

SLED should be used for those patients with AKI who are likely to be unsuitable for standard therapy options (HD and HDF). This would include:

- patients at risk of disequilibrium, e.g. very uraemic patients (urea > 50mmol/l), older patients and those with pre-existing CNS disease
- those with borderline cardiovascular stability
- patients with cardio-renal failure
- very fluid overloaded/nephrotic patients

Therapy	Time	Principles	Advantages	Disadvantages
SLED	6-12hrs	Diffusion Ultra-filtration	Low efficiency solute removal minimises solute disequilibrium Improved cardiovascular stability Increased tolerance of fluid removal Sustained treatment maximises dialysis dose	Reduced middle molecule clearance

Therapy	Machine	Dialyser	Blood Pump Speed	Dialysate Flow Rate	Dialysate Temp.	Na	K	Ca	Bic
SLED	Fresenius 5008/5008S	Fresenius FX60 Cordiax	200 (mls/min)	200 (mls/min) Autoflow - Off	(35.5-36.0)	14.0 mmols/l	2.0 mmols/l	1.5 mmols/l	35 mmols/l

NB: SOME OF THESE PARAMETERS ARE DEFAULT OPTIONS SPECIFIC TO THE MACHINE BEING USED AND THE THERAPY OPTION SELECTED (E.G SODIUM AND BICARBONATE LEVEL AND DIALYSATE FLOW RATE/ TEMPERATURE) AND SHOULD BE ADJUSTED WITHIN A THERAPEUTIC RANGE IN ORDER TO ACCOMMODATE THERAPY AND PATIENT SPECIFIC REQUIREMENTS. OTHER PARAMETERS (E.G. POTASSIUM AND CALCIUM LEVEL) ARE BASED ON STANDARD A7 DIALYSATE AND CAN BE VARIED BY USING ALTERNATIVE DIALYSATE SOLUTIONS.

Dialysate No.	CONTENT (mmols/l)						
	Na	K	Mg	Ca	Cl	Glucose	Acetate
A7	100	2.0	0.5	1.5	109	1.0	3.0
A10	100	3.0	0.5	1.25	109.5	1.0	3.0
A27	100	2.0	0.5	1.0	108	1.0	3.0

Electrolyte Composition

Potassium; - Aim for 1 hr post dialysis potassium of 3.0-3.5 mmol/l (guesstimate for K⁺ content of dialysate: 7-pre-dialysis K⁺ concentration ~ = dialysate K⁺)

Bicarbonate: - This will need to be adjusted to a standard prescription of 35mmol/l. This may need reducing further to 30 if the patient becomes progressively more alkalotic.

Sodium: - 140mmols/l (if the patient is hypo/hypernatraemic the Na setting should be individually prescribed by the renal Speciality Registrar/ Consultant and should generally be within +/- 10mmol/s of the patient's baseline sodium)

Phosphate: - supplementation may be necessary after a few days treatment with SLED if pre-dialysis phosphate < 1.0mmol/l

Pre-Treatment

Ensure the following blood samples are taken and results reviewed by a renal registrar prior to commencement of each treatment:

- Urea & Electrolytes
- Bicarbonate
- Calcium
- Phosphate
- Albumin

The following will be required before the 1st treatment and then as clinically indicated:

- Full Blood Count
- Clotting Screen

In emergency situations it may be necessary to start treatment before blood results are obtained
Additional blood samples may be requested according to clinical condition (e.g. blood glucose, blood gas analysis)

Treatment

1. Connect the SafeLine™ after the dialyser (post-dilution)
2. At this stage press the dialysate screen & press the flow button & input 200/min
TURN AUTOFLOW OFF
3. Press the Online key and enter the treatment mode as **HD**
4. All alarm limits are set automatically, however, the size and position of the arterial and venous limits **MUST** be adjusted to ensure the setting of tight alarm limits (20mmhg below actual level)
5. Second nurse to check and sign the data (**UF Goal, Prescribed SLED Time, UF Rate and all prescribed Dialysis Parameters**)
6. Ensure patient is comfortable and position with a nurse call buzzer, advising them to summon assistance if feeling unwell during treatment
7. Ensure patient access is secure and blood lines are taped to patient.
8. Document essential pressures and information as requested on the SLED chart.
9. Immediately following commencement of dialysis, Obtain and record patient's observations:
 - Respiratory rate
 - Pulse
 - Blood Pressure
 - Oxygen saturations
10. Re-check observations as indicated by patient's clinical status during treatment
THIS SHOULD BE UNDERTAKEN AT LEAST EVERY 30 MINUTES AND MORE FREQUENTLY IF CLINICALLY INDICATED

Post – Treatment

Ensure the following blood samples are taken **60 minutes** after the termination of treatment and results reviewed by a renal registrar:

- Urea & Electrolytes
- Bicarbonate
- Calcium
- Phosphate

Additional blood samples may be requested according to clinical condition (e.g. blood glucose, blood gas analysis)

Hypokalaemia may develop after 2-3 days of daily SLED. In those patients it may be necessary to use a 3mmol/l dialysate solution (this will be kept in the equipment store room on the corridor leading to Carrel/Bramley). Hypophosphataemia may also develop after 2-3 days of daily therapy. Please refer to guidelines for phosphate supplementation