

ACUTE HYPERKALAEMIA TREATMENT GUIDELINE



TARGET AUDIENCE	Secondary Care
PATIENT GROUP	Patients with acute hyperkalaemia

Clinical Guidelines Summary

- Acute hyperkalaemia is a life-threatening emergency
- Prompt assessment, treatment and monitoring is necessary
- Treatment follows a guideline based on the severity of hyperkalaemia – determined by blood potassium measurement and assessment of ECG changes

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General approach

- Clinical decisions on when to treat and how aggressively to treat require a patient centred approach guided by the clinical setting and rate of change in serum potassium level
- ABCDE assessment
- 12 lead ECG if potassium ≥ 6 mmol/L and cardiac monitor if potassium ≥ 6.5 mmol/L, ECG changes, or concern potassium rising quickly
- Treat empirically for arrhythmia if hyperkalaemia suspected
- Use point of care / blood gas analysers (including VBG) for urgent results
- Consider repeating bloods to exclude Pseudohyperkalaemia (avoid delaying treatment)
- Address underlying causes
- If DKA treat as per protocol
- Seek early senior / specialist advice

- Give Calcium Chloride in resuscitation setting and Calcium Gluconate for all other patients
- Calcium resonium is no longer routinely recommended in treatment of hyperkalaemia

Mild – Potassium 5.5 - 5.9 mmol/L

Consider cause, need for treatment, monitoring

Moderate – Potassium 6 - 6.4 mmol/L

Treatment guided by ECG changes and clinical picture.

1. Protect the Heart if ECG changes present

30ml 10% Calcium Gluconate IV over 10 minutes or calcium chloride 10ml 10% IV over 5 minutes with continuous cardiac monitoring.

Repeat ECG and if changes persist consider further treatment.

2. Shift Potassium Into Cells

Consider 8 units Actrapid Insulin in 100ml 20% glucose IV over 30 minutes

If pre-treatment BM <7 give ongoing infusion of 10% Glucose at 50ml/hr for 5 hrs (250mls)
Target blood glucose 4.0-7.0 mmol/L, titrate rate of infusion if required

Consider giving Nebulised Salbutamol 10-20mg

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3. Remove Potassium from body

Consider Sodium zirconium cyclosilicate (Lokelma) 10g three times daily oral for up to 72hrs

4. Monitor Potassium and glucose

Repeat Potassium at 1, 2, 4, 6, and 24 hrs.

Monitor BM at least hourly up to 6 hours post infusion to avoid hypoglycaemia.

5. Address underlying causes to prevent recurrence

Severe – Potassium > 6.5 mmol/L

Treatment guided by ECG changes and clinical picture

1. Protect the Heart if ECG changes present

30ml 10% Calcium Gluconate IV over 10 minutes or calcium chloride 10ml 10% IV over 5 minutes with continuous cardiac monitoring.

Repeat ECG and if changes persist consider further treatment.

2. Shift Potassium into Cells

8 units Actrapid insulin in 100ml 20% glucose IV over 30 minutes (Risk of Hypoglycaemia)

If pre-treatment BM <7 give ongoing infusion of 10% Glucose at 50ml/hr for 5 hrs (250mls)
Target blood glucose 4.0-7.0 mmol/L, titrate rate of infusion if required

Nebulised Salbutamol 10-20mg

3. Remove Potassium from body

Sodium zirconium cyclosilicate (Lokelma) 10g three times daily oral for up to 72hrs

4. Monitor Potassium and glucose

Repeat Potassium at 1, 2, 4, 6, and 24 hrs.

Monitor BM at least hourly up to 6 hours post infusion to avoid hypoglycaemia.

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Notes

Care and consideration should be made regarding safe discharge and ongoing management of patients with hyperkalaemia, with consideration and action taken to address the underlying cause.

Patients should only be discharged from hospital with ongoing Lokelma use where there is a clear and safe plan for monitoring and follow-up.

Management of hyperkalaemia in dialysis patients differs from guidance above. Urgent specialist advice should be sought.

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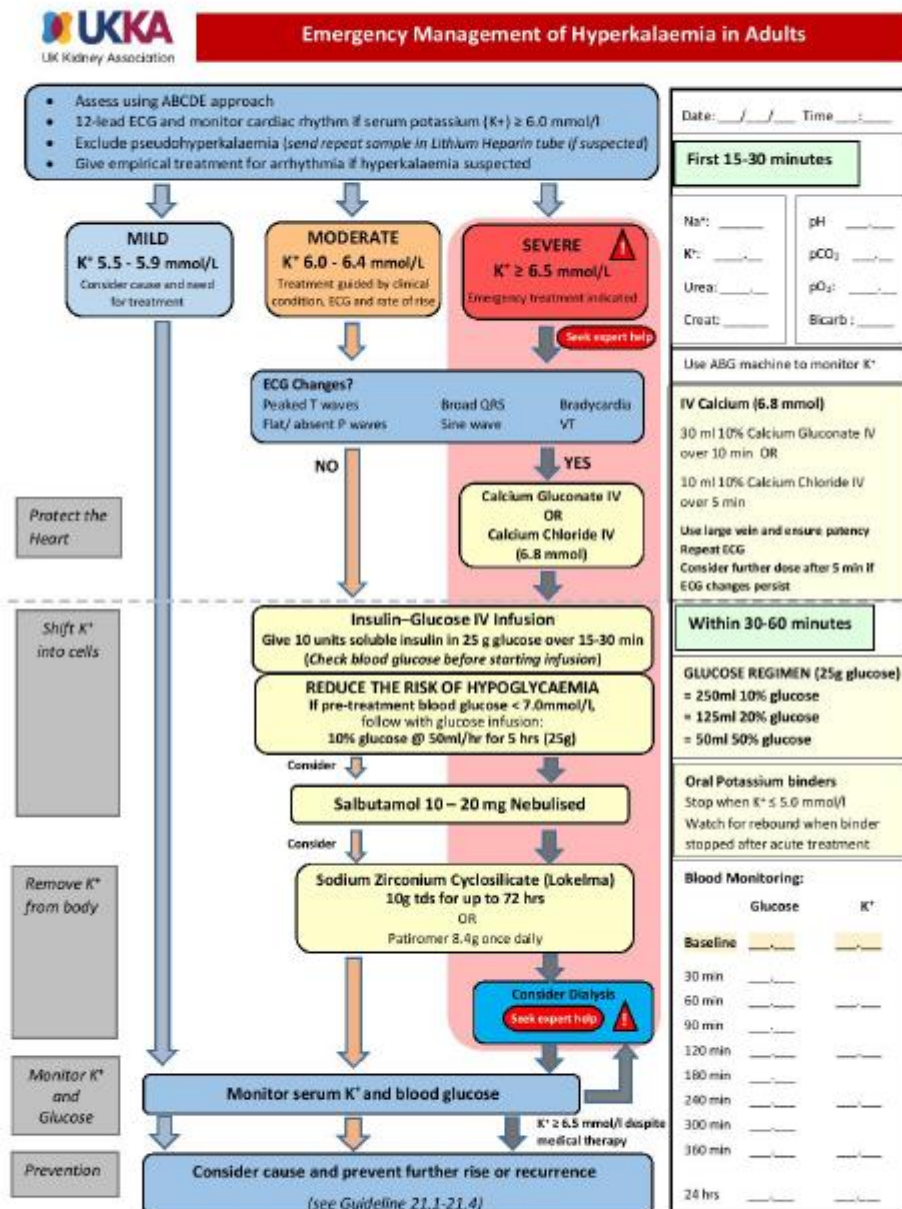
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UK Kidney Association guideline algorithm for reference

(Please note difference in insulin dextrose based on local availability / practice)



Appendix 7: ALGORITHM: Treatment of Hyperkalaemia in Hospital



K⁺: potassium; Na⁺: sodium; Creat: creatinine; Bicarb: bicarbonate; max – maximum; min – minutes; hrs – hours; tds – three times daily

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UKKA Guideline 2023

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References/Evidence

References

UK Renal Association – Clinical Practice Guidelines – Treatment of Acute Hyperkalaemia in Adults (October 2023)

SMC 2515

Appendices

1. Governance information for Guidance document

Lead Author(s):	Jack Fairweather
Endorsing Body:	
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Responsible Person (if different from lead author)	

CONSULTATION AND DISTRIBUTION RECORD	
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Consultation Process / Stakeholders:	Review and discussion with renal consultant group NHS Lanarkshire, along with senior pharmacy and specialist nursing input; emergency medicine and acute medicine colleagues

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Distribution	
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CHANGE RECORD			
Date	Lead Author	Change	Version No.
August 23	Jack Fairweather	<i>Updating NHSL guidance following recent change SMC advice and updated national guidance</i>	1.3
October 23	Jack Fairweather	Changes following ADTC review	1.4
October 2023	Jack Fairweather	Final version following ADTC review	1.5
January 2024	Jack Fairweather	Update to refelect new UKKA Acute Hyperkalaemia guideline December 2023	2
March 2024	Jack Fairweather	Update following ADTC review	3

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