

Submission No.: DNC1-9047

Session Title: Dialysis Nurse Course 1

Date & Time, Place: April 30 (Sun), 08:30 - 10:30, Room 1+2

소아 혈액투석 (Hemodialysis in Children)

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소아 혈액투석(hemodialysis in children)

1. Indication

1) Chronic

congenital anomalies of kidney and urinary tract (CAKUT), Glomerulonephritis/FSG
Systemic Lupus erythematosus, cystic kidney diseases, Pyelonephritis or Other
infection, Malignancy, Metabolic disorders, Congenital nephrotic syndrome, hemolytic uremic
syndrome (HUS), Ischemic renal failure

2) Acute

Hyperkalemia, hyperammonemia, severe fluid overload, severe lactic acidosis, inborn error of
metabolism, tumor lysis syndrome, Intoxications

2. Access

Native arteriovenous fistulas : Preferred chronic access if feasible

Synthetic arteriovenous grafts : Used whenever other access have failed

Central venous catheters (CVCs) : Used when temporary access is needed

3. Equipment

1) Dialysis machine

2) Dialyzer

3) Extracorporeal Circuit : available in infants/babies size, biocompatible material,
tolerate up to a maximum of 10 percent of his or her total blood volume
safe volume of the circuit is targeted at 8 percent of total blood volume of the child

4) Priming volume

In infants, if the amount of extracorporeal blood volume exceeds 10% of the patient's blood volume,
there is a risk of complications, so red blood cells, or 5% albumin could be used to fill the line as
priming

4. Prescription

1) Blood Flow rate : A blood flow rate of 3–5 ml/kg/min is adequate to achieve the proper solute
removal with the hemodynamic stability

2) Dialysate flow : 500 mL/min is sufficient for children, at least 1.5 x blood flow

3) Fluid removal : 10ml/kg/hr

4) Length of dialysis and frequency of sessions

5) anticoagulation

6) Hemodialysis Adequacy

5. Complications

Catheter-related complications

increased risk of central vein thrombosis and stenosis

Central venous catheter infection

Hypotension

Muscle spasms

Dialysis dysequilibrium syndrome

Elimination of drugs and nutrients

Disequilibrium symptoms

Long-term complications

Hypertension, neurocognitive/neurodevelopmental delay, psychological stress, Mineral and bone
disorder, Cardiovascular disease