Strong Support

Animals and Bone & Dental Devices

Joint replacements, bone plates, and dental implants help people move, heal, and eat. Animals are part of checking whether these devices are strong, stable, and comfortable to live with.



Why study animals for bone and dental devices?

- Bone and teeth constantly respond to forces like walking, chewing, and exercising, which are hard to replicate in non-animal models.
- Animals such as sheep, goats, dogs, pigs, and rodents help demonstrate how real bone and surrounding tissues grow around an implant.
- These studies show how devices behave in a living body that repairs itself and fights infection.

Devices Studied in Animals:

- Hip, knee, and spine implants that restore movement
- Plates and screws that hold broken bones together
- Dental implants and jaw plates that anchor teeth or facial structures

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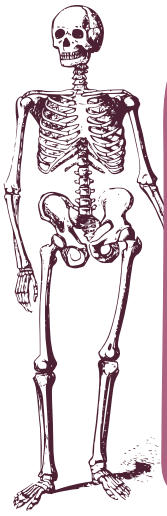
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So what questions do these animal studies ask?

- Does bone grow firmly onto or around the device, or does it loosen?
- Does the device cause irritation, infection, or loss of bone or gum tissue?
- Can the device withstand everyday forces, such as walking or chewing, without breaking?

How This Helps People and Animals:

- Data from animals guide surgeons on how to place implants and what materials to choose for different devices and patients.
- Better understanding of healing times supports safer activity and rehabilitation plans after surgery.

Everyday Impact

The comfort and durability of artificial hips, dental implants, and fracture plates - relied on by many people today - were improved using carefully designed animal studies before wide use in clinics.

Reducing and Refining Animal Involvement

- Early testing relies on non-animal methods whenever possible, helping reduce the number of animals needed.
- When animals are involved, studies are designed to answer clear questions with the smallest number of animals.

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