



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

SAFE WATER TOWARDS DAY ZERO

Social Services Directorate: Health Department

Making progress possible. **Together.**

Water and it's various sources

- As Cape Town water crisis deepens and we prepare for Day-Zero the collection of water from alternative sources has grown in popularity.
- Natural springs, water streams, rain water, boreholes, and grey water have been increasingly used by residents.
- Members of the public are not always well-informed with regards to the quality and safety of using these various sources of water.
- The purpose of this session is to clarify some misunderstandings with regards to the 'DO's' and the 'DON'T's'.

Potable water

Water and Sanitation is the service provider of water in the City.

City Health Department is mandated to monitor the water quality for safe human consumption.

- Dams supplying Cape Town: Wemmershoek, Voëlvlei, Bergriver, Theewaterkloof, and Steenbras
- Reservoirs across the City
- Filtration plants across the City

Safe potable water is therefore the water that comes from the City's reticulation system.

SANS 241 is the standard maintained by the City and for this reason the City has the **“Blue Drop Status”**. Compliance of 99% with chemical and microbiological samples.

Sampling plan is based on the population and the water service provider's infrastructure. Dams, reservoirs, bulk water treatment plants and specific taps within the reticulation system.

Sampling

- Regular tests are carried out by Scientific Services from water samples taken by Water serves and Environmental Health at these specific sampling points in the reticulation system.
- **260 sampling points across the entire water reticulation system.**
- **130 samples are taken weekly (2 week cycle all sampling points are covered)**
- **In the case of microbiological compliance E.coli should be absent in 100ml water.**
- **This pathogen is an indicator of fecal contamination.**
- **Chlorine level leaving the filtration plants ideally should be about 0.05mg/l and during reticulation should not go below about 0.02mg/l (chlorine breaks down)**
- **Coliforms should be less than 10 per 100 milliliter of water.**

Actions

- **Where counts are too high resamples are taken immediately**
- **Audit the results and if consistently failing, the community can be advised to boil or to disinfect the water until problem has been resolved.**
- **New building and water infrastructure developments, the system is flushed, sampled and only then can water be used.**
- **Results form part of the City Health Business Plan and also the Sinjani data set which is provided to Provincial and National Health**
- Samples will be taken from the Points of Distribution (POD) once they are operational.

Potable water usage.

- ✓ **DO:** Treat potable water as a precious resource.
- ✓ **DO:** Use it for drinking, cooking & washing food.
- ✓ **DO:** Reduce potable water use to a minimum for personal health & hygiene.
- ✓ **DO:** Collect used potable water to re-use as grey water.

DON'T: Waste any potable water.

Springs (and water streams)

The City has 70 springs. Over the recent past a growing number of people have been seen collecting water from them.

Springs and water streams **do not form** part of the City's water reticulation system and **are not monitored and controlled for drinking water standards**.

Up until now only 10 springs, located among residential areas, have been sampled once a month. Newly popular sites are now being added to the sampling list.

However, the testing only includes microbiological tests for disease forming agents, such as E coli and coliforms;

It is important to inform the public that water quality of spring water, just like surface water streams, **cannot be guaranteed as 'safe to drink'**. City Health will be putting up temporary health warning signs at those sites.

✓ **DO:** Take precautions to sterilize water that is not sourced from the City's reticulation system.

DON'T: Use spring water for drinking and cooking purposes. RESIDENTS ADVISED TO USE CAUTION FOR THESE PURPOSES

Borehole, well point and rain water

NOT suitable to be used as potable water.

Even if tested for microbiological standards, borehole water could still have high minerals and salt content which can adversely affect health.

Connecting a borehole water tank or rain water tank to the toilet cisterns in the house can result in a **backflow that contaminates the City's potable water system.**

- ✓ **DO:** Use borehole or rain water for bucket flushing of toilets
- ✓ **DO:** Use to wash outside working surfaces and garden irrigation
- ✓ **DO:** Observe the restrictions to limit outdoor use of borehole water

DON'T: Use for drinking and cooking

DON'T: Use for personal health and hygiene

DON'T: Waste borehole water for non-essential things.

Grey water

Grey water is the waste water from showers, hand basins and washing of linen, vegetables and fruit. (Not dish washing water)

Grey water contains bacteria, organic material, skin particles, soap, grease, etc.

Warm-up/ lag water from the geyser, if collected in a clean container, not brought into contact with human body and used immediately can be utilized for washing dishes, do laundry, cleaning in-door surfaces and as rinsing water.

Households can produce a sizeable amount of grey water and are encouraged to collect it.

- ✓ **DO:** Use grey water for bucket flushing (**except water from dishwashing**)
- ✓ **DO:** Use grey water for outdoor cleaning & garden irrigation

DON'T: Use dishwashing water again

DON'T: Keep grey water for more than 24 hours.

DON'T: Use for drinking and cooking.

DON'T: Use for cleaning of cooking surfaces or washing fruit and vegetables



How to sterilize water

Water can be bacteriologically sterilized (to remove disease forming organisms) by three main processes:

- **Boiling** - Boil water for 3 minutes, cool down and store in clean and closed containers.
- **Disinfection** – Use water disinfection tablets as prescribed by the manufacturer. They can be obtained at hardware stores and pool water companies
- **Bleach** – Add 5 millilitres of unperfumed household bleach (1 teaspoon) into 25 litres of water. Let it stand for 30 minutes in a clean sanitized covered container before it can be used.

Water sterilization does not mean that the water is chemically suitable for drinking purposes. However it is not clear if there are health risks in the short to medium term.

✓ **DO:** Sterilize any water for drinking and cooking that was not sourced from the City's reticulation system.

DON'T: Attempt to sterilize grey water

Safety tips on storing and handling water

Stored potable water can easily grow bacteria and algae and turn bad.

Under sub-optimal home-storage conditions water should not be stored for more than 1 week.

Water quality starts decreasing after day 3, depending on storage conditions and container quality. Bottled water has a date of durability on the container.

- ✓ **DO:** Use clean and sturdy containers of good quality with screw closing tops.
- ✓ **DO:** Get a container that has a tap fitted into the screw top too
- ✓ **DO:** Mark the containers “For drinking water only”
- ✓ **DO:** Store in a cool dark place.
- ✓ **DO:** Rinse and sanitize the containers and taps once a week, using unperfumed household bleach.

DON'T: Use wheelie-bins to store or transport potable water .

DON'T: Contaminate the water by dipping dirty water scoop into the container.

Develop a water use plan – short and long term

- Undertake a water use audit:
- Do staff understand or are they aware of the water usage/wastage on site
- Can certain protocols be amended – work smarter
- Look at critical control points (HACCP principles)
- Maintaining basic food handling practices
- Use of correct sanitizers and disinfectants to ensure effective cleaning.
- Sampling programme to establish efficacy of hygiene practices
- Use of grey water in the production area is not permitted.
- Develop policies and ensure personnel understands and adhere to it
- Improve record keeping and traceability of products
- Use suitable tanks for storage of potable water. Enclosed and in line.
- Water collected on site – be cautious in the storage and use thereof. Do not connect to the reticulation system as this may contaminate the potable water even if you add some form of treatment processes to the stored water. Use registered plumber to install any alternative water supply system.

Disease Outbreak Control

Close to 30 Communicable Diseases have been identified as Notifiable Medical Conditions – Health care workers have a statutory obligation to report.

There is an active surveillance/ vigilance system in place to monitor & evaluate cases of communicable diseases notified in the country.

The objective is to detect potential outbreaks at an early stage and ensure that steps are taken to contain and prevent the spread.

Notifiable conditions are classified in 4 main categories depending on the urgency of action required.

For the various conditions there are clear case definitions and detailed clinical guidelines on how to manage the cases and their contacts.

City Health works together with the Western Cape Health Department and the National Institute of Communicable Diseases (NICD).

Reports are analysed regularly, trends are interpreted and the evidence is used to make or tweak plans .

Water & Food-borne diseases

We have frequently spoken to the Media about the fact that in summer the conditions for the spread of germs are optimized.

Nov-May has been called the “Diarrhoea Season” – we now call it the “Surge Season” as pneumonia has been added to the strong Health Campaign that we hold during this time of the year.

Cholera, food poisoning, typhoid, hepatitis A and Listeria are examples of water & food-borne notifiable conditions that manifest with diarrhoea. There are other examples such as shigella and rotavirus.

All health facilities from the City and Province are on high alert at this time of the year to ensure sick people are identified and fast-tracked through the health system.

Especially with regards to children, we make the public aware of danger signs, and we publicise the recipe for Oral Rehydration Solution (ORS).

We also emphasize the importance of breast feeding, full immunization coverage and vitamin A supplementation

How do we avoid health risks during the water crisis?

The common denominator of all these serious conditions is **hygiene practices** that fall short of the requirements to prevent food and water contamination.

The means to prevent it remain:

Handwashing with potable water - waterless sanitizers can be used, but the “squeeze bottle” or the “tippy tap” provide an option for washing hands without wasting water

Five-keys to safer foods –

Keep clean; separate raw and cooked; cook thoroughly; keep food at safe temperatures and use safe water and raw materials.

What is new?

- Ensuring the public is aware of what water source is safe for drinking and cooking
- How to sterilize water for such purposes
- How to store and use it so the water remains safe



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THANK YOU

Christa Hugo – City Health

Making progress possible. **Together.**

5 Keys to safer foods

Five keys to safer food




Keep clean

- ✓ Wash your hands before handling food and often during food preparation
- ✓ Wash your hands after going to the toilet
- ✓ Wash and sanitize all surfaces and equipment used for food preparation
- ✓ Protect kitchen areas and food from insects, pests and other animals

Why?

While most microorganisms are not cause of disease, dangerous microorganisms are widely found in soil, water, animals and people. These microorganisms are carried on hands, clothing, cloths and utensils, especially cutting boards and the slightest contact can transfer them to food and cause foodborne diseases.




Separate raw and cooked

- ✓ Separate raw meat, poultry and seafood from other foods
- ✓ Use separate equipment and utensils such as knives and cutting boards for handling raw foods
- ✓ Store food in containers to avoid contact between raw and prepared foods

Why?

Raw food, especially meat, poultry and seafood, and their juices, can contain dangerous microorganisms which may be transferred onto other foods during food preparation and storage.

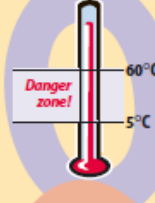


Cook thoroughly

- ✓ Cook food thoroughly, especially meat, poultry, eggs and seafood
- ✓ Bring foods like soups and stews to boiling to make sure that they have reached 70°C. For meat and poultry, make sure that juices are clear, not pink. Ideally, use a thermometer
- ✓ Reheat cooked food thoroughly

Why?

Proper cooking kills almost all dangerous microorganisms. Spices have antimicrobial properties. Spices at 70°C can help ensure it is safe for consumption. Foods that require special attention include microorganisms, rolled meats, large joints of meat and whole poultry.




Keep food at safe temperatures

- ✓ Do not leave cooked food at room temperature for more than 2 hours
- ✓ Refrigerate promptly all cooked and perishable food (preferably below 5°C)
- ✓ Keep cooked food piping hot (more than 60°C) prior to serving
- ✓ Do not store food too long even in the refrigerator
- ✓ Do not thaw frozen food at room temperature

Why?

Microorganisms can multiply very quickly if food is stored at room temperature. By holding at temperatures below 5°C or above 60°C, the growth of microorganisms is slowed down or stopped. Some dangerous microorganisms still grow below 5°C.



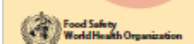
Use safe water and raw materials

- ✓ Use safe water or treat it to make it safe
- ✓ Select fresh and wholesome foods
- ✓ Choose foods processed for safety, such as pasteurized milk
- ✓ Wash fruits and vegetables, especially if eaten raw
- ✓ Do not use food beyond its expiry date

Why?

Raw materials, including water and ice, may be contaminated with dangerous microorganisms and chemicals. Toxic chemicals may be formed in damaged and mouldy foods. Care in selection of raw materials and simple measures such as washing and peeling may reduce the risk.

Knowledge = Prevention



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 Geneva, Switzerland
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Tippy tap demonstration

