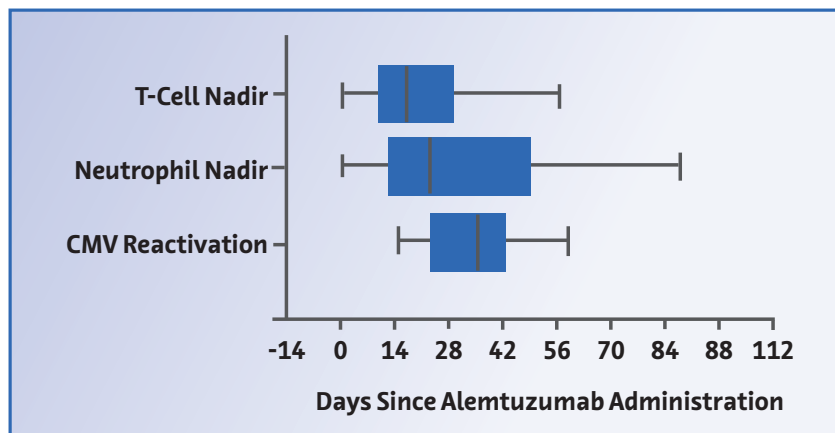


# MANAGING CYTOMEGALOVIRUS (CMV) REACTIVATION

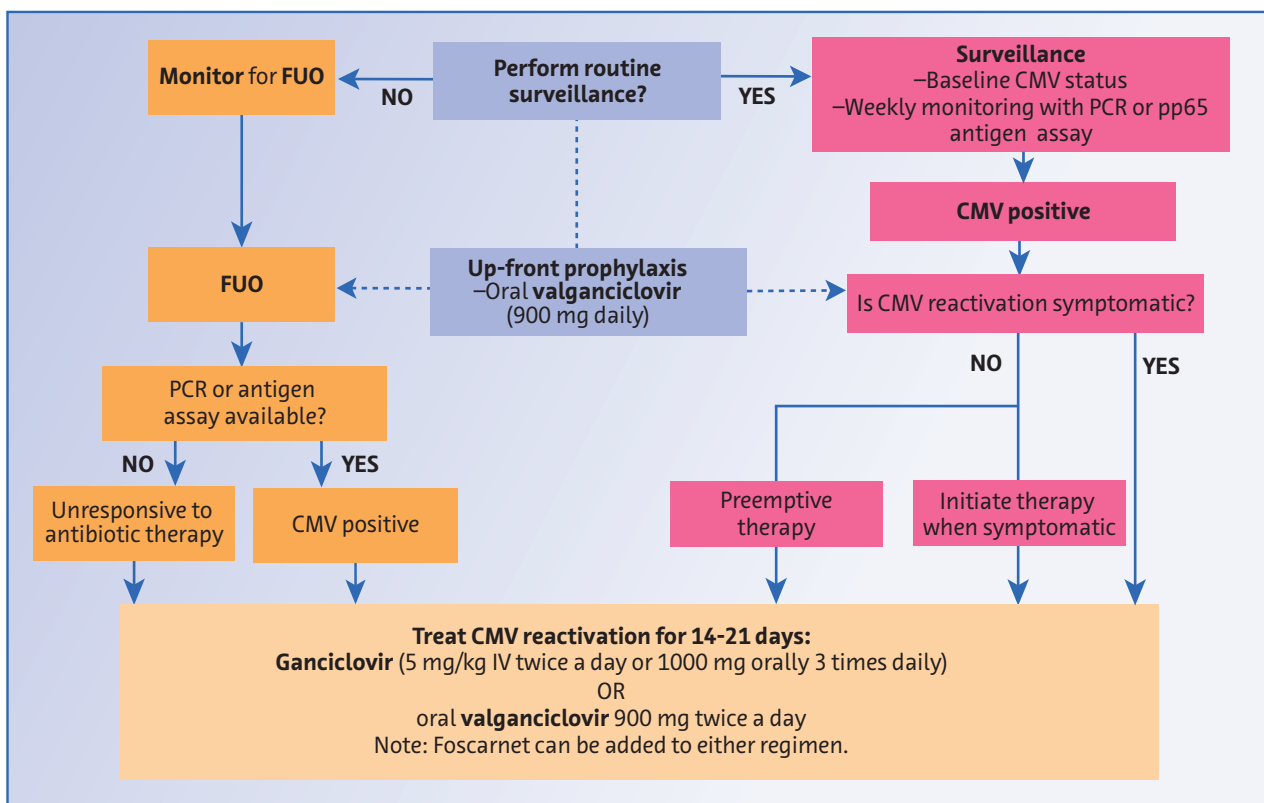
CMV occurrence in relation to T-cell and neutrophil nadir\*<sup>1</sup>



\*Adapted with permission from Moreton P, Kennedy B, Lucas G, et al. Eradication of minimal residual disease in B-cell chronic lymphocytic leukemia after alemtuzumab therapy is associated with prolonged survival. *J Clin Oncol.* 2005;23:2971-2979.

- If CMV occurs, it is typically observed between 4 weeks and 6 weeks after initiation of treatment with alemtuzumab and occurs around the same time as severe lymphopenia and neutrophil nadir (or shortly thereafter)<sup>2</sup>
  - In recently published clinical trials, single-agent Campath® (alemtuzumab) was associated with an incidence of symptomatic CMV reactivation that ranged from 4% to 29%<sup>1,3-8</sup>

## 2006 CMV Management Guidelines<sup>†2</sup>



<sup>†</sup>Reproduced with permission from: O'Brien SM, Keating MJ, MocarSKI ES. Updated guidelines on the management of cytomegalovirus reactivation in patients with chronic lymphocytic leukemia treated with alemtuzumab. *Clin Lymphoma Myeloma.* 2006;7:125-130.

## 2006 Recommendations for Treatment of CMV\*2

Decision	Up-front Prophylaxis	Positive Results on PCR/ Antigenemia Test		Negative Results on PCR/ Antigenemia Test	
		Symptomatic	Asymptomatic	Symptomatic	Asymptomatic
Treatment Regimen	Oral valganciclovir 900 mg daily	Ganciclovir 5 mg/kg IV twice daily or oral ganciclovir 1000 mg 3 times daily or oral valganciclovir 900 mg twice daily	Ganciclovir 5 mg/kg IV twice daily or oral ganciclovir 1000 mg 3 times daily	If test is negative for other causes or pathogens, treat with regimens indicated in left columns	None
Duration of Treatment	Entire duration of Campath therapy (12 weeks), and until 2 months after end of therapy	14-21 days, until resolution of symptoms and negative test result, or until 2 consecutive negative results	7-14 days or until 2 consecutive negative test results	14-21 days, until resolution of symptoms	-
Frequency of CMV Testing	Every 2 weeks	Weekly	Weekly	Weekly	Weekly

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**WARNING:** Campath should be administered under the supervision of a physician experienced in the use of antineoplastic therapy. **Hematologic Toxicity:** Serious and, in rare instances fatal, pancytopenia/marrow hypoplasia, autoimmune idiopathic thrombocytopenia, and autoimmune hemolytic anemia have occurred in patients receiving Campath therapy. **Single doses of Campath greater than 30 mg or cumulative doses greater than 90 mg per week should not be administered because these doses are associated with a higher incidence of pancytopenia.** **Infusion Reactions:** Campath can result in serious, and in some instances fatal, infusion reactions. Patients should be carefully monitored during infusions and Campath discontinued if indicated. (See DOSAGE AND ADMINISTRATION.) **Gradual escalation to the recommended maintenance dose is required at the initiation of therapy and after interruption of therapy for 7 or more days.** **Infections, Opportunistic Infections:** Serious, sometimes fatal bacterial, viral, fungal, and protozoan infections have been reported in patients receiving Campath therapy. Prophylaxis directed against *Pneumocystis carinii* pneumonia (PCP) and herpes virus infections has been shown to decrease, but not eliminate, the occurrence of these infections.

Campath is indicated for the treatment of B-CLL in patients who have been treated with alkylating agents and who have failed fludarabine therapy. Determination of the effectiveness of Campath is based on overall response rates. Comparative, randomized trials demonstrating increased survival or clinical benefits such as improvement in disease-related symptoms have not yet been conducted.

Campath is contraindicated in patients who have active systemic infections, underlying immunodeficiency (eg, seropositive for HIV), or known Type I hypersensitivity or anaphylactic reactions to Campath or to any one of its components. The most commonly reported infusion-related adverse events were rigors (86%), drug-related fever (85%), nausea (54%), vomiting (41%), and hypotension (32%). Hematologic toxicities included pancytopenia/marrow hypoplasia (6%), anemia (80%), thrombocytopenia (72%), neutropenia (85%), and profound lymphopenia, and should be monitored. Infections reported included sepsis (15%), pneumonia (16%), and opportunistic infections such as CMV (8%—study 1), Candidiasis (5%—study 1), Aspergillosis (2%—study 1), and Mucormycosis (2%—study 1).

**Please see full Prescribing Information enclosed, including Boxed Warning.**

**References:** 1. Moreton P, Kennedy B, Lucas G, et al. *J Clin Oncol*. 2005;23:2971-2979. 2. O'Brien SM, Keating MJ, MocarSKI ES. *Clin Lymphoma Myeloma*. 2006;7:125-130. 3. Ferrajoli A, O'Brien SM, Cortes JE, et al. *Cancer*. 2003;98:773-778. 4. Lundin J, Kimby E, Björkholm M, et al. *Blood*. 2002;100:768-773. 5. Keating MJ, Flinn I, Jain V, et al. *Blood*. 2002;99:3554-3561. 6. Nguyen DD, Cao TM, Dugan K, Starcher SA, Fechter RL, Coutre SE. *Clin Lymphoma*. 2002;3:105-110. 7. Hillmen P, Skotnicki A, Robak T, Jaksic B, Sirard C, Mayer J. *Blood*. 2006;108:93a (Abstract #301). 8. Rai KR, Freter CE, Mercier RJ, et al. *J Clin Oncol*. 2002;20:3891-3897.



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