

## Keeping your medicines safe and secure

The gentle temperate weather conditions that usually prevail around Australia during spring are just a dim distant memory. The summer extremes this year have provided both widespread fires and floods, often with disastrous results.

One of the unfortunate side effects of these natural disasters is that many people are left without essential medicines; and emergency measures must be put in place to maintain some continuity of supply. But even for those of us not directly affected by loss of possessions, high temperature and high humidity can hasten the rate of destruction of medication ingredients.

All medicines are required to have an expiry date printed on the label. Of course this is not an indication that after this date the medicine is suddenly useless or dangerous, but it does mean that beyond the designated "expiry date" the quality and effectiveness of the medicine cannot be guaranteed.

A slight diminution in the efficacy of pain relievers such as ibuprofen or paracetamol would not be a problem, whereas doses of medicines for conditions such as diabetes, epilepsy, high blood pressure or anti-coagulant therapy would need to be much more finely tuned. Also, many medicines, including some commonly used analgesics, have potentially unpleasant or toxic degradation products. For instance, aspirin breaks down to acetic acid and salicylic acid. Blister or foil packed products are likely to maintain their integrity better than tablets or capsules packed loosely in a bottle; and large pack sizes of products which are used only occasionally are not an economical purchase.

Expiry dates are established for each product based on research and testing - but under controlled storage conditions. "Store below 25 degrees" is a statement commonly seen on both prescription and non-prescription medicines. However, the reality is, in some countries and certainly in an Australian summer, in a non air-conditioned home, room temperature is many degrees hotter than this. So what are the likely consequences for medicines stored at temperatures in the 30s and 40s?

Well, for medicines taken for so-called acute conditions - for instance medicines such as antibiotics - a few days at temperatures higher than normal won't be too much of a problem. You would expect to complete the full course of the antibiotics well before, maybe months or years before, the expiry date. And we should *never* keep and subsequently consume the contents of a pack of partly-used antibiotics. This greatly increases the risk of the development of antibiotic resistance (in any event antibiotics are rarely helpful for upper respiratory tract infections).

Even for medicines taken long term, high temperatures for a few days should be fine; but if we live in an area of constantly high temperatures then a little planning ahead will be helpful. First, we should make sure the expiry date is well ahead of the time we're likely to finish the course of treatment. And of course, our medicines should be stored in the coolest, safest place available. Except when specifically recommended, this does not mean the fridge, and definitely not the bathroom which can regularly get hot and humid.

So, we should keep our medicines as cool as we can, but no longer than we need to. We Australians are a nation of hoarders. That may be great for some things – items of furniture perhaps, that might gain in antique status; bottles of wine that mature with age, and there are those unique collectible items such as stamps and coins that appreciate in value as time goes by. There's no financial benefit, however, in collecting medicines. But, there are some significant problems associated with having old or unwanted medicines lying around the house. It's wise to always check with your pharmacist if you have any doubts about the safety and quality your medicines.