Shared Care Guideline
Patiromer calcium for persistent hyperkalaemia in adults with chronic kidney disease or heart failure

Executive Summary

- **Patiromer calcium is prescribed for persistent hyperkalaemia in adults with chronic kidney disease (stages 3b to 5, excluding those on dialysis) or heart failure and have a confirmed serum potassium level of at least 6.0 mmol/litre, and are not taking an optimised dosage of renin-angiotensin-aldosterone system (RAAS) inhibitor because of hyperkalaemia.**
- **Dosing: The starting dose is 8.4 g once daily, and the maximum dose is 25.2g once daily.**
- **Hospital specialist to initiate treatment and prescribe the first FOUR weeks of treatment AND until the dose is stable. Carry out necessary monitoring during this period, after which the GP will prescribe.**
- **The responsibilities of the hospital specialist, GP and patient for this Shared Care Guideline can be found within this document.**
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Sharing of care depends on communication between the specialist, GP and the patient or their parent/carer. The intention to share care should be explained to the patient and accepted by them. Patients are under regular follow-up and this provides an opportunity to discuss drug therapy. The doctor/healthcare professional who prescribes the medication has the clinical responsibility for the drug and the consequences of its use.

1. Scope

Prescribing and Monitoring by Hospital Specialists (Nephrology and Cardiology) and General Practitioners.

2. Aim

To provide advice on safe prescribing and monitoring of patiromer calcium used for people with persistent hyperkalaemia in adults with chronic kidney disease (stages 3b to 5, excluding those on dialysis) or heart failure, as per NICE guidance.

3. Introduction

Patiromer calcium is a cation exchange compound used in the management for people with persistent hyperkalaemia and stages 3b to 5 chronic kidney disease or heart failure, if they:

- have a confirmed serum potassium level of at least 6.0 mmol/litre and
- are not taking, or are taking a reduced dosage of, a renin-angiotensin-aldosterone system inhibitor because of hyperkalaemia and
- are not on dialysis.

4. Abbreviations

RAAS	Renin-angiotensin-aldosterone system
CKD	Chronic kidney disease

5. Dose and Administration

Treatment as below will be considered after implementation of a low potassium diet.

Dose:

Starting dose is 8.4g once a day and the maximum dose is 25.2g once a day. The dose can be increased or decreased after a minimum interval of 1 week based on serum potassium levels. The dose should be reduced or stopped if serum potassium is below 4 mmol/L.

Route:

Oral - The complete dose should be poured into a glass containing approximately 40ml of water, and then stirred. Another approximately 40ml of water should be added, and the suspension stirred again thoroughly. The powder will not dissolve. More water may be added to the mixture as needed for desired consistency. Administration of patiromer calcium should be separated by 3 hours from other oral medicinal products.

6. Adverse Effects

Common (≥ 1 in 100 and < 1 in 10)= 1-10%

Constipation
Diarrhoea
Abdominal pain
Flatulence
Hypomagnesaemia

Uncommon (≥ 1 in 1000 and < 1 in 100) (0.1-1%)

Nausea
Vomiting

7. Cautions

Discontinue if blood tests show hypokalaemia (serum potassium < 4.0mmol/L) and re-evaluate the patient.

Due to risk of hypomagnesaemia, serum magnesium should be monitored every 2 weeks for the first month for at least monthly thereafter. Magnesium supplementation should be considered in patients who develop low serum magnesium levels.

Evaluate benefit and risk in patients at risk of hypercalcaemia as patiromer contains calcium.

8. Contraindications

As patiromer consists of sorbitol, it is contraindicated in patients with rare hereditary problems of fructose intolerance.

Patiromer is contraindicated in pregnancy.

9. Interactions

Patiromer calcium has the potential to bind some oral co-administered medicinal products, which could decrease their gastrointestinal absorption. Administration of patiromer calcium should therefore be separated by at least 3 hours from other oral medicinal products.

Further information about dose and administration, adverse effects, cautions, contraindications, and interactions can be found in the Summary of Product Characteristics (for patiromer calcium)
https://www.medicines.org.uk/emc/product/779/smpc

10. Monitoring Standards & Actions to take in the event of abnormal test results/ symptoms

On-going monitoring of electrolytes:

- Urea and electrolytes, including serum potassium and serum magnesium, every 2 weeks during the initiation period by the Hospital Specialist.
- Urea and electrolytes, including serum potassium and serum magnesium every month once prescribing taken over by GP.
- Serum potassium after 2 weeks when any changes made to medications that affect the serum potassium concentration (e.g. ACEi, ARB, potassium-sparing diuretics) and after dose titration
- Rarely additional monitoring may be required if the patient increases their dietary potassium intake. This will be advised to the GP through specialist low clearance or heart failure clinics.
- Magnesium supplementation to be considered in patients who develop low serum magnesium levels. Typically correct with magnesium glycerophosphate (up to TWO tablets three times daily). Recheck the magnesium level 2 weeks following initiation of supplementation.

11. Shared Care Responsibilities

a. Hospital specialist:

- Send a letter to the GP requesting shared care for the patient.
- Inform GP of patients who do not attend clinic appointments.
- To provide any advice to the patient/carer when requested.
- Initiate treatment and as a minimum prescribe the first FOUR weeks of treatment AND until the dose is stable, carry out necessary monitoring during this period, and once dose stabilized to refer to GP for continued treatment.
- Perform routine clinic follow-up on a regular basis.

- Send a letter to the GP after each clinic attendance ensuring current dose, changes to dose (including discontinuation), most recent blood results and frequency of monitoring are stated.
- Evaluation of any reported adverse effects by GP or patient.
- Ensure that backup advice is available at all times.
- Patients starting dialysis and patients being transplanted should be reviewed by a renal consultant as to whether continuation of treatment is appropriate.
- Advise patients on a low-potassium diet.

b. General Practitioner:

- Agreement to shared care guideline.
- Report any adverse events to the hospital specialist, where appropriate.
- Request advice from the hospital specialist when necessary (including if the patient does not attend appointments).
- Prescribe the drug treatment as described.
- Monitor blood results (U+Es) in line with recommendations from hospital specialist (see monitoring section).
- Treat hypomagnesaemia (see monitoring section) and inform hospital specialist.
- Discontinue if hypokalemia present (serum potassium < 4 mmol/l) and inform hospital specialist.
- Encourage patients to continue low-potassium diet

c. Patient or parent/carer:

- Report to the hospital specialist or GP if they do not have a clear understanding of their treatment.
- Patients must not exceed the recommended dose.
- Patients must attend their scheduled clinic and blood test appointments (where relevant).
- Must inform other clinical staff that they are receiving treatment.
- Report any adverse effects to the hospital specialist or GP.
- Share any concerns they have in relation to treatment with patiromer calcium.
- Report any adverse effects to their specialist or GP whilst taking patiromer calcium.

12. Contact numbers for advice and support

Cambridge University Hospitals NHS Foundation Trust

NEPHROLOGY contact	Role	Contact details
Dr Nicholas Pritchard	Renal consultant	01223 400183 / 01223 217821 (in working hours)
Dr Anil Chalisey	Renal consultant	01223 400183 / 01223 217821 (in working hours)
Dr Sanjay Ojha	Renal consultant	01223 400183 / 01223 217821 (in working hours)
Dr Andrew Fry	Renal consultant	01223 400183 / 01223 217821 (in working hours)
On-Call Renal Registrar	Renal registrar	Via CUH switchboard (Out of hours or for emergency advice)
Olivia Kanka	Renal Pharmacist	01223 217611 (in working hours)

CARDIOLOGY contact	Role	Contact details
Dr Catriona Bhagra	Consultant Cardiologist	01223 256575 / 01223 586657 (in working hours)
Dr Mun Cheang	Consultant Cardiologist	01223 256575 / 01223 586657 (in working hours)
Dr Elena Zambon	Consultant Cardiologist	01223 256575 / 01223 586657 (in working hours)
Heart Failure Specialist Nurses	Heart Failure Specialist Nurses	01223 256575 / 01223 586657 (in working hours)
On-Call Cardiology Registrar	Cardiology registrar	Via CUH switchboard (Out of hours or for emergency advice)

North West Anglia Foundation Trust

NEPHROLOGY contact	Role	Contact details
Dr Soubhik Pal	Consultant Nephrologist	01733 673699

CARDIOLOGY contact	Role	Contact details
Dr Denise Braganza	Consultant Cardiologist	01733 673813
Dr Brian Gordon	Consultant Cardiologist	01733 673813
Dr Janusz Jagoda	Consultant Cardiologist	01733 673813
Dr Joanne Porter	Consultant Cardiologist	01733 673814
Dr Peter Schofield	Consultant Cardiologist	01733 673813
Dr Rebecca Schofield	Consultant Cardiologist	01733 673811

Cambridgeshire and Peterborough NHS Foundation Trust

CARDIOLOGY contact	Role	Contact details
Elizabeth Woodruff	Consultant Heart Failure Nurse	07920 576713

13. Equality and Diversity Statement

This document complies with the Cambridge University Hospital NHS Foundation Trust service Equality and Diversity statement.

14. Disclaimer

It is your responsibility to check that this printed out copy is the most recent issue of this document.

15. Document Management

Ratification Process	Details
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The information contained in this guideline is issued on the understanding that it is accurate based on the resources at the time of issue. For further information please refer to the most recent Summary of Product Characteristics

Shared Care Guideline Patiromer calcium for persistent hyperkalaemia in adults with chronic kidney disease or heart failure - Template Letter

{GP ADDRESS}

Dear Dr,

{PATIENT DETAILS}

Your patient was seen on ***{Insert date}*** with a diagnosis of ***{Insert diagnosis}***. He/she has persistent hyperkalaemia preventing optimisation of renin-angiotension-aldosterone inhibition. I have therefore initiated patiromer calcium and am writing to ask you to participate in the shared care for this patient.

This medication and indication has been accepted as suitable for shared care by the Cambridgeshire and Peterborough Integrated Care System. I agree to the secondary care responsibilities set out in the shared care agreement for this medication. I am therefore requesting your agreement to share the care of this patient.

Medication name:	{Patiromer calcium}
Current dose:	{8.4g once daily (or multiple thereof) }
Date medication started:	{Insert date}
Date after which GP to start prescribing:	{Insert date}[1]

Last bloods were taken on {Insert date} and these show a stable potassium less than 6 mmol/L, and sodium and magnesium within the normal range. The latest results are attached below.

The dose has been titrated and is stable

I confirm I have explained to the patient: the risks and benefits of treatment, the baseline tests conducted the need for monitoring, how monitoring will be arranged, and the roles of the consultant/nurse specialist, GP and the patient in shared care.

I confirm the patient has understood and is satisfied with this shared care arrangement.

Yours sincerely

{Consultant name}

[1]This should be the date when the last prescription was issued. It is expected that patients will request a repeat prescription sometime after this date.