

**PROPHYLAXIS TO PREVENT FIRST EPISODE OF OPPORTUNISTIC DISEASE IN INFANTS AND CHILDREN WITH HIV INFECTION**

		PREVENTIVE REGIMENS	
PATHOGEN	INDICATION	FIRST CHOICE	ALTERNATIVES
<b>Strongly Recommended as Standard of Care</b>			
<i>Pneumocystis jiroveci</i> (PCP) (formerly known as <i>Pneumocystis carinii</i> ) <sup>1</sup>	HIV-infected or HIV-indeterminate, infants aged 1-12 months	TMP-SMX, 150/750mg/m <sup>2</sup> /d in 2 divided doses po t.i.w on consecutive days	Dapsone (children aged >1 month), 2mg/kg (max 100mg) po q.d or 4g/kg (max 200mg) po q.w
	HIV-infected children aged 1-5 years with CD4+ T cell count <500/mm <sup>3</sup> or CD4+ T cell percentage <15%	Acceptable alternative dosage schedules: Single dose po t.i.w on consecutive days	On aerosolised pentamidine (children aged ≥5 years.), 300mg q.m via Respigard II™ nebuliser atovaquone (children aged 1-3 months and >24 months, 30mg/kg po q.d; children aged 4-24 months, 45mg/kg po q.d)
	HIV-infected children aged 6-12 years with CD4+ T cell count <200/mm <sup>3</sup> , or CD4+ T cell percentage <15%	2 divided doses po q.d; 2 divided doses on alternate days	
<i>Mycobacterium tuberculosis</i> <sup>2</sup>			
INH-sensitive	TST reaction of ≥5mm or prior positive TST result without treatment	INH, 10-15mg/kg (max 300mg) po q.d x 9 months	RIF, 10-20mg/kg (max 600mg) po q.d x 4-6 months
	Contact with any case of active TB regardless of TST result	20-30mg/kg (max 900mg) po b.i.w x 9 months	
INH resistant	Same as above; high probability of exposure to INH-resistant TB	RIF, 10-20mg/kg (max 600mg) po q.d x 4-6 months	Uncertain
Multi-drug (INH and RIF) resistant	Same as above; high probability of exposure to multidrug resistant TB	Choice of drugs requires consultation with public health authorities and depends on susceptibility of isolation from source patient.	
<i>Mycobacterium avium</i> Complex (MAC) <sup>2</sup>	For children aged ≥6 years, CD4+ T cell counts of <50/mm <sup>3</sup>	Clarithromycin, 7.5mg/kg (max 500mg) po b.i.d	Azithromycin, 5mg/kg (max 250mg) po q.d
	Aged 2-6 years, CD4+ T cell count <75/mm <sup>3</sup>	Azithromycin, 20mg/kg (max 1,200mg) po q.w	Children aged ≥6 years, rifabutin, 300mg po q.d
	Aged 1-2 years, CD4+ T cell count <500/mm <sup>3</sup>		
	Aged <1 year, CD4+ T cell count <750/mm <sup>3</sup>		

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<i>Varicella zoster</i> Virus (VZV) <sup>3</sup>	Significant exposure to varicella or shingles with no history of chickenpox or shingles	VZIG, 1 vial (1.25mL)/10kg (max 5 vials) IM, administered ≤96 hours after exposure, ideally within 48 hours	None
Vaccine-Preventable Pathogens <sup>4</sup>	HIV exposure/infection	Routine immunisations (see <i>Table 3</i> )	None
<b>Generally Recommended as Standard of Care</b>			
<i>T. gondii</i> <sup>5</sup>	IgG antibody to <i>Toxoplasma</i> and severe immuno-suppression	TMP-SMX, 150/750mg/m <sup>2</sup> /d in 2 divided doses po q.d	Dapsone (children aged ≥1 month), 2mg/kg or 15mg/m <sup>2</sup> (max 25mg) po q.d plus pyrimethamine, 1mg/kg po q.d plus leucovorin, 5mg po every 3 days  Atovaquone, (aged 1-3 months and >24 months, 30mg/kg po q.d; aged 14-24 months 45mg/kg po q.d)
<i>Varicella zoster</i> Virus (VZV)	HIV-infected children who are asymptomatic and not immunosuppressed	VZV vaccine (See <i>Vaccine-preventable pathogens</i> section of this table)	None
Influenza Virus	All patients (annually before influenza season)	Inactivated split trivalent influenza vaccine (See <i>Vaccine-preventable pathogens</i> section of this table)	Oseltamivir (during outbreaks of influenza A or B) for children aged ≥13 years, 75mg po q.d  Rimantadine or amantadine (during outbreaks of influenza A); aged 1-9 years, 5mg/kg in 2 divided doses (max 150mg /day) po q.d; aged >10 years, use adult doses

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<b>Not Recommended for Most Children; Indicated for Use Only in Unusual Circumstances</b>			
Invasive Bacterial Infections <sup>6</sup>	Hypogamma-globulinaemia (e.g. IgG <400mg/dL)	IVIG, 400mg/kg q2-4w	None
<i>C. neoformans</i>	Severe immunosuppression	Fluconazole, 3-6mg/kg po q.d	Itraconazole, 2-5mg/kg po q12-24h
<i>H. capsulatum</i>	Severe immunosuppression, endemic geographic area	Itraconazole, 2-5mg/kg po q12-24h	None
<i>Cytomegalovirus (CMV)</i> <sup>7</sup>	CMV antibody positivity and severe immunosuppression	Oral ganciclovir, 30mg/kg po t.i.d	None

**NOTES:** The Respirgard II™ nebuliser is manufactured by Marquest, Englewood, Colorado, USA.

<sup>1</sup>Daily TMP-SMX reduces the frequency of some bacterial infections. TMP-SMX, dapsone-pyrimethamine, and possibly atovaquone (with or without pyrimethamine) appear to protect against toxoplasmosis, although data have not been prospectively collected. When compared with weekly dapsone, daily dapsone is associated with lower incidence of PCP but higher haematologic toxicity and mortality (Source: McIntosh K, Cooper E, Xu J, et al. Toxicity and efficacy of daily vs. weekly dapsone for prevention of Pneumocystis jiroveci pneumonia in children infected with HIV. Ped Infect Dis J 1999;18:432-9). The efficacy of parenteral pentamidine (e.g. 4mg/kg every 2-4 weeks) is controversial. Patients receiving therapy for toxoplasmosis with sulfadiazine-pyrimethamine are protected against PCP and do not need TMP-SMX.

<sup>2</sup>Significant drug interactions can occur between rifamycins (RIF and rifabutin) and PIs and NNRTIs. Consult a specialist.

<sup>3</sup>Children routinely being administered IVIG should receive VZIG if the last dose of IVIG was administered more than twenty-one days before exposure.

<sup>4</sup>HIV-infected and -exposed children should be immunised according to the childhood immunisation schedule in this section (See Table 2), which has been adapted from the January-December 2001 schedule recommended for immunocompetent children by the U.S. Advisory Committee on Immunisation Practices, the American Academy of Paediatrics, and the American Academy of Family Physicians. This schedule differs from that for immunocompetent children in that both the conjugate pneumococcal vaccine (PCV-7) and the pneumococcal polysaccharide vaccine (PPV-23) are recommended, and vaccination against influenza should be offered. MMR should not be administered to severely immunocompromised children. Vaccination against varicella is indicated only for asymptomatic non-immunosuppressed children. Once an HIV-exposed child is determined not to be HIV-infected, the schedule for immunocompetent children applies.

<sup>5</sup>Protection against toxoplasmosis is provided by the preferred anti-Pneumocystis regimens and possibly by atovaquone. Atovaquone may be used with or without pyrimethamine. Pyrimethamine alone probably provides little, if any, protection.

<sup>6</sup>Respiratory syncytial virus (RSV) IVIG (750mg/kg), not monoclonal RSV antibody, may be substituted for IVIG during the RSV season to provide broad anti-infective protection, if this product is available.

<sup>7</sup>Oral ganciclovir and perhaps valganciclovir result in reduced CMV shedding in CMV-infected children. Acyclovir is not protective against CMV.