



28 Days Later

They're not zombies, they're infected.

Director: **Danny Boyle**, (2002).

Writers: **Alex Garland**.

Stars: **Cillian Murphy, Naomie Harris, Christopher Eccleston, Megan Burns, Brendan Gleasons**.

Image source and IMDB listing: [tt0289043](https://www.imdb.com/title/tt0289043/).

28 semanas después (28 Weeks Later)

The danger of asymptomatic carriers

Director: **Juan Carlos Fresnadillo**, (2007).

Writers: **Rowan Joffé, Juan Carlos Fresnadillo, E.L. Lavigne, Jesús Olmo**.

Stars: **Robert Carlyle, Rose Byrne, Jeremy Renner, Harold Perrineau, Catherine McCormack, Mackintosh Muggleton, Imogen Poots, Idris Elba**.

Image source and IMDB listing: [tt0463854](https://www.imdb.com/title/tt0463854/).

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If there is an ideal film genre for teaching infectious microbiology, it is the zombie movie. Virtually every high school or university student has seen one of these productions that fill the screen with gory carnage. The television series *The Walking Dead* represents the culmination of this horror subgenre, and we will surely discuss other films belonging to it in this space. The popularity of the zombie phenomenon is such that even the CDC in Atlanta uses it as an example of how to be prepared for a catastrophe. Although the genre is currently in vogue, the canon of the “insatiable, flesh-eating zombie that devours any living creature in its path” was established long ago by director George A. Romero with his legendary *Night of the Living Dead* (1968). In my humble opinion, the vast majority of zombie films are little more than variations—some more successful than others—on that original masterpiece. Interestingly, it was also Romero who first introduced the idea of a virus transforming the infected into deranged, ravenous beings in his film *The Crazies* (1973).

I have chosen two fairly representative movies: *28 Days Later* and its sequel *28 Weeks Later* (as I revise these lines for IMiLI, the third part, *28 Years Later*, has already been released). I selected them because their infected individuals are not the typical decaying zombies who can only be killed by destroying their brains. Instead, they are incurable patients infected by a virus, displaying clear symptoms and capable of dying if untreated or unfed.

The story of *28 Days Later* updates an old British science fiction film titled *Day of the Triffids* (1962), replacing walking carnivorous plants with zombies. In this version, animal rights activists attack a military facility and accidentally release of a mutant form of the rabies virus — the so-called Rage virus. This virus is highly contagious and virulent. Within a minute of infection, it transforms a person

into a bloodshot-eyed, frenzied maniac who attacks anyone uninfected. In just a few days, the virus spreads across Great Britain, wiping out almost nearly the entire population. The few remaining survivors try to reach a safe zone on the small islands of northern Scotland.

In *28 Weeks Later*, the Rage virus epidemic has been brought under control. The infected population of the British Isles has simply been left to starve to death. After a quarantine period considered safe, repopulation begins. However, the new inhabitants encounter a survivor who turns out to be an asymptomatic carrier. The consequences, as one might imagine, are disastrous.

Beyond the gore, these two films actually contain several situations that can be used to explain or discuss key scientific concepts. For example, the virulence of a pathogen and its strategies for spreading within a population (zombies only attack the uninfected, never other zombies). They also raise issues such as animal experimentation and the ethical problems arising from activist raids on laboratories; the implementation of quarantine and public health measures; and the critical importance of identifying asymptomatic carriers during epidemic control efforts. Even the flaws in the films can be used to clarify epidemiological concepts. For instance, the unrealistically short time interval between infection and transformation could serve to discuss the concept of incubation period.

Obviously, one topic that should not be left out is the mode of transmission. In the case of the Rage virus, it is spread through saliva and blood, entering the host via mucous membranes or direct inoculation from a bite. One striking sequence in *28 Days Later* depicts a protagonist becoming infected when a single drop of blood falls into his eye — a moment as shocking as it is memorable.

Gruesome, yes — but also remarkably informative.

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