



# Note on Adverse Drug Reactions

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## DESCRIPTION

Side effects (ADRs) are “significantly harmful or unpleasant reactions resulting from procedures related to drug use. Side effects usually predict the risk of future administration and prevent specific treatment, change of dosing regimen, or of the product. Since 2012, the definition is for drugs that are not approved or are being used out of indication, in addition to the approved use of the drug at error, abuse, or normal doses. This change may change the reporting and monitoring by manufacturers and drug regulators, but in clinical practice, an approach for dealing with ADRs.

In groundbreaking studies conducted in the United States and the United Kingdom in the late 20<sup>th</sup> and 21<sup>st</sup> centuries, ADRs are common in clinical practice, such as occurring during hospitalization and appearing after discharge as a cause of unplanned hospitalization. It was shown to be a symptom. The incidence of ADR is relatively stable over the long term, and despite various preventive efforts, 5% to 10% of patients may develop ADR at admission, hospitalization, or discharge. Studies have suggested. The frequency of events is necessarily related to the method used to identify such events, and the majority of ADRs do not cause serious systemic symptoms. However, the frequency of this potential harm should be carefully considered as it is related to morbidity and mortality, is economically costly and can adversely affect the relationship with the prescribing patient. Drugs that are particularly relevant to ADR-related hospitalization include antiplatelet drugs, anticoagulants, cell growth inhibitors, immunosuppressants, diuretics, antidiabetics, and antibiotics. Bleeding is often the cause of fatal ADRs, most commonly antithrombotic/anticoagulant drugs in combination with Non Steroidal Anti-Inflammatory Drugs (NSAIDs).

## Types of adverse drug reactions

All side effects of a drug are unwanted effects of the drug. There are different types.

1. Dose dependent
2. Allergies
3. Idiosyncratic

Dose-related side effects represent an exaggeration of the therapeutic effect of the drug. For example, people taking medication to lower their high blood pressure may feel dizzy or

dizzy if the medication lowers their blood pressure too much. People with diabetes can develop weakness, sweating, nausea, and palpitations if insulin or other anti-diabetic drugs lower blood sugar levels too much. These types of side effects are usually predictable, but they can be unavoidable. This is when the drug dose is too high (overdose reaction), when a person is abnormally sensitive to the drug, or when another drug slows the metabolism of the first drug and raises blood levels. Dose-related reactions may or may not be severe, but they are relatively common. Allergic drug reactions are not dose-dependent, but require prior exposure to the drug.

Allergic reactions occur when the body's immune system responds inappropriately to drugs (sometimes called sensitization). Subsequent exposure to the drug after a person has been sensitized results in one of several different types of allergic reactions. From time to time, doctors do skin tests to predict allergic drug reactions.

Idiosyncratic side effects result from mechanisms that are not currently understood. These types of side effects are almost unpredictable. Examples of such side effects include skin rashes, jaundice, anemia, decreased white blood cell counts, kidney damage, and nerve damage that can affect vision and hearing. These reactions are usually more severe, but usually occur in very few people. Affected people may have genetic differences in the way their bodies metabolize or respond to drugs. Some side effects are not related to the therapeutic effect of the drug, but are usually predictable due to the well-known mechanisms involved. For example, stomach inflammation and bleeding are common in people who take aspirin and other non steroidal anti-inflammatory drugs on a regular basis. This is because these drugs reduce the production of prostaglandins, which help protect the digestive tract from stomach acid.

## Treatment of adverse drug reactions

- Dosage change
- Discontinue medication as needed
- Switch to another drug

For dose-dependent side effects, dose adjustment or elimination or reduction of inducing factors may be sufficient. There is rarely a need to increase drug excretion. For allergic and specific ADRs, the drug is usually discontinued and not retried. For allergic ADRs,

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and in some cases dose-related ADRs, it is often necessary to switch to a different drug class. For example, opioid-induced constipation

can be ameliorated by using opioid receptor antagonists such as lubiprostone.