



**A GUIDE FOR HEALTH  
AND CARE SERVICES**



**Dr Barzo Faris**

Infection Prevention & Control lead at  
Trafford Healthcare NHS Trust

"We selected **DiscreteHeat's** system of heated alloy skirting for clinic rooms when developing the new children's unit at **Trafford General Hospital** because we thought it would reduce infection risk. We are proud of our record on preventing healthcare-associated infections here in Trafford and are always looking for new products that can further cement it by reducing risk.

The **DiscreteHeat** system keeps the whole children's unit at a comfortable temperature and it is easy to keep it clean because, unlike a radiator, there are no nooks and crannies where airborne particles can hide.

The new system is also proving more efficient and my estate colleagues tell me that it is saving energy and running costs."

**A Product by**

# ThermaSkirt® is a revolutionary heating system . . .

## How does ThermaSkirt® directly benefit the Health & Care Services Sector?

ThermaSkirt® replaces the LST radiators and skirting board trim in one.

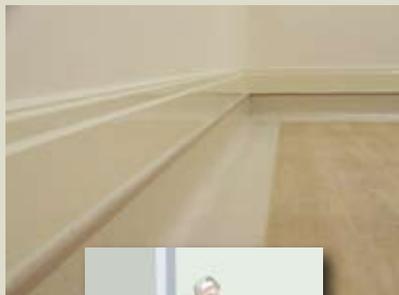
As ThermaSkirt® is a completely sealed radiant unit it does not have any grilles, gaps or exposed pipe work. This means that it does not collect dust and grime that harbour infectious spores and bacteria and can be easily and quickly cleaned when the floors are being cleaned with disinfectant.

As the heating is radiant it does not create convection currents that would otherwise circulate dust and other particles that can aggravate respiratory afflictions and spread hospital acquired infections (HAI).

ThermaSkirt has recently been installed in several NHS hospitals, and many more care and nursing homes, both refurbishment & new-build. ThermaSkirt can be connected onto conventional existing pipeworks, whether overhead or in the wall or floor. Replacing old and inefficient radiators with ThermaSkirt has reduces running costs and increases comfort levels for clients.



## Advantages of using ThermaSkirt®



- ThermaSkirt can be cleaned as part of the floor cleaning process - any time of night or day.
- Can be cleaned whether or not heating is on or off – no special handling required.
- No dismantling covers – simple mop down with 1% bleach solution.
- Most wards (20m<sup>2</sup>) done in under 2 minutes - labour and cost saving.
- No specialist tools or equipment required - no retraining required.
- No bending, stretching or lifting – reduced risk of injury.
- Lower flow temperatures - improved energy efficiency.
- No ligature points, sharp corners or exposed valves and pipes.

ThermaSkirt® has been independently tested by BSRIA to be at least 13% more efficient than a standard radiator system. This is because the heat is distributed around the entire perimeter of the room, and the larger surface area creates an even all round thermal environment. This more efficient heat distribution means that it can be run at lower temperatures, saving fuel costs and overall running cost of the heating system.

**“Eventually, it was observed that each of the radiators was surrounded by a ‘cage’ that was fixed to the wall, making removal difficult. As a result, routine cleaning behind the cage was not undertaken. On investigation, thick dust and dried faecal matter was found behind the cages. Microbiological testing of this material indicated the presence of C. difficile.**

... energy efficient and cost effective!

## ThermaSkirt® Vs. LST Radiators

Infection Control and Health & Safety are two major concerns in the Health & Care Service; ThermaSkirt addresses these 2 main concerns far better than the current norm of LST radiators.

With the recent rise in the awareness of so called 'Superbugs' such as E.coli, C.Diff, & MRSA, the problem of Healthcare Acquired Infection (HAI) has never been more acute. The risk of bacteria cross-contamination and contracting an infection is particularly high in the healthcare sector, where there are a large number of people with reduced immunity levels, in close proximity and an abundance of bacteria and infections.



## Disadvantages of using LST Radiators



- LST radiators obstruct gangways and are often the cause of impact injuries and falls.
- Small slots and fins inside are impossible to keep clean and free from bacteria & material.
- Protective covers are difficult to remove and deter thorough cleaning.
- Cold air drawn in from the floor carrying spores and microbes.
- Warm air carries infection around the ward or room.
- Grilles and fins trap dust and moisture and provide a perfect breeding ground for infections and bugs.
- Heat build up inside covers often pushes surface temp to well over recommended limit – obviating their primary purpose.

Radiators are difficult to clean, and create the perfect warm environment that harbours dust and propagates infectious bacteria. Although there are 'cleanable' Low surface temperature radiators, these still cause major problems, and do not enable complete eradication of harmful microorganisms.

**Teare et al (1998) noted that the outbreak began when the radiators were turned on in November and postulated that thermal convection from the radiators may have played a part in disseminating spores to vulnerable patients."**

Teare, E., D. Corless, and A. Peacock, *Clostridium difficile in district general hospitals*. Journal of Hospital Infection, 1998. **39**: p. 241-245.

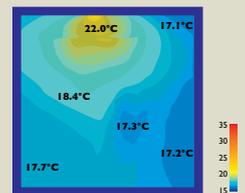
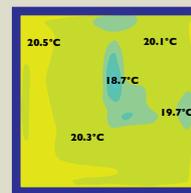
## ThermaSkirt<sup>®</sup> Vs. Overhead Radiant Panels

The cleaning difficulties associated with LST radiators are equally applicable to overhead radiant panels. By their very nature, they are inaccessible and above reachable height, requiring ladders or platforms for access. Equally they may be placed over sensitive equipment which would suffer if got wet or disturbed whilst cleaning. The overhead positioning of the panels also means that patients are being heated from the head down. This can often cause discomfort at a time when the individual is unable to care for themselves, and can be distressing to those that are mentally impaired. ThermaSkirt<sup>®</sup> is placed at floor level, creating a warm comfortable environment from the ground up.



## Tests Prove ThermaSkirt<sup>®</sup> to be More Efficient Than a Radiator

ThermaSkirt has been independently tested and proven to be both more energy efficient and provide a more comfortable environment for occupants. (Source BSRIA Test 51397/1). Test results show that the unique thermal distribution pattern of ThermaSkirt<sup>®</sup> is practically identical to under-floor heating.



ThermaSkirt<sup>®</sup> Comfort Temperature

Radiator Comfort Temperature

## Radiator Related Injuries

Contrary to common concern, the majority of radiator related injuries are impact and fall related, and not scalds & burns. Whilst hot surfaces are a concern for persons with restricted movement or sensory disability, a far greater hazard is presented by the hard edge and surfaces of bulky radiators in the event of a trip or fall. ThermaSkirt's smooth lines and soft edges does not present a trip or fall hazard, and by itself would eliminate over 85% of all radiator related injuries. See the table below extracted from data provided by The Royal Society for the Prevention of Accidents (ROSPA).

Falls, Trips, Impacts	25,936	86.66%
Grab injury burns to hands & arms*	1,847	6.10%
Burns to other part of body	583	1.90%
Other Causes	1,543	5.16%
<b>Total Radiator Accidents</b>	<b>29,909</b>	<b>99.82%</b>

\*The majority of burns to the hands and arms were reported in the under 5s and over 65's (73% of all scald injuries) and are listed as 'grab' injuries incurred when trying to prevent a fall. This is not a factor with the ThermaSkirt system.

Source:  ROSPA HaSS & Lass Accident Statistics 2000 ~ 2002.

## What other benefits does ThermaSkirt<sup>®</sup> have ?



ThermaSkirt can be controlled either by the Building Management System (BMS) or by the 'TherMiser' programmable room/zone thermostat. Programmable for both time and temperature, the system controls the patient comfort level and the skirting surface temperature. This enables ThermaSkirt to be installed onto existing systems that may require higher flow temperatures in other areas of the building, as the controlled zones surface temperature is limited by a unique control valve. As ThermaSkirt operates successfully at lower flow temperatures, where practical, the heating system can be run cooler, saving energy and fuel costs, as well as enabling the introduction of renewable heat sources such as solar thermal or heat pumps. This is not possible with LST radiators as they rely on high temperatures to move the air & thus heat around.



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