YERSINIOSIS FACT SHEET

Agent: Most cases of yersinosis in the United States are caused by *Yersinia enterocolitica*. Another species common outside the U.S. is *Yersinia pseudotuberculosis*. This fact sheet discusses only *Y. enterocolitica*, and commonly refers to this organism as *Yersinia*.

Brief Description: An acute bacterial enteritis caused by the bacterium *Y. enterocolitica*, characterized by diarrhea, fever, and abdominal pain. In infants and young children diarrhea and fever predominate. Bloody stools are noted in 10-30% of children with yersiniosis. In older children, adolescents, and young adults these symptoms are often accompanied by right lower quadrant abdominal pain and leukocytosis, and is frequently mistaken for appendicitis. Up to 50% of adult cases will have joint pain, some of which will clinically display a postinfection reactive arthritis. Other complications include erythema nodosum, abdominal abscesses, and bacteremia.

Reservoir: *Y. enterocolitica* is found in the intestines and nasopharynx of pigs. They often are asymptomatic carriers. It is unclear if other animals serve as a reservoir for *Y. enterocolitica*.

Mode of Transmission: Infection with *Yersinia* is usually associated with consuming raw or undercooked pork. In Georgia, infection has primarily been in infants living in homes where there has been holiday preparation of chitterlings (chitlins), a food that consists of pig intestines. Chitlins are generally well cooked, so it is believed that hands, kitchen surfaces or other kitchen articles contaminated during the preparation of chitlins are the vehicles for infection. Survival of *Yersinia* on these vehicles is facilitated by the hardiness of *Yersinia*, which is able to multiply in adverse conditions like refrigeration and in microaerophilic environments. Since *Yersinia* are enteric organisms, pig feces are a potential mode of transmission to farmers.

Incubation Period: Three to seven days, usually under ten days.

Clinical Case Definition: An acute case of diarrhea accompanied by fever and one of the following conditions:
(1) Abdominal pain
(2) Bloody stools
(3) History of chitlin preparation in the household during the two weeks before the onset of illness.

Laboratory Diagnostic Criteria: Isolation of *Yersinia enterocolitica*.

Diagnostic Testing:

A. Culture and Typing
   1. Specimen: Pure culture
   2. Outfit: Culture referral outfit, order #0505.
   3. Form: 3410.
   4. Lab Test Performed: Culture for *Yersinia enterocolitica* with serotyping.
   5. Lab Performing Test: Bacteriology Laboratory, Georgia Public Health Laboratory (GPHL).
   6. Transport Requirements: Keep specimen at room temperature. Do not refrigerate.

B. Culture and typing
   1. Specimen: Feces
   2. Outfit: Stool culture outfit, order #0555.
   3. Form: 3416.
   4. Lab Test Performed: Culture for *Yersinia enterocolitica* with serotyping.
   5. Lab Performing Test: Bacteriology Laboratory, Georgia Public Health Laboratory (GPHL).
   6. Transport Requirements: Keep specimen at room temperature. Do not refrigerate.

C. Serology
   1. Specimen: Serum/blood.
   2. Outfit: Other serology outfit, order #0504.

3. Form: CDC Form 50.34.
4. Lab Test Performed: *Yersinia* serology.
5. Lab Performing Test: Immunology Laboratory, Centers for Disease Control and Prevention (CDC).

Case Classification:
- *Probable:* Someone who meets the clinical case definition and meets one of the two following conditions:
  (1) Laboratory studies are negative for *Salmonella*, *Shigella*, *E. coli*, *Campylobacter*, or another organism consistent with the clinical symptoms.
  (2) Is epidemiologically linked to a confirmed case of yersiniosis.
- *Confirmed:* Someone who meets the clinical case definition with laboratory confirmation for *Y. enterocolitica*.

Period of Communicability: Secondary transmission is rare, but can occur during the period of fecal shedding. Fecal shedding generally lasts two to three weeks, but in untreated individuals it can last as long as two to three months.

Vaccination: There is no vaccine to prevent yersiniosis.

Treatment: The antibiotics of choice to treat *Yersinia* are the aminoglycosides (used to treat septicemia only) and co-trimoxazole. Newer quinolones like ciprofloxacin are probably effective as well.

Investigation: Investigate general sanitation and search for a common-source vehicle; pay attention to consumption of and possible cross-contamination with raw or undercooked pork. If a common-source vehicle is suspected, search for unrecognized cases and convalescent carriers among the contacts. Remove infected persons with diarrhea from food handling, patient care, and occupations involving the care of young children.

Reporting: Report 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).

Reported Cases of Yersiniosis in Georgia, 1999-2000

Year	Number of Cases
1999	52
2000	49

References:

1. Benenson A, ed. Yersiniosis/Intestinal Yersiniosis/Extraintestinal Yersiniosis. In: Control of Communicable Diseases Manual. 16th Ed. Washington, DC: American Public Health Association, 1995: 524-527.
2. Chin J, ed. Yersiniosis/Intestinal Yersiniosis/Extraintestinal Yersiniosis. In: Control of Communicable Diseases Manual. 17th Ed. Washington, DC: American Public Health Association, 2000: 558-561.
3. Metchock B, et. al. *Yersinia enterocolitica*: A Frequent Seasonal Stool Isolate from Children at an Urban Hospital in the Southeast United States. In: Journal of Clinical Microbiology. Vol 29:12, 1991: 2868-2869.
4. Ostroff S. Yersinia as an Emerging Infection: Epidemiologic Aspects of Yersiniosis. In: Yersiniosis: Present and Future. Eds. Ravagnan G and Chiesa C, Vol 13, 1995: 5-10.

Links:
CDC *Yersinia enterocolitica* fact sheet – http://www.cdc.gov/ncidod/dbmd/diseaseinfo/yersinia_g.htm