VIBRIO INFECTIONS FACT SHEET

Agent: Species of the genus *Vibrio*, including *Vibrio parahaemolyticus and Vibrio vulnificus*. Disease caused by the organism *Vibrio cholerae*, serogroups 01 and 0139, are discussed separately in the Cholera fact sheet. Characteristics of *Vibrio cholerae* not belonging to these two serogroups will be discussed here. Other species of *Vibrio* include *V. alginolyticus*, *V. metschnikovii*, and Group F *Vibrio*. The clinical and epidemiologic characteristics of the various species can vary dramatically from one species to another, but detailed description of these differences is beyond the scope of this fact sheet.

Brief Description: *Vibrio* infection usually manifests as gastrointestinal illness characterized by watery diarrhea, nausea, vomiting, abdominal cramping, fever and headache. In immunocompromised patients (including HIV infection) and persons with liver disease (e.g. chronic alcoholism, hemachromatosis), infections of the gastrointestinal tract or contaminated wounds (causing tissue necrosis) with *V. vulnificus* can result in septicemia and shock.

Reservoir: Many *Vibrio* organisms are halophilic (salt requiring) and prefer marine and brackish environments. They exist free in deep-sea salt water and coastal brackish water, and can be cultured from raw or undercooked fish and shellfish (e.g. oysters, crabs, and shrimp). Shellfish present a greater risk since they are filter feeders and thus concentrate the bacteria as they feed on copepods, microscopic organisms that also serve as a reservoir for vibrios. Strains of *V. cholerae* have been found in freshwater as well, but most commonly are found in salt and brackish water.

Mode of Transmission: Ingestion of raw or undercooked seafood or water contaminated with the stool or vomitus of infected persons. Also transmitted by exposing a wound to contaminated seawater. The latter route of infection is commonly found in fisherman and oyster shuckers. Infection is found most commonly in the summer or early fall, when water is warmer and *Vibrio* counts are higher.

Incubation Period: Usually 12 to 24 hours; *V. vulnificus* can have a slightly longer incubation period, in the range of 12 to 72 hours.

Diagnostic Testing:
A. *Vibrio* Species Culture - **Comment:** Isolation of *Vibrio* in culture requires special selective media, so the laboratory must be informed of the suspicion of *Vibrio* infection to assure proper testing of the specimen.

1. Specimen: Feces; food (outbreak only)
2. Outfit: Stool culture outfit, order #0505
3. Lab Form: Feces: 3416
   Food: 3450
4. Lab Test Performed: Culture for *Vibrio*.
5. Lab Performing Test: Bacteriology Laboratory, Georgia Public Health Laboratory (GPHL) in Decatur.
6. Transport Requirements: Do not refrigerate fecal specimens in carrying medium, do refrigerate food specimens.

Period of Communicability: *V. vulnificus* and *V. parahaemolyticus* are not transmitted person to person. Fecal contamination of food vehicles or water is possible as long as vibrios are excreted in the stool, usually several days.

Vaccination: There is no vaccine to prevent infection by *V. vulnificus* or *V. parahaemolyticus*.

Treatment: Rehydration therapy to repair fluid and electrolyte deficits and maintenance therapy to replace ongoing diarrheal losses are central to treating *Vibrio* infections. For non-01 or non-0139 strains of *V. cholerae*, a combination of oral minocycline (100 mg every 12

hours) and intravenous cefotaxime (2 grams every 8 hours) is the treatment of choice. Tetracyclines and ciprofloxacin are also effective.

Investigation: CDC Form 52.79, "Cholera and Other *Vibrio* Illness Surveillance Report" will help guide the investigation. Obtain history of travel, dates of travel, mode of transportation, and foods consumed. Explore the possibility of infection from exposure to a body of water (contaminated or not) or eating sea-food. Conduct surveillance of companions who shared food and drink or water exposure during the five days before illness onset. Determine if case is outbreak-related, and notify the Epidemiology Branch.

Reporting: Report all confirmed cases **WITHIN 7 DAYS** electronically through the State Electronic Notifiable Disease Surveillance System (SENDSS) at http://sendss.state.ga.us, or complete and mail a GA Notifiable Disease Report Form (#3095).

ed. Washington, DC: American Public Health Association, 2000: 111-113.

3. Chin J, ed. *Vibrio cholerae* Serogroups Other than 01 and 0139. In: Control of Communicable Diseases Manual. 17th ed. Washington, DC: American Public Health Association, 2000: 108-110.
4. Chin J, ed. *Vibrio parahaemolyticus* Enteritis. In: Control of Communicable Diseases Manual. 17th ed. Washington, DC: American Public Health Association, 2000: 110-111.
5. Morris JG JR, Black RE. Cholera and other vibrioses in the United States. In: The New England Journal of Medicine. 312(6). Feb 7, 1985: 343-350.

Links:

Georgia Division of Public Health, Epidemiology Branch – http://www.ph.dhr.state.ga.us/epi/

Reported Cases of *Vibrio* infections in Georgia, 1993-1999

Year	Number of Cases		
	V. vulnificus	***V. parahaemolyticus***	***Non-01 or Non-0139 V. cholerae***
1993	0	0	0
1994	0	0	1
1995	2	0	0
1996	1	1	5
1997	1	2	3
1998	4	11	6
1999	3	6	3

References:

1. Blake, PA, et. al. Diseases of Humans (Other than Cholera) Caused by Vibrios. In: Annual Review of Microbiology. 1980. Vol. 34:341-67.
2. Chin J, ed. Infection with *Vibrio vulnificus*. In: Control of Communicable Diseases Manual. 17th