Diabetic ketoacidosis care pathway 2
4 hours to discharge

Time bundle started:____________ NAME: Affix label
Location: _____________________
Date: _________________________

Whenever possible, all patients should be notified to the diabetes team within 12 hours of admission

Aim: To improve management of diabetic ketoacidosis in adults aged 16 years and over more than 4 hours after presentation

Definition: Severe uncontrolled diabetes with: a) ketonaemia/ketonuria; b) metabolic acidosis; c) usually with hyperglycaemia

Subsequent Management

Review Blood Glucose results and U&Es
Prescribe usual long acting insulin SC if relevant along with IV insulin (Detemir, Glargine, Insulatard, Humulin I etc) at patient’s usual times
Continue Sodium chloride 0.9% + KCl at 250 mls/hr until BG <14 mmol/L

When Blood Glucose falls <14 mmol/L (If not fallen in first 4 hours)
• Commence Glucose 10% with 20 mmol KCl 100ml/hour
• Reduce Sodium chloride 0.9% to 150mls/hour + KCL (according to K+ table below)
• Reduce insulin to 3 units/hour
• Maintain Blood Glucose >9 mmol/L and ≤14 mmol/L adjusting insulin rate as necessary

Review U&Es
Review K+ result and replace KCl in 500 ml Sodium Chloride 0.9% bag as:
• None if anuric or > 5 mmol/L
• 10 mmol if level 3.5-5 mmol/L
• 20 mmol if level <3.5 mmol/L

Measure and record Lab glucose, U&Es and HCO3 4 hourly for 24 hours (Measure lab BG 2 hourly if BG>20mmol/l)

8 12 16 20 24

Convert back at next convenient meal time to usual sc insulin regimen when:
• HCO3 within normal reference range
• Patient eating normally
Stop iv fluids and iv insulin 30 mins after usual injection of pre-meal sc insulin
Phone/refer for specialist diabetes review before discharge. If not available, ensure specialist team receives a copy of the discharge summary

Do not discharge until HCO3 normal, established on usual sc regimen and eating normally

If Blood Glucose rises >14 mmol/L after glucose commenced
• Continue Glucose 10% with 20mmol KCL at 100ml/hour
• Continue Sodium chloride 0.9% at 150mls/hour + KCL
• Increase insulin to maintain Blood Glucose > 9 mmol/L and ≤14 mmol/L
• When Blood Glucose ≤ 14mmol/L adjust insulin rate as necessary to maintain Blood Glucose > 9 and ≤ 14 mmol/L

Good Clinical Practice

Record SEWS/MEWS/SIRS and GCS score. Finger prick Blood Glucose hourly
Review other investigations
If not improving at start of this bundle:
• Check that equipment is working
• Confirm venous access is secure
• Check non-return valve on pump
• Replace 50ml syringe with fresh saline & insulin
• Call consultant/senior physician if all the above is working and patient still deteriorating

Supplementary Notes

1. Continuation of Insulin It is reasonable to use a point-of-care blood glucose meter to monitor blood glucose level if the previous laboratory blood glucose value is less than 20 mmol/L

2. Consider Precipitating Factors Common causes include:
• Omissions of insulin
• Infection
• Newly diagnosed

• Myocardial infarction
• Combination of the above.
Some or all of the following may have contributed to the DKA episode:
• Errors in insulin administration
• Faulty equipment
• Practical problems.

3. Refer for Specialist Diabetes review as soon as possible
For local diabetes Service:
• Insert No here

Ensure insulin is prescribed before patient leaves hospital.
**Fluid (potassium) prescription sheet**

<table>
<thead>
<tr>
<th>Date</th>
<th>Fluid</th>
<th>Rate</th>
<th>Signature</th>
<th>Serial No</th>
<th>Time begun</th>
<th>Given by</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sodium Chloride 0.9%</td>
<td>250ml/hour</td>
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<td></td>
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<td>150ml/hour</td>
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**Once Blood Glucose <14mmol start Glucose 10% in addition to Sodium Chloride 0.9%**

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<tr>
<td></td>
<td>Glucose 10%</td>
<td>100ml/hour</td>
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<td>KCL 20 mmol</td>
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<td>KCL 20 mmol</td>
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**Intravenous Insulin Prescription**

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<th>Date</th>
<th>Insulin Rate (units/hr)</th>
<th>Type of Insulin</th>
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<tr>
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<td>6units/hr</td>
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<td>3units/hr</td>
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