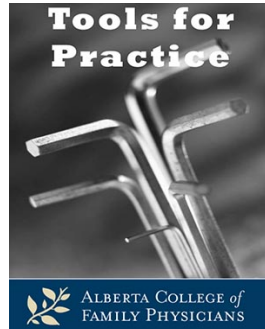


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Tools for Stools: Oral Cholera Vaccine for Traveler's Diarrhea Prophylaxis

Clinical Question: Should oral cholera vaccine (Dukoral™) be routinely recommended to prevent traveler's diarrhea (TD)?

Bottom-line: Randomized Controlled Trials (RCT) evaluating Dukoral™ for TD did not show a benefit and routine use is not recommended.

Evidence:

- Systematic review of 24 RCTs of vaccines to prevent TD.¹ Many tested vaccines in cholera endemic areas (not travelers) and examined immunologic (not clinical) outcomes.
 - RCT of 502 US college students, given oral cholera vaccine or placebo upon arrival in Mexico, with a second dose ten days later found no difference in:²
 - Diarrhea (any cause): vaccine 51%, placebo 49%.
 - Enterotoxigenic E. coli (ETEC) diarrhea: vaccine 14%, placebo 15%.
 - Diarrhea was reduced ≥ 7 days after second dose, but this was not confirmed by external re-analysis.¹
 - Adverse events: not reported.
 - RCT of 187 travelers comparing ETEC vaccine, oral cholera vaccine, and placebo (given at least seven days before leaving) found:³
 - No significant difference between groups in all-cause diarrhea.
 - Placebo 21%, ETEC vaccine 24%, oral cholera vaccine 27%.

Context:

- Diarrhea, usually from ETEC, affects up to 50% of travelers to developing countries.⁴⁻⁶
- Risk of cholera is ~1/10,000 to 1/million per month abroad.⁷
- Cholera toxin subunit in vaccine triggers cross-immunity to ETEC⁸ leading to its indication for prevention of TD.⁹
- Most cases of TD resolve spontaneously in 3–4 days,⁵ but taking antibiotics at onset improves 72 hour cure (84% vs. 50%, Number Needed to Treat 3).¹⁰

- North American guidelines do not recommend oral cholera vaccine for majority of travelers.^{4,5}
- Vaccine costs ~\$90; not covered by any provincial health care plans.

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Disclosure:

Authors have no conflicts to disclose.

References:

1. Ahmed T, Bhuiyan TR, Zaman K, *et al.* Cochrane Database Syst Rev. 2013; 7:CD009029.
2. Scerpella EG, Sanchez JL, Mathewson JJ, *et al.* J Travel Med. 1995; 2:22-7.
3. Wiedermann G, Kollaritsch H, Kundi M, *et al.* J Travel Med. 2000; 7:27-9.
4. Canada Communicable Disease Report. 2005; 31. <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/05vol31/asc-dcc-7/index-eng.php>. Last accessed November 8, 2013.
5. Hill DR, Ericsson CD, Pearson RD, *et al.* Clin Infect Dis. 2006; 43:1499-539.
6. Adachi JA, Xiang Z, Mathewson JJ, *et al.* Clin Infect Dis. 2001; 32:1706-9.
7. Steffen R, Acar J, Walker E, Zuckerman J. Travel Med Infect Dis. 2003; 1:80-8.
8. Hill DR, Ford L, Laloo DG. Lancet Infect Dis. 2006; 6: 361-73.
9. Dukoral Product Monograph 2012; pg 5. http://www.janssen.ca/subcategory_docdownload?id=1586. Last accessed December 8, 2013.
10. de Bruyn G, Hahn S, Borwick A. Cochrane Database Syst Rev. 2009; 1:CD002242.

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