And now dry powder inhalable vaccine for measles!
(*Science Daily, Retrieved September 27, 2009, http://www.sciencedaily.com- /releases/2009/08/090816170913.htm*)

The first dry powder inhalable vaccine for measles is moving toward clinical trials next year in India. To create an inhalable vaccine, the weakened measles virus is mixed with "supercritical" carbon dioxide — part gas, part liquid — to produce microscopic bubbles and droplets, which then are dried to make an inhalable powder. The powder is puffed into a small, cylindrical, plastic sack, with an opening like the neck of a plastic water bottle, and administered. By taking one deep breath from the sack, a child could be effectively vaccinated. In animal tests, the inhaler has been just as effective in delivering measles vaccine as the traditional injection. The new method also would help reach those who refuse inoculations because of their fear of needles. The vaccine could be produced for about 26 cents a dose.

Single-dose rabies vaccine may become reality (*J Infect Dis 2009; 200: 1251*)

Although current post-exposure prophylaxis rabies virus (RV) vaccines are effective, around 40,000–70,000 rabies-related deaths are reported annually worldwide. The development of effective formulations requiring only 1–2 applications would significantly reduce mortality. The data presented in this article suggest that the M gene–deleted RV vaccine is safe and effective in animal models and holds the potential of replacing current pre- and post-exposure RV vaccines. The M gene is one of the central genes of the rabies virus, and its absence inhibits the virus from completing its life cycle. The virus in the vaccine infects cells and induces an immune response, but the virus is deficient in spreading. The immune response induced with this process is so substantial that only one inoculation is sufficient.

A vaccine for preventing UTI
(*PLoS Pathog 5: e1000586. doi:10.1371/journal.ppat.1000586*)

Using a large-scale screening process, the authors uniformly identified proteins involved in iron uptake as potential vaccine candidates against *E. coli*. Iron acquisition is a critical function required by bacteria in order to cause infections. In uropathogenic *Escherichia coli*, this function is mediated by a repertoire of systems that scavenge iron from the host during infection. By targeting an entire class of molecules involved in iron acquisition instead of a single protein, it was possible to successfully identify components of a protective UTI vaccine.

Which flu vaccine is better – Live or inactivated?
(*N Engl J Med 2009; 361: 1260*)

A randomized, double-blind, placebo-controlled trial compared the efficacy of licensed inactivated and live attenuated influenza vaccines in 1952 healthy adults during the 2007–2008 influenza season, that witnessed the circulation of influenza type A (H3N2) (about 90%) and B (about 9%) viruses. Absolute efficacy against both types of influenza, was 68% for the inactivated vaccine and 36% for the live attenuated vaccine. In terms of relative efficacy, there was a 50% reduction in laboratory-confirmed influenza among subjects who received inactivated vaccine as compared with those given live attenuated vaccine. Only the inactivated flu vaccine is available in India. This study suggests that at least last year this vaccine had superior results as compared to the live attenuated vaccine.

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