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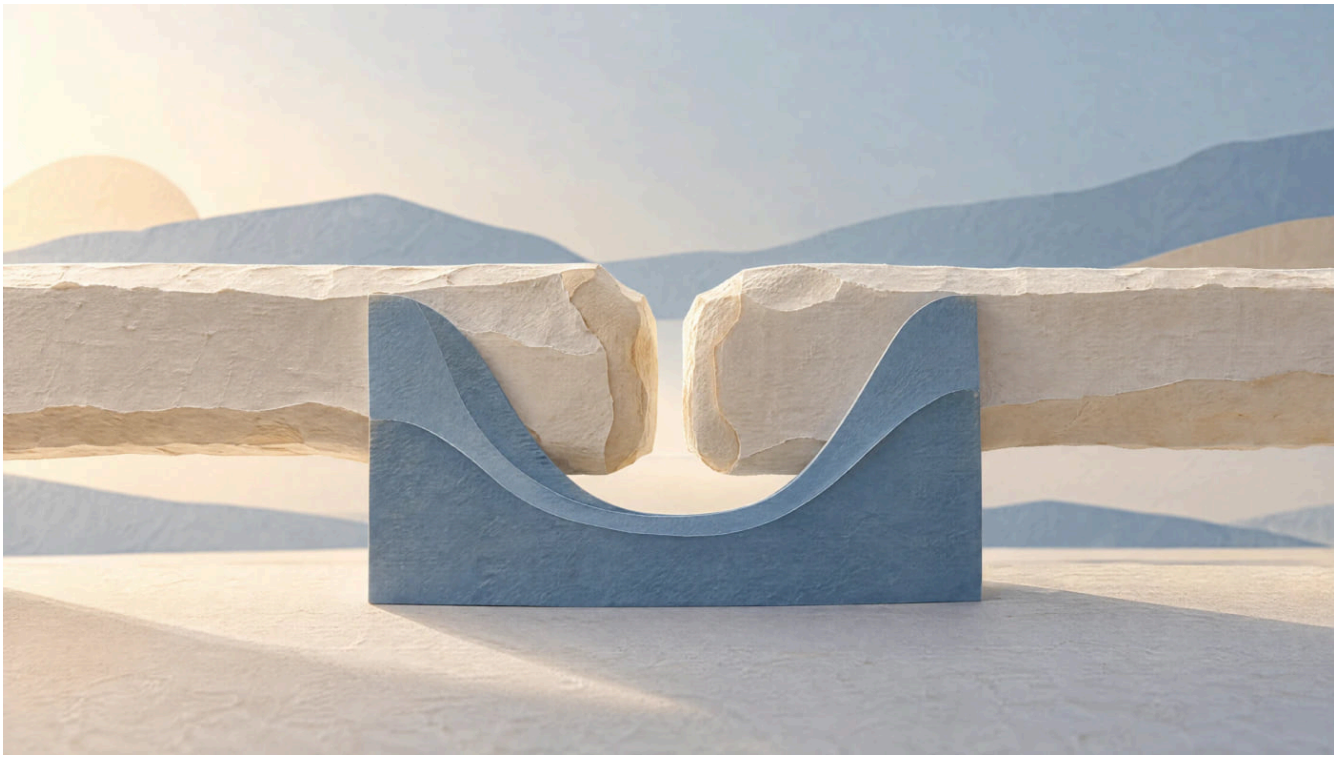
A Bone Graft Has Not Healed After Tumour Surgery: What Happens Next?

Patient guide | Orthopaedic oncology

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Published 5 November 2026 · Updated 5 November 2026 · Clinically reviewed 5 November 2026

https://drvishnubaburaj.com/blog/oncology/bone-graft-nonunion-after-tumour-surgery/



A bone graft that has not joined the remaining bone may need further treatment. The first question is whether healing is progressing slowly or has stalled. Nonunion, where the joining process has failed, does not automatically mean that the limb cannot be preserved or that the tumour has returned. Stability, the ability to form new bone, infection and the status of the original tumour all matter. Further treatment may involve improving fixation, adding graft or changing the reconstruction.[1][3][6]

Protect the limb: Sudden severe pain or a new inability to use it needs urgent assessment. Read the action advice below.

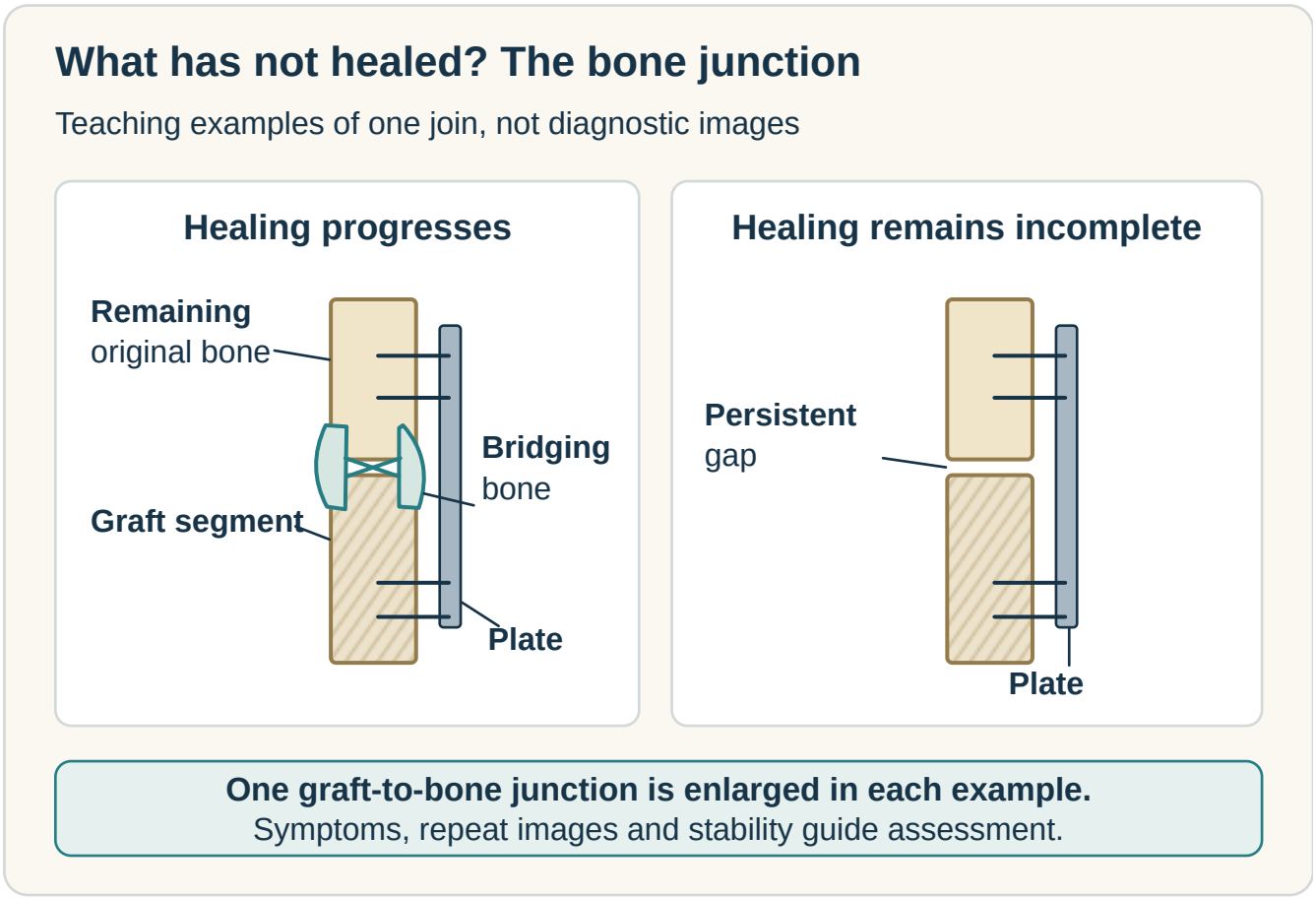
What has not healed?

A graft bridges the gap left after tumour removal. Its connections with your own bone are called graft-host junctions. These junctions need to unite, meaning that new bone joins the two sides. A graft can remain in position while a junction has not healed sufficiently.[1][2]

Delayed healing, or delayed union, means joining is taking longer than expected. It may still be progressing. Established nonunion means the joining process has failed, with findings such as a persistent gap and no progress on repeated images. Slow healing alone does not establish nonunion. [6]

Nonunion differs from a fracture through the graft or a broken fixation plate, although these problems can occur together. This guide mainly concerns grafts replacing a section of a long bone between preserved joints.[1][2]

Swipe across the illustration to see all labels.



These examples show one graft-to-bone junction. Bridging bone and a persistent gap are interpreted with symptoms, repeat images, fixation and possible infection. The drawings are not diagnostic images or a healing deadline.[1]

Why is the assessment more than one X-ray?

The team compares images over time with your symptoms and the condition of the plates, screws or other fixation. CT can help when an X-ray does not clearly show the junction; selected MRI techniques may clarify associated problems. Definitions and healing times vary, so one calendar date or slow-looking image cannot decide the whole plan.[1][2]

> **Dr. Vishnu's perspective**
>
> An unhealed graft does not mean you have failed at recovery. Bone needs suitable biological conditions and enough stability to join, and healing can be disrupted by poor blood supply, movement at the junction, infection or other health factors. I would look at the earlier images, the fixation and the condition of the bone before recommending another operation. Your participation matters, but healing is not something you can produce simply by trying harder.[1][2][3]

Cancer treatment and the tissues remaining after resection also influence the healing assessment. The aim is to identify the problem that the next treatment must address.[2][3]

Does nonunion mean the cancer is back?

No. It describes healing, rather than diagnosing tumour recurrence. Surveillance of the tumour still continues. A changed symptom or concerning area on a scan needs interpretation rather than being automatically attributed to either the graft or the cancer.[1][3]

Wound drainage, increasing redness or feeling unwell needs prompt assessment for infection. An infected reconstruction may require a different sequence of treatment from an otherwise uninfected junction that has failed to heal.[1][3]

What can repair surgery aim to achieve?

Repair may improve the fixation and add bone to support healing. A graft taken from your own bone, or in selected cases a fibular graft transferred with its blood supply, may provide biological support. These choices depend on the gap, remaining bone, previous operations and what the limb needs to carry.[3][4]

If the existing graft is no longer a useful foundation, a different reconstruction may be considered, including an endoprosthesis that replaces the missing segment with an implant. Repairing a graft and replacing it involve different recovery demands. Neither route guarantees a permanent solution.[3][4]

More about the evidence: what salvage studies can tell us

A pooled review of lower-limb reconstructions found substantial differences between studies in definitions, fixation and treatment. It does not identify one best repair. The vascularised-fibula salvage report involved ten patients with femoral nonunion after allograft or treated own-bone reconstruction. It supports a possible option, not proof that every nonunion needs microsurgery or will heal on the same timetable.[2][4]

What can I do while the plan is being decided?

Follow the current advice on loading and movement. Less pain does not establish that a junction has united or that fixation can carry more weight. Do not try to force healing by exercising harder, and do not stop prescribed cancer treatment independently; the reconstruction and oncology plans need to be coordinated.[1][3]

Progress is assessed through symptoms, healing and stability, alongside useful daily function. If another operation is needed, it should address the identified cause. Adding more bone without enough stability, or changing metal without addressing infection, may miss an important part of the problem.[2][3]

> ### Get urgent help for sudden pain or loss of use
>
> A sudden increase in pain, new deformity or inability to use the limb may indicate a fracture or fixation failure. Protect the limb and obtain urgent assessment. New drainage, wound deterioration or marked illness also needs prompt review.[1][3][5]

The fibular graft recovery guide explains why blood supply, joining and readiness for loading are different milestones. A repeat reconstruction can still develop infection, fracture or further healing problems, which should be part of the decision.[3][4]

Frequently Asked Questions

Does nonunion mean cancer recurrence?

No. It means inadequate healing at a graft-host junction. Recurrence is a separate assessment question when symptoms or imaging warrant it.[1][3]

Can adding another graft help?

It can help selected cases, sometimes together with improved fixation. The cause of the nonunion and condition of the remaining construction determine the plan.[3][4]

Will revision guarantee union?

No. Salvage reconstruction can have infection, fracture and further healing problems. Small series cannot give an individual guarantee.[3][4]

> Your consultation

Discuss graft healing after tumour surgery in Kannur

Dr. Vishnu Baburaj at Aster MIMS Kannur can review symptoms and serial imaging, assess the reconstruction and help coordinate the further investigation or repair planning that may be needed.

Book a consultation Plan your visit
Preparing for your consultation

The evidence behind this article

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