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A Novel Delivery System for Bone Healing

Stanford researchers have developed a specialized bone graft delivery device that can efficiently transport and implant fragmented bone grafts or therapeutics into narrow bone tunnels without disintegration.

Current treatment of critical size bone defects, fracture nonunions, and early osteonecrosis relies on autografts, yet surgeons must deliver these grafts through deep, confined tunnels using rudimentary tools that often cause graft loss, imprecise placement, and inefficient workflows. This new device uses a prefilled, flexible tipped container that securely holds loose bone graft pieces and releases them as an intact block through a controlled opening once positioned inside a few millimeter bone tunnel.

By enabling precise, rapid, and minimally invasive placement of bone grafts, this technology addresses a major unmet need in treating complex bone defects and may improve healing outcomes while reducing surgical time and graft wastage.

Stage of Development
Prototype

Applications

- Bone grafting
- Drug/Biologic delivery
- Local lesion targeting

Advantages

- Cost effective

- Disposable
- First in class device

Innovators

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