



ProEconomy | orca

Copper and Silver Water Treatment

Case Study

Birmingham Heartlands Hospital

Controlling Legionella in a UK hospital using copper and silver ionisation

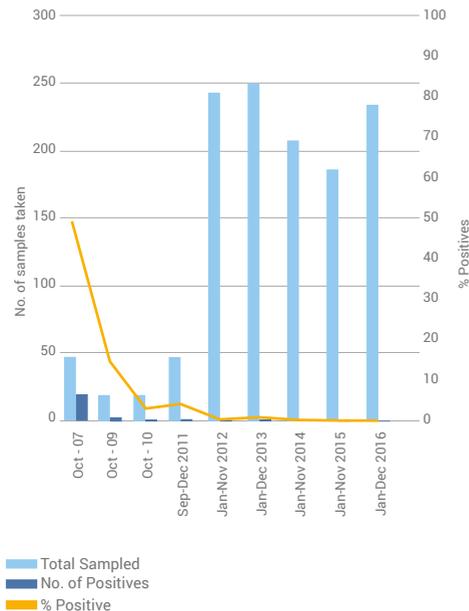
Birmingham Heartlands is a 700 bed hospital which has a mixed-age infrastructure with a variety of materials and systems. Before 2007 the hospital used a temperature regime fully compliant with HSE and DoH guidelines for controlling Legionella. When they introduced testing, however, they found that Legionella was present.

The first step taken to address the problem was to dose the whole site with sodium hypochlorite. They were keen to get away from using chemicals, however, for COSHH and cost reasons. Furthermore, it wasn't effective at eradicating Legionella or biofilm. Accordingly, alternative methods were examined, including copper and silver ionisation. Hospitals using the ProEconomy Orca system were visited, and all said it was efficient and cost-effective with a good support service. The final choice of ProEconomy's system was based on cost,

the fact that it used separate copper and silver electrodes rather than an alloy, and the documentation which gave evidence that control measures were working.

An 18-pod Orca system was installed in October 2007. The temperature regime was maintained. Soon after implementation a run of positive samples were traced back to flexible hoses, removal of which solved the problem. There was some concern initially over the effects on the RO unit in dialysis, but tests showed that metal levels on the secondary supply side were all within guidelines. Pre-installation, 50 samples had returned 21 positive results, ranging from 100cfu/L to 9,800cfu/L. Within a month levels had fallen to only five positives from these 21 sites, ranging from 100cfu/L to 2000cfu/L, and within six months this had dropped to zero.

ProEconomy undertakes monthly sampling with analysis at an independent laboratory to determine the presence of Legionella, copper and silver concentrations, temperature and TVC. The hospital selects 21 sampling outlets per month, usually identified as being at risk of contamination, e.g. low use, blended, etc. These are rotated frequently, depending on results, to ensure maximum coverage. Low levels of copper and silver are used as a diagnostic tool to fault-find on the system. Any issues are few and far between, and down to local engineering problems.





Highlights from Hospital Times interview with Tony Wright – Estates Manager at Heartlands Hospital.

“Prior to installing the [Orca] copper and silver ionisation system we took pre-commission control samples at 50 outlets across the site in May 2007 to establish our level of contamination. We sampled a mix of outlet types and areas - clinical, acute clinical and non-care’

‘These initial 50 control samples returned 21 positive results ranging from 100cfu/l to 9,800cfu/l’

“Once the copper and silver ionisation treatment plant was enabled we re-sampled the same 21 positive sites in early October 2007. Within a month of installation, the system was already proving to be very effective. From the 21 sites we returned five positive samples, ranging from 100cfu/l to 2,000cfu/l. The results continued to improve and by the March 2008 all the samples we were taking were completely clean. A further advantage of reduced TVC levels were also realised in areas previously known to have high levels.’

“It works. You can’t put a price on that when it’s patient safety. With ProEconomy’s copper silver ionisation system there are no health and safety issues - no problems with COSHH. Other solutions we looked at were fraught with issues.

“ProEconomy’s system is a known quality - there’s no the guesswork. There was before.

The implication then was ‘don’t test because you’ll find it’. Now we’re completely confident. We now have the documentation and records to demonstrate that the control measures employed are an effective “closed loop” control with no guesswork!

“The system has a number of other advantages. It supplements our existing temperature control regime. Due to the change in the level control mechanism, the site break tank contents are now turned over regularly, rather than just being topped up. The copper and silver levels are used as an indicator to ensure flushing regime is effective, as water flow is required to distribute and maintain the required levels.

“It’s a proactive system and we’re a proactive trust, working with proactive ProEconomy.”

“We share Best Practice across the trust, ProEconomy’s solution was so successful at Heartlands that within seven months it was installed at Solihull Hospital and Good Hope Hospital.”

“In the nine years we’ve been with ProEconomy we’ve never had a reason to question the service. We’ve always received what we’ve asked for.”

-Tony Wright, estates manager Birmingham Heartlands Hospital