Flu mystery may be cracked

by Bend_Weekly_News_Sources

ReÂ-searchÂ-ers say theyâ€™ve solved a great mysÂ-tery of the flu: why it spreads mainly in winÂ-ter. The anÂ-swer, they reÂ-port, is that the viÂ-rus is more stable and reÂ-mains airÂ-borne longÂ-er in the cold, dry air that preÂ-vails in the seaÂ-son. A typÂ-iÂ-cal flu viÂ-rus is shown "sÂ-liced" in half in this diÂ-aÂ-gram to show the inÂ-sides. It conÂ-tains genes for makÂ-ing copÂ-ies of itÂ-self on the inÂ-side, and "spikes" that help it atÂ-tach to a host cell on the outÂ-side. (CourÂ-teÂ-sy Nat'l InÂ-stiÂ-tute of AlÂ-lerÂ-gy and InÂ-fecÂ-tious DisÂ-eases, U.S.)
The New York Times reÂ-ported the findÂ-ings, alÂ-so pubÂ-lished in the Oct. 19 isÂ-sue of the reÂ-search jourÂ-nal PLoS PathÂ-oÂ-gens, on WednesÂ-day.

â€œInÂ-fluenza viÂ-rus is more likely to be transÂ-mitÂ-ted durÂ-ing winÂ-ter on the way to the subÂ-way than in a warm room,â€• PeÂ-ter Palese, chaÂ-irman of miÂ-croÂ-biÂ-olÂ-oÂ-gy at Mount SiÂ-nai School of MedÂ-iÂ-cine in New York and the stuÂ-dyâ€™s lead auÂ-thor, told the Times.Palese conÂ-ducted the study afÂ-ter readÂ-ing a paÂ-per pubÂ-lished in the afÂ-termath of the devÂ-asÂ-tatÂ-ing 1918 flu panÂ-demÂ-ic. That reÂ-port sugÂ-gested the viÂ-rus could rapÂ-idly spread among guinÂ-ea pigs.Palese and colÂ-leagues exÂ-peÂ-riÂ-mented with flu viÂ-rus among guinÂ-ea pigs, varÂ-yÂ-ing air temÂ-perÂ-aÂ-ture and huÂ-midÂ-ity in the anÂ-iÂ-malsâ€™ quarÂ-ters. They found that transÂ-misÂ-sion was best at 41 deÂ-grees FahrÂ-enÂ-heit (5 deÂ-grees CelÂ-sius), and worsÂ-ened at highÂ-er temÂ-perÂ-aÂ-tures, endÂ-ing comÂ-pletely at 86 deÂ-grees FahrÂ-enÂ-heit (30 deÂ-grees CelÂ-sius).
TransÂ-misÂ-sion was alÂ-so best at a low huÂ-midÂ-ity of 20 perÂ-cent, PaÂ-lese said. Thatâ€™s probably beÂ-cause the viÂ-ruses float in the air in litÂ-tle resÂ-piÂ-raÂ-toÂ-ry droplets, he added. In huÂ-mid air, the droplets grow largÂ-er and fall.Flu viÂ-ruses spread through the air, PaÂ-lese said, whereÂ-as cold viÂ-ruses spread mainly by diÂ-rect conÂ-tact, such as handÂ-shakes or conÂ-tact with an obÂ-ject just touched by an inÂ-fected perÂ-son. Flu seaÂ-son in northÂ-ern latÂ-iÂ-tudes runs from NoÂ-vemÂ-ber to March, the coldÂ-est months. In southÂ-ern latÂ-iÂ-tudes, itâ€™s from May unÂ-til SepÂ-temÂ-ber. In the tropÂ-ics, there is litÂ-tle flu at all.Flu reÂ-searchÂ-ers told the Times they were deÂ-lightÂ-ed to fiÂ-nally get some solÂ-id daÂ-ta on flu seaÂ-sonalÂ-ity. â€œIt was great work, and work that needed to be done,â€• said TerÂ-rence Tumpe, a senÂ-ior miÂ-croÂ-biÂ-olÂ-oÂ-gist at the U.S. CenÂ-ters for DisÂ-ease ConÂ-trol and PreÂ-venÂ-tion.

Courtesy World Science staff

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