

Name: HOSP N.O: <small>ADDRESOGRAPH</small> D.O.B:	MULTIPLE VRIII CHARTS		CHART	OF
	Hospital:		<div style="text-align: center;"> <h1>OBS VRIII</h1> <p>Variable Rate Intravenous Insulin Infusion</p> <p>CBG >7 mmol/L or Patient on Insulin</p> <p>Steroid cover</p> <p>Other: _____</p> </div> <div style="text-align: right; font-size: small;"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div>	
	Ward:			
	Cons.:			
Date: / / 20				

INSTRUCTIONS	CBG > 7 or On Insulin	Steroid cover
	What ever you want in here ?	What ever you want in here?

WHICH FLUID TO USE FOR A FOR A VRIII
All fluids must contain glucose or dextrose and be run through an IV pump

STANDARD FLUID	ALTERNATIVE FLUIDS <i>To be prescribed by an experienced clinician and reviewed regularly</i>			
1 st choice in most patients	K > 6 mmol/L	K < 4 mmol/L	If repeatedly hypoglycaemic despite VRIII Reduced Protocol	Customised Fluid <i>To be used by diabetes team</i>
0.45% NaCl + 5% Dextrose + 0.15% KCL or 'STANDARD'	0.45% NaCl + 5% Dextrose	0.45% NaCl + 5% Dextrose + 0.3% KCL	10% Glucose + 0.15% KCL	Prescribe on: FLUID PRESCRIPTION
50 ml/hr	50 ml/hr	50 ml/hr	50 ml/hr	Specify rate: ml/hr

Prescribed fluids are continuous (eg: as many bags required until VRIII stopped or prescription changed)

FLUID PRESCRIPTION AND RECORD

Daily electrolytes and change fluid as appropriate

PRESCRIPTION				RECORD			
FLUID PRESCRIPTION	Date	Time	Sign	Date	Time	Nurse Prep.	Nurse Chk.
<i>Prescribed fluids are continuous at 100 ml/hr (unless specified as in Customised Fluid)</i>							

TREATING HYPOGLYCAEMIA (ON VRIII) = CBG < 4 mmol/l

- NURSE LED TREATMENT** Call for **HELP** + Stop IV Insulin + Check A-B-C
- Is patient asymptomatic or suitable for oral glucose - 4 glucose tablets or 2 glucose gels
- Is patient symptomatic or NBM:**
- IV access secured**
 1. Give 20% Glucose 100 mls IV Stat
 2. Check CBG every 15 mins
 3. If CBG < 4 mmol/L, repeat 20% Glucose IV up to 3 times (4 Boluses in total)
 - OR... If NO time to secure IV ACCESS**
 1. 1 mg Glucagon IM once + Secure IV access
 2. Give 20% Glucose 100 mls IV Stat + Check CBG every 15 mins
 3. If CBG < 4 mmol/L, repeat 20% Glucose IV up to 3 times (4 Boluses in total)
- Restart VRIII once CBG>4, run VRIII at 0.2 ml/hr for 1 hour, after 1 hour follow a reduced VRIII protocol (i.e. IN to ST)**

- CONTINUED TREATMENT**
- If persistent Hypoglycaemia after 3 boluses of 20% Glucose:
 - **URGENT** Medical or Diabetes Team review
 - If Hypoglycaemia occurs with **Reduced** VRIII protocol use 10% Glucose + 0.15% KCL (page 1)

20% GLUCOSE BOLUS			Date	Time	Sign	Date	Time	Sign	GLUCAGON			Date	Time	Sign	
100 ml	IV	BOLUS							1 mg	IM	Once in 24 hrs				
As per treating HYPOGLYCAEMIA						As per treating HYPOGLYCAEMIA						Once in 24 hrs			
Sign		Date				Sign		Date							

TREATING HYPERGLYCAEMIA (ON VRIII) = CBG > 12 mmol/L

- INITIAL TREATMENT** **Check** Urinary or Blood ketones
- If Urinary ketones ≥ +++ or Blood ketones ≥ 3mmol/L
 - Follow** DKA management guidelines
 - Urgent** Medical or Diabetes Team review, if applicable **Contact** Anaesthetist on list
 - If Urinary ketones ≤ ++ or Blood ketones < 3mmol/L
 - If patient unwell - Medical Team review
 - Hourly Blood ketones and continue hourly CBG

- CONTINUED TREATMENT**
- If patient has CBG > 12 mmol/L despite VRIII for three hours
 - Consider changing to an increased VRIII protocol
 - If persistent Hyperglycaemia
 - Medical Team or Diabetes Team review

RESTARTING USUAL DIABETES MEDICATION

- Patient must be able to eat and drink normally
- Usual diabetes medication and a meal must be taken **one hour before** VRIII is stopped
- If LONG ACTING INSULIN was omitted, then continue VRIII till next LONG ACTING INSULIN dose given or contact Diabetes Team
- Once VRIII stopped please refer to standard CBG monitoring
- If patient is new to insulin as part of an emergency procedure consult Diabetes or Medical Team before stopping VRIII
- If patient's CBG is outside the range of 4-14 mmol/L then consult Diabetes or Medical Team prior to discharge

USUAL DIABETES MEDICATION AND A MEAL MUST BE GIVEN ONE HOUR BEFORE VRIII IS STOPPED

VARIABLE RATE INTRAVENOUS INSULIN INFUSION PROTOCOLS (mls/hr)

Select: Protocol according to instructions (page 1)

USE CODE (in red) to prescribe VRIII opposite on **VRIII PRESCRIPTION AND INSULIN RECORD**

VRIII PRESCRIPTION AND INSULIN RECORD

If in doubt continue VRIII till prescriber review

CBG mmol/L	VRIII in labour target CBG 4-7 mmol/L VRIII in steroid use target CBG 4-7.8 mmol/L			1 Customised Specialist Advice	2 Customised Specialist Advice
	A Standard	B Increased >80 units/day	C Specialist advice		
< 4.0	FOLLOW TREATING HYPOGLYCAEMIA GUIDELINES (page 4)				
4.0 – 5.5	0.2	0.5	1.0		
5.6 – 7.0	0.5	1.0	2.0		
7.1 – 8.5	1.0	1.5	3.0		
8.6 – 11.0	1.5	2.0	4.0		
11.1 – 14.0	2.0	2.5	5.0		
14.1 - 17.0	2.5	3.0	6.0		
17.1 – 20.0	3.0	4.0	7.0		
>20.1	4.0	6.0	8.0		
	FOLLOW TREATING HYPERGLYCAEMIA GUIDELINES (page 4)				

PRESCRIPTION			
USE CODE: A, B, C, 1, 2			
VRIII CODE	Date	Time	Sign

RECORD				VRIII SET UP			
49.5ml of 0.9% Saline with 50 units Actrapid® in a 50 ml syringe							
Date	Time	Prep.	Chk.				

- Use a line with anti-reflux and anti-syphon valve
- Prime line with 5ml **before** attaching to patient
- Starting syringe volume should be 45ml when first attached to patient
- Each new syringe must:
 - Start at 45mls
 - Be signed for on record opposite
 - Start before previous finished

PATIENTS WITH DIABETES ON INSULIN MUST ALWAYS HAVE A SOURCE OF INSULIN AND GLUCOSE or DEXTROSE or FOOD

Date	/	/20	Time	hh:mm	IF VRIII > 12 HOURS ENSURE A PLAN IS IN PLACE FOR WHEN AND HOW VRIII IS TO BE STOPPED															

Capillary Blood Glucose Level		CHECK CBG LEVELS HOURLY																		
mmol/L		TICK BOX TO SHOW CBG LEVEL																		
>24.1	IF CAPELLARY BLOOD GLUCOSE > 10 MMOL/L FOR THREE HOURS FOLLOW HYPERGLYCAEMIA GUIDELINES																			
17 - 20.9																				
15 - 16.9																				
14 - 14.9																				
13 - 13.9																				
12 - 12.9																				
11 - 11.9																				
10.1 - 10.9																				
9 - 10																				
8 - 8.9																				
7 - 7.9	IF CAPELLARY BLOOD GLUCOSE < 4.0 MMOL/L FOLLOW THE HYPOGLYCAEMIA GUIDELINES																			
6 - 6.9																				
5 - 5.9																				
4.1 - 4.9																				
3 - 4.0																				
2 - 2.9																				
1 - 1.9																				
0 - 0.9																				

Ketones (Urine + or Blood mmol/L)																				
VRIII Protocol in use (A, B, C, 1, 2)																				
Insulin infusion rate	mls/hr																			
Volume to be infused	ml																			
Volume infused	ml																			
Fluid infusion rate	mls/hr																			
Volume to be infused	ml																			
Volume infused	ml																			
Nurse's Signature																				

VRIII > 12 HOURS: CHECK U+E, CHANGE FLUID AS APPROPRIATE

USUAL DIABETES MEDICATION AND A MEAL MUST BE GIVEN ONE HOUR BEFORE VRIII IS STOPPED (SEE PAGE 4)

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IF CONTINUED BEYOND 24 HRS, DOCTOR REVIEW; CONTINUE WITH CLEAR RECORD OF TRANSFER TO NEW CHART