
Management of persons following exposure to *Listeria*-contaminated Foods: A Guide for Healthcare Workers

1. What is Listeriosis?

Listeriosis is a serious bacterial disease caused by *Listeria monocytogenes*. It is transmitted to persons following the ingestion of contaminated food products. It is an important cause of foodborne outbreaks with high fatalities ranging from 20 – 30%. It can be treated with antibiotics. Anyone who eats food contaminated with *Listeria* can get listeriosis. However, persons at high risk of severe disease include pregnant women and their unborn babies, the elderly (>65 years), persons with underlying conditions such as diabetes, cancer, chronic liver or kidney disease, and persons with weakened immune systems due to HIV or cancer chemotherapy.

2. What are the signs and symptoms of Listeriosis in humans?

The vast majority persons who consume *Listeria*-contaminated foodstuffs will not develop illness as the infection is usually asymptomatic. Symptomatic persons may develop one of five clinical presentations as follows: febrile gastroenteritis (incubation period 6-48 hrs), bacteraemia/septicaemia (median incubation period 7 days), meningitis (median incubation period 10 days), pregnancy-associated illness including fetal loss, neonatal sepsis (median incubation period 21 days, range 2-70 days), or a site-specific infection, including endophthalmitis, vascular abscesses, osteomyelitis. Patients with more serious forms of illness, including pregnant women may give a history of an episode of febrile gastro-enteritis preceding symptom onset. Pregnant women may be asymptomatic or may report a mild flu-like illness before illness onset.

3. Where has Listeriosis occurred in South Africa?

Prior to December 2017, Listeriosis was not a notifiable infection. Review of laboratory records indicates that sporadic cases of listeriosis occur in South Africa with approximately thirty to sixty laboratory-confirmed cases diagnosed annually. An outbreak of listeriosis in the Johannesburg area was reported from August 1977 to April 1978 with 14 laboratory-confirmed cases. At that stage it was not known by the scientific community that *Listeria* is transmitted by contaminated food. A massive outbreak of Listeriosis is currently underway with over 700 cases reported during 2017. Cases have been reported from all nine provinces, but particularly in Gauteng Province. Molecular investigations have identified sequence type 6 (ST-6) as the responsible strain. According to the World Health Organization, this is the largest ever outbreak of the disease.

4. What foodstuffs are implicated in the 2017/18 South African Listeriosis outbreak?

Investigations have identified that ready-to-eat, processed meat – specifically polony and viennas made at two production plants (Enterprise® and Rainbow®) - is strongly associated with development of listeriosis. The National Department of Health has released a cautionary notice indicating that members of the public should avoid all processed meat products that are sold as ready-to-eat.

5. How should persons be managed following exposure to foodstuffs implicated in *Listeria* outbreaks?

When persons report consumption of foodstuffs implicated in outbreaks of listeriosis, health care workers should conduct a risk assessment. The management of exposed persons depends upon the presence of underlying risk factors.

Persons who have no underlying risk factors (including non-pregnant women) - The vast majority of otherwise healthy persons exposed to *Listeria* will not fall ill. Those who do become ill may present with an acute, febrile, self-limited gastroenteritis which will resolve on its own without medical intervention. These persons should be counselled accordingly. They should also be advised to decontaminate their food preparation area (see FAQ), and in future limit their exposure to the implicated foodstuff especially if there are persons with underlying risk factors in their homes.

Pregnant women – The American College of Obstetricians and Gynaecologists (advise the following regarding pregnant women who have eaten a product that is associated with a listeria outbreak:

- Pregnant women with no symptoms do not require testing or treatment.
- Pregnant women who are afebrile but have signs and symptoms consistent with a mild gastrointestinal or flu-like illness may be investigated for listeriosis at the discretion of the attending physician.
- Pregnant women with a fever >38.1°C in whom no other cause of illness is immediately apparent should be investigated and treated presumptively for listeriosis. The diagnosis of listeriosis is made by culturing *L. monocytogenes* from clinical specimens such as blood, cerebrospinal fluid (CSF), amniotic fluid, placenta or other sterile body fluids.

The full text of these recommendations may be found at <https://www.ncbi.nlm.nih.gov/pubmed/25411758>. In addition, all pregnant women should be counselled to avoid all processed meat products that are sold as ready-to-eat for the duration of their pregnancies. Decontamination of their food-preparation areas / kitchens may be advised if appropriate (see FAQ on NICD website 'How to eradicate *Listeria* from your kitchen or small shop')

Persons with other underlying risk factors for listeriosis. There are no international guidelines for the management of exposure to foodstuffs implicated in listeriosis outbreaks in non-pregnant persons. Given that the attack rate of listeriosis is low, and that the infective dose is unknown, it seems appropriate to adopt the same approach described above for pregnant women.

6. Where can I find out more information?

For more information: contact the Outbreak Response Unit or the Centre for Enteric Diseases (for use by healthcare professionals only).

- Non-health care workers and members of the public should contact their attending clinicians.
- For Laboratory or other enquiries, including clinical-related queries: The Centre for Enteric Diseases, Dr Juno Thomas junot@nicd.ac.za
- For medical or clinical-related queries: NICD Hotline +27 82 883 9920
- Enquiries may be emailed to 'outbreak@nicd.ac.za'
- International resources include <https://www.cdc.gov/listeria/technical.html>.