "Patients Right'

EQUIPMENT (Haemodialysis Machine, Dialyser Reprocessing System and R.O Water System)

Haemodialysis Machine

- All Haemodialysis machine should pass 'self test' before starting haemodialysis (HD) treatment.
- Bloodline should be primed properly before starting HD treatment to expel micro bubbles and chemical.
- **'On'** the Reverse water System and Reverse Osmosis storage tank before starting HD.
- All HD machine must be disinfected immediately after completed HD at the end of the day.

Dialyser Reprocessing System (DRS)

- Calibration of DRS machine shall be done in the morning and sanitization at the end of the day.

CONTINGENCY PLAN FOR REVERSE OSMOSIS SYSTEM AND HAEMODIALYSIS MACHINE IF BREAKDOWN (Refer to Appendix 6)

To notify Hospital Support Service immediately.

To discuss with HSS and whereby HSS is responsible to send patient to the nearest government dialysis centre or Private Centre for dialysis treatment.

All charges incurred for the dialysis treatment will be borne by HSS.

Any Haemodialysis machine detected not functioning well,unit staff to makes a service request to HSS immediately for corrective action.

QUALITY IMPROVEMENT ACTIVITIES

- Daily test for hemodialysis machines before operation by staff on duty
- After each hemodialysis machine usage, hot disinfection must be carried out to kill bacteria resistant to chemicals
- Daily test of log on to RO water system – in order to detect any abnormality of RO water system in order to make sure optimal level of RO water for hemodialysis treatment
- To replace guard filter of RO water system each month or below 15psi.
- Replace 10kg of salt each week into brine tank for regenerationg of column softener to ensure water conductivity.
- Water samples must be tested evert 6 months to ensure RO water quality comply AAMI standards
- Monthly test for chloramines, chlorine, ph. air, "microbiology" and "culture and sensitivity".
- Daily calibration only for dialyser reprocessing machine to ensure its function and safety.
- Sanitation to be carried out daily for disinfection
- Checking of renalin level in dialyser to ensure good disinfection and reprocessing

- Residual renalin must be checked after priming blood lines to ensure free from microbubbles, industrial chemicals and renalin. This step is crucial before each hemodialysis to ensure patient safety.
- Blood testing every three months for Hepatitis B, HIV, Hepatitis C and VDRL to ensure status of each patients.
- HDU staff must be screened yearly for hepatitis B infections
- Patient satisfaction survey to be done twice a year
- To check temperature of refrigerator twice a day

KEY ASPECTS OF WHOLE HOSPITAL POLICIES

DOMESTIC SERVICE

General cleaning and cleansing of the unit shall be carried out by H.S.S

MOVEMENT OF PATIENTS

Movement of in-patient is done by ward Nurse/JD while movement of out-patient is done by HDU Nurse/AMO/PPK.

MOVEMENT OF SUPPLIES

Medical/Surgical/Pharmaceutical shall be indented from the Pharmacy by HDU. These supplies shall be checked at the issuing areas in the store by the designed officer before being brought back to the unit.

All Medical supplies will be kept and tallied in the unit Store.

WASTE MANAGEMENT

Clinical and domestic waste shall be bagged in separate colour coded bags. H.S.S shall transport all clinical and domestic waste to the nearest disposal room.

LAUNDRY SERVICE

Soiled and clean linen shall be sent from laundry according to schedule by privatized service.

OTHER RELATED HEMODIALYSIS POLICIES

A. Safety and Performance Improvement Activities

1. Dialysis Adequacy.
   Data submission to National Renal Registry 3-6 monthly.

   - 95% of patients have prescribed Kt/V more than 1.3
   - 85% of patients have delivered Kt/V more than 1.2

2. Urea Reduction Ratio (URR)

   - ≥ 85% have URR more than 65%

3. Anaemia

   - > 70% achieved Hb level 10-12g/dl (for patients on Erythropoietin)
   - > 90% achieved Serum Ferritin > 100 ng/ml
   - > 80% achieved transferrin saturation ≥ 20%

5. Annual Mortality Rate

   - Annual mortality rate for dialysis patient taking of all factors should not be more than 15%

6. Catheter Related Blood Stream Infection (CRBSI)

   - Incidence of CRBSI not more than 1:3000

B. Water Quality

1. **Microbial Contaminant**

   1.1 Method of Testing

   - Total viable counts (Colony Forming Units) using spread plate or membrane filtration technique using Trypton Glucose Extract Agar (TGEA) or equivalent.
   - Calibration loop technique shall not be used.
   - The presence of pyrogen/edotoxin shall be determined using Limulus Amoebocyte Lysate (LAL) method.

   1.2 Frequency of Testing

- Monthly for bacterial count and endotoxin test.

1.3 Sites of Sampling

- Minimum sites of sampling for testing
  i. Post RO membrane
  ii. First point of the distribution loop
  iii. End point of distribution loop (last machine port)
  iv. Reprocessing bay (for indirect feed)

1.4 Handling of water sample

- Assay within 30minutes of collection
- If immediate assay is not possible, refrigerate immediately at 5'C and assay within 24hrs of collection.

1.5 Limit and Action Level

Maximum Allowed

- CFU level ≤ 100CFU/ml
- Endotoxin level ≤ 0.25EU/ml

Action Level

- CFU level ≥ 50 CFU/ml
- Endotoxin Level ≥ 0.125EU/ml

(Ref : AAMI/ISO 23500:2011)

If Action Level are observed, disinfection and retesting shall be done immediately to restore the quality into acceptable level.

1.6 Laboratory

All sample shall be sent to an acceredited laboratory recognized by the Director General of Health.

1.7 Record

All the result shall be properly documented and made available for inspection.

C. Documentation Of Performance Activities

C.1 **Refer to File QIA**

APPENDIX 1

Maximum allowable levels of toxic chemicals and dialysis fluid electrolytes in dialysis water

Contaminant	Maximum Concentration (mg/l)	
Aluminium	0.01	
Total Chlorine	0.1	
Copper	0.1	
Fluoride	0.2	
Lead	0.005	
Nitrate (as N)	2	
Sulfate	100	
Zinc	0.1	
Electrolytes	Maximum Concentration	
	(mg/dl)	(mmol/l)
Calcium	2	0.05
Magnesium	4	0.15
Potassium	8	0.2
Sodium	70	3.0
Contaminants	Maximum Concentration (mg/l)	
Antimony	0.006	
Arsenic	0.005	
Barium	0.1	
Beryllium	0.0004	
Cadmium	0.001	
Chromium	0.014	
Mercury	0.0002	
Selenium	0.09	
Silver	0.005	
Thallium	0.002	

From ISO 23500:2011

LIST OF RECOMMENDED EQUIPMENT

Essential Medical & Non-Medical Equipment For Haemodialysis Unit

- Haemodialysis Machines
- Dialysis Chairs
- Water Purification Systems, Reverse Osmosis
- Automated Clotting Timers (ACT)
- Sitting weighing scale
- Oxygen supply
- Dressing trolleys
- Emergency cart (trolley) with defibrillator
- Non-invasive blood pressure monitoring (NIBP) sets
- Pulse oxymeters
- Volumetric infusion pumps
- Electrocardiographs (ECG) machine
- Glucose monitoring set
- Refrigerator
- Computer with Internet connectivity

Optional items for Haemodialysis Unit

- Online Haemodiafiltration machine (HDF)
- Continuous Renal Replacement Therapy (CRRT) machine
- Portable Reverse Osmosis Water System
- Non Invasive Vascular Access Monitoring
- Slow Extended Daily Dialysis Machine (SLEDD)
- Dialyzer rinsing machines
- Bioimpedance analyser

INFECTION CONTROL IN THE HAEMODIALYSIS UNIT

1. Universal Precautions

a) Wash hands in between patients.
- Use soap and clean running water or an alcohol-based hand rub or foam.
- Hands-free tap shall be provided.

b) Wear gloves.
- Change in between patients.
- Wash hands after removal of gloves.

c) Do not recap needles.

d) Use designated sharps bin.
- Place as close as is practical to the point of use.
- Sealed and disposed when full.

e) Staff attire.
- Wear plastic gown.
- Remove protective wear as soon as possible on completion of treatment.
- Ensure clean work attire for every shift.

2. Clean trolley & preparation of medication

a) A clean area shall be designated for preparation of medications and syringes.

b) Medications and syringes used in the patient's station shall not be returned to the clean area.

c) Single-use vials are strongly encouraged. Multiple-use vials (e.g. heparin if used, are to be prepared in a clean area and all doses to be drawn in the same session. DO NOT REUSE needles or syringes.

3. Disinfection of machines, external surfaces and equipment

a) Clean exterior surface of machines in between patients and at the end of the day.

b) Disinfect the chairs, beds, tables and all environmental surfaces between patients.

c) Use external pressure transducers for each patient and do not re-use.

d) Haemodialyser port caps, interior pathways of dialysis machine shall be disinfected at the end of the day or after dialysing a patient with unknown viral status.

e) Scissors, clamps, stethoscopes shall be disinfected.

f) Use dedicated blood pressure cuffs for hepatitis positive area.

4. Cleaning & Housekeeping

a) Bins, floors and bench tops shall be cleaned with an appropriate disinfectant.

b) All spilled blood MUST be removed immediately.

5. Handling of clinical wastes

a) Waste shall be segregated and contained at source.

b) Waste bags shall be appropriately colour-coded.

c) Gloves must be worn when handling waste bags.

6. General rules

a) Ensure general cleanliness of the unit.

b) Avoid over-crowding, provide adequate space between each dialysis patient.

c) Provide routine staff training and education on infection control practices.

d) Provide routine training and education for patients and their families on infection control.

*__Infection Control Precautions for All Patients__ (adapted from CDC guidelines)

- Proper hand washing technique.
- Wear disposable gloves when caring for the patient or touching the patient's equipment at the dialysis station. Ensure a supply of clean non-sterile gloves and glove discard container near dialysis station.
- Wash hands after gloves are removed and between patient contacts, as well as after touching blood, body fluids, secretion, excretions and contaminated items.
- A sufficient number of sinks with warm water and soap shall be available to facilitate hand washing.

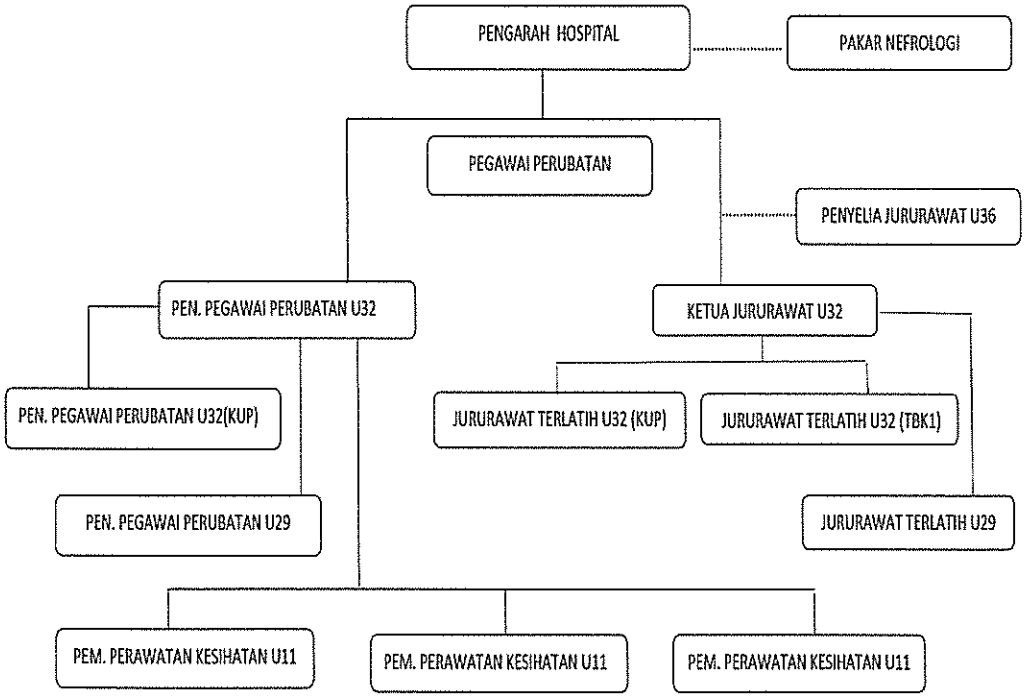
- If hands are not visible soiled, use of a waterless antiseptic hand rub can substituted for hand washing.
- Unused medications or supplies(eg. syringes, alcohol swabs) taken to the patient's station shall not be returned to a common clean area or used on other patients.
- Prepare mediations in a room or area separated from the patient treatment area and designated only for medications.
- Do not handle or store contaminated (used supplies, used equipment, blood samples, or biohazard containers) in areas where meditations and clean (used) equipment and supplies are handled.
- Deliver medication separately to each patient. Common carts shall not be used within the patient treatment area to prepare or distribute medications.
- If trays are used distribute medication, clean them before using for patient.
- Intravenous medication vials labelled for single use, including erythropoietin, shall not be punctured more than once. Once a needle has entered a vial labelled for single use, the sterility of the product can no longer be guaranteed.
- Residual medication from 2 or more vials shall not be pooled into a single vial.
- Staff members shall wear gloves, gowns, face shields, eye wear or masks to protect themselves and prevent soiling of clothing when performing procedure during which spurting or spattering of blood might occur (eg. During initiation and termination of dialysis, cleaning of dialyzers and centrifugation of blood).
- Such protective clothing or gear shall be changed if it becomes soiled with blood, body fluids, secretions, or excretions.
- Staff shall not eat, drink or smoke in the dialysis treatment area.
- Patients can eat food from home at their dialysis station. The glasses, dishes and other utensils shall be cleaned in the usual manner ; no special care of these items is needed.

- Establish written protocols for cleaning and disinfecting surfaces and equipment in the dialysis unit, including careful mechanical cleaning before any disinfection process. If the manufacturer has provided instruction on shall be followed. For each sterilant and disinfectant, follow the Manufacturer's instruction regarding use, including appropriate dilution and contact time.

CARTA ORGANISASI
UNIT HEMODIALISIS HOSPITAL KANOWIT (WITHOUT SPECIALISTS)

APPENDIX 4

Carta Organisasi Unit Hemodialisis



APPENDIX 5

HOSPITAL KANOWIT

CONSENT FORM FOR INITIATING DIALYSIS TREATMENT FOR NEW ESRD PATIENT

Patient's Name :

Identity Card No. :

Address :

Age :

Sex :

Date :

I, the above named/parent/guardian/spouse/next of kin of the above named, have been informed of the need for initiating dialysis of the patient. The attending medical practitioner has explained to me the risk, complication and benefits involved in the procedure as well as answering all my inquiries satisfactory. I understand that despite with close monitoring that have been done by the medical practitioner, there are still some unavoidable complications of dialysis that may be occur.

I fully understood the above and hereby agree to the dialysis treatment.

....

Name and Signature of patient / guardian / Spouse / next of kin

Name and Signature of attending medical practitioner

I was present while the above matter was explained to the patient / guardian spouse / next of kin whose signature appears above. In my opinion, the person referred to has understood the contents of this form and agree to have the dialysis treatment willingly.

.....

Signature of Witness

Name of Witness:

Identity Card No.:

BEMS Contingency Plan
Provision of Loaner Equipment
Cross Zone Specialist Support
Service @ External Facilities
3rd Party/Vend or Support
• Provision of Loaner Equipment as listed in HSIP to minimize service interruption eg; Scopes System, Defibrillators, Patient Monitor, Pumps and etc
• To assign Dedicated specialist/team to support breakdown or crisis region
• Private Hospital or Medical Institutions eg ; Timberland, KPJ, Borneo Medical Center, Sibu Specialist MC, Columbia Asia,
• Private Laboratories ; Pathlab, Gribbles, BP Lab, Advance Lab and etc
• Engage partnership with 3rd party/vendor to cater specialize equipment Repair/loaner/leasing

References:

1. Nephrology Services Operational Policy 2nd Edition MOH
2. HDU Operational Policy
3. Haemodialysis Quality and Standards MOH/P/PAK/235.12(GU)
4. Nephrology Services Operational Policy MOH/P/PAK/202.10(BP)