

Editors' Note:

The following article on a topic of considerable individual and public health significance presents disturbing information and leads to conclusions of a controversial nature. Letters to the Editors with comments and discussion on this important topic are welcome.

A Critical Review of the Physics and Statistics of Condoms and their Role in Individual versus Societal Survival of the AIDS Epidemic

RICHARD GORDON

Condom failure rates for HIV are substantially greater than for pregnancy, even for highly motivated people who may reach the limit set by allowed manufacturing imperfections. This makes condoms ineffective for lifelong protection from HIV-infected sexual partners; therefore, in general, condoms provide inadequate risk reduction for the individual. Nevertheless, they are sufficiently effective that if everyone used condoms, the AIDS epidemic would stop. Quantitative public health goals to reduce the "reproductive rate" of HIV from an estimated 4–12 people infected per infected person to below 1 are needed. Government and scientific testing of condoms could be improved statistically and by utilizing relevant physics.

The chance of HIV transmission depends on whether one's partner is actually infected and the infectivity of the virus, which in turn depends on virulence, concentration, duration of contact, cofactors, etc. Defining "exposure" to mean direct genital or anal contact with infected semen or vaginal fluids, I will examine the degree of control afforded to the individual and society by condoms when they are used to prevent exposure

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