

HOW TO MAKE A QUICK CHANGE OF CRRT MACHINES

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Last year we changed our CRRT machines into the NxStage. We had to make the change over a period of 4 weeks. Prior to that, we had a workshop for supervising expert nurses and the firm consultants, as we were the first ICU in Europe to use the NxStage.

During the 4 weeks period, we had assistance by representatives from NordicMedCom and NxStage. We had 2 daily sessions; theory in the morning and hands on in the afternoon. Each group consisted of 4-6 persons.
After a few days, we started patient treatments. At that time, we had a 24 hours standby service from the companys for a period of 10 days.

At the same time, we changed our treatment plan due to international recommendations. All intermittent CVVHD treatments are now controlled by flow fraction 33%, and if fluid removal is still needed, we use SCUF afterwards. When 24 hours treatment is needed, we use 2000 – 4000 ml CVVHD.

In a group of 70 persons we had to educate 60 during the 4 weeks period.

The staff were graduated depending on their CRRT competence; the highest level first and then we worked our way down.

After 4 weeks, the new treatments were up and running and the problems have been of minor degree.

The high level of competence in our unit is more or less maintained, even though minor problems can still occur.



NEW MACHINES AND NEW TREATMENT PLAN – SAME STAFF AND HIGH COMPETENCE

LEVEL 1 NURSES
THEORETIC AND PRACTICAL EDUCATION BY SUPERVISING EXPERT NURSES

FULL TREATMENT AND NEW TREATMENT PLAN 24/7 FIRM STANDBY

LEVEL 2 NURSES
THEORETIC AND PRACTICAL EDUCATION BY SUPERVISING EXPERT NURSES

TREATMENT START

EXPERT NURSES THEORETIC AND PRACTICAL EDUCATION BY SUPERVISING EXPERT NURSES

ALL STAFF WATCH INSTRUCTION VIDEO ON NXSTAGE HOME PAGE

WORK SHOP SUPERVISING EXPERT NURSES

TREATMENT PLAN FOR CRRT; ICU 542		
CVVHD dialysat fluid administered due to Flow Fraction/FF ; 33%		
$\frac{\text{dialysisdose} + \text{ultrafiltration} / \text{ml/h}}{\text{Blood flow} * 60 \text{ml/min}}$		
ex: $\frac{6000 \text{ml}}{300 \times 60} = 0,33 = 33 \%$		
Blood flow must be minimum 250ml/min		
Severe sepsis / Septic shock refractory for fluid resuscitation AND EITHER: 1. Increased dose of NE without improvement 2. NE supplemented with EN 3. Oliguria / anuria treatment with NE 4. Metabolic acidosis: BE < -10	CVHD	24 hour treatment, start at 2000 ml dialysisfluid/hour. Increase with 1000 ml/h until stable azotemia
Renal failure without sepsis. Diuresis < 200 ml per 12 hours despite stimulation with diuretics or azotaemia with se-BUN > 25-30 mmol/l	CVVHD	24 hour treatment, start at 2000 ml dialysisfluid/hour. Increase with 1000 ml/h until stable azotemia <i>When possible change to intermittent dialysis.</i>
Pulmonary oedema resistant for loop-diuretics Chronic incomp. heart failure	SCUF or CVVHD	Dose of Dialysis fluid to FF 33%. Ultrafiltration 1000ml /h
Intermittent dialysis 6-8 hours	CVVHD	Dose of Dialysis fluid to FF 33%. Needed Dialysis fluid; 50% of patient body weight.
Rhabdomyolysis with renal failure despite fluid optimization	CVVH	Replacement fluid at FF 33%
Severe hypertermia > 41.5° C	CVVHD	Dose of Dialysis fluid to FF 33% Fluid heater at lowest level
Severe accidental hypotermia < 28° C	CVVHD	Replacement fluid at FF 33% Fluid heater at highest level
Induced hypotermia after cardiac arrest Treatment goal 32-34° C	CVVH	Replacement fluid 10 L tp. < 34° the rate will be 2 L/h heater off <i>Only use when use of coolpads is not possible</i>
IV administration of IV x-ray contrast to patients with renal failure Start 4-8 hours before administration and continue for 18-24 hours	CVVHD	Dose of Dialysis fluid to FF 33%.
Poisonings Barbiturates, Lithium, Salicylates and derivatives	CVVHD	Dose of Dialysis fluid to FF 33%.