

Drugs for sedation/Sleep:

Remifentanyl 50 µg/ml iv:

- Indication: Sedation > 3 days and in case of kidney or liver failure & obesity.
- Dosage: 0.025-0.25 µg/kg/min. For painful procedures: 0.25 - max 0.75 µg/kg/h.

Propofol 10 mg/ml, 20 mg/ml iv:

- Maintenance for sedation: 0.1- 4 mg/kg/h, only for patients > 16 years

Midazolam 1 mg/ml, 5 mg/ml iv: (bensodiazepine. Effect within 2 min - max effect 5-10 min)

Dosage: Bolus 0.5-2 mg iv, Infusion: 1-25 mg/h. Intramuscular: 5-10 mg (5 mg / ml)

Dexmedetomidine 8 µg/ml iv: (α1:α2 1:1620 agonist, t_{1/2} = 2 h)

- Dosage: If circulatory stable bolus 1 µg/kg in 10 min. Maintenance infusion: 0.2-1.4 µg/kg/h
- Contraindication: AV block II-III, pregnancy, pronounced hypovolemia. Comb with clonidine

Clonidine: (α1:α2 1:200 agonist, parenteral = enteral dose, t_{1/2} = 8 h - longer at cont infusion)

- Dosage: Infusion: max 0.33 µg/kg/h alt 75-150 µg x 4. Same dose orally.
- Contraindication: Bradycardia of SSS, AV block II-III, comb w DEX, severe hypotension

Propiomazine tablet 25 mg

Zopiclone: tablet 7.5 mg

- Dosage: 1-2 tablets no later than 2000. t_{1/2}=8h • Dosage: 1 tablet bn, give < 02.00. Max 15 mg.

Haloperidol 5 mg/ml iv: (low-dose neuroleptic, dopamine blocker, t_{1/2} = 19 h)

- Dosage: 1-5 mg iv, 2.5-5 mg x 4 can be used experimentally. Dose reduction in liver failure
- Caution: Parkinson's, long QT syndrome, hypokalaemia, extrapyramidal side effects

Dialysis: General indications: Urea > 40 mmol/l Therapy resistance hyperkalaemia Pulmonary edema FIO2 > 0.8 despite diuretics

	Standard	Sepsis	Effluent dose (= GFR) = dialysate + replacement fluids + fluids
Blood flow	250 (≥150) mL /min	250 ml or more	When filter time < 24 h: Calculate Filtration Fraction (draw vs flow) IF FF < 20-30%: Increase predilution or blood flow Adjust anticoagulation Give 15 IU/kg bolus heparin + increase inf by 5 IU/kg Measure APTT (should be in the upper normal range)
Outflow dose	30 ml/kg/h	35 or more?	
Dialysate	(ml/h) ¼ of effluent dose	¼ of effluent dose	
Replacement	¼ of effluent dose	¼ of effluent dose	
	(always ≥ 0.5 l post filter)	(always ≥ 0.5 l post filter)	
Heparin	bolus 0-10 IU/kg	0-10-20 IU/kg	
continuous	0-10-20 IU/kg/h	0-10-20 IU/h	

Nutrition:

Daily requirement: liquid 25-30 ml/kg, glucose 3 g/kg, electrolytes (mmol): 80 Na, 40 K, 20 Mg, 20 Phosphate

Energy demand kcal/kg/day (lean body mass):

5-10 kcal/kg/day Newly arrived acutely unstable patient High inotropic need, volume, vasopressor need. SIRS. Imminent intub threat	15-20 kcal/kg/day Unstable but no imminent respiratory or circulatory threat. Continued high O2-and adrenergic support. Deep sedation.	20-25 kcal/kg/day Stable O2 & adrenergic need The process begins to reverse.	30-35 kcal/kg/day Recovery phase with increasing mobilization
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- Enteral nutrition start within 24-48 hours
- PE nutrition is normally started after day 7

Motility stimulants:

Metoclopramide (DA assay) - 5 mg/ml - 2 mlx3 iv. Not: EP, Parkinson's
Naloxone - 1 mg/ml, 5-8 ml x 3 orally in tube, Avoid in: Severe liver failure
Relistor - 8-12 mg x1 sc (peripheral my-opioid antagonist) injection

Contraindications to enteral nutrition:

- Intrabdominal compartment syndrome
- Intestinal ischemia/perforation/obstr ileus
- Imminent intubation/tracheost imaging
- Imminent abdominal surgery

Vasopressor therapy/Inotropys:

(α1-blood vessels, β1-cardiac, β2-cardiac, blood vessels, airways, DA1-splanchnicus, kidney)

Norepinephrine - α1 + + + +, β1 + + +, β2 + (SVR ↑, CO →, HR ↗, BP ↑) ↘ ↑ ↓ →

- Indication: Sepsis, anaphylactic shock, hypotension with SVR ↓
- Dosage: 0.01-0.5 µg/kg/min = 0.5-40 ml/h at 70 kg (0, 1 mg/ml)

Epinephrine - α1 + + + +, β1 + + + +, β2 + + + + (SVR ↑, CO ↑, HR ↑, BP ↑, bronchial dilatation)

- Indication: Circulatory shock, anaphylaxis, cardiac arrest, severe heart failure
- Dosage: 0.05-0.3 µg/kg/min, Anaphylaxis/asthma: 0.3-0.5 mg im, CPR 1 mg iv

Dobutamine - α1 +, β1 + + + +, β2 ++ (SVR ↘, CO ↑, HR ↑, BP ↘)

- Indication: Heart failure, sepsis
- Dosage: 2-15 µg/kg/min = 5-40 ml/h for 70 kg (2 mg/ml)

Dopamine - α1 ++, β1 + + + +, β2 ++, DA-1 + + +

- Indication: Low cardiac output, heart failure, possible oliguria.
- < 3 µg/kg/min - DA effect, 5-10 µg/kg/min β1 effect, > 10 µg/kg/min - α1 effect
- Dosage: 3-15 µg/kg/min = 7-40 ml/h for 70 kg (2 mg/ml)

Isoprenaline - β1 + + + +, β2 + + + + (SVR ↘, CO ↑, HR ↑, BT ↘)

- Indication: AV-block III, bradycardia,
- Dosage: 0.01-0.15 µg/kg/min, 5-70 ml/h at 70 kg (0.8 µg/ml).

Milirone ((phosphodiesterase III inhibitor-> cAMP ↑) SVR ↓, CO ↑, HR ↗, BP ↘)

- Indication: Heart failure.
- Side effect: VES/VT, Hypotension
- Dosage: Bolus 10 min 50 µg/kg, 0.375-0.5-0.75 µg/kg/min (dose adjustment in case of renal failure)

Levosimendane (calcium sensitizer) SVR ↓, CO ↑, HR ↗, BP ↘

- Indication: Heart failure
- Contraindication: GFR < 30 ml/min, pronounced mechanical obstruction due to ventricular inflow/outflow.
- Side effect: VES/VT, hypotension
- Dosage: 6-12 µg/kg/min for 10 min -> infusion 0.1 µg/kg/min for 24 hours

Hypertension:

Dihydralazine - peripheral vasodilator, maximum blood pressure response after 30 min, 12.5 mg/ml

Dosage: 2.12 - 6.25 mg (0.25-0.5 ml) iv.

Labetalol - β1 & 2 + α1 antagonist, maximum effect within 5 min, duration about 6 h, 5 mg/ml

Dosage: 5-10 mg iv repeated doses until intended effect. Max dos 200 mg

Nitroprusside - vascular dilation at vein & artery - duration of action 1-2 min. Caution: aortic stenosis

- "Emergency syringe" (50 µg/ml) - 1-2 ml when needed
- Infusion: (0.5 mg/ml) start 0.5 µg/kg/min - max 10 µg/kg/min

Antiarrhythmics:

Amiodarone 50 mg/ml: (- Reduces the automatic sinus + prolongs AP phase 3, α + β block)

Dosage: 5 mg/kg bolus in 30 min - then 900-1200 mg/24 h. At CPR 300 mg in 20 ml glucose.

- Side effects: bradycardia, hypotension, hypothyroidism
- **Magnesium** (Reduces the automaticity of the sinus node, raises seizure threshold)
- Dissolve 20 mmol Mg-Sulphate in 100 NaCl
- Dosage: 20 mmol in 20 min - then 20 mmol/20 h (in case of eclampsia spasms: 4 mmol/h)
- Caution in case of renal failure

Suggestion for CVWHDF start prismaflow