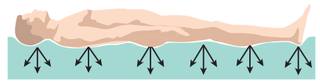
Understanding Different Types of Pressure Area Care (PAC) Mattresses

DHG
Moving Health Forward

In simplistic terms, PAC mattresses can be grouped into either 'reactive' or 'active' support surfaces (see below)

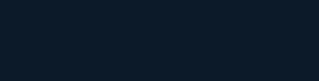
REACTIVE THERAPY (pressure reducing)

Reactive therapy includes all static (non-powered) mattresses such as foam and nonpowered hybrids. Broadly speaking 'reactive therapy' is used for lower risk patients with a degree of independent mobility. This may include patients with existing superficial pressure ulcers.



ACTIVE THERAPY (pressure relieving)

Active therapy includes all powered, alternating pressure dynamic mattresses and powered hybrids. These powered mattress systems are more likely to be targeted at higher risk patients, those with greater levels of dependency or who cannot be regularly repositioned, and/or those with existing full thickness pressure ulcers.

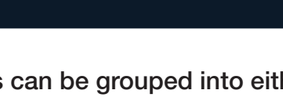


The degree to which a mattress reduces or relieves pressure can also depend upon the level of immersion and envelopment offered by the support surface (see images to the right).

When selecting a mattress for your patient please consider:

1) the type of therapy the mattress offers
2) the clinical needs of your patient
3) the level of care/input the patient receives
4) how the mattress you have selected will meet your patient's pressure area care needs

The three main types of PAC mattress you are likely to come across are static, hybrids and dynamic.



IMMERSION

ENVELOPMENT

PARTIAL IMMERSION WITH ENVELOPMENT

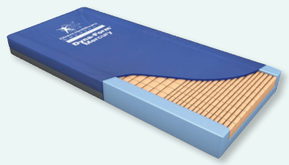
STATIC MATTRESSES

Overview
Static mattresses reduce pressure across the patient/support surface interface.

Design
Static mattresses combine different types of foam and/or involve cuts or castellations on the foam surface. This results in support surfaces which conform to the patient's body to enhance pressure redistribution by offering partial immersion and envelopment (see previous images).

Therapy type
Static mattresses offer reactive therapy and apply a constant, unrelieved pressure to patients' skin and underlying tissues. This pressure will only be relieved when patients move independently or when they are manually repositioned.

Typical use
Patients at lower levels of pressure ulcer risk and/or those with superficial pressure ulcers.



DYNA-FORM® MERCURY

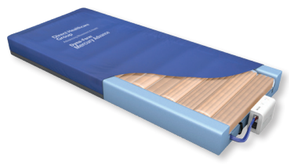
HYBRID MATTRESSES

Overview
Hybrid mattresses typically combine both foam and air into a single support surface and are either powered or non-powered.

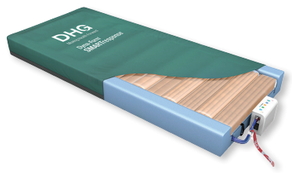
Design
The foam may be encased within individual air cells OR it may lie above the air cells.

Therapy type
Non-powered hybrids offer reactive therapy similar to static mattresses (see left). Powered hybrids offer a degree of active therapy to patients, although the level of pressure relief is typically less than that seen with true dynamic mattresses (see right).

Typical use
Patients at varying levels of pressure ulcer risk may be nursed on hybrid mattresses, including those with existing pressure ulcers.



DYNA-FORM® MERCURY ADVANCE



DYNA-FORM® SMARTRESPONSE

DYNAMIC MATTRESSES

Overview
Dynamic mattresses require an electrically powered pump to periodically cycle air through the mattress, offering patients regular periods of pressure relief and tissue offloading.

Design
Dynamic mattresses use a pump to regularly inflate and deflate specially designed air cells within the mattress. Dynamic mattresses will be either a 1-in-2, 1-in-3 or 1-in-4 cell cycle and 'cycle' times can vary from 7 to 30 minutes. Some dynamic mattresses have specialist air cells that aid partial immersion and envelopment of patients into the support surface, further reducing the pressure applied to their skin and subcutaneous tissues.

Therapy type
Dynamic mattresses offer active therapy and are designed to periodically relieve the pressure on patients' skin.

Typical use
Dynamic mattresses are typically targeted at patients at higher risk of pressure ulcers, and are often used for patients with full thickness pressure ulcers.

DYNA-FORM® AIR SURESSE

QUATTRO® ACUTE

QUATTRO® PLUS

ANTI-DEFORMATION MATTRESSES

Overview
Anti-deformation mattresses utilise a pump to maintain extremely low cell pressures, offering high levels of patient immersion and envelopment to reduce deformation of tissue.

Design
Anti-Deformation mattresses equalise out low pressures within their cells to immerse and envelop the patient into the surface. This high level of immersion and envelopment reduced the level deformation placed on the tissue. Recent pressure ulcer aetiology has shown that tissue deformation occurs within the very early minutes of pressure ulcer formation.

Therapy type
Anti-deformation mattresses offer a powered reactive therapy, and are designed to minimise the level of deformation to an individuals tissue whilst in the supine or seated position.

Typical use
Patient who are considered to be at the highest risk of pressure ulcers, i.e. those in ICU, those who have persisting pressure ulcers, those who suffer from high levels of pain or discomfort, or those who are intolerant to movement.

CARITAL® OPTIMA

NOTE: As a minimum, all static, hybrid and dynamic mattresses designed for pressure ulcer prevention or management should meet the international PAC mattress safety standard ISO20342-1.

DHG Withey Court, Western Industrial Estate, Caerphilly, United Kingdom, CF83 1BF
T: +44 (0) 800 043 0881 F: +44 (0) 845 459 9832 E: info@directhealthcaregroup.com

Remember...Prevention is better than cure!
#StopPressureUlcers #lovegreatskin #StopThePressure #aSSKINg

#poweringPUprevention
WWW.DHG-HEALTHCARE.COM