



Year 4 Formative OSCE (September) 2018

Reading for Station 5

Candidate Instructions

Clinical Scenario

You are an intern in the Gold Coast University Hospital Emergency Department.

Kathy is a 23-year-old woman who has presented with nausea, vomiting and diarrhoea. Kathy appears dehydrated, so the triage nurse has recommended inserting a cannula to provide IV replacement fluids. She is a 60kg female who is otherwise fit and well. Your registrar estimates she has a deficit of 400mL. Her electrolytes on triage bloods are normal and she has a heart rate of 100, but otherwise vitals are within normal limits.

The nursing staff have asked you to insert the cannula and write the fluid order.

Task

In a total of eight (8) minutes:

- Insert an intravenous cannula
- Write fluid orders for 24 hours, assuming Kathy will require her entire requirement to be met by IV (i.e. she is nil by mouth).

Please note: Kathy has no ongoing losses that have to be accounted for.

Simulated Patient Information

The candidate has the following scenario and task

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Instructions for simulated patient

As an SP in this station you will be required to lie on the bed. You are very ill and have complained of nausea, vomiting and diarrhoea for the past 24 hours. You are dehydrated, quite fatigued and cannot keep any fluids down.

If asked, your full name is Kathy Braisby. Your date of birth is 28 December 1992. You are 25 years old. You have an allergy to penicillin.

When the student seeks consent, ask them if it will hurt because you don't like needles.

The student will cannulate the model arm – not your own arm.

Examiner Instructions

- Please verify that you are examining the correct student by checking the name on the student's ID card against the name on the score sheet, as the student enters the room.

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- Please mark the student 'as they go' during the station.
- You have two minutes between candidates to finalise your scoring and 'reset' the station.

Props and Sundries

- Handwash
- Arm cannulation model with blood
- Table (for doing the procedure)
- Steel Trolley containing: cannula, saline flush, 10mL syringes, red drawing up needles, bung, alcohol swabs, cannula dressing kits
- Gloves
- Plastic aprons
- Protective eyewear
- Disinfectant wipes
- IV Fluid Guidelines
- Patient wristband
- Qld Health IV Fluid Order Form (Adult)
- IV Fluid Stickers

Authors – Rhys Harris and Kingsley Smith

OSCE Score Sheet

Station 5 – Cannulation + IV Fluids

Student Name/Number.....

Examiners Name:

SP:

No.	Assessment Item (details)	PLEASE MAKE ONE TICK IN EVERY ROW						
1	Introduces self & Confirms Patient ID Introduces self appropriately, asks for patient name and DOB, confirm on wristband	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		0	1	2	3			
2	Infection Control Hand hygiene before touching patient, hand hygiene after touching patient, hand hygiene before procedure, hand hygiene after procedure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		0	1	2	3	4		
3	Consent Explains, seeks, obtains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		0	1	2	3			
4	Patient Preparation Asks patient if preferred arm, asks about allergies, asks about current anticoagulants, bluey under arm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		0	1	2	3	4		
5	PPE Dons plastic apron, dons eye protection, dons non-sterile gloves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		0	1	2	3			
6	Cannula Insertion Selects appropriate vein, cleans site and maintains asepsis, inserts cannula, applies bung and releases tourniquet, immediately disposes of needle, flushes line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		0	1	2	3	4	5	6
7	Secure Cannula Applies dressing appropriately, maintains asepsis of key parts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		0	1	2				
8	Charts Appropriate IV Fluids Replaces half deficit in first 8 hours and remaining over subsequent 16 hours, calculates 1500 – 1800mL of maintenance and replaces it with an appropriate crystalloid at an appropriate rate, accounts for electrolytes and glucose to be replaced, completes all relevant administration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		0	1	2	3	4		
9	Closing Instructs patient on management and safety of cannula, asks patient for concerns and questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		0	1	2				
10	Disposal of Waste Appropriately disposes of equipment, appropriately disposes of gloves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
		0	1	2				
11	CLARITY Organisation, appropriate confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		1	2	3	4	5	6	7
		Confused, disorganised, unclear		Below expected		Above expected		Outstanding
12	WARMTH Engagement, compassion, care for patient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		1	2	3	4	5	6	7
		Cold, uncaring, brusque		Below expected		Above expected		Outstanding

Kathy Braisby **URN: 863999** **PATIENT WRISTBAND**

SEX: F

DOB: 28/12/1992

ADDRESS: 37 Ballybunion Drive Parkwood QLD 4214

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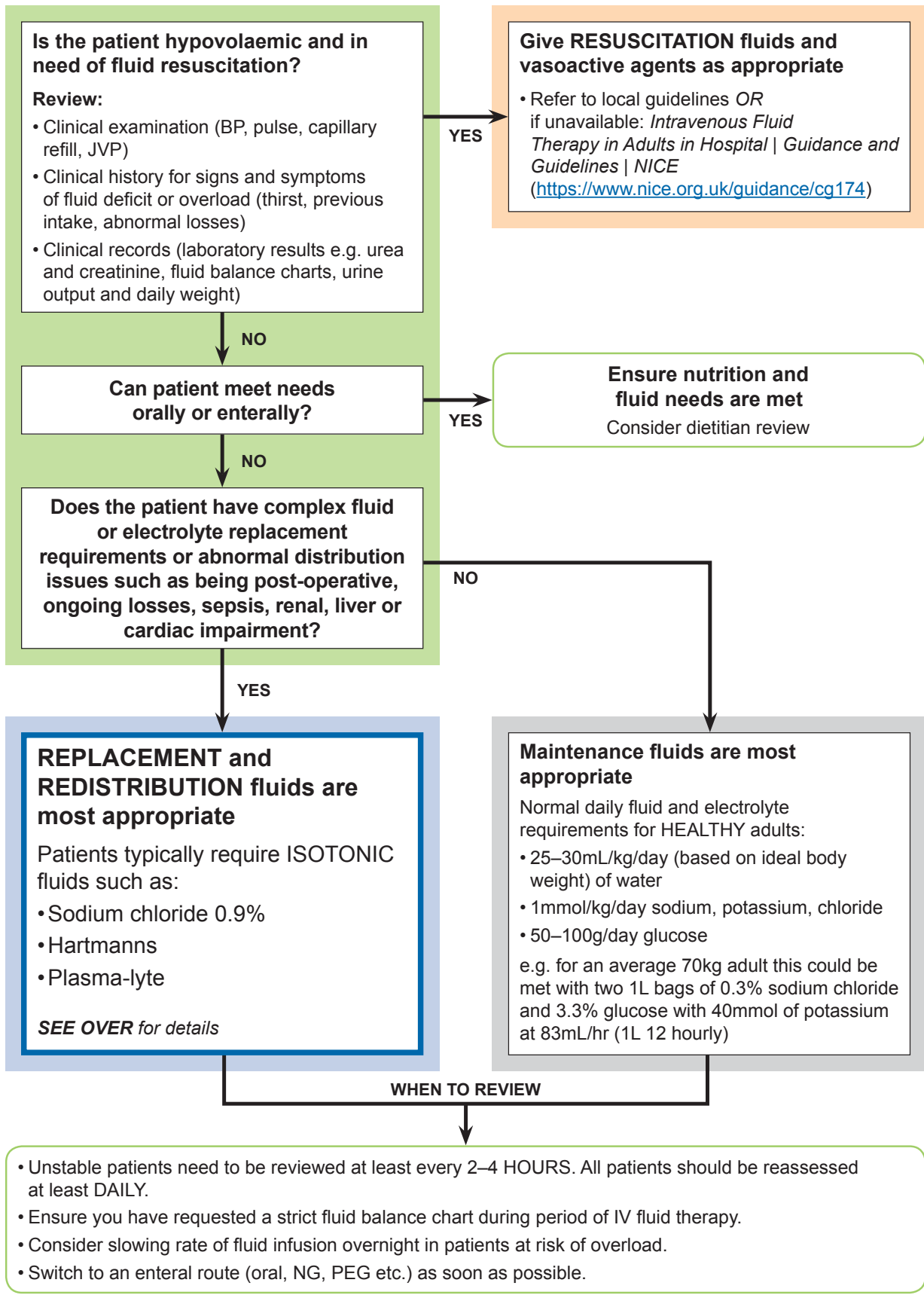
ADDRESS: 37 Ballybunion Drive Parkwood QLD 4214



Reviewed by Queensland Health Medicines Regulation and Quality
Fluid and Electrolyte Guideline Working Party
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Contact: medicationsafety@health.qld.gov.au

DO NOT USE IN PAEDIATRIC PATIENTS. Refer to local guidelines or if not available refer to <http://qheps.health.qld.gov.au/childrenshealth/resources/guidelines/gdl-01025.pdf> or **Guidelines for Prescribing Intravenous Fluids for Paediatrics**

To remain in
end-of-bed folder



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REPLACEMENT and REDISTRIBUTION

1. Fluid Replacement

Fluid deficit

- **Intravascular hypovolaemia:** Replace with fluids such as 0.9% sodium chloride or compound sodium lactate (Hartmanns). In selected clinical situations appropriate colloids (4% albumin or succinylated gelatin) could be considered. Seek advice if unsure when colloids appropriate. If haemoglobin low, consider blood products.
- **Extracellular deficit:** Correct with replacement fluid, based on type of fluid lost (see diagram). If serum sodium is low, avoid 5% glucose or glucose saline combinations. Administer half required volume over 8 hours and second half over next 16 hours. If poor cardiac reserve reduce rate to half required volume over 12 hours and second half over next 24 hours. Reassess frequently.

Fluid overload

- Review all fluid administration including "To Keep Vein Open (TKVO)" orders and for drug administration. Minimise sodium and fluid volume given. Consider diuretic.

Electrolyte derangements

- See *Prescribing Guidelines for Electrolyte Disturbances in Adults*.

2. Ongoing Abnormal Fluid Losses

- Check ongoing volumes and composition of losses using diagram provided.
- Replace with appropriate fluid. Use *Table 1* to aid in fluid choice.

Table 1: Properties of Some Common Fluids

Type of fluid	Sodium mmol/L	Potassium mmol/L	Chloride mmol/L	Glucose g/L
Sodium chloride 0.9%*	154	0	154	0
Compound sodium lactate (Hartmanns)#	129	5	109	0
Plasma-lyte 148 in water#	140	5	98	0
0.3% sodium chloride and 3.3% glucose*	51	0	51	33
5% glucose	0	0	0	50

* Available as pre-mix with 20mmol or 40mmol/L of potassium.

Compatibility with some medications may be an issue. Check product information for further advice.

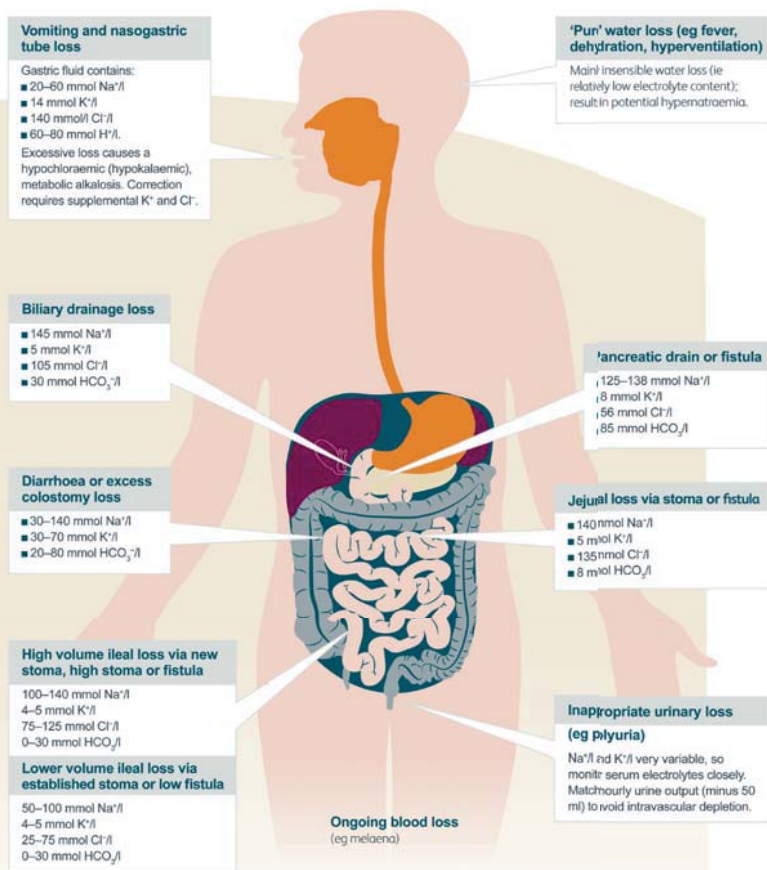


Diagram source: National Guideline Centre (2013) Intravenous fluid therapy in adults in hospital. Clinical guideline 174. Published by the National Clinical Guideline Centre at The Royal College of Physicians, 11 St Andrews Place, Regent's Park, London, NW1 4LE. Copyright © NGC. Reproduced by permission. A larger diagram is available at: <https://www.nice.org.uk/guidance/cg174/resources/diagram-of-ongoing-losses-191664109>

3. Redistribution and Other Complex Issues

- **Post-op fluid retention and redistribution:** Fluids with a higher sodium concentration at reduced volumes are indicated (e.g. 0.9% sodium chloride at 40–50mL/hr in a euvoalaemic patient). Consider adding potassium 20mmol/L from day 2 or 3.
- **Impaired cardiac function:** Patients are at increased risk of fluid overload. Reduce volume given and monitor frequently.
- **Impaired renal function:** Patients may be at increased risk of overload/hyperkalaemia. **If oliguric, do not use potassium.** For **hypovolaemia** correct as per fluid deficit above. For **euvoalaemia** limit volume to, urine vol + other losses + 500mL per day.
- **Septic patients:** Have variable increased fluid requirements. Vasopressor support in ICU may be required. **Seek advice.**
- **Obese:** Adjust estimated fluid requirements and electrolyte doses based on ideal body weight. If BMI is greater than 40kg/m² seek expert advice.
- **Smaller/Geriatric patients:** Proportionate reductions indicated. **Do not use these guidelines in paediatrics.**
- **Specific fluid requirements:** Patients on dialysis, with burns, liver disease, transplants, acute neurological conditions (meningitis, encephalitis and stroke), diabetic ketoacidosis or hyperosmolar hyperglycaemic state, have very specific fluid requirements. **Seek advice.**