

Introduction

All drugs have a unique formulation consisting of active and inactive ingredients geared to treat specific diseases. Once a drug is developed, manufacturers determine the length of time a drug will last without deteriorating; this is known as the drug's shelf-life. If a medication is used within its shelf-life, maximal efficacy and safety of the drug is expected.

What does expiration date mean?

The expiration date is the final day that the manufacturer guarantees the full potency and safety of a medication; for most drugs, it's just an arbitrary date, usually 2 or 3 years out, which the manufacturer selects to test drug stability. However, the stability of the drug may be much longer, but no one tests it.



Why medication have expiry date?

The effectiveness of a medicine may decrease over time, but studies have shown for most medications that much of the original potency remains years after the expiration date. The ability for a drug to have an extended shelf life would be dependent upon the actual drug ingredients, presence of preservatives, temperature fluctuations, light, humidity, and other storage conditions.

Which medications are unsafe after their expiration date?

- 1 Insulin is used to control blood sugar in diabetes and may be susceptible to degradation after its expiration date.
- 2 Oral nitroglycerin (NTG), a medication used for angina (chest pain), may lose its potency quickly once the medication bottle is opened.
- 3 Vaccines, biologicals or blood products could also be subject to quick degradation once the expiration date is reached.
- 4 Tetracycline may produce a toxic metabolite, but this controversial among researchers, it can cause damage in kidneys.
- 5 Anti-platelet medications (blood thinners): This or any medication that helps control a potentially life-threatening condition like epilepsy, asthma, diabetes, or heart failure, should be taken with a great care and attention because using old, expired, discolored, or broken medications can be fatal.
- 6 Older medications, may not be able to effectively stabilize your thyroid-stimulating hormone (TSH).

Changes that happens to medications after they expired

Right from the time when a medicine is produced, the potency starts decreasing. There are a lot of factors that determine drug stability. Some of the factors that negatively affect are oxygen, extreme temperatures, moisture, and light (especially sunlight).

- Injectable drugs, forms a precipitate or looks cloudy or discolored.
- That the tablets are brittle, or they are breaking apart on their own.
- The tablets or capsules have lost their sheen, they have become soft or they have developed a strong odor.
- The suspensions and emulsions stay separate even after shaking.

Effects of expired medication

The only conceivable risk is that the medication may not retain its original potency, but mostly there is no danger related to toxicity of the medication itself or issues related to its breakdown or by-products.

References

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