should not supplant careful examination of the tympanic membrane with a pneumatic otoscope—which may also detect other important conditions missed by tympanometry, such as erosion of the outer attic wall, atelectasis, and cholesteatoma.

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Bone banks

Could be held by regional blood transfusion centres

Bone grafts are used by a variety of surgeons—orthopaedic; faciomaxillary; dental; ear, nose, and throat; and neurosurgeons—for a variety of purposes: to fill bone cysts; for cervical fusion, facial and limb reconstruction after resection of tumours, and hip revision; and to aid the healing of ununited fractures.^{1,2} Bone grafts may be either autologous or allogeneic. Allogeneic grafts have many advantages, not least the fact that they do not necessitate additional surgery to obtain the bone, but their efficient use depends on good facilities for keeping the bone until it is needed. Bone allografts not only avoid all the potential operative complications and costs of autografts; they also offer the advantage of an unlimited amount of bone of varying shapes for transplantation. The grafting of donor's bone is not compromised by crossing the HLA, ABO, or Rh (D) barriers, and immunosuppressive treatment is not needed, although recipients may develop HLA antibodies and Rh negative recipients may produce anti-D.

The most commonly used bone allografts from live donors are femoral heads excised during hip replacement operations. These bones are quarantined until the donors have been confirmed to be free of transmissible diseases (AIDS, hepatitis B, hepatitis C, and syphilis) by serological testing six months after donation. Bones from dead donors may be banked, but the freedom from infection cannot be confirmed. Nevertheless, modern diagnostic techniques such as the polymerase chain reaction may overcome this drawback.

Selecting the right bone donor is as important as selecting the right blood donor. Even the exclusion criteria are almost identical. These include a history of metabolic bone disorder or disease of malignant, autoimmune, or unknown cause; active systemic infection or transmissible infectious disease; belonging to a high risk group for HIV infection; and prolonged treatment with steroids, exposure to toxins, or irradiation to the relevant bones.

Bone banks have been established through different routes

by various local initiatives. Some are part of independent institutions that handle a variety of tissues, while others belong to hospital orthopaedic departments. To maintain standards of procurement, processing, storage, administration, and documentation, however, reliable organisations with experienced staff are required. Inevitably, the operational overhead is beyond the capability of most hospitals, and the investment and expense can be justified only for a bank that serves many hospitals.

Regional blood transfusion centres are ideally suited to house bone banks where these do not already exist. The centres have over 50 years' experience in recruiting and selecting donors, laboratory testing, storage know how, research programmes, and quality assurance systems, as well as a network of communications and transportation to all hospitals in their regions. They are staffed around the clock and have links with local and national transplant coordinators through their tissue typing departments. All these ingredients are essential for the success of any bone bank.

The maintenance of effective cooperation with the main suppliers and users of bone grafts—orthopaedic surgeons—and skilful public relations efforts, directed towards potential donors and their families and the general public, are also necessary. Moreover, regional bone banks within the Blood Transfusion Service could, in time, expand and act as a nucleus for truly comprehensive tissue banks (holding cornea, skin, and pancreatic islets), thus combining cost effectiveness with a better and more comprehensive service to patients and the community.

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