Management of Vibrio vulnificus Wound Infections

What is *Vibrio vulnificus*?

Vibrio vulnificus is a bacterium that is a rare cause of illness in the United States. Infection with *V. vulnificus* is a serious health threat that predominantly affects persons with an underlying illness or a compromised immune system, and especially affects persons with liver disease. The organism is a natural inhabitant of warm coastal waters. Persons who develop wound infections generally do so following contamination of a pre-existing wound or through an injury acquired while exposed to warm coastal waters where the *V. vulnificus* organism is growing. In children, *V. vulnificus* infection is very rare, and most affected children have an underlying condition, such as thalassemia or nephrotic syndrome; one case of a healthy child who acquired the infection after exposure to a contaminated water basin has been documented.

Management of *Vibrio vulnificus* wound infections

If *V. vulnificus* is suspected, treatment should be initiated immediately because antibiotics improve survival. Aggressive attention should be given to the wound site; amputation of the infected limb is sometimes necessary. Clinical trials for the management of *V. vulnificus* infection have not been conducted. The antibiotic recommendations below come from documents published by infectious disease experts; they are based on case reports and animal models.

- Culture of wound or hemorrhagic bullae is recommended, and all *V. vulnificus* isolates should be forwarded to a public health laboratory
- Blood cultures are recommended if the patient is febrile, has hemorrhagic bullae, or has any signs of sepsis
- Antibiotic therapy:
- Doxycycline (100 mg PO/IV twice a day for 7–14 days) and a third-generation cephalosporin (e.g.,ceftazidime 1–2 g IV/IM every eight hours) is generally recommended
- A single agent regimen with a fluoroquinolone such as levofloxacin, ciprofloxacin or gatifloxacin, has been reported to be at least as effective in an animal model as combination drug regimens with doxycycline and a cephalosporin
- Children, in whom doxycycline and fluoroquinolones are contraindicated, can be treated with trimethoprim-sulfamethoxazole plus an aminoglycoside
- Necrotic tissue should be debrided; severe cases may require fasciotomy or limb amputation

Further information about *Vibrio vulnificus* can be found at
http://www.bt.cdc.gov/disasters/vibriovulnificus.asp