STATE COUNCIL OF MEDICAL SCIENCES ODISHA

CERTIFIED DIALYSIS TECHNICIAN (CDT)

Syllabus of Certified Dialysis Technician (One Year)

After completing this course in Certified Dialysis Technician, participants will be able to:

1) Demonstrate knowledge about Renal Failure (ARF & CRF) and its management.
2) Demonstrate pre dialysis patient assessment.
3) Demonstrate dialyzer extracorporeal blood circuit priming and setting up the machine for dialysis procedure.
4) Demonstrate aseptic cannulation of AVF/AVG and dialysis initiation.
5) Demonstrate aseptic acute vascular access catheter care and dialysis initiation.
6) Demonstrate alarm processing,continuous monitoring of patient and machine during procedure.
7) Demonstrate aseptic decannulation and catheter care after termination of dialysis.
8) Demonstrate meticulous infection control measures. Operate and maintain R.O Water treatment plant.
9) Demonstrate machine disinfection methods.
10) Demonstrate dialysis machine maintenance methods.
11) Demonstrate dialyzer reprocessing, both manual and automated(Operating RENATRON,INTERFACE Module & RENALOG-RM software.)
12) Demonstrate polite and strategic communication skills,grooming skills, professional etiquettes and leadership qualities.

The course is of one year duration of two semesters. The first semester starts from day one to end 5th month followed by theory, Clinical & practical examinations in the 6th month . The second semester starts from 7th month till the end of 11th month followed by theory & practical examinations in the 12th month The course shall include the respective subject as given in the table below, the minimum number of hours to be devoted to each subject- lectures and practical shall not be than those against them.

Examination Pattern:	Theory	Clinical	Practical	Internal	TOTAL
First Semester	40	30	20	10	100

Second Semestar	**40**	**30**	**20**	**10**	**100**

Theory : 60 teaching Hours:

First semester (Day 1 to completion of 5th month) followed by examination in the 6th month

Sl. No	Subjects for Theory Classes	Hours
A)	Anatomy & Physiology (Normal kidney structure and functions):	4Hours
B)	Derangement of Kidney functions (etiology, clinical manifestation, diagnosis of acute and chronic renal failure):	8 hours
C	Dialysis- the concept (Brief history, definition mechanism):	4 hours
D	Components of Dialysis (Access, blood flow, anticoagulant, dialysate)	4 hours
E	Hemodialysis-Basics (Blood circuit tubing pump, dialyzer, flow rate, dialysate circuit, concentrates, delivery systems, flow rate)	12 hours
F	Anticoagulation (Heparin, alternatives to Heparin, regional no anticoagulation)	8 hours
G	Vascular access (Temporary& Permanent)	8 hours
H	Dialysis Water and water treatment	4 hours
I	Dialysis and Dialyzer (Including reuse)	4 hours
J	Hemodialysis machine	4 hours
	Total	60hrs

Demonstration (30hrs)

Sl. No	Topics to be covered	Hrs
1	A Hemodialysis unit	Each Topic 3hrs each
2	Demineralisation plant	
3	Machine	
4	Initiation of Dialysis	
5	Conduction of Dialysis	
6	Dialysis-closure	
7	Washing, cleaning, reuse	
8	Maintenance of Hygiene in Dialysis unit	
9	Access-core	
10	Anticoagulation	

Clinical : Actual participation in Dialysis Procedure : **120 Teaching Hours**
Including clinical evaluation of patient.

**********EXAMINATION **********

Second Semester (Beginning of 7th Month to completion 11th months) followed by examination in 12th month

Theory:

Sl.No	Subjects	Hrs
1	**Complications of Hemodialysis**	**12 hours**
a	Dialzer related complication	
b	Dialysate related complication	
c	Access related complication	
d	Anticoagulant related complication	
e	Special type of complication	
f	Maintenance of hygiene in Dialysis unit	
g	Access-Score	
h	Anticoagulation & AntiCoagulant	
2	**Doses of Hemodialysis :**	**8hours**
a	Duration, index, clearance	
b	Middle molecules Urea reduction ratio	
c	Urea kinetic modeling, Dialysis adequacy	
3	**Continuous Dialysis**	**10 hours**
a	Continuous venovenous hemofiltration	
b	Continuous hemodiafiltration	
c	Continuous slow hemodialysis	
d	Component access, tubing, filter, replacement, fluid, flow rate	
e	Anticoagulation,	
4	**Peritoneal Dialysis**	**30 hours**
a	History, Peritoneal physiology, kinetics technique, catheter, dialysate fluid, insertion procedure, drainage, complication.	
b	Continuous peritoneal dialysis procedure, dose.	

Clinical: 360 Teaching Hours:

- Actual conduction of Hemodialysis :140 hours
- Actual conduction of peritoneal Dialysis: 120 hours
- Clinical assessment of patients : 100 hrs

****Final Examination(In the 12th month)****

List of Books to follow

- **Handbook of dialysis**
  By john T. Daugirdas (Editor), Peter G. Blalke (Editor), Todd S. Ing (Editor)
- **Actual conduction of peritoneal Dialysis**
  By Judith Z. Kallenbach MSN EN CNN (Author)
- **Peritoneal Dialysis: From basic concepts to clicical excellence**
  By C. Ronco, Cerlo Crepaldi, Dinna N. Cruz
- **Basic Clinical Dialysis**
  By David Harris, Grahme Elder, Lukas Kairsitis, Gopala Rangan
- **Replacement of Renal Function by Dialysis**
  By John P Meher
- **Nutritional Considerations in Indian Patients on Peritoneal Dialysis**.
  By Aditi Nayak, Akash Nayak, Mayoor Prabhu and K S Nayak
- **Chronic Kidney Disease, Dialysis, and Transplantation**
  By: Mohamed H.Sayegh (Author), Jonathan Himmelfarb (Author), Mohamed Sayegh(Author),Jonathan, M.D. Himmelfarb (Author), Mohamed H., M. D. Sayegh (Author) Publisher: W.B. Saunders Company