



Copper silver ionisation controls legionella when all else fails

Two sites were investigated where legionella had been detected even when both were running a temperature control regime and dosing with chlorine dioxide. Site 1 had three cases of legionella disease reported in the previous year. Both sites decided that the treatment regime was failing and installed copper silver ionisation to control legionella. Of 60 sample points investigated before installation of the copper silver ionisation system at site 1, 15 were positive with counts ranging from 100 to 7200 CFU/L. This alone showed the extent of the failure of the previous treatment regime. When these 15 points were sampled again a month after the copper silver ionisation system was installed only one remained positive (Figure 1). At site 2 the problem was even worse with 47% of sample points (14 from 30) being contaminated before the copper silver system was installed, and these were a mix of cold and hot water taps, showers and mixer taps. Counts ranged from 100 to 6400 CFU/L. Within one month of installation the number of sample points tested that showed a positive count for legionella had dropped to 16 % (5 from 30) and no legionella was detected in the sample points after 2 months (Figure 2).

By sampling and identifying the areas at risk from legionella control can be achieved. By working closely with hospitals so that deadlegs and other risk factors such as rubber lined hoses are removed, and sample points retested then hospitals can be assured that their legionella is being controlled. Copper silver ionisation not only controls legionella in hot water, it has the added advantage of controlling it in the cold water. Table 1 shows a breakdown of the positive sample points from site 1 and clearly demonstrates that all water points are at risk of contamination by legionella. Mixing taps and thermostatic mixing valves can easily contaminate hot water with cold water containing legionella and keep the mixed water at a perfect temperature for legionella growth. Only by treating all the water can reassurance and confidence in the treatment regime be achieved. Copper silver ionisation works where other treatment regimes have clearly failed.

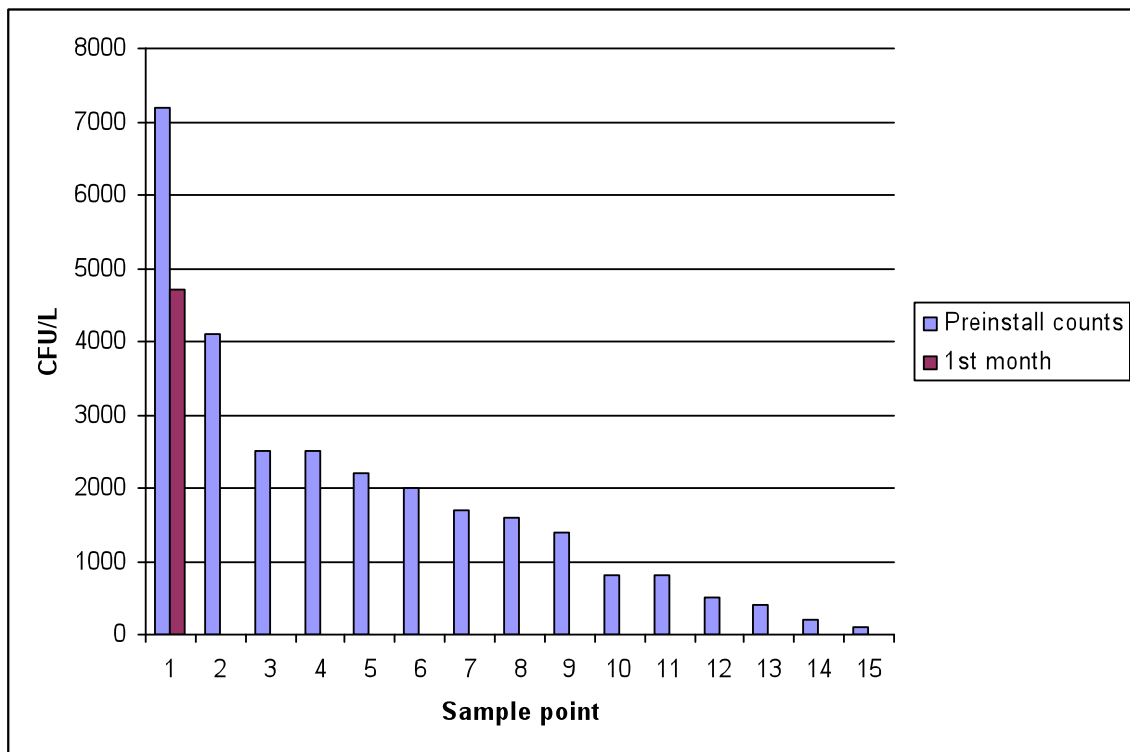


Figure 1: Detection of Legionella from 15 sample points at site 1 and detection at the same points one month after copper silver ionisation had been installed. Site 1 had been running a hot temperature regime and chlorine dioxide but had still recorded three cases of legionella disease in the previous year

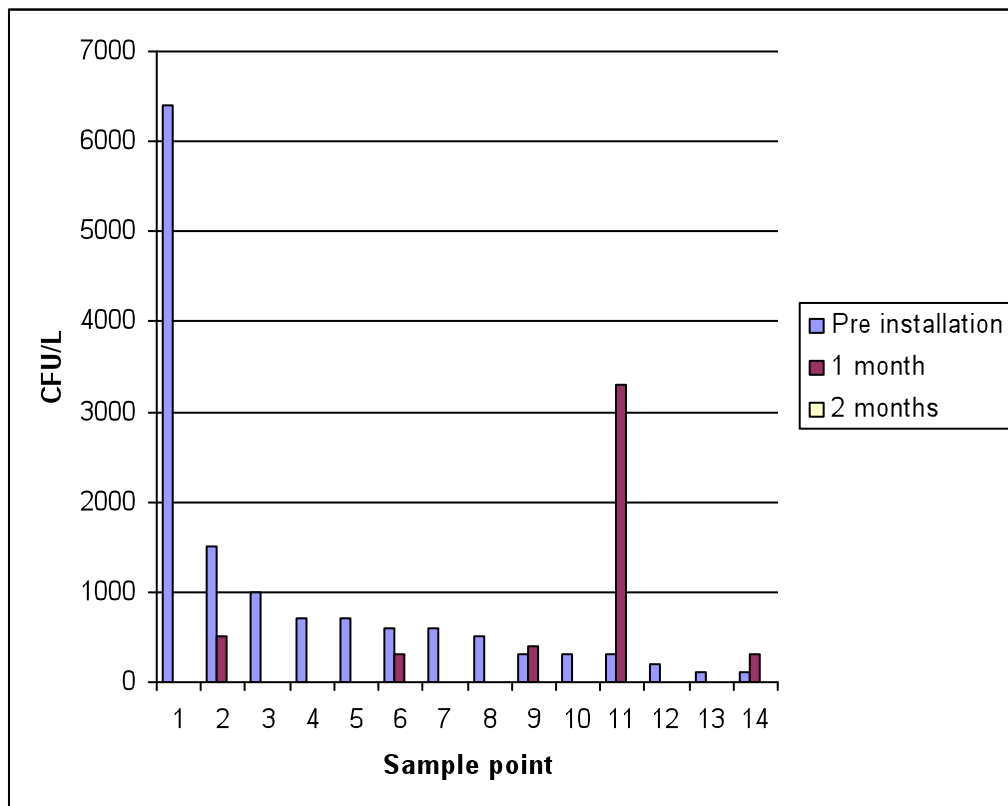


Figure 2: Detection of Legionella from 14 sample points at site 2 and detection at the same points one and two months after copper silver ionisation had been installed.

	% positive	Temp. range	Count range
Cold tap	10	8-33	200-1400
Hot tap	10	38-55	100-1600
Mixer tap	38	34-44	100-12800
Shower	33	37-39	600-4700

Table 1: The percentage of sample points sampled that showed positive for Legionella detection before copper silver ionization was installed and their source. The majority of samples detected were taken from mixer taps, but cold and hot water taps were also identified as sources of legionella bacteria