



Moving Health Forward

## Manufacturer and Trust Partner To Provide Enhanced Outcomes

### **Dyna-Form<sup>®</sup> Mercury Advance Anti-Tamper Hybrid Mattress**

Authors: Sue Lenihan, Moving and Handling  
Lead Advisor (in-patient and community),  
Kent and Medway Partnership Trust

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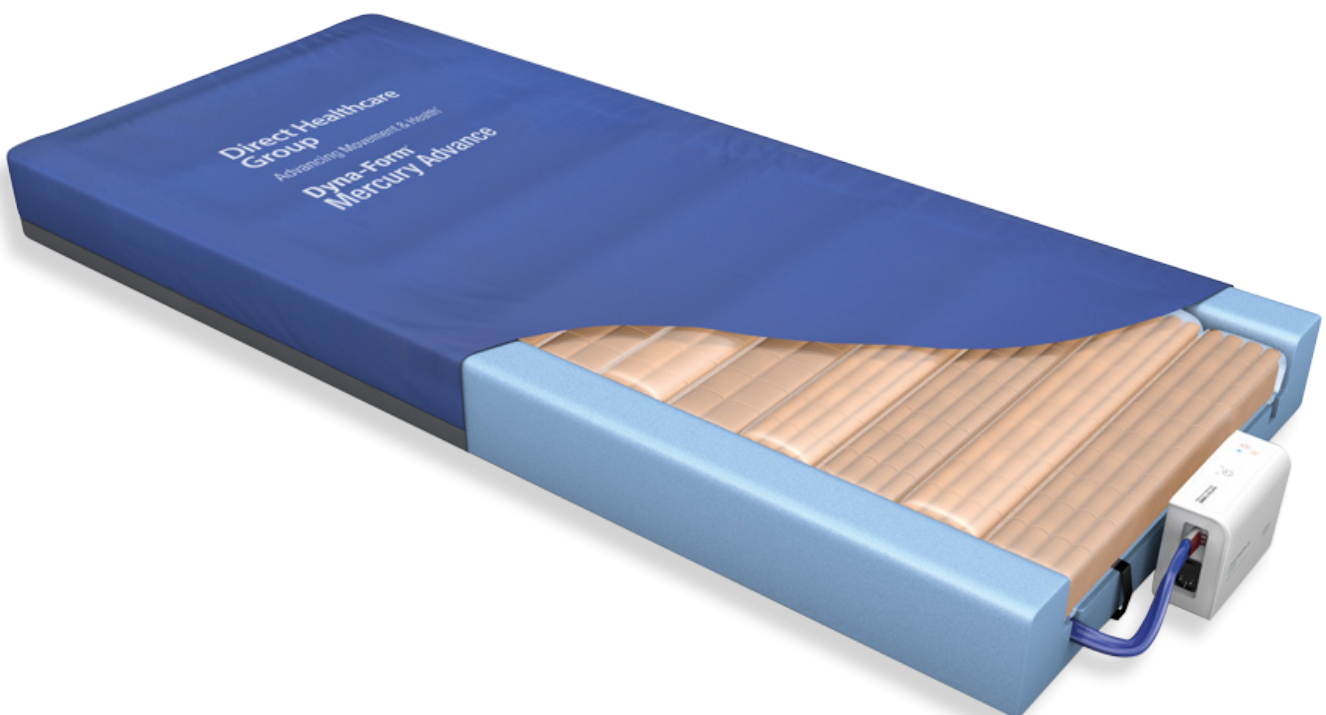
### Background

As a Moving and Handling Lead Advisor within the community and inpatient settings, Sue Lenihan was asked to provide quarterly reports to the wider Trust, with emphasis on:

- Avoiding ligature risks from points where very unwell individuals could attach any item long and flexible enough to be wrapped and tied
- Eliminating concealed spaces where small sharp items could be easily stored to be used in self-harm or other harming attempts or medications gathered
- Supporting a focus on general good health for staff and clients, safe use of equipment, and meeting national standards required for safest practice.

### Clinical Focus Group

A clinical focus group was hosted with a delegate base consisting of Healthcare Assistants to board level. Manufacturers were also invited including manufacturers of beds, mattresses and moving and handling equipment to ensure that emergency access, under or close to each type of bed as needed. Insight identified how clients could fix anchor points for attachments, where objects could be concealed and that zips could be used for self-harm and therefore enhanced equipment solutions were required to protect clients and staff. Mattresses would need to fit bedframes tightly – no seams, zips or areas where fluid could penetrate or objects could be concealed.



### Product Consultation and Trial

Consultation with DHG and KMPT identified that the Dyna-Form® Mercury Advance hybrid mattress would be utilised for a trial. The trial provided insight as to what product enhancements were required to provide a suitable mattress system that is fit for purpose – as a UK manufacturer, DHG were able to efficiently enhance the specification of the Dyna-Form® Mercury Advance including changing the standard waterfall covered zip for a clever locking zip, and using crib 7 rated components. The Dyna-Form® Mercury Advance, clinically evidenced over a period of 10 years, ensured that patients had optimum comfort, and is designed for patients at Very High Risk. The Dyna-Form® Mercury Advance has the ability to ‘step-up’ to a 1-in-2 dynamic system when clinically required by unlocking the zip access, adding the pump and then locking the zip access again. Similarly the system can be ‘stepped down’ as the patient’s condition improves by unlocking the zip access, removing the pump, tucking in the tubing and locking the zip access again.

### Outcomes

- **Ease of transport (without load)**

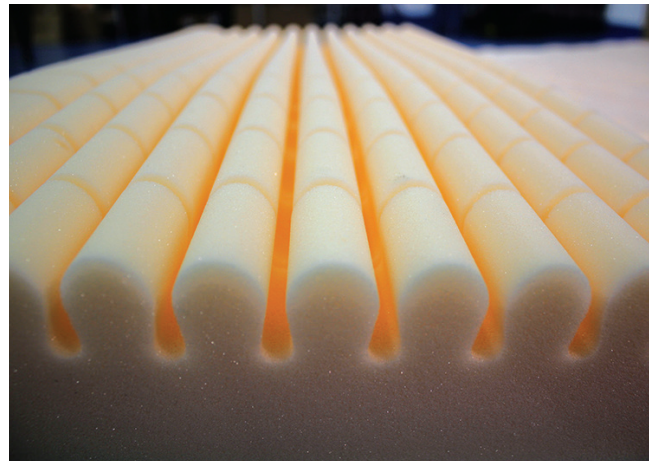
The Dyna-Form® Mercury is intended for each bed that is not designated a “place of safety” room, therefore moving it to another room is avoided, however the mattress weighs 13.3kg and can be carried easily between two carers where narrow space prevents use of a trolley. The weight of the control unit is 1.7kg.

- **Manoverability (with load)**

This was not applicable at KPMT however for hospital transfers between departments, remove the pump from the power supply and reconnect at the new power source. The CME castellated static foam mattress will ensure that the patient is supported and weight is evenly distributed for the duration of the transfer.

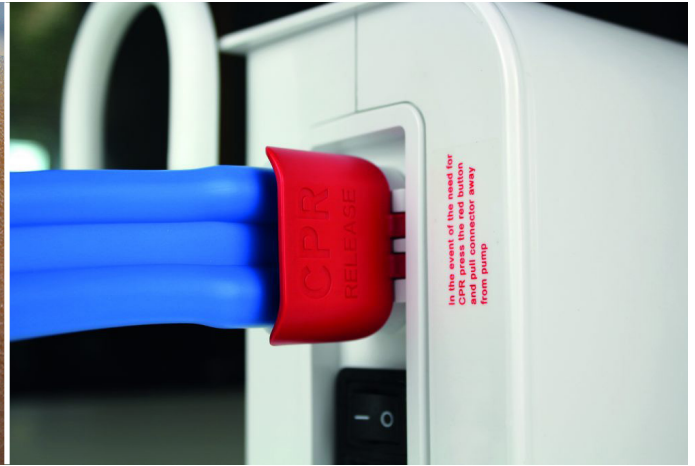
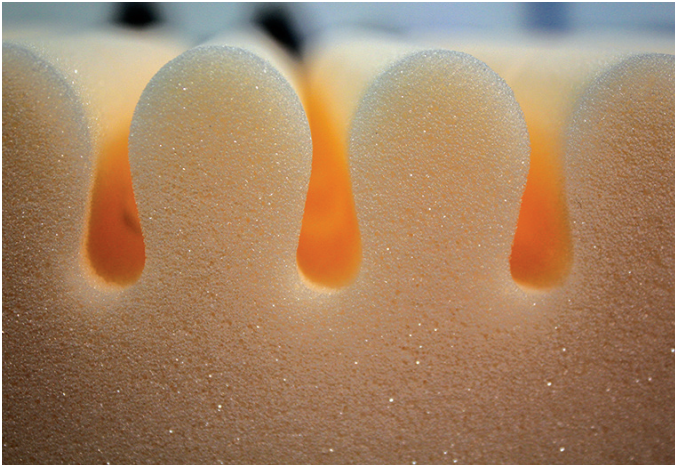
- **Adjustability**

The Dyna-Form® Mercury Advance Anti Tamper and Safety Mattress has two comfort control settings. The pump will initially revert to a “Low” comfort control which is ideal for lighter patients or those who feel discomfort on a dynamic mattress.



However, for patients with existing pressure ulcers or those at Very High Risk, it is recommended that, dependent on the clinical judgement of the clinician, the “High” setting is activated by pressing the +/- button, located on the top of the pump.

In “High” mode, the pump attains the characteristics of an alternating dynamic mattress whilst still providing the therapeutic benefits of a high quality static foam mattress. Repeatedly pressing the “mode” button enables the low and high modes to be selected in turn.



- **Comfort of Client**

The Dyna-Form® Mercury Advance is a quiet hybrid system, offering a smooth transition from a static foam mattress to a 1-in-2 alternating system. The 1-in-2 system prevents the ‘poking’ sensation that is sometimes reported in other cell designs. The tear-duct cut castellated foam inserts mould to the shape of the body offering increased levels of pressure redistribution, while the outer blue u-core provides a firm edge for patient transfers/ access and egress from the bed. If KMPT clients cannot express comfort, KMPT count observation of a better resting posture i.e. relaxed or happy facial expression, more regular self-changing of position and more willingness to engage in conversation or activities when awake.

- **Safety Features**

The Dartex mattress cover is crib 7 regulation rated and has a locking zip to prevent unauthorised access to the mattress. The cover satisfies KPMT infection control policies and is suitable for patients at “Very High Risk” of pressure damage.

- **Safety Considerations**

The following were reduced or removed:

1. Ligature from stripping out wires and tubing by locking the cover
2. Trip hazards from wires as the Dyna-Form® Mercury Advance is highly effective without an air supply
3. Removable parts of the mattress were used removed to prevent them from being used to self-harm or ingest

- **How easy was it to use the Dyna-Form® Mercury Advance?**

Following training and access to the user manual, the Dyna-Form® Mercury Advance was very user friendly. It is important for the relevant staff to know where the key is stored and to be able to locate a spare, as operation is dependent on the key being accessible. Spare keys are readily available on request.

**Summary**

Within KMPT, the physical health teams (which includes resuscitation, tissue viability, medical devices and infection control) and quality and risks teams (including patient safety and the moving and handling team) value the Dyna-Form® Mercury Advance hybrid system for patients at high risk of pressure ulcer development and where self-harm is a risk factor.



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