



Intravenous Fluid Guidelines for Resuscitation and Maintenance

(Policy - NCAG004)

(NCPOD 1999)

- A significant number hospital patients were dying as a result of infusion of too much or too little fluid

Fluid mismanagement

- Hypovolaemia
- Pulmonary or peripheral oedema
- Hypo/ hypernatremia
- Hypo/ hyperkalaemia

5 'R's for prescribing:

Resuscitation
Replacement
Re-assessment

Routine maintenance
Re-distribution

1: Assessment

ABCDE, assess fluid status

Fluid resuscitation needed? –

BP <100mmHg; heart rate >90; capillary refill >2s, cool peripheries; RR >20; NEWS ≥5; 45° passive leg raising suggests fluid responsiveness.

Yes

No

2: Fluid Resuscitation

- **Identify cause** of deficit and respond.
- **Fluid bolus** - 500 ml Hartmann's solution stat

Reassess the patient using ABCDE approach.

Further fluid resuscitation needed?

Yes

No

>1000 ml given?

Yes

Does the patient have signs of shock?

Yes

No

Seek expert help

Further fluid bolus of 250–500 ml of Hartmann's solution

Assess fluid and electrolyte needs.

History: previous limited intake, thirst, abnormal losses, comorbidities.

- Clinical examination: pulse, BP, capillary refill, JVP, oedema (peripheral/pulmonary), postural hypotension.
- Clinical monitoring: NEWS, fluid balance charts, weight.
- FBC, urea, creatinine and electrolytes.

Can patients fluid and electrolyte needs be met orally?

Yes

Ensure nutrition and fluid needs are met

No

Does the patient have complex fluid or electrolyte replacement or abnormal distribution issues?

Look for existing deficits or excesses, ongoing abnormal losses, abnormal distribution or other complex issues.

No

Yes

4: Replacement and Redistribution

Existing fluid or electrolyte deficits or excesses

- Check for:
- dehydration
 - fluid overload
 - hyperkalaemia / hypokalaemia

Ongoing abnormal fluid or electrolyte losses?

- vomiting and NG loss
- biliary drainage loss
- high stoma output
- diarrhoea
- bleeding
- sweating/ fever/ dehydration
- urinary loss

Redistribution and other complex issues

- oedema
- severe sepsis
- Na ↑/↓
- Renal/ liver/cardiac impairment.
- post-operative fluid retention and redistribution
- malnourished and refeeding issues

Seek expert help if necessary.

Prescribe by adding to or subtracting from routine maintenance, adjusting for all other sources of fluid and electrolytes (oral, enteral and drug prescriptions)

Monitor and reassess fluid and biochemical status by clinical and laboratory monitoring

3: Routine Maintenance

Give maintenance IV fluids

Normal daily fluid and electrolyte requirements:

- 25–30 ml/kg/d water
- 1 mmol/kg/day sodium & potassium*
- 50–100 g/day glucose

Reassess and monitor the patient
Stop IV fluids when no longer needed.

Consider alternative nutrition if >72 hours

Fluid Resuscitation → Seek Expert Help

Systolic BP
less 100

HR > 90

Capillary
refill > 2

Peripheries
cold to
touch

NEWS > 5

Passive leg
raising
suggests
fluid
responsiveness

A – E
Assessment

500mls
bolus
Hartmann's

Re-assess

Repeat bolus
250 –
500mls

PGD 163 – Administration of intravenous Hartmann's solution to adult patients
in an emergency



Routine Maintenance

Normal daily fluid & electrolyte requirements:

25-30 ml/kg/day water

1 mmol/kg/day sodium & potassium

50-100 g/day glucose

Sodium Chloride 0.18% in 4% glucose
with 20mmol potassium

Fluid Replacement

Daily requirement
(routine
maintenance)
+
like for like
replacement

Regular monitoring
required to ensure
patient's electrolyte
and fluid
requirements are
met

Nursing responsibilities:

- Accurate fluid balance recording
- Minimum weekly weights
- Escalate concerns
- Ensure regular reviews and treatment plan for 'out of hours'



Exclusions:

Under 16s

Pregnant women

Sever cardiac, renal or liver disease

Patients with Diabetes , DKA & on VRII

Patients with burns

Patients on Inotropes/ ICU

Patients during surgical anaesthesia

Patients with traumatic brain injury

Intestinal failure

Severe electrolyte disturbance

Fluid overload/ pulmonary oedema

Patients and end of life