Nitrofurantoin: Monitoring Guidance for Adults

NHS Grampian

Nitrofurantoin can be prescribed for short courses to treat acute urinary tract infections (UTIs) and very occasionally for longer courses for prophylaxis of recurrent UTIs. Monitoring is required to prevent harm arising from adverse reactions to nitrofurantoin.

Before prescribing antibiotic prophylaxis, please refer to SAPG's guidance **"Management of recurrent urinary tract infection (UTI) in non-pregnant women"** and NICE Guideline NG112 **"Urinary tract infection (recurrent): antimicrobial prescribing".** Consider non-antibiotic approaches where appropriate.

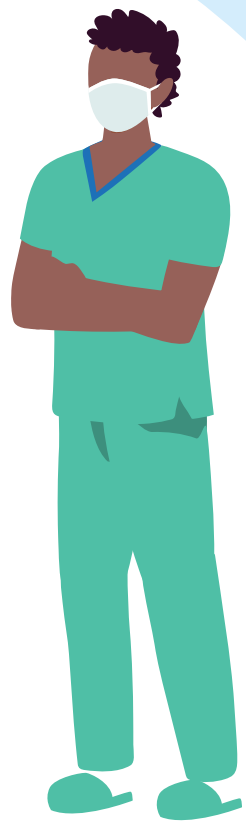
The recommended initial duration of antibiotics for prophylaxis of recurrent UTIs is 3 months. The clinical need for ongoing antibiotics should be reviewed after 3-6 months as evidence for benefit beyond this time is lacking. If prophylaxis is to be continued, the rationale should be clearly documented.

WHAT PATIENTS/CARERS NEED TO KNOW

Before prescribing nitrofurantoin, inform the patient/patient's carer about the potential risks of therapy and the monitoring requirements.

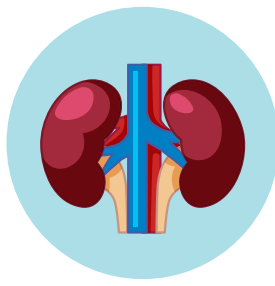
Patients being initiated on nitrofurantoin should be advised to report the following signs/symptoms and be advised to stop taking nitrofurantoin and seek prompt medical advice if they occur.

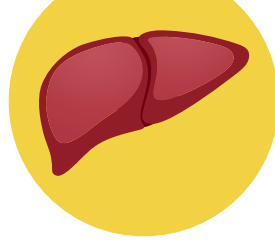
- New or worsening respiratory symptoms - e.g. chills, lingering cough, coughing up blood or mucus, fever, chest pain, shortness of breath, pain or discomfort on breathing. (Signs of pulmonary reaction may also include chest X-ray abnormalities and eosinophilia).
- Symptoms of liver damage - yellowing of the skin or eyes, upper right abdominal pain, dark urine, pale/grey-coloured stools, itching or joint pain/swelling. (More subtle symptoms may include nausea, rash, headache or flu-like illness).
- Onset of peripheral neurological symptoms - e.g. dizziness, numbness, tingling, muscle cramp/weakness.
- Symptoms of haemolysis - e.g. dizziness, fatigue, pale skin.

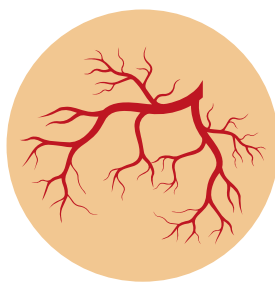


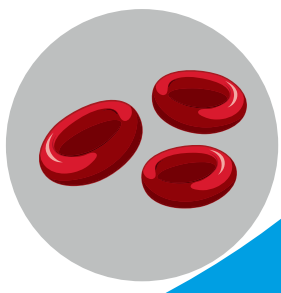
Risks of Nitrofurantoin Therapy and Monitoring Guidance for Practitioners

Risks	Monitoring requirements and frequency
Respiratory Nitrofurantoin can cause acute and chronic pulmonary disorders, especially in the elderly. Acute reactions tend to arise in first week of treatment and reverse with treatment cessation. Long-term reactions include interstitial lung disease such as pulmonary fibrosis, which can cause permanent lung injury if not detected early.	Monitor for pulmonary/respiratory symptoms at baseline, every 6 months thereafter and when new symptoms arise. Stop therapy at the first signs of respiratory reaction to optimise outcomes.
Renal There is a risk of treatment failure if GFR<45ml/minute, as nitrofurantoin may not accumulate to therapeutic concentrations in urine. Renal impairment can increase the risk of side effects.	Check renal function at baseline and every 3-6 months thereafter.
Hepatic Nitrofurantoin can cause acute and chronic hepatic reactions. Cholestatic jaundice is more likely to present with short-term therapy, though chronic active hepatitis (which can lead to hepatic necrosis) typically presents after 6 months of treatment. Onset can be insidious.	Check liver function tests at baseline and every 3-6 months thereafter. Advise patients to report possible signs of liver dysfunction and stop therapy at first signs of hepatotoxicity.
Neurological Nitrofurantoin can cause peripheral neuropathy, including optic neuritis, with motor/sensory involvement. This can become severe and irreversible.	Advise patients to monitor for symptoms of peripheral neuropathy and stop therapy immediately if symptoms develop.
Haematological Nitrofurantoin is contraindicated in G6PD deficiency and acute porphyria, and cautioned in anaemia. It may cause blood dyscrasias such as thrombocytopenia or agranulocytosis.	No routine blood count monitoring is advised, but patients should be advised to report signs of haemolysis









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Published by the Antimicrobial Management Team May 2023 | gram.antibioticpharmacists@nhs.scot | Identifier: AMT01| Version: 1 | Review Date: May 2026

DESIGN: WLS0523