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An integro-differential equation is proposed to model a general relapse phenomenon in infectious diseases including herpes. The basic reproduction number \mathcal{R}_0 for the model is identified and a threshold property of \mathcal{R}_0 established. For the case of a constant relapse period (giving a delay differential equation), this is achieved by conducting a linear stability analysis of the model and employing the Lyapunov-Razumikhin technique and monotone dynamical systems theory for global results. Numerical simulations, with parameters relevant for herpes, are presented to complement the theoretical results, and no evidence for sustained oscillatory solutions is found.

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