

**बिपन्न नागरिक औषधी उपचार कार्यक्रम अन्तर्गत हेमोडायलाइसिस सम्बन्धी स्ट्याण्डर्ड चेकलिष्ट  
र मापदण्ड**

S.N.	CRITERIA	YES	NO	REMARKS
1	<b>Infrastructure Requirements:</b>			
1.1	The hemodialysis centre/unit should have proper access and shall display appropriate information board. Following informative shall be displayed:			
1.1.1	Name of the care provider/s with registration number/s (Consultants)			
1.1.2	Registration details of the hospital as applicable			
1.1.3	Availability of free services under government <i>Bipanna Nagarik scheme</i>			
1.1.4	Timings of hemodialysis service			
1.1.5	Important contact numbers such as Blood Banks, Police and Ambulance services available in the nearby area.			
1.1.6	Patients' self care information and responsibilities such as advices on diet, fluid intake, medications, exercises. Encourage screening for and prevention of kidney disease.			
1.1.7	Signage for "No Smoking", collection point for disaster etc in prominent places			
1.2	<b>Treatment area</b>			
1.2.1	Hemodialysis unit/centre should be accessible for the patient and/or attendant/visitor even for emergency condition too.			
1.2.2	The centre should safe, clean and hygienic environment for patients, their attendants, staff and visitors			
1.2.3	Separate block/rooms shall be designated for hemodialysis with space for at least five hemodialysis beds and machines in working condition.			
1.2.4	Dialysis station shall be designed to provide adequate space area and safe treatment with of the privacy of patients. The distance between two hemodialysis beds shall be minimal of <b>one meter</b> but preferably be 1.5 m. (Refer to Annex 1) and have adequate space for resuscitation to be carried out when required.			
1.2.5	There shall be a dedicated hemodialysis area and dedicated dialysis machines for patient with Hepatitis B, Hepatitis C and PLHA ( <i>where applicable/available</i> ).			
1.2.5.1	If the center has $\geq 10$ machines, the center should have at least one machine dedicated for the seropositive cases <i>if possible keep separate haemodialysis machine for PLHA, Hepatitis B, Hepatitis C</i> The ratio dialysis machine for sero-negative and sero-positive shall be 10:1			
1.2.6	Separate bed/s should be present for observation of patients on dialysis (5 dialysis machine: 1 extra bed)			
1.2.7	Nursing station should be centrally located to observe all patients.			
1.2.8	The Dialysis centre shall be provided with effective and suitable			

	ventilation, light and comfortable room temperature to provide effective nursing care.			
1.2.9	There should be self care leaflet, TV with hemodialysis self care information and other disease related information on display.			
1.2.10	There shall be work area that contains a work counter, hand washing sink, and storage cabinets.			
1.2.11	There shall be separate storage area for sterile instrument/supplies and other materials.			
1.2.12	Where dialysers are reused, a separate dialyser reprocessing room must be available. The reprocessing room shall only be used for dialyser reprocessing, storing of reprocessed dialyser and sterilant.			
1.2.13	Power back up supply is ensured in hemodialysis unit at least for reverse osmosis and dialysis machine			
1.2.14	Plumbing with proper material as per the guideline is installed in manner as to prevent back flow of the dialysate drainage			
1.2.15	The centre shall have appropriate internal and external communication facilities.			
1.2.16	There shall be a designated area for CAPD training for patient and her/his family member. ( <i>where applicable</i> )			
1.2.17	There shall be designated water treatment area.			
1.2.18	Minimum 1 oxygen cylinder per 5 bed is needed.			
1.3.	<b>Non-Treatment Area</b>			
1.3.1	The center shall have Registration/help desk & billing counter, and scope of this shall also include provision of patient guidance in matters like service available, cost estimation, healthcare insurance etc.			
1.3.2	The centre shall have waiting area with sufficient seats for patients and visitors.			
1.3.4	The centre shall have 24 hours provision of potable water for drinking & hand washing area.			
1.3.5.	All plumbing shall be installed in such a manner as to prevent cross-contamination between potable and non-potable water supplies.			
1.3.6	The centre shall have clean toilet(s) separate for males and females and universal.			
1.3.7	Furniture and fixtures shall be available in accordance with the activities and workload of the center.			
1.4.	<b>Water treatment system</b>			
1.4.1.	Product water is free from harmful chemicals and bacterial contamination with reverse osmosis			
1.4.2.	Water used to prepare the dialysate has colony count of less than 100CFU/ml. (AAMI Standard) Bacteriological test (Microbiological): at least 3 monthly Chemical test: at least 6 monthly			

1.4.3.	Endotoxin test of RO water and dialysate is performed in annual basis if high flux dialyzers are used in the treatment like HDF. (report of test must be submitted)			
2	<b>Timing for Dialysis</b>			
2.1	Hemodialysis service shall be available from 9 am to 5 pm or as per the hospital schedule and appointments of patient should be scheduled.			
2.2	Emergency hemodialysis service should be available round the clock			
2.3	Under privileged citizen facilities as per the norms of government of Nepal			
3	<b>Medical Equipment and Instruments:</b>			
3.1	The Centre shall have adequate medical equipment and instruments ( <i>Refer to Annex 2</i> )			
3.2	Dialysis machines should be equipped with monitors and audio-visual alarms to ensure safe dialysis treatment			
3.3	An equipment log- book shall be maintained for all the major equipment. Periodic Planned Maintenance (PPM) of dialysis machine shall be performed at least 6 monthly basis.			
3.4	The hemodialysis machine shall run not more than 26 days in a month			
3.5	Dialyser can be reused for maximum of up to 5 times with manual washing and 10 times with machine washing.			
4	<b>Drugs, Medical devices and Consumables:</b>			
4.1	The centre shall have adequate drugs and consumables ( <i>Refer to Annex 3</i> )			
4.2	Emergency drugs and consumables shall be available at all times.			
4.3	Drug storage should be in a clean, dry, well lit, and safe environment with clear labeling (Names and expiry dates)			
5	<b>Human Resource Requirements:</b>			
5.1	A qualified nephrologist, having DM in nephrology or its equivalent degree shall be the head of the centre. In areas where there is no Qualified Nephrologist, a certified physician MD (internal medicine) trained in dialysis should be the head of the centre.			
5.2	There should be at least one hemodialysis trained medical officer (at least of six weeks' training) with on call MD Internal Medicine trained in nephrology (at least 15 day's training) or Nephrologist			
5.3	One HD trained nurse (at least three months of training) per two dialysis machine per shift must be present.			
5.4	Biomedical equipment trained technician or HD technician shall be available any time in case of technical emergencies			
5.5	All hemodialysis staffs should be trained on BLS, ACLS and basic operation of hemodialysis machine.			
5.6	Periodic skill enhancement/updation/refresher training shall be provided for all categories of the staff as relevant to their job assigned at least yearly.			
6	<b>Support Services:</b>			
6.1	<b>Patient counseling</b>			

6.1.1	Counseling to the patient and attendant should be done by either Nephrologist or medical officers or Dialysis Nurse or Dietician or Counselor (CKD and Dialysis Counselor) or combined where possible for the adherence with the treatment, renal transplantation, dietary counseling and follow up			
6.1.2	Proper care and monitoring of the vascular access is done during treatment and patient counseled about its care			
<b>6.2</b>	<b>CSSD / Sterilization Area</b>			
6.2.1	Provision for instrument and linen sterilization and storage of sterile items shall be made available as per the scope of services.			
6.2.2	Use of chemical marking( autoclave tape) to confirmed the sterilization of supplies and equipment.			
<b>6.3</b>	<b>Linen management:</b>			
6.3.1	Soiled linen shall be collected, transported and washed separately in clean and hygienic environment.			
6.3.2	Where linen is contaminated, decontaminate the linen with 0.5% chlorine solution prior to dispatch for washing.			
<b>6.4</b>	<b>Infection Prevention and Waste Management Services:</b>			
6.4.1	Personal protective equipment as gown, mask, face shield should be used and follow universal precautions to reduce the risk of healthcare associated infections.			
6.4.2	Weekly high level disinfection of all areas of dialysis block along twice a day regular cleaning in disinfectant.			
6.4.2	Dialyzers and AV blood lines of PLHA, Hepatitis B and Hepatitis C positive is discarded after each use.			
6.4.3	Rinsing of machine is done after each shift and disinfection is done as per protocol			
6.4.4	Dedicated shoes and gown is available in entrance of dialysis unit.			
6.4.5	There are colored bins for waste segregation and disposal as per HCWM guideline 2014 (MoHP)			
6.4.6	Hand-washing facility with running water and liquid soap is available			
6.4.7	Chlorine solution is available and utilized for decontamination.			
<b>7</b>	<b>Record Maintenance and reporting:</b>			
7.1	Medical record is maintained in register and digital format as per Nepal government guidelines.			
7.2	Dialysis schedule of the patient is maintained in board along with time.			
7.3	Confidentiality, security and integrity of records shall be ensured at all times			
7.4	A dialysis summary shall be given to all patients after dialysis.			
<b>8</b>	<b>Informed Consent and Safety Measures</b>			
8.1	Informed consent shall be obtained from the patient/ next of kin/ legal guardian as and when required.			
8.2	Patient and/or families shall be educated on preventive, curative, promotive and rehabilitative aspects of care either verbally, or through printed materials and keep recording			

8.3	All the relevant documents and record related to procedures must be documented including periodic vital signs, weight and details dialysis record.	
8.5	Patients shall be monitored after medication administration and adverse drug reaction/events if any shall be recorded and reported	

## ANNEX1

**Minimum space for hemodialysis centre shall be as follows:**

S.N.	Area	Minimum Requirement	Remarks
1	Registration Area		
1.1	Reception area	30 sq. m	
1.2	Waiting area		
1.3	Public utilities		
2	Treatment Room	80 sq. m	
2.1	Bed space		
2.2	Staff changing room		
3	Store and pharmacy	20 sq m	
4.2	Medical Records		
5	Water Treatment Area	20 sq m	
5.1	RO Plant		
6	Power Supply Back Up Area/ Generator area	5 sq m	

## Annex 2

### Medical equipment and instrument for hemodialysis

S.N.	Medical equipment and instrument	Required No	Remarks
1	Hemodialysis machine	at least 5	
2	Blood Pressure Apparatus	2:5	
3	Stethoscope	2:5	
4	Digital Thermometer or Thermal gun	Digital thermometer 1:1 Thermal gun: 1	
5	Glucometer	2	
6	Hemodialysis set	1:2	
7	Curtain	as per need	
8	Wheel Chair	at least 2	
9	Trolley	at least 1	
10	Bed	as least 6	
11	Medicine and kidney Tray	1 in each bed	
	Cardiac table	2:5	
12	Standby Rechargeable light	1	
13	Hygrometer/ room thermometer	1	
14	Resuscitation set	at least 1	

15	Suction Apparatus	at least 1	
16	Oxygen cylinder with flow meter, nasal prongs and mask or central oxygen	1:2	
17	Defibrillator	at least 1	
18	ECG machine	at least 1	
19	Pulse oximeter	at least 1	
20	Nebulizer	at least 1	
21	Cardiac monitor	at least 1:5	
22	Torch light	at least 1	

### Annex 3

#### Medicines and Supplies for Hemodialysis

S.No	Medicines and supplies	Required No	Remarks
1	Diazepam Injection 10mg /2ml	5 Amp.	
2	Frusemide Injection 10 mg/ 2ml	5-10 Amp.	
3	Ondansetron Injection 4mg	5-10 Amp.	
4	Ranitidine Injection 50 mg	5-10 Amp.	
5	Noradrenaline Injection 2mg/2ml	5 Amp.	
6	Phenytoin Injection 50mg/2ml	5 Amp.	
7	Diclofenac sodium Injection 75 mg/3ml	5Amp.	
8	Deriphylline Injection	5 Amp.	
10	Hydrocortisone Injection 100mg	5-10 Vial	
11	Atropine Injection 0.6 mg/ml	5-10 Amp.	
12	Adrenaline Injection 1:1000 Inj	5-10 Amp.	
13	Potassium Chloride (KCL) Injection 20 meq/10ml	5-10 Amp.	
14	Pheniramine Injection 22.75 mg/ml, 2ml injection	5 Amp.	
15	Sterile Water	5	
16	Sodium bicarbonate Injection 7.5% /10 ml	5-10 Amp.	
17	Dopamine Injection 40mg/5 ml	5-10 Amp.	
18	Calcium Gluconate 10% Injection	5-10 Amp.	
19	Dextrose 25 %/ 50% Injection	5-10 Amp.	
21	Tranexemic Acetate Injection 50 mg	5-10 Amp.	
22	Protamine Sulphate 50 mg Inj.	5-10 Amp.	

23	Vitamin K Injection 10mg/1ml	5-10 Amp.	
24	Tramadol Injection 50 mg	5-10 Amp.	
25	Hyoscine Butylbromide Injection 20 mg /ml	5-10 Amp.	
26	Aspirin 75 mg	1 strip	
27	Clopilet Tablet	1 strip	
28	Isodril Tablet	1 stirp	
29	Nefedipin 5 mg/10mg Cap	1 strip each	
30	Injection Heparin 25000iu/5ml	as per need	
<b>Dialysis Consumables</b>			
31	Adhesive Tape	as per need	
32	Leukoband	as per need	
33	Paper Tape	as per need	
34	Betadine	as per need	
35	Spirit	as per need	
36	Dialyzer	At least 2	
37	A/V Tubing	At least 2	
38	Fistula Needle	At least 2	
39	I/V Set	At least 2	
40	I/V Cannula different size	At least 2	
41	Transducer	At least 2	
42	Double lumen uncuffed HD Catheter	At least 2	
43	Single lumen HD Catheter	At least 2	
44	Guide wire	At least 2	
45	Normal Saline 1000ml	as per need	
46	Normal Saline 500ml	At least 5	
47	Disposable Syringe 20ml	At least 5-10	
48	Disposable Syringe 10ml	At least 5-10	
49	Disposable Syringe 5ml	At least 5-10	
50	Rubber Sheet Gloves (Sterile & clean)  Regular insulin	as per need	



## **Annex 4**

A dialysis centre shall maintain a record system to provide readily available information on:

### **1. Patient care**

- a. Dialysis charts with necessity for dialysis by nephrologist
- b. Standing order for hemodialysis – updated quarterly
- c. Completed consent form
- d. Patient's monitoring sheet
- e. Standing order for medication
- f. Laboratory results
- g. Confinements with corresponding date and name of hospital
- h. History and physical examination
- i. Complication list
- j. Transfer/referral slip (for patients that will be transferred or referred to another health facility)
- k. All documents listed in the guidelines for underprivileged citizens treatment

### **2. Incident and accident (in logbooks)**

- a. Complications related to dialysis procedure
- b. Complications related to vascular access
- c. Complications related to disease process
- d. Outcomes
- e. Staff/patient's hepatitis status

### **3. Staff and patient vaccination**

- a. Hepatitis B (double dose) – 0, 1,2,6 months
- b. Influenza–annually
- c. Pneumococcal – every 5 years

### **4. Water treatment**

- a. Bacteriological
- b. Chemical

### **5. Facility and equipment maintenance schedule**

- a. Preventive maintenance
- b. Corrective maintenance

## **Annex 5**

Sample for log book of counseling:

S No	Counseled for	Date	Sign. of patient/attendant