

medium exudate levels and due to their gel-like nature can be easily removed from the wound bed without damaging new cells. Hydrogel dressings (which will be explored further in the next section) can be made of natural or synthetic cross-linked polymeric networks able to absorb large amounts of biological fluids. Their so-called ‘moisture donor effect’ promotes collagenase production accelerating autolytic debridement of necrotic wounds (Stashak et al. 2004).

## Hydrogel-based Products for Wound Care

Although hydrogels are now recognized as an alternative to more conventional wound care products, they are not routinely employed and there are few products currently available on the market. The high production and final costs may prevent the industry from manufacturing these materials on a large scale and healthcare professionals from extensively using them on patients (Caló and Khutoryanskiy 2015; Sood et al. 2014). Hydrogel-based products for wound care are usually designed as flat transparent sheets, which are very useful for instance in the treatment of pressure wounds, or as amorphous gels, which can be applied to wounds at difficult anatomical locations such as cavity wounds (acting as fillers) (Figs. 2 and 3) (Jones and Vaughan 2005). However, independently from the shape or design, all hydrogel products must exhibit specific characteristics, such as very high absorption capacity, moisture donation capability, transparency, good mechanical properties and biocompatibility in order to have the best performance (Holbeck and Yeao 2011).

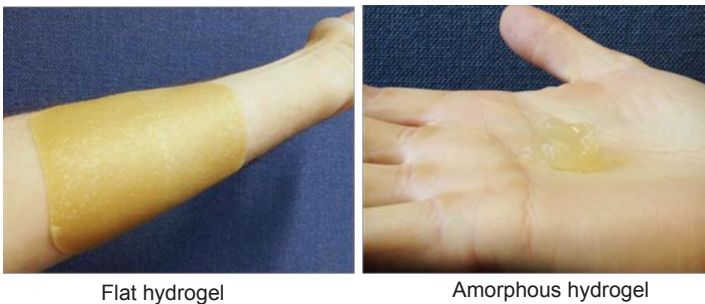


Fig. 2. Flat and amorphous hydrogel products for wound care.

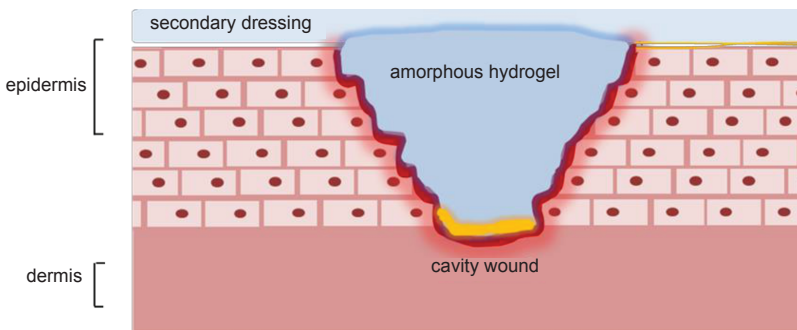


Fig. 3. Amorphous hydrogel acting as filler for cavity wound.