

There are a number of key factors that need to be considered when choosing a dressing:

- **Control of fluid:** “[D]ressings should have the ability to absorb and retain fluid, control its evaporation and transmission rates, while ensuring that there is sequestration of exudate’s harmful components.”
- **Absorption rate:** Too vigorous absorption may result in drying of the wound bed “and unwanted adherence to healing tissue.” Conversely, use of a slowly absorbent dressing is inappropriate “on a heavily exuding wound.”
- **Absorption capacity:** Insufficient capacity will result in leakage and maceration, requiring more frequent dressing changes. Alternatively, a dressing with an excessive capacity can become bulky and heavy, which can lead to issues with adherence, change frequency and patient discomfort.
- **Fluid retention:** If not controlled, non-retained fluid will lead to strikethrough, leakage and maceration. Fluid can be retained by transferring it from the macroscopic spaces of the dressing material into its molecular structure leading to gelling, a feature of dressings incorporating Hydrofiber® Technology. Gelling “prevents free flow of fluid through the dressing but retains a moist environment.”
- **Control of exudate production:** Gelling dressings can moderate the rate of exudate production through gel blocking, which “progressively reduces the strength of absorption forces and, when approaching the maximum retention capacity, resists further transmission of fluid through the gel.”
- **Evaporative loss:** For highly exuding wounds, a high moisture vapor transmission rate (MVTR) “can increase the total fluid-handling capacity” of a dressing, “which may extend the lifetime of that dressing.” For Hydrofiber® Technology exuding wounds, dressings with a low MVTR can provide a moisture-retentive environment, which “is favorable to improving rates of wound healing.”

<b>Publication</b>	Walker M, Parsons D. Hydrofiber Technology: its role in exudate management. Wounds UK 2010;6(2):31-38.
<b>Dressing described</b>	Hydrofiber® Technology

## Key points

Hydrofiber® Technology “was specifically designed to encompass the desirable attributes of more traditional dressing materials such as cotton gauze, alginates and foams, and to improve aspects of exudate management.” It incorporates the following properties:

- **Excellent exudate management:** “The ability of a wound dressing to absorb and retain exudate allows a dressing to remain in situ for longer, reducing the frequency of dressing changes and improving cost effectiveness.”
- **Rapid absorption:** “The rapid absorption of wound fluid and its conversion to retained fluid within a cohesive gel structure gives Hydrofiber® dressings the ability to lock in the liquid and the harmful components that are contained within it.”
- **Balanced absorption force due to gel blocking:** The molecular structure of Hydrofiber® dressing fibers provides sufficient strength and “allows fluid to rapidly permeate and fully expand the fibers. The result is a coherent gel that resists wicking within the fibers and prevents wicking between the fibers by gel blocking.”
- **Maintenance of moisture balance:** “A balance is reached between the wound being too wet and too dry.” Hydrofiber® dressings feature “routes for moisture permeability and fiber gellation, [which] ensure that improvements in both the absorption and retention properties are achieved.”
- **Reduced risk of maceration:** “Fluid is retained and locked in the dressing even under compression.”
- **Reduced risk of wound infection:** The gelling action of Hydrofiber®-based products improves management of the wound environment, including “locking away of harmful wound components such as bacteria and proteolytic enzymes.”
- **Balanced inflammatory response:** “The trapping of liquid and harmful components inside the dressing helps to prevent them from reaching the surface of the wound which, in turn, is likely to lead to ‘a much more gentle healing process without excess inflammation.’”
- **Minimization of “dead space” where fluid may collect and bacteria can grow:** With Hydrofiber® dressings, “the formation of a soft translucent gel provides conformability to uneven wound surfaces, which in turn provides intimate contact with the wound bed.”
- **Reduced pain on removal:** In an international study, “Hydrofiber® dressings and hydrogels were rated as the dressing types that were least likely to cause pain at dressing changes.”

## Conclusion

“[A]ppropriate dressing choices [should be] based on a good knowledge and understanding of wound dressings and their respective properties. These should include the ability of a dressing to provide and maintain an optimum moist wound environment through good exudate management, and the ability to minimize periwound maceration by reducing fluid movement. Equally important is the ability of a dressing to provide good conformability with the wound bed and to eliminate dead spaces, as well as locking-in potentially pathogenic bacteria and proteolytic enzymes.”