

No recognized renal dysfunction	DOSAGE	
Children 1-9 yrs old ^a	5mg/kg OD or divided BID (total daily dose not to exceed 150mg)	
Children >10 yrs old	200mg OD or divided BID ^b (if less than 40 kg, give 5mg/kg per day)	
Adults ≤ 64 yrs old	200mg OD (or 100mg BID) ^b (Note: 100mg OD adequate/better tolerated for prophylaxis)	
Adults ≥ 65 yrs old	100mg OD	
Renal dysfunction: CrCl ^b in ml/second (ml/min in brackets)	Alternate dosing adjustment schedule ²	
>1.33ml/s (≥80 ml/min)	100mg po OD	100mg Day 1, 100mg/day starting Day 2
1.00-1.32 ml/s (60-79 ml/min)	Alternating daily doses of 100mg & 50mg	100mg Day 1, 75mg/day starting Day 2
0.67-0.99 ml/s (40-59 ml/min)	100mg every 2 days	100mg Day 1, 50mg/day starting Day 2
0.50-0.66 ml/s (30-39 ml/min)	100mg twice weekly	100mg Day 1, 25mg/day starting Day 2
0.33-0.49 ml/s (20-29 ml/min)	50mg three times per week	
<0.32 ml/s (10-19 ml/min)	Alternating weekly doses of 100mg & 50mg	If outbreak continues, repeat 100mg dose every seven days during the outbreak.
Hemodialysis	200mg every 7 days	

Calculation of creatinine clearance (CrCl):

♦ CrCl ml/second = $\frac{(140-\text{age}) \times \text{weight (kg)}}{\text{serum creatinine (umol/L)} \times 50}$











Watch units for ml/second !!!

♦ Females: CrCl = 0.85 x CrCl (male)

^a Use in children < 1yr old has not been evaluated

^b Patients with history of seizures: consider reduction in amantadine dose or use alternate neuraminidase inhibitor

ANTIVIRAL AGENTS for Influenza ^{3,4,5}: treatment **within ~48hr** of symptom onset shortens course by **~1 day** & relieves symptoms to some extent ⁸

	M2 INHIBITORS	NEURAMINIDASE INHIBITORS 	
	Amantadine  <i>SYMMETREL</i>	Oseltamivir  <i>TAMIFLU</i>  	Zanamivir  <i>RELENZA</i>  
Influenza coverage	Influenza A only	Influenza A & B	
Route of administration	Oral	Oral	
Dosage forms available	100mg capsules; 10mg/ml syrup	75 mg capsules; or powder for suspension	5mg per inhalation via Diskhaler (Important to show & give info to use the device properly)
Approved for prophylaxis	YES - ≥ 1yr old	Yes ≥ 13yrs old (75mg po od x 7-14days)	NO ^c
Approved age for treatment	≥ 1yrs old	≥ 1 yrs old	≥ 7 yrs old
Dosage for treatment	see above Table	75mg po BID x 5 days	2 inhalations's (10mg) q12h x 5days ^d
Adjustment for renal failure	YES - see above Table 	YES - if CrCl < 0.33ml/sec 75 mg po OD 	NO
Side Effects	CNS - lightheadedness, insomnia, irritability (less when ↓ dose for age & renal fx) ; GI upset	Nausea, vomiting , insomnia, vertigo & bronchitis, rash & ↑ liver enzymes	Nasal/throat irritation, Headache, GI upset, Bronchitis & Cough
Cost in Sask. for 5days ^d	~\$10 (cap); \$13 (syrup)	~ \$57	~ \$49
Comments/ Precautions	♦ Adverse CNS effects related to & progressive with high serum concentrations ♦ Reduce dosage for age, renal function & seizure history	♦ Prodrug requiring hepatic activation ♦ ~ 10% incidence of nausea +/- vomiting; taking with food may help ♦ concern of resistance developing in kids ⁶	♦ may cause bronchospasm ♦ in people with asthma or COPD avoid or use cautiously with access to a SABA (such as salbutamol <i>Ventolin</i>)

 = ↓ dose for renal dysfunction  =non formulary Sask  =not covered NIHB  =prior NIHB COPD=chronic obstructive pulmonary disease **fx**=function **SABA**=short acting beta agonist

^c Zanamivir NOT presently approved for prophylaxis in Canada; trials show 80-85% effective at 1/2 of the usual dose. Vaccine essential for prevention!

^d **Zanamivir - Recommended on first day:** 2 inhalations stat; repeat after 2 hours then begin 2 inhalations q12h the next day for 4 days

Emphasize importance of vaccination!

Simultaneous use of **amantadine for prophylaxis & therapy** within a family, facility or institution is **NOT** advised because of an increased risk of viral resistance. ^{7 (NACI 2004), 8}

***The Rx Files* – Drugs for Influenza**

References

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- ¹ Adapted from the National Advisory Committee on Immunization's Statement on Influenza Vaccination for the 2000-2001 Season. Health Protection Branch - Laboratory Centre for Disease Control (Ottawa, Canada), Vol 26 (ACS-2), June 1, 2000.
 - ² McGeer A, Sitar D, Tamblin S, et al. Use of antiviral prophylaxis in influenza outbreaks in long term care facilities. *Can J Infect Dis* 2000; 11(4): 187-192.
 - ³ Cooper NJ, Sutton AJ, Abrams KR, Wailoo A, Turner D, Nicholson KG. Effectiveness of neuraminidase inhibitors in treatment and prevention of influenza A and B: systematic review and meta-analyses of randomised controlled trials. *BMJ*. 2003 Jun 7;326(7401):1235.
 - ⁴ Stiver G. The treatment of influenza with antiviral drugs. *CMAJ*. 2003 Jan 7;168(1):49-56.
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 - ⁶ Kiso M., Resistant influenza A viruses in children treated with oseltamivir: descriptive study. *Lancet* 2004; 364: 759-65.
 - ⁷ Orr P; National Advisory Committee on Immunization. An Advisory Committee Statement (ACS). National Advisory Committee on Immunization (NACI). Statement on influenza vaccination for the 2004-2005 season. *Can Commun Dis Rep*. 2004 Jun 15;30:1-32.
 - ⁸ Schmidt AC. Antiviral therapy for influenza : a clinical and economic comparative review. *Drugs*. 2004;64(18):2031-46.