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| Renal Directorate Guidelines  Royal Infirmary of Edinburgh |

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**Treatment of Influenza in Patients with Renal Impairment**

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| **Additional information** | This advice has been taken from the [UK HSA Guidance on use of antiviral agents for the treatment and prophylaxis of seasonal influenza (Nov 2021)](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1058443/ukhsa-guidance-antivirals-influenza-11v4.pdf). |
| **Criteria for treatment** | * Patients with significant chronic renal impairment, a transplant or who are otherwise immunosuppressed are considered a high-risk group with influenza. Anti-virals should be commenced for a positive Influenza test, even in the absence of symptoms. * Chronic renal impairment is not rigorously defined in national guidelines; we suggest applying this guidance to patients with CKD4 or worse (i.e. eGFR < 30 ml/min or on renal replacement therapy). * Patients with a transplant or who are otherwise immunosuppressed should receive anti-virals regardless of renal function. |
| **Dosage and administration** | **TREAMENT OF INFLUENZA IN RENAL PATIENTS**   * **First-line treatment:** oseltamivir (Oral or Nasogastric tube) for 5 days * **Second-line:** inhaled zanamivir (if poor response to first-line) * **Third-line:** IV zanamivir (if severe, complicated illness and inhaled route not available – e.g. multi-organ failure)   Treatment of influenza is for 5 days (except where renal function dictates that only a single dose is required – see table below). Antiviral therapy should be initiated as soon as possible because they are unlikely to be effective if initiated >48 hrs after symptom onset.  **TREATMENT DOSE IN ADULTS:**   |  |  | | --- | --- | | **Creatinine clearance (CrCL) (mL/min)** | **Oseltamivir oral treatment for 5 Days** | | > 60mL/min | 75mg twice a day (BD) | | 31 to 60 mL/min | 30mg BD | | 11 to 30mL/min | 30mg OD | | < 11 mL/min | 30mg ONCE | | Haemodialysis (HD) | 30mg ONCE and then 30mg after every HD session | | Peritoneal Dialysis (see Summary of Product Characteristics (SPC) for Oseltamivir) | 30mg ONCE | | Haemo(dia)filtration (HDF)  1.0 to 1.8L/hr exchange rate | 30mg OD | | HDF 1.9 to 3.6L/hr | 30mg BD | | HDF >3.6L/hr | 75mg BD |   **Second-line:** inhaled Zanamivir is 10mg twice daily inhaled via diskhaler for 5 days; no dose-adjustment required for renal impairment.  **PROPHYLAXIS IN CLOSE CONTACTS OF SYMPTOMATIC PATIENTS:**  **First-line prophylaxis:** oseltamivir (PO or NG) for 10 days   |  |  | | --- | --- | | **Creatinine clearance (CrCL) (mL/min)** | **Oseltamivir oral treatment for 10 Days** | | > 60mL/min | 75mg once a day (OD) | | 31 to 60 mL/min | 30mg OD | | 11 to 30mL/min | 30mg every 48 hrs | | < 11 mL/min | 30mg ONCE; repeat after 7 days | | Haemodialysis (HD) | 30mg ONCE and then 30mg after every second HD session | | Peritoneal Dialysis (see SPC for Oseltamivir) | 30mg ONCE; repeat after 7 days | | Haemo(dia)filtration (HDF)  1.0 to 1.8L/hr exchange rate | 30mg every 48 hrs | | HDF 1.9 to 3.6L/hr | 30mg OD | | HDF >3.6L/hr | 75mg OD |   **Second-line:** inhaled zanamivir 10 mg od for 10 days.  All patients sharing the same dialysis room should be considered close contacts.  Some of the advice for dosing in renal impairment presented here may differ to the renal drug database. |
| **Monitoring** | No specific monitoring requirements. |
| **Side Effects** | **Oseltamivir** (see SPC for further details - [www.medicines.org.uk](http://www.medicines.org.uk))  *Common*: nausea & vomiting, headache, insomnia, abdominal pain, dyspepsia. *Uncommon / rare*: thrombocytopenia, hypersensitivity / anaphylactic reactions, delirium, GI bleeding, convulsions, cardiac arrhythmias, elevated liver enzymes.  **Inhaled Zanamivir** (see SPC for further details - [www.medicines.org.uk](http://www.medicines.org.uk))  *Common*: rash. *Uncommon / rare*: anaphylactic reactions, facial oedema, vasovagal-like reactions, urticaria and severe skin reactions, bronchospasm, convulsions, psychiatric events. |
| **Patient Counselling** | **Oseltamivir.** Liquid available if swallowing difficulties.  **Inhaled Zanamivir.** Inhaled drugs – eg asthma medications should be administered prior to inhaled zanamivir. One blister should be used for each inhalation, using only the diskhaler device provided. Contains lactose, contraindicated in patients with a milk protein allergy. |
| **Drug Interactions** | **Oseltamivir:** clinically significant drug interaction are unlikely.  **Inhaled Zanamivir:** clinically significant drug interactions are unlikely. |