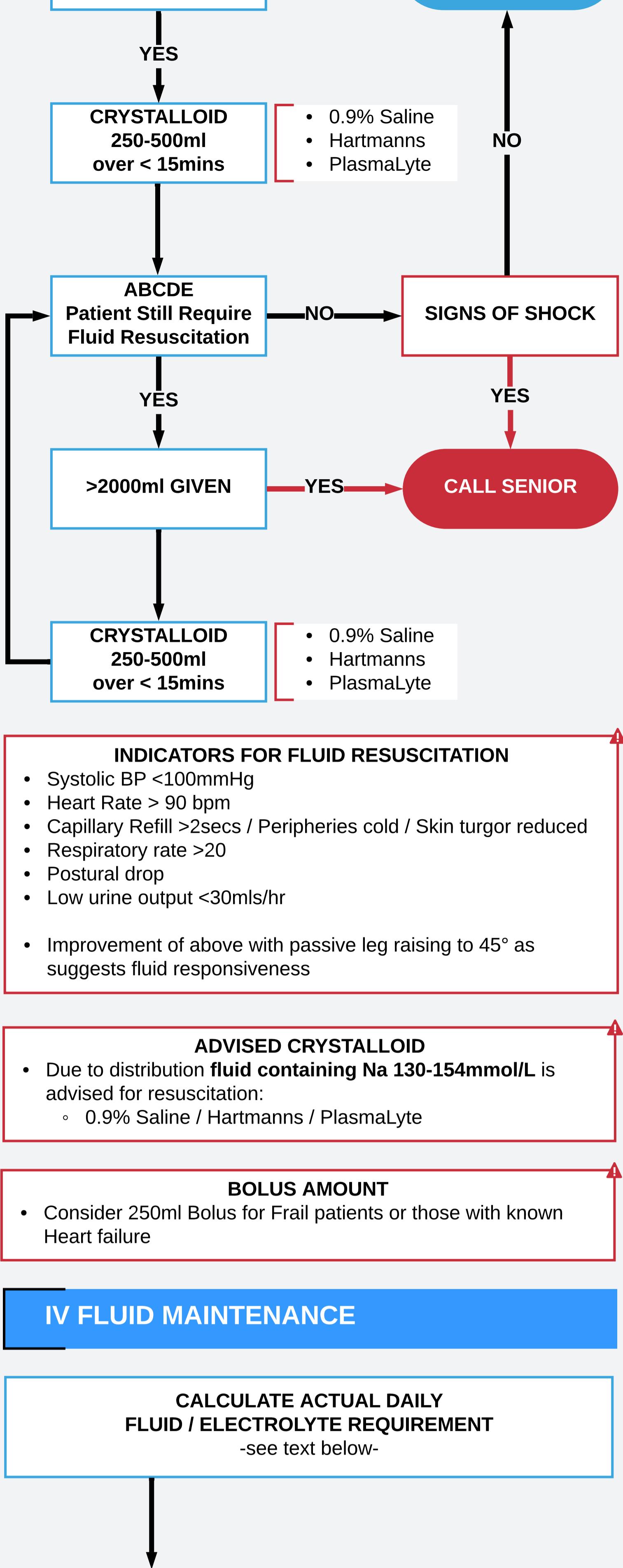


# IV FLUID RESUSCITATION



## INDICATORS FOR FLUID RESUSCITATION

- Systolic BP <100mmHg
- Heart Rate > 90 bpm
- Capillary Refill >2secs / Peripheries cold / Skin turgor reduced
- Respiratory rate >20
- Postural drop
- Low urine output <30mls/hr
- Improvement of above with passive leg raising to 45° as suggests fluid responsiveness

## ADVISED CRYSTALLOID

- Due to distribution fluid containing Na 130-154mmol/L is advised for resuscitation:
  - 0.9% Saline / Hartmanns / PlasmaLyte

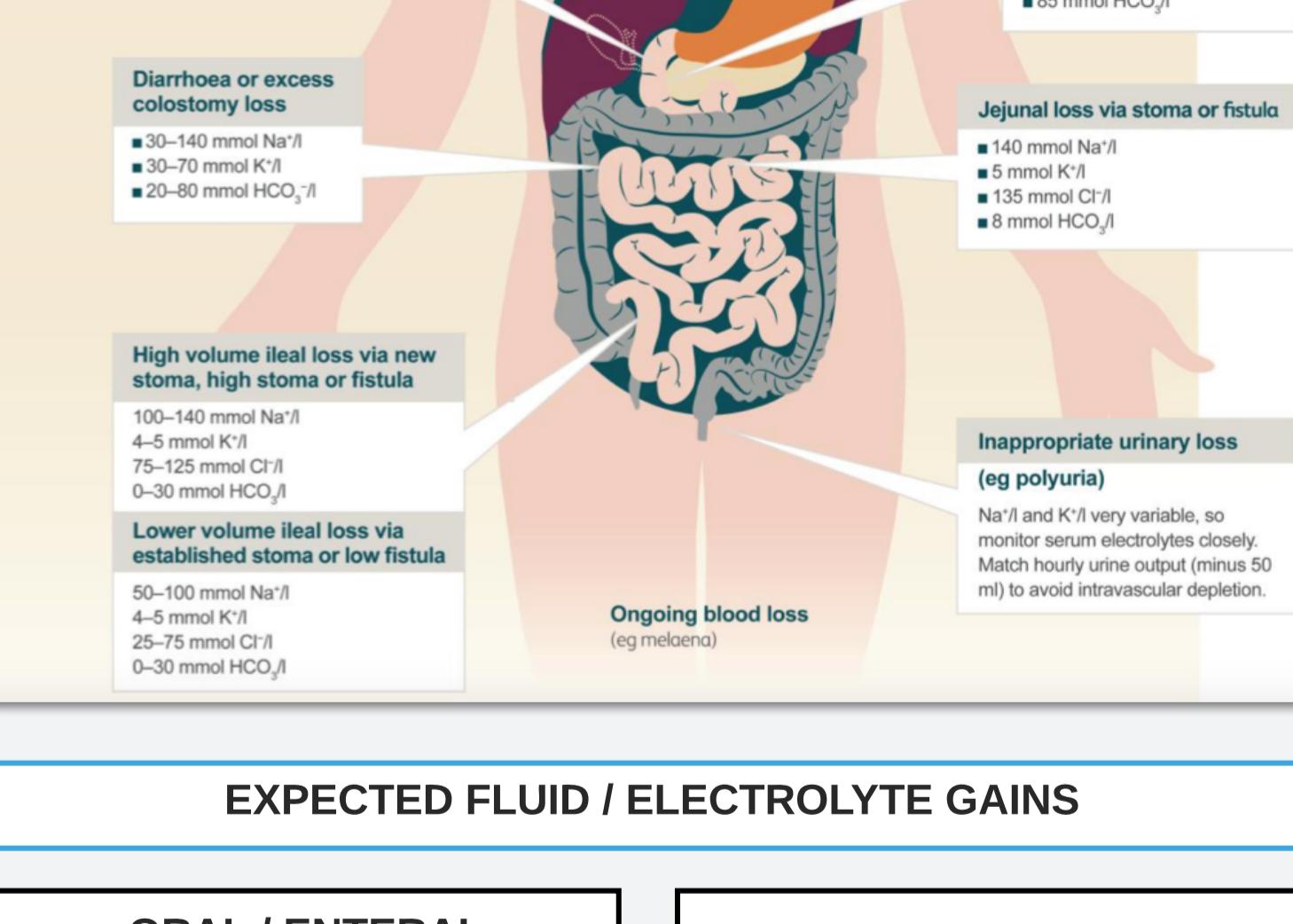
## BOLUS AMOUNT

- Consider 250ml Bolus for Frail patients or those with known Heart failure

# IV FLUID MAINTENANCE

## CALCULATE ACTUAL DAILY FLUID / ELECTROLYTE REQUIREMENT

-see text below-



## EXPECTED FLUID / ELECTROLYTE LOSSES

### Vomiting and nasogastric tube loss

Gastric fluid contains:

- 20-60 mmol Na<sup>+</sup>/l
- 14 mmol K<sup>+</sup>/l
- 140 mmol Cl<sup>-</sup>/l
- 60-80 mmol HCO<sub>3</sub><sup>-</sup>/l

Excessive loss causes a hypochlaemic (hypokalaemic), metabolic alkalosis. Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

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### 'Pure' water loss (e.g. fever, dehydration, hyperventilation)

Mainly insensible water loss (i.e. relatively low electrolyte content); results in potential hypernatraemia.

### Biliary drainage loss

- 145 mmol Na<sup>+</sup>/l
- 5 mmol K<sup>+</sup>/l
- 105 mmol Cl<sup>-</sup>/l
- 30 mmol HCO<sub>3</sub><sup>-</sup>/l

Excessive loss causes a hypochlaemic (hypokalaemic), metabolic alkalosis. Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

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### Pancreatic drain or fistula

125-138 mmol Na<sup>+</sup>/l, 8 mmol K<sup>+</sup>/l, 56 mmol Cl<sup>-</sup>/l, 85 mmol HCO<sub>3</sub><sup>-</sup>/l.

Excessive loss causes a hypochlaemic (hypokalaemic), metabolic alkalosis. Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

### Diarrhoea or excess colostomy loss

- 30-140 mmol Na<sup>+</sup>/l
- 30-70 mmol K<sup>+</sup>/l
- 20-80 mmol HCO<sub>3</sub><sup>-</sup>/l

Excessive loss causes a hypochlaemic (hypokalaemic), metabolic alkalosis. Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

### Jejunal loss via stoma or fistula

140 mmol Na<sup>+</sup>/l, 5 mmol K<sup>+</sup>/l, 135 mmol Cl<sup>-</sup>/l, 8 mmol HCO<sub>3</sub><sup>-</sup>/l.

Excessive loss causes a hypochlaemic (hypokalaemic), metabolic alkalosis. Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

### Inappropriate urinary loss (e.g. polyuria)

Na<sup>+</sup>/l and K<sup>+</sup>/l very variable, so monitor serum electrolytes closely. Match hourly urine output (minus 50 ml) to avoid intravascular depletion.

Excessive loss causes a hypochlaemic (hypokalaemic), metabolic alkalosis. Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

### Ongoing blood loss (e.g. melaena)

Indicated by a red circle.

Excessive loss causes a hypochlaemic (hypokalaemic), metabolic alkalosis. Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

### High volume ileal loss via new stoma, high stoma or low fistula

- 100-140 mmol Na<sup>+</sup>/l
- 4-5 mmol K<sup>+</sup>/l
- 75-125 mmol Cl<sup>-</sup>/l
- 0-30 mmol HCO<sub>3</sub><sup>-</sup>/l

Excessive loss causes a hypochlaemic (hypokalaemic), metabolic alkalosis. Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

### Lower volume ileal loss via established stoma or low fistula

- 50-100 mmol Na<sup>+</sup>/l
- 4-5 mmol K<sup>+</sup>/l
- 25-75 mmol Cl<sup>-</sup>/l
- 0-30 mmol HCO<sub>3</sub><sup>-</sup>/l

Excessive loss causes a hypochlaemic (hypokalaemic), metabolic alkalosis. Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

Correction requires supplemental K<sup>+</sup> and Cl<sup>-</sup>.

### EXPECTED FLUID / ELECTROLYTE GAINS

#### ORAL / ENTERAL FLUIDS OR FOOD

#### IV / ORAL MEDICATIONS

# ACTUAL DAILY REQUIREMENTS

## AVERAGE NORMAL DAILY REQUIREMENTS



## EXISTING FLUID / ELECTROLYTE DEFICIT / EXCESS



## EXPECTED FLUID / ELECTROLYTES LOSSES



## EXPECTED FLUID / ELECTROLYTES GAINS