

What is Silver Knight?

Silver Knight is the name given to a range of Intersurgical breathing systems, which have been impregnated with an anti-microbial additive.

Why silver?

Silver Knight relies upon the actions of silver anti-microbial mechanisms. Silver has been used for many years for microbial protection. In ancient times, Romans purified drinking water by adding pieces of silver to wells and water storage containers. This was why water, wine and milk were stored in silver containers, as it reduced the microbial growth and extended its life. Another reason for using silver is that bacteria can change and mutate against many controlling substances, such as antibiotics, and become resistant. Silver resistance is difficult to obtain due to the simplicity of its effect on bacteria.

How do silver ions work?

The anti-microbial effects of silver are due to a number of reactions including catalytic oxidation and binding of silver ions to microbial machinery. These reactions effectively disable the bacteria.

Will bacteria build a resistance to silver?

The ability to circumvent the anti-microbial effects of silver has been shown in only a very small number of cases. It has also been proven that any resistance to silver is extremely difficult to transfer between generations of resistant pathogens.

Is silver safe?

Yes, silver is not a chemical; it is a very stable element that has been used as an anti-microbial in medical devices such as advanced invasive catheters and stents. It is also used in some everyday catering products such as chopping boards and extensively used to protect beer pipes.

How effective is Silver Knight?

Silver Knight has been proven to be 99.9% efficient in preventing the proliferation of MRSA and other bacteria in the Flextube[®] that makes up Intersurgical Silver Knight breathing systems.

How was Silver Knight tested?

An addition of silver ion anti-microbial additive was introduced into Intersurgical low-density polyethylene tubing during production. The potential for proliferation of microbes on this tubing was then compared to standard product.

What was the test method?

Two pieces of Flextube[®] were placed in sterilized petri dishes. 0.5ml of the inoculum (containing 1.0 – 5.0 x 10⁵ colonies of MRSA) were dropped onto the surface of the test pieces in 10-20µl quantities. The sample were then covered with the lid of the petri dish and incubated at 35±1°C and RH 90%.

Do I still need to use a breathing filter?

Yes, even though Silver Knight protects both the internal and external surfaces of the breathing system. A suitably validated filter should always be used to protect the patient and the anaesthetic machine or ventilator from other airborne bacteria.

How long can I use the breathing system for?

The maximum recommended period of use of the breathing system up to 7 days. It should be used in accordance with Intersurgical user instructions and changed in accordance with hospital policy. The system should also be changed if any contaminate is seen on the outside of the tubing e.g. blood. It is essential that proper infection control procedures be followed at all times. Breathing systems should also be replaced inline with the operating theatre clean down procedures.

How long will Silver Knight remain active when not in use?

In the unopened package, as with all Intersurgical-breathing systems, the shelf life is 5 years.

Is Silver Knight present in the entire breathing system?

No, it is only present in the Flextube[®], and indicated by a lilac tint (and lilac/green tint for active humidification systems). There is a reduced risk of transmission of MRSA and others, which is predominantly passed on by cross-contamination due to handling mainly of the Flextube[®]. It is not present in any other components within the system e.g. the APL valve, reservoir bag, connectors etc.

What types of breathing systems are available in the Silver Knight range?

Silver Knight breathing systems are available in Flextube, UniFlow and heated wire options. See information sheet IS5.12 for more details.

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