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It remains poorly understood if the standard model for HIV dynamics accurately describes virus dynamics during the first weeks post infection. We analyze the dynamics of the standard model for virus dynamics and its simple extension which includes a cellular eclipse phase. We show that the standard model or its extension do not accurately predict the change in the time to virus appearance in the blood and probability of infection at different viral doses as was observed in experimental infections of monkeys with SIV. Our results suggest that to accurately describe early HIV dynamics, more complex models are needed. (Received December 28, 2014)