

Interventions – Stage 1: from randomisation until morning of day 2 in ICU

STUDY PROCEDURES IN THE INTERVENTION AND CONTROL GROUPS

STAGE 1: From randomisation until morning of study day 2

To be implemented using a simple bedside flowchart (tailored, if necessary, to each participating ICU)

	CONSERVATIVE FLUID MANAGEMENT	USUAL FLUID MANAGEMENT
Maintenance fluid		
Review the need for maintenance fluid	Consider ceasing (or not commencing) maintenance fluid if suitable	
Review the rate of maintenance fluid administration	If maintenance fluid is to be continued (or started), reduce to 0.5 ml/kg/hr (Exception: senior ICU medical staff (ICU advanced trainee or higher) may opt-in to prescribing a different order for maintenance fluid)	Continue any existing maintenance fluid at a rate of at least 1 ml/kg/hr (Exception: senior ICU medical staff (ICU advanced trainee or higher) may opt-in to prescribing a different order for maintenance fluid)
Replacement of ongoing losses	Replacement of ongoing fluid loss (eg drains) shall be considered and prescribed separately to maintenance fluid.	Continue existing management
Bolus fluid		
Consider alternatives to bolus fluid	<ul style="list-style-type: none"> Review and document haemodynamic targets and other clinical triggers for a fluid bolus Consider the suitability of starting or increasing vasopressors (instead of a fluid bolus) Consider the suitability of other alternatives to bolus fluid: decreasing or stopping anti-hypertensives, commencement of diuretics 	
Indications for bolus fluid	<ol style="list-style-type: none"> New hypotension AND clinical concern regarding hypoperfusion New oliguria <0.5 ml/kg/hr for 2 consecutive hours AND clinical concern regarding hypoperfusion 	
Contra-indications for bolus fluid	<ol style="list-style-type: none"> Isolated changes in single parameters (eg. CVP, PAWP, HR, lactate, pulse pressure variation) WITHOUT clinical concern regarding hypoperfusion New hypotension WITHOUT clinical concern regarding hypoperfusion 	

	3. New oliguria WITHOUT clinical concern regarding hypoperfusion	
Volume of bolus	250ml (Exception: senior ICU medical staff (ICU advanced trainee or higher) may opt-in to prescribing a larger bolus)	500ml (Exception: senior ICU medical staff (ICU advanced trainee or higher) may opt-in to prescribing a larger bolus)
Drug and other infusions	Potassium: administer with minimal fluid, consistent with local hospital policy and local pharmacy approval Drugs and other electrolytes: usual care	Usual care
Enteral nutrition	Consider the suitability of increasing the caloric density of enteral nutrition, in accordance with local hospital and dietetic practice	Usual care

Interventions – Stage 2: applied in addition from morning of day 2

STUDY PROCEDURES IN THE INTERVENTION AND CONTROL GROUPS
STAGE 2: From morning of study day 2, and every morning in ICU
Applies IN ADDITION to Stage 1, until ICU discharge (max. 8 study days)

	CONSERVATIVE FLUID MANAGEMENT	USUAL FLUID MANAGEMENT
Maintenance fluid	<p>Cease maintenance fluid if it is continuing</p> <p>Research staff will prompt the treating ICU medical team to cease maintenance fluid</p> <p>(Exception: senior ICU medical staff (ICU advanced trainee or higher) may opt-in to prescribing maintenance fluid at any time)</p>	<p>Continue current maintenance fluid</p> <p>Research staff will not prompt the ICU medical team</p>
Calculation of cumulative fluid balance	<p>Research staff will estimate/calculate the cumulative fluid balance from the previous 24 hours, and the entire ICU admission</p> <p>Research staff will the notify the treating ICU team of these estimates</p>	<p>Research staff will estimate/calculate the cumulative fluid balance from 24h pre-ICU until current time.</p>
Reduction of cumulative positive fluid balance	<p>Research staff will facilitate:</p> <ul style="list-style-type: none"> - reminders to the treating ICU team to consider ordering a fluid balance target for the following 24 hours - consideration by the treating ICU team of measures to pursue the fluid balance target more actively if necessary eg. diuretics, minimisation of other fluids used for drugs and electrolytes 	