

pathogens via drinking water used for wound irrigation cannot be completely ruled out, but is probably low. It is crucial to inform patients about the low risk of infection through drinking water and to assess the therapeutic risk in each individual case.

In general, type of wound healing, size and localization of the wound as well as the comorbidity of the patient should be taken into account for the recommendation. The individual patient's disposition (diabetics, PAOD patients) can cause a higher risk of infection [8, 10]. For vulnerable wounds/patients, the use of sterile filters should be considered [7, 25]. For intensive care patient or otherwise severely immunocompromised patients (e.g., with high-grade large-area burn wounds), who are at risk even through a small microbial load in drinking water, a strict recommendation on the use of sterile fluids is warranted. Therefore, a distinction must be made between different settings and different patient characteristics.

Furthermore, a differentiation within surgical wounds is necessary, for instance, the potential for endogenous infections of abdominal wounds is different from that of orthopedic wounds. In principle, it must be considered whether a risk for alloplastic material in adjacent tissue layers (synthetic prostheses, meshes) must be feared. However, surgical wound infections are mainly caused endogenously and pre/intraoperatively [20, 27].

The question remains what effect wound irrigation has on mechanical germ reduction and the removal of exudate and detritus at all. The data suggest that the effect of cleansing may be overestimated [8].

In view of the available data, in most cases patients with surgical wounds can be allowed to shower only a few days postoperatively with regard to infection prevention. A hermetically air/water-tight wound dressing is normally not required [11, 12, 27].

Finally, it should be noted that drinking water for wound irrigation – especially for patients with wounds healing by secondary intention (such a wound healing process may take weeks to months!) – has some undeniable benefits: It is available and cheap, not a pharmacy-only product, can be applied thoroughly and regularly (daily) by

the patient him/herself in many cases, daily family doctor or nursing visits and the associated monetary and temporal expenses are not necessary.

■ Conclusion

Future studies will have to differentiate clearly which wounds can be cleansed with drinking water, when and how. There are very heterogeneous studies in the literature, in which the intervention ranges from targeted cleansing of wounds healing by secondary intention to showering primarily closed wounds postoperatively [8, 18, 24]. Large (national), methodologically impeccable prospective randomized multicenter studies are not available, international comparability will remain problematic because of different legal regulations concerning drinking water. In general, wound irrigation as a medical or nursing measure should be performed with sterile liquid with a few exceptions. In certain cases (such as perianal wounds), patients may be advised to cleanse their wounds with drinking water at home after appropriate information about a low risk of infection by microorganisms contained in drinking water. In cases of doubt, in immunocompromised patients or in a clinical setting, sterile filters offer the opportunity to use sterile drinking water and thus to minimize the risk of infection.

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