‘EXCEPTION REPORTING’ APPROACH TO WOUND SWAB CULTURE

What is the purpose of a wound swab?

The skin and wounds/ulcers are normally colonised by a range of bacteria, many of which are the same bacteria that can cause infection. This means that when bacteria are cultured from a swab of these areas you can’t tell whether the organisms grown are colonisers or pathogens i.e**. a wound swab cannot be used to diagnose infection that requires antibiotic treatment**. The diagnosis instead rests on clinical assessment e.g. spreading redness, increased purulence.

So why collect a wound swab?

The purpose of a swab is to look for the presence of bacteria that may be resistant to standard empiric antibiotic therapy. As such, in a clinically infected wound/ulcer a swab can be considered a ‘**screen for resistance’**, rather than a diagnostic test. The swab is not used to determine *whether* antibiotics are required, it acts as a guide as to *which* is the best antibiotic.

Do all infected wounds need a swab?

Standard empiric therapy (flucloxacillin/cefalexin) covers the vast majority of pathogens causing skin and soft tissue infection (SSTI). This means that most SSTIs don’t need to be ‘screened for resistance’ with a swab and can be successfully treated empirically. A swab is only required if there are risk factors for resistant organisms e.g. history of MRSA, risk of different organisms in the wound e.g. bite wound.

A common misconception

We have good evidence to show that in patients that are not already on antibiotic therapy a positive culture report from a wound swab triggers antibiotic treatment around half the time[1]. This suggests that healthcare professionals commonly misinterpret a positive swab as diagnostic of infection and therefore an indication for antibiotics. This ‘reactive’ prescribing is responsible for a considerable volume of unnecessary antibiotic use.

Exception reporting approach

This approach has been adopted to reduce ‘reactive’ prescribing and to better align with the purpose of the test i.e. to ‘screen for resistance’. Exception reporting focuses on organisms that may necessitate a change away from standard empiric antibiotics and reduces emphasis on those that are covered by normal therapy. As such, organisms that are susceptible to flucloxacillin/cefalexin are no longer reported. Organisms that are resistant to these agents, e.g. MRSA, are still reported in the normal way. We have good evidence showing that this approach is safe and effective at reducing unnecessary antibiotic use[2].

Clinical details are very important with an exception reporting approach

Exception reporting is based on the assumption that an infected wound is being treated with flucloxacillin or cefalexin. **If the patient is being treated with a different antibiotic** it is very important to note this on the form; if this is the case, then the lab will not use the exception reporting approach and will report any significant organisms as per usual. Hospital patients, children <1 year of age, and those with recurrent boils/abscesses (where knowing about staph carriage can be important) are also excluded from this approach.

References:

1: *Journal of Antimicrobial Chemotherapy* https://doi.org/10.1093/jac/dkad288

2: *Journal of Clinical Microbiology* https://doi.org/10.1128/jcm.00342-24