



The “Cinnamon Challenge”

By
Christopher Burnett

Center for
Educational Outreach
Baylor College of
Medicine

 **BioEd Online**
Biology Teacher Resources from Baylor College of Medicine

Introduction

The “Cinnamon Challenge” demonstrates the power of social media to spread a cultural phenomenon quickly among teenagers, and even politicians, comedians, NBA players, and the MythBusters TV program. The Challenge also illustrates the remarkable willingness of people to accept entirely avoidable risk, even though there is no apparent benefit.

References

- The Associated Press. *Gov. Quinn Takes Cinnamon Challenge*. Retrieved 05-07-2013, from <http://stlouis.cbslocal.com/2012/02/04/gov-quinn-takes-cinnamon-challenge/>.
- YouTube User: glozell1 (January 2012). *The Cinnamon Challenge ... by GloZell and Her Big Behind Earrings*. Retrieved 05-07-2013, from http://www.youtube.com/watch?v=Cyk7utV_D2I.
- YouTube User: FordProductionFilms (November 2011). *The Nick & Javale Show – NBA Players from the Washington Wizards try a crazy challenge .. Hilarious*. Retrieved 05-07-2013, from <http://www.youtube.com/watch?v=GAVgmlmsTAI>.
- MythBusters. *Mailbag Special: May 20, 2012*. Discovery Channel. Retrieved 05-07-2013, from <http://dsc.discovery.com/tv-shows/mythbusters/videos/mailbag-special.htm>.

Image References

Ground cinnamon with measuring spoon (2012). Wikimedia Commons User:

TheDeliciousLife. Licensed under the Creative Commons Attribution 2.0 Generic.
Retrieved 05-03-2013 from
http://commons.wikimedia.org/wiki/File:Ground_cinnamon.jpg.

The “Cinnamon Challenge”

- Participants try to swallow one tablespoon of ground cinnamon in 60 seconds without water.
- The powder dries the mouth and causes a severe gag reflex, choking and coughing.
- Videos of the challenge continue to be posted on YouTube and shared via social media.



Cinnamon powder is ground from the inner bark of the trees in the genus *Cinnamomun*.



The “Cinnamon Challenge”

The “Cinnamon Challenge” is a social phenomenon, spread largely through social media, which carries serious risks probably not envisioned by its creators. The Challenge is straightforward: try to swallow a tablespoon of ground cinnamon in 60 seconds without drinking water. It sounds simple, but cinnamon powder dries the mouth almost instantly, and the potent spice triggers a severe gag reflex, coughing and choking. Many videos of suffering participants have been posted on YouTube and shared via social media.

Reference

Norton, A. *Cinnamon Stunt Can Have Serious Lung Effects*. HealthDay (2013). Retrieved 04-30-2013, from <http://teens.webmd.com/news/20130422/popular-cinnamon-stunt-can-have-serious-lung-effects>.

Image Reference

Cinnamon bark *Cinnamomum verum*. Luc Viatour / www.Lucnix.be. Licensed under the Creative Commons, Attribution-Share Alike 3.0 Unported license. Retrieved 05-07-2013, from http://commons.wikimedia.org/wiki/File:Canelle_Cinnamomum_verum_Luc_Viatour.jpg.

Tracking the Trend

- Calls to poison centers for misuse or abuse of cinnamon by teens:
 - 2011: 51 calls
 - 2012: 222 calls
 - January - March, 2013: 20 calls
- In August, 2012, there were 51,100 YouTube clips of people “taking” the challenge.
- In May, 2013, a YouTube search for “Cinnamon Challenge” yielded more than 500,000 video clips.



Tracking the Trend

Data from the American Association of Poison Control Centers (AAPCC), which maintains the only poison information and surveillance database in the United States, mirrors the Google search trends. In 2011, the AAPCC reported 51 calls to poison centers involving misuse or abuse of cinnamon by teens aged 13 to 19. There were 222 such reports in 2012, and 20 in the first three months of 2013. Some of the calls to the AAPCC required medical attention.

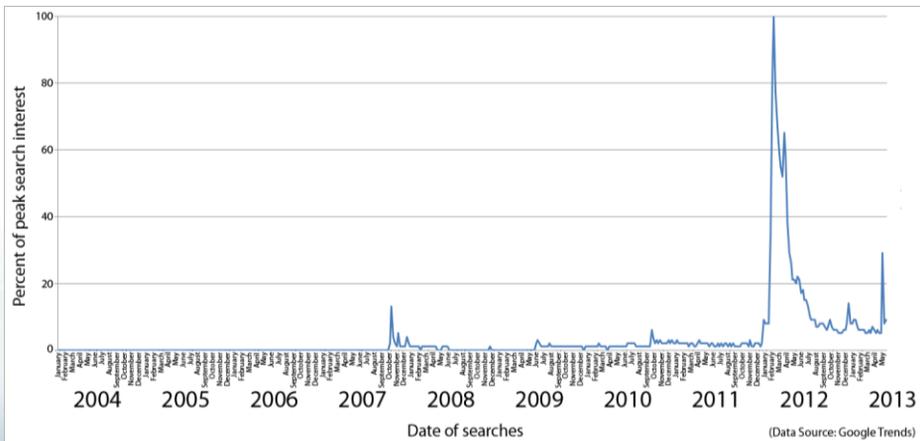
References

- American Association of Poison Control Centers (2012). *Poison Centers Issue Warning About the “Cinnamon Challenge.”* Retrieved 05-03-2013, from <http://www.aapcc.org/press/4/>.
- American Association of Poison Control Centers. *Cinnamon Challenge.* Retrieved 05-03-2013, from <http://www.aapcc.org/alerts/cinnamon-challenge/>.
- Grant-Alfieri A, Schaechter J, Lipshultz S. (2013). Ingesting and Aspirating Dry Cinnamon by Children and Adolescents: The “Cinnamon Challenge.” *Pediatrics.* 131(5):833-5. DOI: 10.1542/peds.2012-3418.

Image Reference

Cinnamon (2009). Nany Mata. Licensed under Creative Commons Attribution 2.0. Retrieved 05-09-2013, from <http://www.flickr.com/photos/nanymata/3866001578/>.

Google Searches for “Cinnamon Challenge”



Google Searches for “Cinnamon Challenge”

Data on Google searches for the phrase, “cinnamon challenge,” illustrate the trend. The number of searches rose rapidly in late 2011, and peaked in February 2012. A second, less dramatic peak occurred between January and May 2013, as information and stories about the challenge continued to spread.

Reference

Google Trends. Data retrieved 05-09-2013, from <https://www.google.com/trends/explore?q=%22Cinnamon%20Challenge%22>.

What are the risks?

- Cinnamon powder is an irritant to the throat.
- Cellulose fibers in the powder do not dissolve or biodegrade in the lungs.
- At least one case of a collapsed lung associated with the Cinnamon Challenge.
- Those with asthma or other broncho-pulmonary diseases, or with cinnamon allergies are at a greater risk.
- Allergic reaction or unmanaged asthma attack could prove fatal.



What are the risks?

In addition to discomfort and irritation, the “Cinnamon Challenge” poses potentially serious health risks, including pneumonia. The greatest danger is the potential for aspirating cellulose fibers in the cinnamon powder. These fibers are bioresistant and biopersistent, meaning that they do not dissolve or biodegrade in the lungs. Studies involving rats indicate that cellulose fibers can damage the lungs and remain present in the lungs for a year or more after exposure.

There are no formal studies on the effects of inhaled cinnamon in humans, but individual cases indicate the risk. At least one teen was hospitalized for a collapsed lung after attempting the “Cinnamon Challenge,” and at least 30 teens required medical attention. Not surprisingly, people with asthma or other broncho-pulmonary diseases, or allergies to cinnamon are at greater risk. For such individuals, the Challenge could prove fatal.

References

- American Association of Poison Control Centers (2012). *Poison Centers Issue Warning About the “Cinnamon Challenge.”* Retrieved 05-03-2013, from <http://www.aapcc.org/press/4/>.
- American Association of Poison Control Centers. *Cinnamon Challenge.* Retrieved 05-03-2013, from <http://www.aapcc.org/alerts/cinnamon-challenge/>.
- Grant-Alfieri, A, Schaechter, J, and Lipshultz, S. Ingesting and Aspirating Dry

Cinnamon by Children and Adolescents: The “Cinnamon Challenge. *Pediatrics*. 2013 May;131(5):833-5. DOI: 10.1542/peds.2012-3418.

- Muhle, H, Ernst, H, Bellmann, B. Investigation of the durability of cellulose fibres in rat lungs. *The Annals of Occupational Hygiene*, Vol. 41, Supplement 1, 1997, pp 184-188, ISSN 0003-4878. Retrieved 05-03-2013, from

<http://www.sciencedirect.com/science/article/pii/S0003487897800361>.

- Tátrai E, Adamis Z, Ungváry G. The pulmonary toxicity of cinnamon dust in rats. *Indian J Med Res*. 1995 Dec; 102:287-92. PMID: 8557323.

- CBS News. (2013). “Cinnamon challenge” dangerous to lungs, new report warns. CBS/AP. Retrieved 05-08-2013, from http://www.cbsnews.com/8301-204_162-57580670/cinnamon-challenge-dangerous-to-lungs-new-report-warns/.