Iliac crest graft

An iliac crest graft refers to a bone graft harvested from the iliac crest, which is the upper part of the pelvic bone. This graft is commonly used in orthopedic and spinal surgeries, including fusions, due to its excellent structural and biological properties that promote bone healing and fusion.

Types of Iliac Crest Grafts Autograft: The bone is harvested from the patient's own iliac crest. It is the most commonly used type and is favored for its:

Osteoconductive properties (provides a scaffold for bone growth). Osteoinductive properties (stimulates new bone growth). Osteogenic properties (contains live bone-forming cells). Allograft: Bone graft material taken from a donor or cadaver. It is less commonly used for iliac crest grafting due to lower biological activity compared to autografts.

Indications Iliac crest bone grafts are often used in:

Spinal fusion surgeries, such as anterior cervical corpectomy and fusion (CCF) and anterior cervical discectomy and fusion (ACDF), to stabilize the spine and facilitate fusion between vertebrae. Fracture repair for complex or non-healing fractures. Bone defect repair in reconstructive surgeries. Tumor resection sites where structural integrity is compromised. Harvesting Technique The iliac crest graft can be obtained from the anterior or posterior iliac crest. Anterior Iliac Crest: Preferred in many cases due to easier surgical access and less patient discomfort. Posterior Iliac Crest: Used when a larger volume of graft material is needed or in cases where anterior harvesting is not suitable. Benefits High fusion rates due to its biological compatibility and natural healing properties. Provides structural support in load-bearing areas. Superior integration into the host bone. Risks and Complications Donor site pain: A common complaint that may persist for weeks or months. Infection: Rare but possible at the donor site. Fracture: Occurs if too much bone is harvested. Hematoma or seroma: May form at the donor site. Nerve injury: Can occur during harvesting, leading to sensory deficits. Comparison to Alternatives Iliac crest autografts are considered the “gold standard” for bone grafts, but alternatives such as synthetic bone substitutes, allografts, or growth factors like bone morphogenetic proteins (BMPs) are increasingly used to avoid donor site morbidity.