

ROYAL COLLEGE OF PAEDIATRICS & CHILD HEALTH CONSENSUS STATEMENT ON
THE USE OF OSELTAMIVIR IN INFANTS UNDER ONE YEAR OF AGE DURING A 'FLU
PANDEMIC

1. **To treat children under the age of 1 month, Oseltamivir should be used in a dose of 2mg/kg twice daily for five days** ^{1,2}
2. **To treat children between 1 - 3 months, Oseltamivir should be used in a dose of 2.5mg/kg twice daily for five days** ^{1,2}
3. **To treat children aged 3 months to 1 year, Oseltamivir should be used in a dose of 3mg/kg twice daily for five days** ^{1,2}
4. **Extra care should be taken before prescribing for babies under 3 months in whom risks of bacterial sepsis are higher. Where possible, refer/discuss with a paediatric specialist and follow NICE guidelines for febrile illness** ³
5. **Post-exposure prophylaxis for children under the age of one year requires very careful consideration. If it is decided to prescribe Oseltamivir to prevent influenza for children below one year of age it is recommended to use half of the daily treatment dose: use 3mg/kg once daily for children 3-12 months, for children 1 – 3 months use 2.5mg/kg once daily, for children 0 – 1 month use 2 mg/kg once daily** ⁴

This statement has been prepared by the Science and Research Department of the UK Royal College of Paediatrics & Child Health using expert opinion and information available as of October 2009. It is a consensus statement and represents a reasonable extrapolation from available data. It has been revised following guidance published by the Department of Health (5th June 2009, September 2009) ^{2,3}, European Medicines Agency (31st July 2009) ⁴ and Marketing Authorisation for Oseltamivir for infants aged 6-12 months. It will be further reviewed and updated as further information becomes available.

1 Introduction

1.1 During an influenza pandemic, individual paediatricians and general practitioners may be asked to treat infants of less than one year who are ill with influenza-like symptoms.

1.2 Infants and young people can shed the virus several days before the onset of symptoms and are infectious for seven or more days after onset of symptoms. They form an important source of infection for contacts in the community.

1.3. However in very young babies (e.g. under 3 months) the pathogenesis of influenza, and the evidence-base/safety of antivirals may be different and is under current investigation.

1.4 Serious morbidity and mortality from influenza may be associated with bacterial infection and, especially in infants, there is a risk of misdiagnosing serious bacterial infection as flu. Use the NICE guidelines on Feverish illness in children ³

2. Oseltamivir

2.1 Oseltamivir (Tamiflu) is an influenza virus neuraminidase inhibitor. It is licensed for the treatment of influenza in individuals aged over 6 months. The BNFC provides clear guidance on dosages, duration of treatment, cautions and side effects for children and young people 1-18 years for post exposure prophylaxis and treatment ⁸. In 2009 and subsequent to the last edition of BNFC, the license was extended down from a minimum of 1 year to 6 months of age. This statement addresses therapy for infants under 1 year.

2.2 The European Medicines Evaluation Agency Committee for Medicinal Products for Human use recommends a treatment dose for children aged less than 6 months of 2mg per kg body weight twice daily for 5 days. It specifies 3mg per kg for children 6-12 months ¹. There is also published evidence from Japan that it has been used safely at a dose of 2mg per kg twice daily in children under one year of age ^{7, 9, 10}

2.4 Oseltamivir has been shown to reduce the duration of fever in infants ^{3, 12}. Treating infants and children with Oseltamivir may shorten symptomatic illness, but there is no evidence that this will curtail viral shedding ¹². Further studies are in progress. Additional measures will be needed to control the spread of influenza virus infection in the community.

2.5 In the event of a pandemic, the Department of Health has authorized NHS manufacturing units to produce a solution of Oseltamivir from the raw materials. The strength of this solution will be 15mg/ml (Note: different strength to the commercial preparation). This solution should be supplied with a standard oral syringe graduated in ml.

2.6 An oral suspension of Oseltamivir (Tamiflu **12mg per ml**) is also available commercially. This product is provided with an oral syringe that is graduated in mg rather than ml; the lowest measurable dose is 30mg. It is not suitable for measurement of doses for infants less than 1 year old and should be removed from the packaging at the point of dispensing and replaced with a standard oral syringe, graduated in ml.

2.7 Oseltamivir is an inactive prodrug which requires to be metabolised to the active molecule. This is carried out by esterase enzymes in the liver which take about four weeks to mature in most infants but there will be individual variability. It is theoretically possible that Oseltamivir may not be converted into the active agent in very young infants and may therefore be ineffective.

Summary

At present there are limited data on the risk/benefit of treatment of influenza in infants under 1 year with Oseltamivir. It should therefore be used with caution, predominantly for infants with clinical signs of serious respiratory illness. Such babies will usually require paediatric review and may require antibiotic therapy.

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Lead reviewer:

Dr William van't Hoff: Chair of RCPCH/NPPG Joint Standing Committee on Medicines

This statement has been reviewed by:

Dr MG (Calum) Semple Clinical Advisor Department of Health, HMG UK.

Professor Neena Modi: RCPCH Vice-President for Science & Research

Dr Ian Maconochie: RCPCH Officer for Clinical Standards

Dr Sabine Maguire: Chair of the RCPCH Quality of Practice Committee

Dr Mike Sharland: Chair of RCPCH Standing Committee on Immunisation & Infectious Disease

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