

Breaking news on bone healing

A simple slip on an icy path has left you with a fractured elbow. It should have healed within weeks but it is taking longer than expected. This is more than painful – it is inconvenient and costly. You have to get back to work, you have a household to run; you need to be able to drive, cook and play with the kids. Healing cannot wait but technology can help.

Fractures are common in Europe. For every 1,000 people, 60 will suffer a lower leg or knee fracture this year, 11 will fracture their upper leg and 41 will fracture their forearm or elbow¹. Most will heal quickly but in 5% - 10% of cases, healing takes longer than expected^{2,3}.

Why do some fractures heal on time while others do not? The answer often lies in the type of fracture or the care patients receive. For others, diabetes, smoking and other lifestyle factors can play their part^{4,5}. Fracture complications can be tricky to treat⁶. If patients need to undergo surgery to have metal plates screwed into the bone to add stability⁷, hospitalisation and physical therapy may be required.

When the healing process is not moving forward, technology can accelerate bone repair and stimulate bone growth without surgery⁸.

Ultrasound can cause tiny vibrations at the fracture site which boost cell growth and repair⁹. For patients, the system is simple: They place a device that delivers low-intensity pulsed ultrasound (LIPUS) on their skin for 20 minutes per day, prompting regeneration of the fractured bone.

The procedure is painless and studies show that LIPUS is not linked to side effects. And, according to the UK's National Institute for Clinical Excellence, the rates of healing were the same in people who had LIPUS as in those who had surgery¹⁰.

The beauty of this technology is that, for people whose fractures are not healing, it helps to advance the healing process by about a third and gets patients back to work and normal life⁹.

Medtech: value for people

- Faster, non-invasive bone healing for complex fractures⁸
- Empowers patients to accelerate recovery
- Provides an alternative to surgery in some cases, reducing demand for physical therapy
- Gets patients back to work and normal life more quickly⁹

Medtech: value for governments

- More efficient delivery of health services: fewer surgeries, patient-centric care
- Gets patients back to work more quickly⁹
- Delivers value through innovation and supports high-quality jobs in Europe
- As fractures are more common among the most deprived 10% of the population, better fracture healing tackles inequalities¹¹

Medtech: value for regulators

- Healing rates in certain types of poorly healed bone fracture range from 67% to 90% (depending on fracture location), according to a review of six clinical trials¹²
- No adverse events recorded in trials
- Avoids surgery in some cases, reducing surgical risks such as infections

Medtech: value for payers

- Eases indirect economic burden associated with fractures by accelerating healing and getting people back to work⁹
- Reduces direct spending on delayed healing by avoiding spending on surgery, hospitalisation, outpatient visits and x-rays. A UK assessment estimated cost savings at around £1,164 per patient compared with current management¹⁰



NOTES

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