

Oral versus intravenous antibiotics for bone and joint infections: the OVIVA non-inferiority RCT

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Disclaimer: This report contains transcripts of interviews conducted in the course of the research and contains language that may offend some readers.

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Plain English summary

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Plain English summary

Treatment of bone and joint infection usually requires a long course of antibiotics. Doctors usually give these by injection through a vein (intravenously) for the first 4–6 weeks, rather than by mouth (orally). Although intravenous (IV) administration is more expensive and less convenient for patients, most doctors believe that it is more effective. However, there is little evidence to support this. The OVIVA (Oral Versus IntraVenous Antibiotics) trial set out to challenge this assumption.

A total of 1054 patients from 26 UK hospitals were randomly allocated to receive the first 6 weeks of antibiotic therapy either intravenously or orally. Irrespective of the route of administration, the choice of antibiotic was left to an infection specialist so as to ensure that the most appropriate antibiotics were given. Patients were followed up for 1 year.

Thirty-nine participants were lost to follow-up. Among the remaining 1015 participants, treatment failure occurred in 14.6% of those treated intravenously and 13.2% of those treated with PO antibiotics. This difference could easily have occurred by chance. Even if it was not by chance, the difference does not suggest that PO therapy is associated with worse outcomes than IV therapy and is too small to conclude that PO therapy is better than IV therapy.

Participants in the IV group stayed in hospital longer and 10% of them had complications related to the IV line used for administering the antibiotics. In addition, their treatment was, overall, more expensive.

We conclude that PO antibiotic therapy has no disadvantages for the early management of bone and joint infection. It is also cheaper and associated with fewer complications.

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