

By: [Nayef Whitei](#), Science Editor

## [Viagra Against Jet Lag](#)

*If it's good in hamsters, it could be in humans, too*

It seems that Viagra can help more than just our sex lives. A new research has found it can help in the case of the effects of jet lag (time-change fatigue). This "opens a completely original way of dealing with this kind of disarrangement," said senior author Diego Golombek, a chronobiologist at the National University of Quilmes in Buenos Aires. "Moreover, since the drug has been extensively tested in humans-in terms of safety, efficacy and other pharmacological parameters-it could be argued that it should be quite straightforward to start a clinical test." Jet lag is triggered by an impairment between photoreceptor cells in the eye and the hypothalamus, the brain nucleus responsible for the body's circadian clock. Sensitive to the light-dark cycle, the circadian clock schedules the animal's sleep, eating time and active periods. Moving from one time zone to another requires adaptation to the new light-dark cycle, which can occur in a number of days for most people. Sildenafil, Viagra's active chemical, slows down the breaking of cyclic guanosine monophosphate (cGMP), a messenger chemical involved in the body's response to light. "Researchers assumed, that higher levels would increase the sensitivity of the circadian system and, in the process, accelerate adaptation to a changing light schedule." said Golombek. Hamsters injected with sildenafil adapted to a six-hour change in their daily cycle (like travelling from Paris to New York) in eight days; normally, hamsters need 12 days to recover, assessed by the time they began their daily jog on running wheels. Sildenafil also induced penile erections, as expected. The cGMP amounts in the hypothalamuses of hamsters which were given sildenafil were double compared to control individuals. The experiments were made for a delay in time zone, moving from east to west, but Golombek wonders if in the opposite case there are no other mechanisms. But till doctors prescribe Viagra for jet lag, more research must be done. The team is going to check sildenafil's effects on female hamsters (this research was made only on males), but also in mice, with a better investigated circadian clock. If there are no side effects, human trials will be started. "Jet lag trials might involve laboratory simulations. But, we also need 'the real thing,' which means testing pharmacological treatments on long-haul air travel, which will certainly take some time." added Golombek.