

Using Rediroom in renal dialysis units

The benefits of increasing isolation capacity to aid patient flow and improve safety for patients undergoing renal dialysis



Problem

Centres that provide treatment for patients undergoing haemodialysis or peritoneal dialysis often adopt an open-plan layout to promote a communal and supportive environment. However, this design can limit patient isolation capacity. If a patient shows symptoms of an infection or colonisation with a pathogen and no single rooms are available, the clinic may need to rearrange appointments for other patients, transfer the patient to another ward, or extend

operating hours to reduce the risk of spreading the infection. This can lead to staffing challenges and compromise the care of other patients whose appointments must be rescheduled.

Prevalence of *Vancomycin-resistant Enterococcus* (VRE) colonisation is 6.2% and Methicillin-resistant *Staphylococcus aureus* (MRSA) 7.2% in renal patients^{1,2}

Why are renal patients vulnerable to infections?

Chronic renal disease and the demands of regular dialysis can weaken the immune system, making it more difficult for patients to combat infections. These patients usually visit dialysis centres multiple times a week and often spend many hours receiving treatment, which increases their exposure to harmful pathogens. Additionally, many patients have co-morbidities, such as diabetes and lung conditions, that further heighten their susceptibility to airborne pathogens. In the past, the spread of bloodborne viruses such as Hepatitis B and C posed a significant concern within haemodialysis units, with substantial variation in practices across the world. However, improvements in practice and adherence to guidelines have substantially reduced this risk, making it less of a concern today.

Invasive MRSA infections are associated with mortality as high as 30% and 14-16X higher than the general population^{3,4}

How is Rediroom best deployed if there is a shortage in isolation capacity?

A patient with a confirmed or suspected infection arriving at the dialysis centre is placed in a Rediroom for dialysis. This, combined with infection prevention protocols, helps minimize the risk of pathogen spread and avoids rearranging appointments to prevent contact with infected patients.

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What are the benefits of having sufficient isolation capacity?

- Reduces the risk of pathogen transmission between patients in open settings
- Optimises patient flow and resource use by minimizing delays in scheduled dialysis
- Lowers infection risks for immunocompromised individuals
- Enhances patient monitoring by keeping them within their specialty area
- Promotes effective infection control with visible barriers for point-of-care treatment
- Improves patient experience by avoiding relocation from their regular care unit



What infections are patients receiving renal dialysis most prone too?

Patients receiving dialysis are at an increased risk of both bacterial and viral infections due to frequent exposure to antibiotics and recurrent infections. Additionally, there is an increased risk of acquiring a bloodborne virus (BBV) infection when patients have received dialysis abroad, unless the country and individual risk assessment indicate a low risk. Ease of travel and migration may increase the demand for isolation capacity.

• Bacterial Infections:

These can lead to serious conditions such as:

- Extended Spectrum Beta-Lactamase (ESBL)
- Vancomycin-resistant enterococci (VRE)
- Pneumonia
- Bloodstream infections

• Viral Infections:

Dialysis patients are also more vulnerable to viruses, including:

- Influenza
- COVID-19
- PCP
- Parainfluenza
- Rhinovirus
- Respiratory syncytial virus (RSV)



To discuss your isolation challenges and protocols, please speak to GAMA's Capital Clinical Director, Gary Thirkell, on g.thirkell@gamahealthcare.com

Reference

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