



### Case: The Tylenol case

Seven people were fatally poisoned in 1982 when they swallowed Tylenol cold remedy capsules that have been laced with cyanide. This tragedy led to the widespread use of tamper evident (TE) packaging for many products. Tamper evident packaging allows the consumers to recognize if any tampering to the product has occurred. This packaging includes:

- PVC shrink neckbands (plastic seals around the lip or cap of a container)
- Blister cards (plastic coated cards that seals and display the product)
- Drop rings (plastic rings around the neck of a bottle) from which a strip is torn, leaving a ring that must be pushed upwards to unlock the cap. (The drop ring design is an example of a child resistant closure that is relatively easy for adults to open).

Johnson and Johnson (the manufacturer of Tylenol) sought to develop protective packaging that would make any tampering immediately evident to the consumer and thereby eliminate the potentially deadly consequences of such tampering. Their final package design included all the three different tampering evident features. Johnson and Johnson felt confident that these features would protect their consumers, if ever customer remained alert to any telltale signs of danger provided by the packaging.

In 1986 Johnson & Johnson discovered that they were wrong. A woman in New York died from cyanide poisoning after swallowing a Tylenol capsule. The company then realized that TE packaging was insufficient protection.

1. What would have been a sufficient protection?

Case taken from **Engineering By Design" -- Gerard Volland, Addison-Wesley, 1999**