

The 62-Mile High Club - Herpes From Outer Space



By Josh Bloom — March 19, 2019



Hey Mr. Spaceman! Photo: A New Domain [1]

Those of you who have been "heading for the cheatin' side of town" **(1)** might have a new excuse, albeit a lame one, to keep yourself from being hauled into divorce court - Virgin Galactic, Richard Branson's Space Tourism Company. That is if the space tourism company ever gets a ship off the ground without having it [blow up](#) [2] or [crash](#) [3].



Photo: [Virgin Atlantic](#) [4]

It's [all over the news](#) [5] - astronauts suffer [more herpes outbreaks](#) [6] than those of us who are earthbound. But only ACSH will tell you how to use this information to your advantage and throw in a herpes lesson that you probably don't want to learn. And it's for guys only because we are pigs **(2)**.

Let's say you bought a ticket on the "pleasure express" to Ashley Madison Avenue, did your thing and picked up the herp. What do you do?

1. Self-denial (#1) - "Maybe it's just poison ivy."
2. Self-denial (#2) - "That's impossible. I was wearing a condom." **(3)**
3. Begging - This may actually work. Women are [more likely to forgive infidelity](#) [7] than men.
4. Fly to space and either: a) Stay there - it's cheaper than what her lawyer has in mind, or b) come back and claim that it was the trip that was the cause of your dermal disturbance, not the hanky panky. More on this later.

Number 4 is pretty stupid but has a grain of truth. And it provides the opportunity for me to sneak in some actual virology into what would otherwise be a complete waste of your time. It makes sense that astronauts are more inclined to suffer outbreaks than the rest of us. Seriously.

Herpes lesson - You know you need it.

One of the charming properties of the herpes family of viruses is that once they're moved in they don't move out. This is because they have "hiding places," (reservoirs) where they hang out in a dormant state until something wakes them up. Here are a few members of the family:

1. HSV-1 (herpes simplex virus type 1, cold sores, "oral herpes") - HSV-1 infection is very common. About 65% of Americans have antibodies to the virus, meaning that they were exposed, but did not necessarily get a sore. You can catch HSV-1 from kissing your grandmother (or someone else's grandmother), even if not eruption (sore) is present. (If a sore is present the chances of catching it go way up). HSV-1 eruptions are more often found on the face, especially the lips. Once the sore has healed the virus retreats to the root of facial nerves, commonly the trigeminal nerve, where it can remain dormant for years.

Unpleasant fact time

Just because HSV-1 is called the cold sore virus, don't count on it. HSV-1 is quite happy in the genital area. In fact, in certain populations of young women, [HSV-1 is now the primary cause of genital herpes](#) [8].

2. HSV-2 (herpes simplex virus type 2 "genital herpes") - HSV-2 infection is much less common than HSV-1 (16% vs. 65% seropositivity in the US). It is almost completely accurate to call it "genital herpes" because unlike HSV-1, which cheerfully infects both the mouth and genitals, HSV-2 doesn't like the oral area.
3. Others:
 - Herpes varicella-zoster virus (VZV) causes chickenpox. But VZV can take hold in facial and dorsal (spinal) nerve roots, which it can emerge many decades later as shingles - something

you could easily do without. There's a vaccine. It's expensive. That wouldn't stop me **(4)**.

- Cytomegalovirus (CMV, human herpesvirus-5, HHV-5) - About three-quarters of us have antibodies to CMV but it is only a concern for immunocompromised people. CMV was a major killer in the early days of AIDS. The reservoir for CMV is white blood cells.
- Epstein-barr virus (EBV, HHV4) causes mononucleosis. Its reservoir is a B cell (another type of white blood cell).

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Herpes eruptions are held in check by your immune system. When it's not working well eruptions become more common. Think about what causes cold sore outbreaks - sunlight (radiation), illness, and stress, lack of sleep, which can have an impact on your immune system. So it is not surprising that astronauts are more prone to eruptions. They are being bombarded by cosmic radiation. There is no such thing as day or night. The opportunities for social interaction are limited and they can't watch Game of Thrones.

But they did not get many outbreaks

The conditions in space resulted in more virus being released from nerve roots, but only six of 89 of them got outbreaks, which were mild. The reason for this is the same reason that asymptomatic people can still infect their partners. When viruses are emerging and replicating but not causing active infections this is called shedding. It was the increased shedding that was measured (urine, saliva) in about half the astronauts. People who are shedding virus are contagious but not sick. One of the many mysteries of virology.

Sorry, you better get a divorce lawyer

Although hopping on a spacecraft before your wife finds out about the secretary seems tempting, a case of herpes from a trip to space will be unlikely to be an air-tight defense. So you need to be prepared to try something else just in case.



Good begging techniques may keep you out of the doghouse. Photo: [PetMD](#) [9]

NOTES:

(1) For any Eagles fans who may still be alive.

(2) Yes, we are. And the stats back this up. Men are [50% more likely to cheat](#) [10] on their wives

than the other way around.

(3) Doesn't matter. Condoms are roughly [50% effective](#) ^[11] in preventing genital herpes transmission. Use your imagination.

(4) I got shingles on my back in my 30s. It was bad, but not terrible. Nonetheless, I still have a 10-30% chance of getting another outbreak.

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[1] <http://anewdomain.net/ashley-madison-bigger-sister-adult-personals-site-ashleymadison-from-avid-dating-services-exclusive/>

[2] <https://www.space.com/4863-report-cites-rocketship-builder-explosion-inquiry.html>

[3] <https://www.space.com/27629-virgin-galactic-spaceshiptwo-crash-full-coverage.html>

[4] <https://www.space.com/18993-virgin-galactic.html>

[5] <https://www.livescience.com/65021-spaceflight-herpes-viruses-reactivation.html>

[6] <https://www.frontiersin.org/articles/10.3389/fmicb.2019.00016/full>

[7] https://www.huffpost.com/entry/5-reasons-women-stay-with_n_521936

[8] <https://www.jwatch.org/id201302200000002/2013/02/20/hsv-1-infection-more-common-hsv-2-and-now-often>

[9] <https://www.petmd.com/dog/behavior/how-prevent-your-dog-begging>

[10] <http://www.divorcestatistics.info/latest-infidelity-statistics-of-usa.html>

[11] https://www.medscape.org/viewarticle/472427_2