**Rifaximin-α for the treatment of Chronic Hepatic Encephalopathy in Adults**

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| Shared Care Guideline: Prescribing Agreement |

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| **Section A: To be completed by the hospital consultant initiating the treatment** |
| **GP Practice Details:**Name:      ………………………………………Address:      ……………………………………Tel no:      ………………………………………Fax no:      ………………………………………NHS.net e-mail:      …………………………… | **Patient Details:**Name:      ………………………………………………Address:      ……………………………………………DOB:      Hospital number:      ………………………………… NHS number (10 digits):      ………………………… |
| **Consultant name:**      …………………………… **Clinic name:**      ………………………………….**Contact details**:Address: St George’s Hospital, Blackshaw Road, London. SW17 0QTTel no: 0208-725       ……………………………………… Fax no: 020 8725 3520………………………NHS.net e-mail:      …………………………… |
| **Diagnosis:** Chronic Hepatic Encephalopathy | **Drug name, dose and frequency to be prescribed by GP:**Rifaximin-α 550mg Twice a day |
| **Next hospital appointment:**       |
| Dear Dr.      ……………………..,Your patient was reviewed on      ; he/she started **Rifaximin-α 550mg Twice a day** on       for the above diagnosis and in my view, his/her condition is now stable. I am requesting your agreement to sharing the care of this patient from       in accordance with the attached Shared Care Prescribing Guideline (approval date      ). Please take particular note of Section 2 where the areas of responsibilities for the consultant, GP and patient for this shared care arrangement are detailed. Patient information has been given outlining potential aims and side effects of this treatment and      ……………………………………\* supplied *(\* insert any support materials issued such as patient held monitoring book etc where applicable).*  The patient has given me consent to treatment possibly under a shared care prescribing agreement (with your agreement) and has agreed to comply with instructions and follow up requirements..The most recent investigations have been performed on       and are acceptable for shared care. Please monitor       every      .

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| **Test** | **Baseline** | **Date** | **Current** | **Date** |
|  Symptoms of Hepatic Encephalopathy i.e. confusion (to be specified by referring consultant) |       |       |       |       |
|       |       |       |       |       |

Other relevant information:      ………………………………………………………………………………………..Consultant Signature: ………………………………………………Date:       |

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| **Section B: To be completed by the GP and returned to the hospital consultant as detailed in Section A above [If returned via e-mail, use NHS.net email account ONLY]** |
| Please sign and return your agreement to shared care within 14 days of receiving this request.Tick which applies:[ ]  I accept sharing care as per shared care prescribing guideline and above instructions[ ]  I would like further information. Please contact me on:      ……………………….[ ]  I am not willing to undertake shared care for this patient for the following reason:      ……………………………………………………………………………………………………………….GP name:      ………………………………………….……….GP signature: ………………………………………………Date:       |

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| SHARED CARE PRESCRIBING GUIDELINE**Rifaximin-α for the treatment of Chronic Hepatic Encephalopathy in Adults** |

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| NOTES to the GPThe expectation is that these guidelines should provide sufficient information to enable GPs to be confident to take clinical and legal responsibility for prescribing this drug. The questions below will help you confirm this: * Is the patient’s condition predictable or stable?
* Do you have the relevant knowledge, skills and access to equipment to allow you to monitor treatment as indicated in this shared care prescribing guideline?
* Have you been provided with relevant clinical details including monitoring data?

If you can answer YES to all these questions (after reading this shared care guideline), then it is appropriate for you to accept prescribing responsibility.If the answer is NO to any of these questions, you should not accept prescribing responsibility. You should write to the consultant within 14 days, outlining your reasons for NOT prescribing. If you do not have the confidence to prescribe, we suggest you discuss this with your local Trust/specialist service, who will be willing to provide training and support. If you still lack the confidence to accept clinical responsibility, you still have the right to decline. Your CCG pharmacist will assist you in making decisions about shared care.It would not normally be expected that a GP would decline to share prescribing on the basis of cost. **The patient’s best interests are always paramount** |
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| **Date prepared:** 30/12/2019 | **Review date:** 30/12/2021 |
| **Approved by (date approved):** SWL Medicines Optimisation Group 23.01.2020 | **Changes before review date:** |
| Croydon CCG CPC 12/07/2019Kingston CCG MMC 26/09/2019Merton CCG MMC 19/07/2019 | Richmond CCG MMC 26/09/2019Sutton CCG MMC 19/07/2019Wandsworth CCG CEMMaG 04/10/2019 |

**This shared care prescribing guideline has been signed off by the following individuals on behalf of their respective organisations:**

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| **Participating Clinical Commissioning Groups (CCG)** | **Participating Hospital Trusts** |
| **NHS Croydon**Dr Tony Brzezicki, Clinical LeadPhilippa Blatchford, Senior Prescribing Advisor | **St George’s University Hospitals NHS Foundation Trust**Dr Sarah Clark – Consultant HepatologistVinodh Kumar, Chief Pharmacist |
| **NHS Kingston**Dr Jayin Jacob, Medicines Optimisation GP LeadEmma Richmond, Chief Pharmacist | **Epsom and St Helier University Hospitals NHS Trust**Dr Derek Chan – Consultant GastroenterologistAnne Davies, Chief Pharmacist |
| **NHS Merton**Dr Vasa  Gnanapragasam, Clinical Director for Planned CareSedina Agama, Chief Pharmacist | **Croydon Health Services NHS Trust**Dr Mike Mendall- Consultant GastroenterologistLouise Coughlan, Chief Pharmacist |
| **NHS Richmond**Dr Jayin Jacob, Medicines Optimisation GP LeadEmma Richmond, Chief Pharmacist | **Kingston Hospital NHS Foundation Trust**Dr Markus Gess - Consultant GastroenterologistJudith Foy, Chief Pharmacist |
| **NHS Sutton**Dr Roshni Scott, Medicines Optimisation Clinical leadSarah Taylor, Chief Pharmacist |  |
| **NHS Wandsworth**Dr Rod Ewen, Chair Wandsworth CCG MOGNick Beavon, Chief Pharmacist |  |

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| **Rifaximin-α for the treatment of Chronic Hepatic Encephalopathy in Adults** |

# **LICENSING INFORMATION**

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| **Indication** | **Rifaximin** |
| Chronic Hepatic Encephalopathy (HE)  | Licensed |
| **Place in therapy** | Patients will be initiated on treatment where there is a clear history of recurrent hepatic encephalopathy (HE) which has not responded to lactulose or where lactulose is not tolerated.  |

# **CIRCUMSTANCES WHEN SHARED CARE IS APPROPRIATE**

1. Prescribing responsibility will only be transferred when the consultant and the GP are in agreement that the patient’s condition is stable or predictable.
2. Patients will only be referred to the GP once the GP has agreed in each individual case and the hospital will continue to provide prescriptions until successful transfer of responsibilities as outlined below.
3. Patients should be able to decline shared care if after due consideration of the available option, they decide it is not in their best interest.
4. The hospital will provide the patient with a minimum initial supply of 2 months therapy.

# **Areas of responsibility**

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| **Consultant**  |
| * Send a letter to the GP requesting shared care for this patient
* Advise the GP of any other co-morbidities via the clinic letter
* Initiate treatment and prescribe until the GP formally agrees to shared care (as a minimum, supply the first 2 months treatment or until patient is stabilised)
* Clinical and laboratory supervision of patient by routine clinic follow-up every 3-6 months
* Advise GP on review, duration, and discontinuation of treatment where necessary
* Review each patient every 6 months to assess the need for continuation/cessation of Rifaximin-α
* Stop Rifaximin-α if there is a failure of therapy (i.e. no change in frequency of admissions after 6 months or therapy) or occurrence of super-infections
* If Rifaximin-α is required after 6 months, risks and benefits of treatment should be considered and discussed with the patient and communicated to the GP
* Monitoring the progression of disease
* Evaluation of any adverse effects reported by GP or patient and MHRA yellow card reporting scheme, if appropriate
* Ensure that specialist advice is available at all times to GPs and patients
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| **GP** |
| * Monitor patient’s overall health and well-being
* Report any adverse events reported by the patient to consultant
	+ (Hepatology / Gastroenterology registrar if out of hours and appropriate)
	+ MHRA where appropriate via the yellow card system – if unsure of what adverse effects require reporting, refer to Hepatology Team for advice
* Prescribe the drug treatment as described
* To review the patient at least every six months and be aware of any signs of loss of response (which may be seen as worsening confusion)
* Consider the use of compliance aids for patients where appropriate
* To return a copy of the standard letter to the consultant accepting or declining shared care
* Refer patients to be seen in the Hepatology clinic if there are concerns around recurrence of Hepatic Encephalopathy despite adequate compliance with Rifaximin-α.
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| **Patient** |
| * Report to the specialist or GP if he or she does not have a clear understanding of the treatment
* Take Rifaximin-α as prescribed
* Be aware that the Hospital will prescribe Rifaximin-α for at least the first 2 months of treatment. Do not make a prescription request from the GP until advised to do so
* Request prescriptions in advance to ensure continuation of supply
* Share any concerns in relation to treatment with Rifaximin-α with the consultant hepatologist
* Inform specialist and GP of any other medication being taken which is not prescribed by their GP, including over-the-counter products
* Report any adverse effects or warning symptoms (dizziness, diarrhoea, abdominal pain) to the consultant hepatologist or GP whilst taking Rifaximin-α.
* Be compliant with other treatments for Hepatic Encephalopathy in addition to Rifaximin-α (e.g. Lactulose/laxatives)
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# **Communication and support**

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| **Hospital contacts:**(the referral letter will indicate named consultant) | **Out of hours contacts & procedures:** |
| **St Georges’ University Hospitals NHS Foundation Trust**Dr Sarah Clark Ext 3750Dr Daniel Forton Ext 3750Dr Sarah Hughes Ext 3032Dr Arjun Singanayagam Ext 3032Dr Markus Gess Ext 3429Tel: 0208 672 1255 followed by relevant extensionFax: 0208 725 3520 Patient helpline pharmacy: 0208 725 1033 Monday-Friday 11am-3pmSpecialist Hepatology Pharmacist Bleep 6147/7292 via switchboard | Gastroenterology Specialist Registrar on-callBleep via switchboard: 0208 672 1255 |
| **Epsom and St Helier University Hospitals NHS Trust**Dr Derek Chan Ext 2340Dr Asif Mahmood Ext 2340Dr Andra Fenyvesi Ext 2340Tel: 01372 735735 followed by relevant extensionUrgent contact for advice via Gastroenterology Specialist Registrar – bleep 049Alternative contact via email **-** ugi-sth@nhs.net | Medical Specialist Registrar on-callBleep via switchboard: 01372 735735 |
| **Croydon Health Services NHS Trust**Dr Sanjay Gupta Ext 3975Dr Mike Mendall Ext 3975Dr Zinu Philipose Ext 3975Dr Panagiotis Stamoulos Ext 3975Tel: 0208 401 3000 followed by relevant extensionPatient helpline pharmacy: 0208 401 3059 Monday-Friday 9am-5pm | Gastroenterology Specialist Registrar on-callBleep via switchboard: 0208 401 3000 |
| **Kingston Hospital NHS Foundation Trust**Department of Gastroenterology Kingston HospitalGalsworthy RoadKingston Upon Thames KT2 7QBTel 0208 934 2099 (working hours)Email: khn-tr.gastro@nhs.net |  |
| **Specialist support/resources available to GP including information provided to patients:** |
| 1. St George’s University Hospitals NHS Foundation Trust “ Prescribing Policy for the use of Rifaximin-α for the treatment of Chronic Hepatic Encephalopathy” Approved February 2016
2. 2. Patients have been advised that if they develop diarrhoea, fever and abdominal pain to contact the specialist ward in St George’s (Allingham ward) urgently to speak to a doctor from the Hepatology Team (0208 725 3160).Doctors are available on the ward Monday to Friday 9am-5pm. Outside of these hours patients are advised to contact their out of hours GP service or attend the A&E department.
* This information will be included in a treatment initiation letter to the patient
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# **CLINICAL INFORMATION**

**NOTE:** The information here is not exhaustive. Please also consult the current Summary of Product Characteristics (SPC) for the respective drug prior to prescribing for up to date prescribing information, including detailed information on adverse effects, drug interactions, cautions and contraindications (available via www.medicines.org.uk).

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| **Rifaximin - Antimycobacterials** |
| **Route, Dose, Duration** | **Monitoring undertaken by specialist before requesting shared care** | **Ongoing monitoring to be undertaken by GP** | **Stopping Criteria, for consultant to consider** | **Monitoring following dose changes** | **Follow Up** |
| Rifaximin-α 550mg Twice a day PO Long term (>5 years)  | * Management of decompensated cirrhosis
* Advocate for Liver transplantation if appropriate
* Liver function tests
* Monitoring for adverse effects
* Medication compliance
* Response to treatment
* Duration of treatment
 | * Management of co-morbidities
* Monitoring for adverse effects related to treatment
* Medication compliance
* Loss of response to treatment i.e. recurrence of HE or worsening of HE which would be seen as worsening levels of confusion
 | * Lack of response following initation (2 months)
* HE resolved as a result of Liver transplantation
* Development of c difficle infection on treatment
 | No dose changes required for this medication | **Specialist**6 monthly or more frequently as per planned follow up**GP**6 monthly at a minimum (it is envisaged that these patients are currently undergoing active monitoring in Primary care presently) |
| **Practical issues including cautions, contraindications, adverse effects, interactions, other relevant advice and information (refer to current SPC and/or BNF for full list):** [**www.medicines.org.uk**](http://www.medicines.org.uk) **(Summary of Product Characteristics, SPC) or https://bnf.nice.org.uk/** |
| If patients develop diarrhoea, fever and abdominal pain the patient will be advised to contact the specialist ward in St George’s (Allingham ward) urgently to speak to a doctor from the Hepatology Team (0208 725 3160). Doctors are available on the ward Monday to Friday 9am-5pm. Outside of these hours the patient should contact the out of hours GP service or attend the A&E department.  |
| **Contraindications and cautions** |
| **Contraindications:*** Rifaximin-α is contraindicated in a history of allergy to rifamycin based antibiotics e.g. Rifaximin-α
* A history of *C. difficile* infection in the previous 6 months
* Intestinal obstruction

**Cautions:*** Due to the lack of data and the potential for severe disruption of the GI flora Rifaximin-α and other rifamycins should not be coadministered.
* All females of childbearing age should use reliable contraception e.g. barrier methods. The low dose contraceptive pill may have reduced efficacy. Manufacturer recommends avoiding use in pregnancy - toxicity in animal studies.

**To note:*** Rifaximin-α may cause reddish discolouration of the urine for the duration of treatment.
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| **Summary of adverse effects**   | **Very common: ≥ 1/10 Common: ≥ 1/100, < 1/10) Uncommon: ≥ 1/1000, < 1/100 Rare: ≥ 1/10,000, < 1/1000** |

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| **Adverse event** | **Frequency** | **Management by GP** |
| Nausea | Common | Ensure adequate dosing of laxatives, supportive measures |
| Diarrhoea | Common | Review to rule of development of *C. difficile*, send sample for culture and *C. difficile* toxin.  |
| Abdominal Pain, vomiting | Common | Review to rule of development of *C. difficile* |
| Fatigue | Uncommon | Supportive measures, promote nutrition. If severe consider stopping.  |
| Headaches | Common | Supportive measures, PO analgesia where appropriate. If severe consider stopping. |
| Rash, itching | Common | Supportive measures. If severe consider stopping. |
| Muscle cramp | Common | Supportive measures. If severe consider stopping. |
| Joint pain | Uncommon | Supportive measures. If severe consider stopping. |
| Depression | Common | Supportive measures. If severe consider stopping. |
| Insomnia | Uncommon | Supportive measures. If severe consider stopping. |
| Dizziness | Common | Supportive measures. If severe consider stopping. |
| Allergy | Unknown | Discontinue treatment and inform Hepatologist |
| **Clinically significant drug interactions** |
| Due to negligible absorption of Rifaximin-α in the GI tract (<1%) the potential for interaction with other medications is low. |

# **REFERENCES**

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| **Key references:** | 1. Nathan M. Bass, Kevin D. Mullen, Arun Sanyal, et al - *Rifaximin-α Treatment in Hepatic Encephalopathy* - N Engl J Med 2010; 362:1071-1081 March 25, 2010 DOI: 10.1056/NEJMoa0907893
2. NICE TA 337 Rifaximin-α for preventing episodes of overt hepatic encephalopathy – March 2015 <https://www.nice.org.uk/guidance/ta337>
3. TARGAXAN 550 mg film-coated tablets SPC - Last Updated on eMC 21-Oct-2016 <http://www.medicines.org.uk/emc/medicine/27427>
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| **Original Author(s):** | Susan Spollen, Lead Pharmacist HepatologyDr Sarah Clark, Consultant Hepatology |
| **Review Author(s):** |  |
| **Version control:** | **No** | **Date** | **Comment** |
| v1 | May 2017 | New guideline |
|  | v2 | Nov 2019 | Document updated by St George’s Hospital NHS Foundation Trust |
|  | v2.1 | June 2020 | Croydon Health Services included |
|  | V2.2 | Oct 2022 | Kingston Hospital NHS Foundation Trust included |