

Staples lead to higher risk of infection after joint surgery than traditional stitches

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Using metal staples to close wounds after orthopaedic (joint) surgery can lead to a greater risk of infection than using traditional nylon sutures, concludes a study published in the British Medical Journal today.

Orthopaedic surgeons are therefore advised to reconsider their use of staples to close wounds after hip or [knee surgery](#) while further trials are carried out to confirm these findings.

Wound complications are one of the major sources of illness following orthopaedic procedures like knee and hip surgery. They can prolong a patient's stay in hospital or lead to re-admission. There is also a link between superficial [wound infection](#) and deep infection.

[Orthopaedic surgeons](#) use both metallic staples and nylon sutures to close wounds. Staples are regarded as quicker and easier than sutures, but some have suggested that staples are more likely to cause infection and may also be more expensive.

The optimal method of skin closure still remains unclear, so researchers at Norfolk and Norwich University Hospital analysed the results of six trials that compared the use of staples to sutures following orthopaedic procedures in adults.

The trials involved 683 wounds; 322 patients underwent suture closure and 351 staple closure. Overall, the risk of developing a superficial wound infection was over three times greater after staple closure than

suture closure.

For hip surgery only, the risk of developing a wound infection was four times greater after staple closure than suture closure.

There was no significant difference between sutures and staples in the development of [inflammation](#), discharge, dehiscence (re-opening of a previously closed wound), [necrosis](#) and allergic reaction.

The authors point out that the quality of evidence was generally poor and they call for high quality, well designed trials to confirm their findings. However, based on the current evidence, they suggest that patients and doctors should think more carefully about the use of staples for wound closure after hip and knee surgery.

These results fit with evidence from other specialties, says Consultant Orthopaedic Surgeon, Bijayendra Singh, in an accompanying editorial. He points out that the most consistent benefit of staples is more rapid skin closure, yet the time saved is rarely more than two to three minutes. The saving may also be reduced by the increased costs of removing the staples (compared with absorbable stitches) and reduced even further by the costs of treating the increased number of infections.

Provided by British Medical Journal

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