

RGH Pharmacy E-Bulletin

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A joint initiative of the Patient Services Section and the Drug and Therapeutics Information Service of the Pharmacy Department, Repatriation General Hospital, Daw Park, South Australia. The RGH Pharmacy E-Bulletin is distributed in electronic format on a weekly basis, and aims to present concise, factual information on issues of current interest in therapeutics, drug safety and cost-effective use of medications.
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Christmas Edition – Best wishes for the festive season

In the interests of scientific enquiry, we offer this analysis of the technical aspects of the Christmas phenomenon:

- No known species of reindeer can fly. There are thought to be approximately 300,000 species of living organisms yet to be classified, and while most are believed to be insects and microbes, this does not rule out flying reindeer that only Santa Claus has ever seen.
- There are currently approximately two billion children (persons under 18) in the world. Since Santa doesn't (appear) to work with the Muslim, Hindu, Jewish and Buddhist populations, this would reduce the workload to 15% of the total (approximately 378 million children). Even at an average rate of 3.5 children per household, this equates to about 92 million households to visit (working on the presumption of at least one good child in each).
- In view of differences in time zones and the rotation of the earth, Santa has 31 hours of Christmas to work with, assuming he travels east to west. This equates to 822.6 visits per second, or period of less than 0.0001 seconds to park, dismount the sleigh, descend the chimney, fill the stockings, distribute the presents under the tree, eat whatever snacks have been left, get back up the chimney, get back into the sleigh and move on to the next house. Assuming that the stops are evenly distributed around the earth this would be 1.143 km per household at a speed of 1046 km per second, more than 3,000 times the speed of sound. For purposes of comparison, a conventional reindeer can run at about 24 km per hour.
- The payload is of interest: assuming that each child gets nothing more than a medium-sized Lego set (say one kilogram at a maximum), the sleigh is carrying 292,000 tonne (not counting Santa, invariably described as overweight), suggesting the need for over 214,200 reindeer.
- 292,000 tonne travelling at over 1000 km per second generates considerable air resistance, heating the reindeer in the same fashion as a spacecraft re-entering the earth's atmosphere. In short, reindeer, sleigh, presents and Santa would burst into flame and vaporise almost instantaneously, accompanied by deafening sonic booms that would be rather difficult to miss.

If we were to apply the same kind of stringent analysis that we in the medical and scientific community commonly apply to the scrutiny of new information in the arena of clinical therapeutics, it would appear the whole Christmas phenomenon has a truly tenuous evidence base!

In all seriousness, on behalf of the Pharmacy Department of the Repatriation General Hospital, we wish all of our readers at RGH, around Australia and around the world a happy and safe Christmas and New Year. There will be a brief pause over the Christmas period, and the E-Bulletin will reappear on Monday January 28 2008.

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FOR FURTHER INFORMATION – CONTACT THE PHARMACY DEPARTMENT ON 82751763 or email: chris.alderman@rgh.sa.gov.au
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