

Visual disturbances, such as blurred vision, nystagmus, and diplopia are common neurologic effects seen in patients given carbamazepine. Tolerance to these side effects develops with continued use of the drug.

## Ataxia

### A-taxi

Neurological effects such as ataxia, vertigo, and headache are commonly seen within the first few weeks of carbamazepine therapy. Minimize these side effects by initiating medication therapy in low doses and administering the largest dose at bedtime.

## Hepatotoxicity

### Liver with Toxic-green-glow

Carbamazepine increases the number of drug-metabolizing enzymes found in the liver. A dysfunctional liver may lead to liver damage and result in hepatotoxicity and hepatitis. Periodically obtain liver function tests and inform the patient to contact the physician if experiencing symptoms of liver damage (i.e., dark-colored urine, clay-colored stools, jaundice, rash, etc.). Use caution if this medication is taken alongside haloperidol and clozapine as plasma levels in these medications may be reduced.

## Blood Dyscrasias

### Blood-cell Disc-razor

Carbamazepine may lead to bone marrow suppression and result in blood dyscrasias, such as agranulocytosis and fatal aplastic anemia. Obtain a complete blood count before initiating carbamazepine therapy and periodically afterwards. Do not administer this drug to patients with pre-existing hematologic abnormalities. Instruct the patient to notify the physician if experiencing symptoms of blood dyscrasias (i.e., fever, pallor, weakness, easy bruising, petechiae, etc.)

## Water Retention

### Water Retained

Carbamazepine increases the secretion of antidiuretic hormone and inhibits renal excretion of water. This leads to water retention and decreased blood osmolarity. Increased water retention may be detrimental to patients with heart failure. Periodically monitor the patient's serum sodium level.

## Stevens-Johnson Syndrome

### Steve-Johns

Carbamazepine may lead to dermatologic issues including rash, Stevens-Johnson syndrome (SJS), and toxic epidermal necrolysis (TEN). A genetic variation primarily found in patients of Asian descent have an increased susceptibility of developing SJS or TEN while taking carbamazepine. Anti-inflammatory medications or antihistamines may be given to treat mild rashes. Patients experiencing SJS or TEN should immediately stop carbamazepine treatment.

## Considerations

### Avoid Grapefruit Juice

#### Avoid-sign at Grapefruit Juice

Since grapefruit juice prevents normal drug metabolism and increases serum levels, do not administer carbamazepine with grapefruit juice. Grapefruit juice increases the amount of carbamazepine to toxic plasma levels.