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## Delirium

Delirium is sudden severe confusion due to rapid changes in brain function that can occur with physical or mental illness.

### Causes

Delirium is most often caused by physical or mental illness and is usually temporary and reversible. Many disorders may cause delirium. Often, these disorders do not allow the brain to get oxygen or other substances. They may also cause dangerous chemicals (toxins) to build up in the brain. Delirium is common in the intensive care unit (ICU), especially in older adults.

Causes include:

- Alcohol or medicine overdose or withdrawal
- Drug use or overdose, including being sedated in the ICU
- Electrolyte or other body chemical disturbances
- Infections such as urinary tract infections, pneumonia, or meningitis
- Severe lack of sleep
- Poisons
- General anesthesia and surgery
- Autoimmune disease

### Symptoms

Delirium involves a quick change between mental states (for example, from lethargy to agitation and back to lethargy).

Symptoms include:

- Changes in alertness (usually more alert in the morning, less alert at night)
- Changes in feeling (sensation) and perception
- Changes in level of consciousness or awareness
- Changes in movement (for example, may be slow moving or hyperactive)
- Changes in sleep patterns, drowsiness

- Confusion (disorientation) about time or place
- Decrease in short-term memory and recall
- Disorganized thinking, such as talking in a way that doesn't make sense
- Emotional or personality changes, such as anger, agitation, depression, irritability, and overly happy
- Incontinence
- Movements triggered by changes in the nervous system
- Problem concentrating

## Exams and Tests

The following tests may have abnormal results:

- An examination of the nervous system (neurologic examination), including tests of feeling (sensation), mental status, thinking (cognitive function), and motor function
- Neuropsychological studies

The following tests may also be done:

- Blood and urine tests
- Chest x-ray
- Cerebrospinal fluid (CSF) analysis (spinal tap, or lumbar puncture)
- Electroencephalogram (EEG)
- Head CT scan
- Head MRI scan
- Mental status test

## Treatment

The goal of treatment is to control or reverse the cause of the symptoms. Treatment depends on the condition causing delirium. The person may need to stay in the hospital for a short time.

Stopping or changing medicines that may worsen confusion, or that are no longer needed, may improve mental function.

Disorders that contribute to confusion should be treated. These may include:

- Anemia
- Decreased oxygen (hypoxia)
- Heart failure
- High carbon dioxide levels (hypercapnia)
- Infections
- Kidney failure
- Liver failure

- Metabolic disorders
- Nutritional disorders
- Psychiatric conditions (such as depression or psychosis)
- Thyroid disorders

Treating medical and mental disorders often greatly improves mental function.

Medicines may be needed to control aggressive or agitated behaviors. These are usually started at very low dosages and adjusted as needed.

Some people with delirium may benefit from hearing aids, glasses, or cataract surgery.

Other treatments that may be helpful:

- Behavior modification to control unacceptable or dangerous behaviors
- Reality orientation to reduce disorientation

## **Outlook (Prognosis)**

Acute conditions that cause delirium may occur with long-term (chronic) disorders that cause dementia. Acute brain syndromes may be reversible by treating the cause.

Delirium often lasts about 1 week. It may take several weeks for mental function to return to normal. Full recovery is usually expected, but depends on the underlying cause of the delirium.

## **Possible Complications**

Problems that may result from delirium include:

- Loss of ability to function or care for self
- Loss of ability to interact
- Progression to stupor or coma
- Side effects of medicines used to treat the disorder

## **When to Contact a Medical Professional**

Contact your health care provider if there is a rapid change in mental status.

## **Prevention**

Treating the conditions that cause delirium can reduce its risk. In hospitalized people, avoiding or using a low dosage of sedatives, prompt treatment of metabolic disorders and infections, and using reality orientation programs will reduce the risk of delirium in those at high risk.

## **Alternative Names**

Acute confusional state; Acute brain syndrome

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