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BREAKING NEWS!

SOURCE IDENTIFIED CAUSING LISTERIOSIS OUTBREAK IN SOUTH AFRICA

Polony, viennas/other similar-type sausages

By Dr Lucia Anelich

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Extract from Media Statement by Minister of Health

The Minister of Health Dr Aaron Motsoaledi, delivered a media statement at 12:00 on Sunday 04 March 2018 at the National Institute for Communicable Diseases (NICD) premises in Johannesburg, South Africa. Dr Anelich was present at the media briefing and welcomes the statement from the Minister.

As of 04 March, a total of **948 confirmed cases and 180 deaths** are reported. A total of 659 patients have been traced resulting in a **27% case fatality rate**.

During interviews with patients, 85% reported having eaten Ready-To-Eat (RTE) processed meat products, of which polony was the most common followed by viennas/sausages and then other cold meats.

On Friday **12 January**, nine children under the age of 5 years presented at Chris Hani Baragwanath Hospital with febrile gastro-enteritis. Listeriosis was suspected. Samples of two different polony brands served to the children at the crèche, were sampled and tested. The *Listeria monocytogenes* st6 strain was isolated from both polony samples from the crèche and from the stool of one of the affected children.

Relevant teams visited a food production site in Polokwane and conducted extensive food product and environmental sampling. *L. monocytogenes* was isolated from over 30% of the environmental samples collected from this site. The outbreak strain **st6 was confirmed** in at least 16 environmental samples collected from this factory, namely Enterprise.

The conclusion was made by the Department of Health that the source of the outbreak was the Enterprise Food Production facility in Polokwane.

Polony products from a second company Rainbow Chicken Limited (RCL) were also tested for *L. monocytogenes*, but the sequence types of the isolates were NOT st6 i.e. the outbreak strain. Also, over 10% of environmental samples tested were positive for *L. monocytogenes*. The sequence type of these isolates is yet to be determined. However, the Department of Health concluded that these products are also a health risk.

Various actions have been taken by national authorities as follows:

1. The National Consumer Commissioner (NCC) issued the two manufacturers with safety recall notices, in terms of the Consumer Protection Act (CPA). The NCC is working with the manufacturers to prepare a recall strategy. **The safety recall will affect the manufacturers' entire distribution networks, including international ones.** The NCC has also launched a further, more in-depth investigation. The implicated factories are:
 - a. Enterprise Polokwane
 - b. Enterprise Germiston
 - c. RCL Wolwehoek, Sasolburg
2. Compliance notices will be issued to the implicated facilities in terms of the National Health Act.
3. The Department of Agriculture, Forestry and Fisheries (DAFF) has suspended relevant export permits.

The Minister went on to say that he advised the public to avoid ALL processed RTE meat products regardless of brand.

Anelich Consulting opinion:

Dr Lucia Anelich is on record for saying that she believed processed RTE cold meats were the source of the outbreak. She based her theory on some very specific statistics of the outbreak and an understanding of consumer consumption practices. In addition, she stated on 05 January 2018 that this listeriosis outbreak was the worst documented in global history and it remains so. Sadly, more cases will most likely occur until all products have been removed from trade as well as consumer homes. It is important that the public understands that RTE processed meat products are affected. Products that are cooked before consumption are NOT high risk e.g. raw bacon. However, one should ensure that cross-contamination in the home does not occur. Therefore safe practices in the consumer's kitchen remain key, not only to prevent cross-contamination with *L. monocytogenes* but any other foodborne pathogen. Where certain RTE processed meats such as Viennas, Russians, Frankfurters etc are concerned, these should be heated to at least 70 °C until hot throughout the product before consumption. Where it is impractical to heat a RTE processed meat, these should be **AVOIDED** by particularly the susceptible sectors of the population i.e. pregnant women, the elderly (>65 years of age) and persons with weakened immune systems. More information can be found on the Anelich Consulting website <http://anelichconsulting.co.za>. Also click on [FAQ Listeriosis](#).

Furthermore, a breakdown of the results cited by the Minister of Health, show that environmental contamination may be key in this outbreak. It is therefore reasonable to expect that products may be contaminated after a listericidal step (kill step) from time to time by persistent *L. monocytogenes* in the environment of the facility. *L. monocytogenes* is also known to form biofilms, which once established, makes it extremely difficult to remove, particularly if processing equipment and the

facility are not hygienically designed for food processing. A **validated** environmental control programme is required, with associated **effective** cleaning and disinfection in place.

According to the NICD, neonates ≤ 28 days remain the most affected group.

As per usual, a summary of the outbreak numbers is provided for your convenience:

DATE	CONFIRMED CASES	DEATHS
05 December 2017	550	36
20 December 2017	647	60
03 January 2018	717	61
12 January 2018	748	67
16 January 2018	767	81
25 January 2018	820	82
06 February 2018	852	107
15 February	872	164
20 February	915	172
27 February	945	176
04 March	948	180

This communique may be distributed only in its entirety reflecting the Anelich Consulting logo. If any of the above-mentioned information is extracted and used (other than NICD and Minister of Health information already published) the author Dr Lucia Anelich must be acknowledged.

NEW course launched!

***Listeria monocytogenes* – all you need to know to control it in your processing plant and how to establish appropriate risk-based Microbiological Criteria. Click [here](#) for more information.**

This communique, further information and interviews conducted can be found on the Anelich Consulting website at www.anelichconsulting.co.za and by clicking on links provided.

See <http://anelichconsulting.co.za/index.php/faq> for regularly updated answers to Frequently Asked Questions.

Contact Dr Lucia Anelich at la@anelichconsulting.co.za for further assistance and advice based on international scientific best practice.

Listeriosis

Listeria monocytogenes is the primary cause of the illness called listeriosis. The organism is an **environmental pathogen** and is found in soil, water, sewage, and decaying vegetation. It can be readily isolated from humans, domestic animals, raw agricultural commodities, and food packing and processing environments (particularly cool damp areas that can contaminate food). **It is therefore conceivable that it would be present in low numbers in raw commodities, which is generally not a problem.** It can cause two types of illnesses:

- A mild, non-invasive illness (called listerial gastroenteritis), which shows typical symptoms of gastroenteritis i.e. fever and diarrhoea. This form of the illness is rarely diagnosed and usually passes quickly without severe effects;
- A **severe, invasive** illness (called **listeriosis**). Listeriosis is characterized by a relatively high mortality rate i.e. **~20-25%** compared to illnesses caused by most other foodborne pathogens (<1 % for *Salmonella* or *E. coli* O157). In the invasive form of the illness, the organism has moved beyond the gut and has infected other parts of the body.

Persons who have the greatest risk of experiencing listeriosis due to consumption of foods contaminated with *L. monocytogenes* are **pregnant women and their foetuses**, the **elderly (over 65 years of age)** and **persons with weakened immune systems**, for example, undernourished persons, people who have had organ transplants, those with HIV/AIDS, diabetes, cancer and other autoimmune diseases.

Pregnant women: Pregnant women are approximately **20 times more likely** than other healthy adults to get listeriosis. Pregnant women typically experience only fever and other flu-like symptoms, such as fatigue and muscle aches. However, infections during pregnancy can lead to miscarriage, stillbirth, premature delivery, or life-threatening infection of the newborn, such as meningitis.

- **People other than pregnant women:** Symptoms can include headache, stiff neck, confusion, loss of balance, and convulsions in addition to fever and muscle aches.

People with invasive listeriosis usually report symptoms starting **1 to 4 weeks** after eating food contaminated with *L. monocytogenes*; some people have reported symptoms starting **as late as 70 days** after exposure or as early as the same day of exposure (although this is very rare).

Foods that have caused outbreaks are typically contaminated from the environment during manufacturing/processing or packing.

Listeriosis is **mainly associated** with consumption of contaminated Ready-To-Eat (RTE) foods. Foods most often implicated in foodborne outbreaks **globally**, are:

- Ready-to-eat deli meats (polonies, ham products etc) and hot dogs
- Refrigerated pâtés or meat spreads
- Unpasteurized (raw) milk and dairy products
- Soft cheese made with unpasteurized milk, such as queso fresco, Feta, Brie, Camembert
- Refrigerated smoked seafood
- Raw sprouts
- Pre-packaged salads
- Ice cream (not as common)
- Spanspek (Cantaloupes in USA - outbreak in 2011; Rockmelons in Australia – current outbreak)

The organism is killed by thorough cooking and by temperatures used for pasteurization of milk.