Shared Care Guideline

Riluzole – For the treatment of adult patients with the amyotrophic lateral sclerosis form of motor neurone disease.

Executive Summary

- Riluzole is used to extend life or the time to mechanical ventilation for patients with amyotrophic lateral sclerosis (ALS).
- NICE technology appraisal (TA20) issued Jan 2001 recommends that riluzole should be made available for patients with the amyotrophic lateral sclerosis (ALS) for of MND.
- Progressive Bulbar Palsy (PBP) is considered a form of ALS, these patients are eligible for riluzole.
- Riluzole is not licensed for other forms of MND
- Therapy should be initiated by a neurological specialist with expertise in MND management.
- Recommended daily dose in adults and the elderly is 50 mg twice daily (every 12 hours).
- Riluzole tablets may be crushed (if necessary) immediately prior to administration. A pharmacist will be able to give further advice if necessary.
- GP's should prescribe the drug as outlined in this document and following any other information from the neurology specialist.
- The hospital specialist is responsible for checking FBC and liver function on commencing treatment
- The GP is responsible for monitoring FBC and liver function as outlined in this document or as otherwise advised by the hospital specialist.
- The GP is responsible for checking that any newly prescribed medication does not interact with riluzole as per this guideline and the SPC.
- Further information regarding riluzole can be found on the manufacturers summary of product characteristics: Rilutek® and Teglutik® or as generic via www.medicines.org.uk
- The responsibilities of the hospital specialist, GP and patient for this Shared Care Guideline can be found within this document on page 5.

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 General Practitioners.

2. Aim

To provide advice on safe prescribing and monitoring of riluzole for the treatment of adult patients with the amyotrophic lateral sclerosis form of motor neurone disease.

3. Introduction

- Riluzole is used to extend life or the time to mechanical ventilation for patients with amyotrophic lateral sclerosis (ALS).
- NICE guidance, number 20, issued in January 2001 recommends that riluzole should be made available for the treatment of individuals with the amyotrophic lateral sclerosis (ALS) form of Motor Neurone Disease (MND).
- Riluzole is not licensed for other forms of MND.
- Progressive Bulbar Palsy (PBP) is considered by NICE to be a form of ALS, and is also eligible for treatment with riluzole.
- Riluzole therapy should be initiated by a neurological specialist with expertise in the management of MND. Routine supervision of therapy should be managed as indicated in this shared care guideline.

4. Abbreviations

ALS Amyotrophic Lateral Sclerosis
MND Motor Neurone Disease
PBP Progressive Bulbar Palsy
ULN Upper Limited of Normal
ALT Alanine transaminase

5. Dose and Administration

Riluzole is available as 50mg film coated tablets (Rilutek®) and riluzole oral suspension 5mg/mL (Teglutik®) or generic liquid.

Adult dosage

- Recommended daily dose in adults and the elderly is 50 mg twice daily (every 12 hours).
- There is no significant benefit in increasing the dose further.

Special populations

- Children & Adolescents: not recommended due to a lack of safety and efficacy data.
- Impaired renal function: insufficient data to recommend dosage adjustment. Discuss with specialist.
- Abnormal liver function: contra-indicated if transaminases ≥3xULN (upper limit of normal) or known liver disease. Use with caution with slightly elevated transaminases with more frequent monitoring.

Where swallowing is impaired

- The oral suspension may be used in primary care, on hospital recommendation for patients unable to take solid formulation.
- Riluzole oral suspension should be used as the first line option, tablets may be crushed (if necessary) immediately prior to administration. A pharmacist will be able to give further advice if necessary.
- If nasogastric (NG) fed, preferably give during a break in feed administration.
- Administration of the liquid via the NG or percutaneous endoscopic gastrostomy (PEG) is safe, ensure the tube is flushed with 10mL of water after administration to ensure full dose has been pushed through the line.

Further information can be found in the Summary of Product Characteristics Rilutek® and Teglutik® or www.medicines.org.uk

6. Adverse Effects

Very common (≥ 1 in 10)

- Asthenia
- Nausea

Common (≥ 1 in 100 and < 1 in 10)

- Headache
- Abdominal pain
- Pain
- Vomiting
- Diarrhoea
- Dizziness
- Tachycardia
- Somnolence
- Oral paraesthesia Oral paraesthesia

Uncommon (≥ 1 in 1000 and < 1 in 100)

- Pancreatitis
- Anaemia

Rare (≥ 1 in 10000 and < 1 in 1000)

- Neutropenia (rare)
- Hepatitis (very rare)
- Interstitial lung disease

Further information can be found in the Summary of Product Characteristics Rilutek® and Teglutik® or www.medicines.org.uk

7. Cautions

- History of abnormal liver function or slightly elevated serum transaminases up to 3x the upper limit of normal.
- Ability to drive may be affected, due to dizziness/ vertigo.
- Febrile illness/neutropenia.

Further information can be found in the Summary of Product Characteristics Rilutek® and Teglutik® or www.medicines.org.uk

8. Contraindications

- Hepatic disease or where baseline transaminase (ALT) is greater than three times upper limit of normal
- Patients with baseline elevations of **several** liver-related biochemical parameters (especially bilirubin)
- interstitial lung disease
- patients who are pregnant
- breastfeeding
- Where there is known hypersensitivity to riluzole or any of the tablet excipients.

Further information can be found in the Summary of Product Characteristics Rilutek® and Teglutik® or www.medicines.org.uk

9. Interactions

No clinical studies have been done to evaluate the interactions of riluzole. Potential interactions may occur with:

Enzyme Inhibitors – may decrease the rate of riluzole elimination.

- Caffeine
- Diclofenac
- Diazepam
- Theophylline
- **Tricyclic antidepressants**
  - Amitriptyline, imipramine, clomipramine etc…
- **Macrolides**
  - Erythromycin, clarithromycin etc…
- **Quinolones**
  - Ciprofloxacin, ofloxacin, norfloxacin etc…
- Fluvoxamine
- Nicergoline
- Phenacetin

Enzyme Inducers – may increase rate of riluzole elimination.

- Rifampicin
- Omeprazole
- Chronic smoking/ cigarette use

Further information can be found in the Summary of Product Rilutek® and Teglutik® or www.medicines.org.uk

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

Pre initiation of therapy (baseline):

Parameter	Responsibility for monitoring
Full blood count (particularly WBC) and serum ALT.	Hospital specialist

During therapy:

GPs are responsible for the monitoring below and should take action as indicated. They should contact the hospital specialist to discuss any concerns.

Parameter	Frequency	Action in response to abnormal result	Responsibility for monitoring
Serum Alanine Transaminase (ALT)	Monthly for first three months then three monthly for remainder of first year.	Riluzole should be discontinued if, during treatment, ALT levels increase	GP

	Periodically thereafter but testing frequency should be increased in patients who develop raised levels of ALT.	to five times the upper limit of the normal range (ULN). Where this occurs, re-administration of riluzole is not recommended and the hospital specialist should be contacted.	
White blood cell counts (WBC)	Monthly for the first three months.	Where there is evidence of febrile illness/neutropenia patient should seek immediate medical attention. White cell counts should then be determined. If evidence of neutropenia, riluzole should be discontinued and the hospital specialist contacted.	GP

Shared Care Responsibilities

a. Hospital specialist:
The decision to start riluzole will be made by the appropriate hospital department. A copy of the shared care guidelines will be sent to the GP. If the GP has any queries about the prescribing or monitoring of riluzole, they should contact the relevant hospital specialist as soon as possible.

- Send a letter to the GP requesting shared care for the patient.
- Routine clinic follow-up on a regular basis.
- Inform the GP after each clinic attendance if there is any change to treatment or monitoring.
- Evaluation of any reported adverse effects by GP or patient.
- Inform GP of patients who do not attend clinic appointments.
- To provide any advice to the patient/carer when requested.
- Ensure that backup advice is available at all times.

b. General Practitioner:
- Agreement to shared care guideline by the GP.
- Report any adverse events to the hospital specialist, where appropriate.
- Request advice from the hospital specialist when necessary.
- Monitor patient's overall health and wellbeing.
- Prescribe the drug treatment as described.
- Monitor blood results (FBC, creatinine and electrolytes and LFTs) in line with recommendations from hospital specialist.
- Help in monitoring the progression of disease.

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.

- Discuss potential benefits and side effects of treatment with the specialist and GP, to identify whether they have a clear picture of these from the specialist and to raise any outstanding queries.
- Check that where possible the specialists have provided a patient-held record or information sheet for monitoring and/ or to alert other clinical staff to the treatment they are receiving.
- Share any concerns they have in relation to treatment with riluzole.
- Participate in the monitoring of therapy and the assessment of outcomes, to assist health professionals to provide effective, safe, appropriate treatment.

11. Contact numbers for advice and support

Provider Trust Name		
Specialist	**Post**	**Telephone**
Dr Rhys Roberts	Consultant Neurologist	01223 274261
Neurology SpR	Registrar	01223 245151 via switchboard
Victoria Edwards Louise Boardman	MND Care Co-ordinators	01223 216631
Medicines Information Department	Medicines Information Pharmacist/Technician	01223 217502

12. Monitoring compliance with and the effectiveness of this document

Neurology will continue to monitor feedback from GPs with regard to the guideline and the use of the drug on a regular basis (normally yearly) and make changes as appropriate.

13. Equality and Diversity Statement

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

14. Disclaimer

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

15. Document Management

Document ratification and history	
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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 Rilutek® and Teglutik® or www.medicines.org.uk