

CARE4 MODULE NAME: OM (Order Management)

Ordering Adult Critical Care DKA Order Sets

Overview

This document provides instructions on how to enter Adult Critical Care DKA Order Sets using the OM Module in Web Acute.

Selecting the Order Set

The screenshot shows the 'Orders' module interface. At the top, there are tabs for 'CURRENT', 'ENTER', 'RECONCILE', and 'TRANSFER'. Below these are buttons for 'Add New' and 'Process Orders'. A search bar contains the text 'crit dka'. To the right of the search bar are filters for 'Pt.Age' (checked) and 'Wt.' (unchecked). Below the search bar, a list of order sets is displayed. Two items are highlighted with a red box: 'CRIT DKA Maintenance IV Fluids' and 'CRIT DKA/HHS (Initiation)'.

There are two sets available for adult DKA management:

1. CRIT DKA/HHS (Initiation)
 - Contains patient care, laboratory, medications, and initial IV fluids orderables
2. CRIT DKA Maintenance IV Fluids
 - Contains IV fluid options to be ordered AFTER treatment has been initiated and the patient either needs additional replacement fluids, or their sodium results require a change in IV fluids.

Initial IV Fluid Selection

The screenshot shows the 'CRIT DKA/HHS (Initiation)' order set interface. The 'IV Solutions' section is expanded to show 'IV Bolus' orders. Under 'NS', the order 'sodium chloride 0.9 % [NaCl 0.9%] IV 999 mls/hr ONE' is selected. The 'Label Comments' field contains the text: 'to run over 1 hour unless otherwise specified by MRP For patients with shock (hypotension, oliguria, cool /clammy skin, abnormal mental status, metabolic acidosis)'. Below this, the 'RL' section is expanded to show 'Ringer's lactate 1000 mL BOLUS' and 'Ringer's lactate 2000 mL BOLUS' options.

When selecting an IV bolus order for DKA, infusion instructions are indicated within the label comments.

IV Fluid Selection (Maintenance)

The selection of the clinical protocol enables nursing staff to carry out the appropriate patient care activities as outlined within the protocol. The Protocol can be viewed by clicking on the grey “P” button. It also contains an algorithm that can assist in base fluid selection.

The screenshot shows the 'IV Solutions' menu with 'Protocol CC DKA/HHS IV Fluids & Insulin' selected. A red box highlights the 'P' button and the dropdown menu for base fluid selection, which includes '0.45% Normal Saline' and 'Normal Saline'.

It is required to choose the base fluid to be used for the Protocol. Once chosen, the appropriate IV Fluid orders will be Reflexed onto set.

The screenshot shows 'Reflexed Orders from Protocol CC DKA/HHS IV Fluids & Insulin (CRIT DKA/HHS (Initiation))'. It lists two orders: 'NS SCH SCH' and 'NS with KCl 20 mmol/L'. Red boxes highlight the 'RATE' field and the 'Label Comments' for both orders. The label comments include instructions on when to use the order, potassium and glucose levels, and nursing protocols for bag changes.

Several orders will be pre-selected that can be used according to the Clinical Protocol. Label Comments containing additional instructions consistent with the Clinical Protocol are included with the order.

These may also be viewed by selecting the “I” button.

The rate is required for the IV fluid orders. Click on “RATE” to enter it.

Insulin: Loading Dose

The screenshot shows the 'Insulin: Loading Dose' section with two options: 'DOSE unit IV ONCE ONE' with a rate of '=0.05 unit/kg/DOSE (Age: 18+, DKA loading)' and 'DOSE unit IV ONCE ONE' with a rate of '=0.1 unit/kg/DOSE (Age: 18+, DKA loading)'. A red box highlights these two options.

Two weight-based insulin loading dose options are available. Insulin dose will default in according to the patient’s documented weight.

CRIT DKA/HHS (Initiation) [Next Req Field] [Clear All] [Deselect]

IV Solutions

Insulin: Loading Dose

> insulin human regular [HumuLIN R ; NovoLIN ge Toronto] [Similar Order Selected](#)

<input checked="" type="checkbox"/> insulin human regular [HumuLIN R ; NovoLIN ge Toronto]	06/09/2021 13:53	06/09/2021 13:54	New
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4.1 unit IV ONCE ONE ⓘ

=0.05 unit/kg/DOSE (Age: 18+, DKA loading)

Label Comments: Give when K+ is greater than 3.3 mmol/L

Insulin: Continuous Infusion

CRIT DKA/HHS (Initiation) [Next Req Field] [Clear All] [Deselect]

IV Solutions

Insulin: Titration A

START when serum potassium is greater than 3.3 mmol/L

STOP Titration A protocol when BG is less than or equal to 10 mmol/L

INITIATE Titration B protocol at 50% of the final Titration A rate

> insulin (regular) infusion 1 unit/mL

<input checked="" type="checkbox"/> > insulin human regular [HumuLIN R ; NovoLIN ge Toronto]	06/09/2021 14:00		New
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100 unit IV TITR SCH ⓘ ⓘ

Label Comments: This is for the "Titration A" portion of the DKA/HHS protocol. Only START when potassium is greater than 3.3 mmol/L STOP when blood glucose is less than or equal to 10 mmol/L (Stop Medication Order)

There are two pre-selected orders for continuous infusion insulin titrations. Titration A is an initial infusion of insulin, to be followed by Titration B once certain targets are met as per the Clinical Protocol.

Detailed protocols can be viewed by selecting the grey "P" button.

Insulin: Titration B

STOP Titration A protocol when BG is less than or equal to 10 mmol/L

INITIATE Titration B protocol at 50% of the final Titration A rate

Follow Titration B Protocol to target blood glucose 10 to 14 mmol/L

Continue IV maintenance fluid as ordered with potassium replacement

> insulin (regular) infusion 1 unit/mL

<input checked="" type="checkbox"/> insulin human regular [HumuLIN R ; NovoLIN ge Toronto]	06/09/2021 14:30	STOP DATE	New
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100 unit IV TITR SCH ⓘ ⓘ ⓘ

sodium chloride 0.9 % [NaCl 0.9%] IV TITR Per Protocol unit/kg/hr

Label Comments: This is for the "Titration B" portion of the DKA/HHS protocol. Give when K+ is greater than 3.3 mmol/L START when blood glucose is less than or equal to 10 mmol/L on Titration A (stop titration A protocol)

> dextrose 50% in water [D50w] [Similar Order Selected](#)

<input checked="" type="checkbox"/> dextrose 50% in water [D50w]	12.5 g IV PROTOCOL PRN ⓘ ⓘ ⚠	06/09/2021 13:53	New
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Label Comments: This is for the "Titration B" portion of the DKA/HHS protocol. Start if on insulin infusion B AND blood glucose is between 4 and 9.9 mmol/L

Dose Instruction

> insulin human regular [HumuLIN R ; NovoLIN ge Toronto] [Similar Order Selected](#)

<input checked="" type="checkbox"/> insulin human regular [HumuLIN R ; NovoLIN ge Toronto]	6 unit IV PROTOCOL PRN ⓘ ⓘ	06/09/2021 13:53	New
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Label Comments: This is for the "Titration B" portion of the DKA/HHS protocol. Start if on insulin infusion B AND blood glucose is greater than 16 mmol/L

Additions/Changes to Maintenance IV Fluids

CRIT DKA Maintenance IV Fluids Clear All

NaCl 0.45% fluids (DKA Maintenance)

Discontinue NaCl 0.9% fluids

1/2 NS

sodium chloride 0.45% [NaCl 0.45%] IV *RATE mls/hr SCH 06/09/2021 15:40 STOP DATE New

Label Comments

Use while :
 1) serum Potassium is greater than 5 mmol/L
 AND
 2) plasma Glucose is more than 14 mmol/L

Follow nursing DKA Protocol for bag change if :
 1) serum Potassium falls below 5 mmol/L
 OR
 2) plasma Glucose reaches 14 mmol/L

If serum K+ is less than 3.3 mmol/L :
 DECREASE INSULIN IV to 50% of rate and see potassium bolus order
 Replace potassium less aggressively in patients with renal failure
 Repeat serum K+ level in 2 to 4 hours after Potassium replacement

If serum K+ is less than 2.8 mmol/L :
 after repeated bloodwork, notify MRP for further instruction

1/2 NS with KCl 20 mmol/L

KCl 20 mmol in NaCl 0.45% [KCl 20 mmol/L in NaCl 0.45%] IV *RATE mls/hr SCH 06/09/2021 15:50 STOP DATE New

Use the CRIT DKA Maintenance IV Fluids set for any additions/changes to fluids.

Remember to discontinue the previous ordered fluids that aren't required any longer.

This can be done from Current Orders.

Orders SUBMIT 2

CURRENT ENTER RECONCILE TRANSFER

Medications by Status Edit Multiple

ORDERS BY CATEGORY PROVIDER DATE STATUS

> New Orders

> Admit/Transfer/Discharge

> Dietary

> Interfaced Orders

> Medications

NS sodium chloride 0.9 ... IV CONTINUOUS 50 mls/hr me 06/09/2021 15:40 Ordered

NS with KCl 20 mmol/L KCl 20 mmol in NaCl ... IV CONTINUOUS 50 mls/hr me 06/09/2021 15:40 Hold/Resume Stop

D5W + NS dextrose 5% and NaCl ... IV CONTINUOUS 50 mls/hr me 06/09/2021 15:40 Ordered

D5W + NS with KCl 20 mmol/L KCl 20 mmol in D5W & ... IV CONTINUOUS 50 mls/hr me 06/09/2021 15:40 Ordered

> Protocol

Protocol CC DKA/HHS IV Fluids & Insulin As Per Protocol me 06/09/2021 15:32 Active

Click on "Ordered" from the Status column and choose "Stop"

Stop Orders in Reflex Set Cancel Save

ORDERS	DATE	STATUS
<input checked="" type="checkbox"/> NS sodium chloride 0.9 % [NaCl 0.9%] IV CONTINUOUS 50 mls/hr	06/09/2021 15:40	Ordered
<input checked="" type="checkbox"/> NS with KCl 20 mmol/L KCl 20 mmol in NaCl 0.9% [KCl 20 mmol/L in NaCl 0.9%] IV CONTINUOUS 50 mls/hr	06/09/2021 15:40	Ordered
<input checked="" type="checkbox"/> D5W + NS dextrose 5% and NaCl 0.9% [D5W+NaCl 0.9%] IV CONTINUOUS 50 mls/hr	06/09/2021 15:40	Ordered
<input checked="" type="checkbox"/> D5W + NS with KCl 20 mmol/L KCl 20 mmol in D5W & NaCl 0.9% [KCl 20 mmol/L in D5W & ...] IV CONTINUOUS 50 mls/hr	06/09/2021 15:40	Ordered
<input checked="" type="checkbox"/> Protocol CC DKA/HHS IV Fluids & Insulin As Per Protocol	06/09/2021 15:32	Active

*Stop Reason Doctor's Order

Since the original IV Fluid orders were part of a Reflexed set, it will allow all to be stopped together