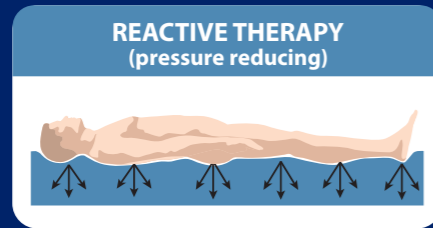


# Understanding Different Types of Pressure Area Care (PAC) Mattresses

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

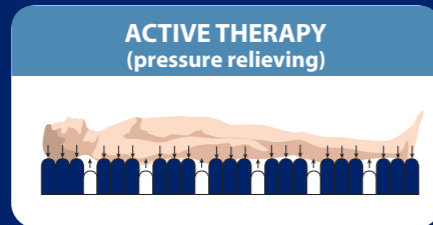
## Reactive therapy

includes all static (non-powered) mattresses such as foam and non-powered 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.

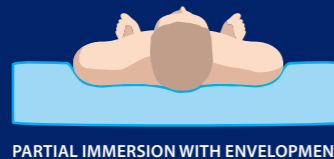
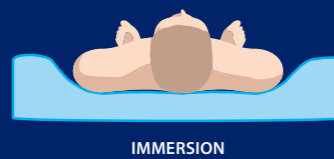


## Active therapy

includes all powered, alternating pressure air mattresses (APAMs) 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 foams, hybrids and APAMs.

## FOAM MATTRESSES

**Overview:** Foam mattresses reduce pressure across the patient / support surface interface.

**Design:** Foam 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:** Foam 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.



## HYBRID MATTRESSES

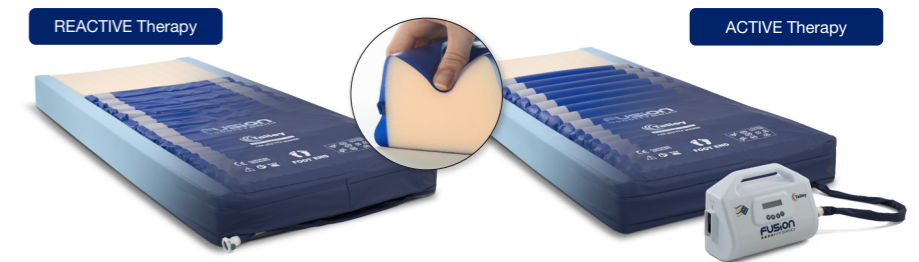
**Overview:** Hybrid mattresses typically combine both foam and air into a single support surface and are either powered or non-powered.

**Design:** The foam may be encased within individual air cells (see inset image) OR it may lie above the air cells.

**Therapy type:** Non-powered hybrids offer reactive therapy similar to foam mattresses (see above).

Powered hybrids offer a degree of active therapy to patients, although the level of pressure relief is typically less than that seen with true APAMs (see below).

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



## ALTERNATING PRESSURE AIR MATTRESSES (APAMs)

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

**Design:** APAMs use a pump to regularly inflate and deflate specially designed air cells within the mattress. APAMs 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 APAMs 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:** APAMs offer active therapy and are designed to periodically relieve the pressure on patients' skin.

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



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



...reducing avoidable harms

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