

Transparent bones reveal hidden blood vessels

When drugs are injected into bones, they rapidly reach other parts of the body. We know this because when trauma surgeons cannot obtain quick access to a vein, they can inject directly into a patient's leg bone. Somehow, the drugs quickly leave the bone marrow and circulate around the body. Now scientists have found a network of tiny blood vessels that travel straight through bones and most probably explain how this transport system works. The team in Germany used a technique called 'clearing' to make bones transparent. They were then able to examine the bones under a microscope, identifying hundreds of tiny capillaries that they have called 'trans-cortical vessels' or TCVs. The TCVs also transport immune cells out of the bone marrow, where they are made, and may aid in treating conditions such as stroke and arthritis. □

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