

Showcase Hospitals Local Technology Review Report number 1

MedMat[®]

Southampton 
University Hospitals NHS Trust

The Healthcare Associated Infections (HCAI) Technology Innovation Programme

The basic ways of preventing and reducing healthcare associated infections (HCAIs) are largely unchanging. The principal strategies for combating HCAIs are those associated with hand hygiene/aseptic techniques, prudent antibiotic prescribing and good clinical practice. However, new technologies and equipment can support these strategies by helping get things done differently, more swiftly or more reliably.

As part of the strategy set out in *Clean, Safe Care*¹ the Department of Health is funding the HCAI Technology Innovation Programme². The Programme aims to:

- Speed up the development and adoption of technologies to further help combat HCAIs
- Identify which new technologies provide the best value and will have the most impact

The Showcase Hospitals Programme

As part of the HCAI Technology Innovation Programme, Showcase Hospitals are undertaking local technology reviews of infection related products or technologies in which they have a specific interest. These are service evaluations, as defined by the National Patient Safety Agency's National Research Ethics Service, and do not therefore require Research Ethics Committee review.³ This service evaluation was undertaken by Southampton University Hospitals NHS Trust.

¹ Clean, safe care: Reducing infections and saving lives. Department of Health, 9 January 2008.

² For further information on the Programme see <http://www.clean-safe-care.nhs.uk/index.php?pid=28>

³ See leaflet on defining research at <http://www.nres.npsa.nhs.uk/news-and-publications/publications/nres-research-leaflets/>

Acknowledgements

We would like to acknowledge the support of Southampton University Hospitals NHS Trust's ward staff in implementing and evaluating MedMat[®].

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Executive summary

As part of the Department of Health's Healthcare Associated Infections (HCAI) Technology Innovation Programme, Showcase Hospitals are undertaking local technology reviews of infection related products or technologies in which they have a specific interest with the objective of helping Directors of Infection Prevention and Control and other stakeholders to decide whether they should consider any of these products or technologies as part of their trust's strategy to reduce healthcare associated infections.

Southampton University Hospitals NHS Trust decided to review MedMat[®], which is an innovative two layer sterile dressing field with an integrated waste bag that has been designed to aid, and maintain aseptic technique during clinical procedures, whilst not in a theatre environment. These may be complex procedures and involve different stages. The Department of Health has set up a Rapid Review Panel (RRP) to assess new and novel technologies and consider their potential for reducing hospital infections. MedMat[®] received an RRP 2 recommendation ("basic research and development has been completed and the product may have potential value; in use evaluations/trials are now needed in an NHS clinical setting") in 2008.

MedMat[®] was evaluated over a 3-month period from April to the end of June 2009 on orthopaedic, urology and vascular wards and by the tissue viability team. MedMat[®] was used for wound dressings, urinary catheter insertions and line insertions during the evaluation period. Staff on the intensive care / high dependency areas felt that MedMat[®] would not be useful for their patient group.

The product was very favourably received, with 96% of respondents saying that they would recommend MedMat[®] to colleagues and would like to continue using MedMat[®] following the evaluation.

Whilst the introduction of MedMat[®] would introduce a small extra cost for each procedure it is used for, it can be targeted at specific areas where the greatest benefit would be felt. Each avoidable healthcare associated infection is estimated to cost the NHS £5,000, the cost of over 1,750 medium sized or over 4,400 small MedMats[®].

Keywords: MedMat[®], sterile dressing field (or two layer sterile dressing field)

Introduction

This report sets out the findings from an evaluation in Southampton University Hospitals NHS Trust, one of eight Showcase Hospitals, of the in-use and economic features and adoption characteristics of MedMat[®].

The objective of this document is to help Directors of Infection Prevention and Control and other stakeholders to decide whether they should consider MedMat[®] as part of their trust's strategy to reduce healthcare associated infections.

The problem

The need to promote asepsis

Pathogens, which may be present in the environment or on hands and equipment, must be prevented from entering any wound. Aseptic technique is recognised as one of the basic ways of preventing HCAs.

The Code of Practice for the NHS on the prevention and control of healthcare associated infections^[1], sets out how the Care Quality Commission will assess compliance with the requirements set out in regulations made under section 20(5) of the Health and Social Care Act 2008. Criterion 8 states that a service provider will need to demonstrate that they have and adhere to appropriate policies and protocols for the prevention and control of HCAI. The associated guidance states that a provider should have in place appropriate core policies covering aseptic technique and those clinical procedures should be carried out in a manner that maintains and promotes the principles of asepsis.

The product

MedMat[®]

MedMat[®], developed by ErgoMedica Ltd and distributed in the U.K and Ireland by Sunlight Clinical Solutions, is a CE marked Class 1 medical procedure device providing a two layer sterile field system for undertaking a variety of medical procedures, for example dressing changes, catheter insertions, line changes etc. MedMat[®] has an integrated waste bag that enables the efficient and immediate disposal of all non-sharp clinical waste created by the procedure including the product packaging, used bandages and the actual layers of the MedMat[®].

MedMat[®] has two distinct surfaces to enable the application of aseptic techniques during the different stages of the procedure, separating the “dirty” from the “clean” elements of each process.

MedMat[®] provides a protective barrier to the surface where the procedure is undertaken, for example a surgical trolley or patient's bed, (supplementary items may be placed in the MedMat[®] in environments such as the patient's own home where a dressing trolley is not available). The top layer where the “dirty” elements of a procedure are conducted, such as removing a soiled

wound dressing, is highly absorbent to fluids but also laminate backed therefore preventing any strike through onto the second layer of the MedMat®.

When the first stage of the procedure is complete, the top layer is disposed of into the integrated waste bag revealing the clean, absorbent bottom surface ready for the next stage of the procedure, for example applying a new wound dressing. A peel off adhesive strip seals the waste bag that is then disposed of as per the clinical waste guidelines of the trust.

MedMat® is available in two sizes, the 700mm size covers a standard hospital dressing trolley and the 1100mm covers approximately one third of a hospital bed.

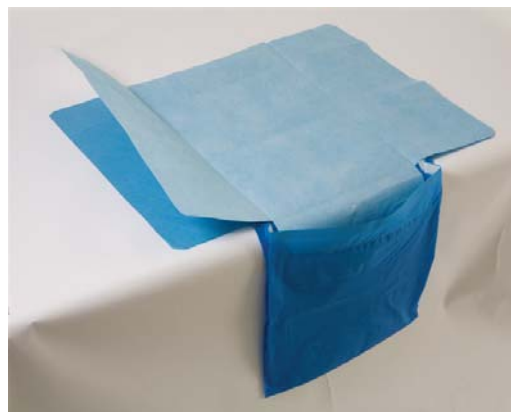


Figure 1 MedMat®

The Department of Health has set up a Rapid Review Panel (RRP) to assess new and novel technologies and consider their potential for reducing hospital infections. MedMat® received an RRP 2 recommendation (“basic research and development has been completed and the product may have potential value; in use evaluations/trials are now needed in an NHS clinical setting”) in 2008.

MedMat® has been evaluated in a community setting by Bristol Community Health Services as part of the Smart Solutions workstream of the Healthcare Associated Infection Technology Innovation Programme.

The knowledge base

What was known before this evaluation

An evaluation of the use of MedMat® in heel ulceration^[2] found that MedMat® was an easy to use product that absorbed exudate more effectively than sterile dressing towels.

The evaluation

How the evaluation was done

The evaluation was carried out over a three-month period from April to June 2009.

Following staff training in the use of MedMat[®], provided by the MedMat[®] distributor (Sunlight Clinical Solutions) and with the agreement of relevant hospital staff, the two available sizes of the MedMat[®] sterile field were made available in the following specified areas:-

- Vascular ward
- Orthopaedic wards
- Tissue Viability team
- Urology ward
- General and cardiac intensive care units + high dependency within these units

Product literature and supporting materials including instruction posters were provided by the company, distributed, and displayed in staff areas as a reminder of the availability and indications for the use of MedMat[®].

Nursing staff used MedMat[®] when they identified a suitable need after they had received training on the indications for its use.

During the last month of the evaluation, usability and suitability questionnaires were distributed to staff in the areas where MedMat[®] was available.

How acceptable was the product to staff?

82 questionnaires were returned. 87% of respondents were nurses, 10% were health care assistants and 3% gave no job title. The product was used mainly for wound dressings (68%) and urinary catheter insertion (25%) with the remainder used for line insertions.

A large majority of respondents (88%) thought the training received from the manufacturer of MedMat[®] was good or excellent. 12% of respondents did not receive training.

As Table 1 shows, MedMat[®] was very favourably received by staff. Over 95% of respondents found instructions were clear and the product easy to remove from the packaging and arrange on a surface aseptically, the two sizes were adequate for the procedures undertaken and the waste pouch was of a suitable size. 90% of respondents thought the absorption of exudate and fluids during use was adequate and 87% thought that MedMat[®] made procedures easier.

96% of respondents would recommend MedMat[®] to colleagues and would like to continue using the product themselves after the evaluation period.

When asked what their recommendation for the continued use of MedMat[®] would be the majority of respondents, 69%, would recommend that MedMat[®] should be available for all wound dressings and aseptic procedures, whilst 30% would recommend its use only when the absorption of excess moisture is required or when two sterile layers are useful for complex procedures and dressings.

Please comment on the following statements about MedMat[®].	Agree or Strongly Agree	N/A / Unable to Respond
Total respondents 81		
The instructions are clear and easy to understand	99%	
It is easy to remove MedMat [®] from the packaging and arrange on a surface aseptically	94%	3%
The two sizes that are available are adequate for the procedures I undertake	94%	3%
The MedMat [®] adequately absorbs exudate and other fluids during use	90%	5%
The waste pouch is an adequate size.	97%	
The MedMat [®] makes procedures easier	87%	13%
I would like to continue using MedMat [®] after this evaluation period.	96%	3%
I would recommend the use of MedMat [®] to colleagues.	96%	3%

Table 1: Staff Opinions of MedMat[®]

Only 3 questionnaires were returned from the intensive care units and high dependency areas within these units. When discussed with staff in the early stages of the evaluation it was felt that MedMat[®] had a very limited use in these areas and in the final evaluation they reported that there was a lack of suitable patients on whom the MedMat[®] could be used during the evaluation period.

Respondents were asked to rank on a 1-5 scale how important 5 features of MedMat[®] were to their practice. This question was subject to misinterpretation as some respondents took it to mean all 5 features could be given the same rating and some people took it to mean each feature should be given a different rating. Of the 33 respondents who took it to mean all 5 features could be given the same rating all features rated between 4.2 and 4.4 where 5 was the most important. Taking all responses the percentage of respondents giving a rating of 4 or 5 for each feature is shown in Table 2. With 64% or more respondents rating the features of a large sterile field, two separate layers and a convenient waste disposal pouch as 4 or 5 for importance and 58% rated absorption of fluid and exudate as 4 or 5.

Please rank how important the following features of MedMat® are to your practice. (1 least important to 5 most important).		
33 respondents using same rating for more than one feature		All respondents
		% of respondents giving a rating of 4 or 5
A large sterile field	4.4	68%
Protection of the underlying surface (e.g. bed sheets)	4.3	41%
Convenient waste disposal in the pouch	4.3	64%
Two sheets, one for dirty and one for clean elements of the procedure	4.3	66%
Absorption of fluid and exudate	4.2	58%

Table 2: Staff Ranking of Features of MedMat®

Respondents were asked for any further comments. These included the following:-

- A useful/good/excellent product (4 respondents)
- Concerns about difficulty removing top layer (3 respondents, of whom 2 were concerned with having to roll patient with wound exposed to remove MedMat® top layer.
- Concerns about adhesive being too strong and difficult to remove MedMat® from trolley or gets stuck to sheets when trying to apply to bed. (2 respondents).
- Does not always absorb exudate although liquid does not penetrate (3 respondents).

Other comments addressed the need for other items to be included with the MedMat® or the need to use a dressing pack with the MedMat®.

What issues arose in relation to implementation and adoption?

As shown in the previous section MedMat® was well received in most areas except the intensive care units and their high dependency areas, where it was felt not to be useful for that patient group. It is necessary to ensure that the areas where MedMat® is to be introduced will find the product useful and that its introduction is well supported by staff.

Those who received training about using MedMat® found the training good or excellent with only a small minority not receiving training. It is likely that with continued use of the product training would be even more complete.

The company were aware of the need to reduce the strength of adhesive used to attach the sterile field to trolley or bed and have addressed this issue.

There were no problems with supplies of MedMat[®] during the evaluation. At the time of the evaluation, MedMat[®] was only available as a stand-alone product. Since then it has also become available in various dressing packs that may be more suitable for use in some areas and with an extra separate third layer included in some packs. This may be a useful adjunct in the hospital setting where a separate sterile field is required for a dressing trolley.

Advice and tools for trusts considering introducing MedMat[®]

Important points to consider

Consideration needs to be given to the areas where it is proposed to use MedMat[®] to ensure their patient group would benefit from this product.

It is important to engage the ward staff in the implementation of the product and for the company to support training needs and the introduction of the product.

MedMat[®] has been evaluated as a stand-alone product but since the evaluation has been carried out, it has become available in various dressing packs that may be more suitable for use in some areas. Some dressing packs have an extra separate third sterile field included that could possibly be used on a dressing trolley whilst the two-layer field was used on a bed or other area. Individual trusts may negotiate with the company or with their dressing packs provider to include MedMat[®] with their dressing packs.

Costs and Benefits

MedMat[®] is available through the NHS Supply Chain catalogue. As of 5 May 2010, the prices were £33.72 for 30 of the small size and £42.15 for 15 of the medium size, including VAT.

Whilst the introduction of MedMat[®] would introduce a small extra cost for each procedure it is used for, it can be targeted at specific areas where the greatest benefit would be felt. Each avoidable healthcare associated infection is estimated to cost the NHS £5,000, the cost of over 1,750 medium sized or over 4,400 small MedMats[®].

References

1. The Health and Social Care Act 2008: Code of Practice for the NHS on the prevention and control of healthcare associated infections and related guidance. Department of Health 2009
2. Collier C and McDaid L. An Independent Evaluation of the use of MedMat® in Heel Ulceration. Downloaded from http://www.medmat.co.uk/trials_case_studies.htm on 9 March 2010.