# REYE SYNDROME

(Reye's Syndrome, Reye-Johnson Syndrome)

**REPORTING INFORMATION**

- Class A(3)
- Report by the end of the work week
- Confidential case report card (3812.11 rev. 12/81) or telephone
- Complete the Reye Syndrome Case Investigation Report form (CDC 55.8, rev. 9-91). To be submitted by the local health department to the Bureau of Infectious Disease Control, 246 N. High Street, PO Box 118, Columbus, OH 43266-0118.

**AGENT**

None known. Most cases follow a common viral illness, most frequently influenza or varicella.

**CASE DEFINITION**

The CDC has not published a case definition for Reye Syndrome. The following definition applies in Ohio.

**Clinical description**

- An acute, noninflammatory encephalopathy documented clinically by an alteration in consciousness and, if available, a record of the CSF containing eight or fewer leukocytes per cubic millimeter or by histologic specimen demonstrating cerebral edema without perivascular or meningeal inflammation; AND
- hepatopathy documented by either a liver biopsy or autopsy considered to be diagnostic of Reye Syndrome OR a >3-fold increase in the levels of either the alanine aminotransferase (ALT, SGOT), aspartate aminotransferase (AST, SGPT) or serum ammonia; AND
- no more reasonable explanation for the cerebral and hepatic abnormalities. The most frequent laboratory abnormality is an elevated blood ammonia value.

**Case classification**

Confirmed: a case that meets the clinical case definition above.

**SIGNS AND SYMPTOMS**

Reye Syndrome (RS) is an acute illness characterized by persistent vomiting and neurologic dysfunction, sometimes progressing to delirium, coma, and death. The typical patient is recovering from a viral illness when onset of severe vomiting occurs. This vomiting, usually considered the onset of RS, is persistent, uncontrollable, and very often unresponsive to antiemetic medication.

Severe vomiting will be accompanied by a change in mental status, the classic manifestation of RS. Manifestations range from lethargy to delirium, seizures, and respiratory arrest. If left untreated, or if treatment is delayed, the case may progress through deepening levels of coma to death. Mortality is related to the stage of coma at hospital admission. Some severe cases that survive may experience varying degrees of physical and/or neurologic impairments.

**DIAGNOSIS**

Diagnosis is based on clinical presentation as well as laboratory findings (see case definition). There is no single test diagnostic for RS.

**EPIDEMIOLOGY**

**Source**

No specific organism or agent has been found to be causal for RS. Epidemiologic research has repeatedly demonstrated an association between Reye Syndrome and ingestion of aspirin during antecedent chickenpox and respiratory illnesses.

### Occurrence

RS typically occurs as isolated cases, though outbreaks of RS have been reported in association with increased influenza activity, particularly influenza B and influenza A (H1N1). RS follows the seasonality of influenza and chickenpox illness. Almost all RS cases are young children, adolescents and teenagers.

The average annual incidence of RS has been decreasing steadily since 1980 when the association between aspirin ingestion and RS was first reported. Much of the decline in the reported incidence of RS in the United States is thought to be attributable to decreases in the use of this medicine in treating children with influenza-like illness or chickenpox.

### Period of Communicability

RS is not communicable person-to-person. There is no carrier state.

## PUBLIC HEALTH MANAGEMENT

### Case

Treatment

Since the major cause of death is cerebral edema, therapy directed at lowering increased intracranial pressure is indicated.

Isolation

Not necessary.

### Prevention and Control

Physicians, parents, and older children who self-medicate should be aware of the increased risk of RS associated with using aspirin to treat influenza-like illness or chickenpox. An antipyretic agent other than aspirin should be used to treat children, including teenagers, with these illnesses.