partial-thickness burns, such infection may convert the burn to a full-thickness injury.

Synthetic skin coverings are available for the management of partial-thickness burns and donor sites. Ideally, the dressing should provide the properties of human skin, including adherence, elasticity, durability, and hemostasis. Synthetic skin substitutes are readily available and are composed of a variety of materials that are usually permeable to air, vapor, and fluids.

As with biologic dressings, it is important that the burn be free of debris before the dressing is applied. Body temperature elevation or evidence of purulence, erythema, or cellulitis around the wound edges may indicate that the burn has become infected beneath the dressing. If this occurs, prompt discontinuance of the synthetic dressing is indicated. Biobrane is a flexible silicone–nylon membrane bonded to collagenous peptides of porcine skin. Kaltostat is a calcium sodium alginate treatment for donor sites. All synthetic dressings are reputed to hasten burn wound healing and reduce discomfort.

Permanent skin coverings.

Permanent coverage of deep partial- and full-thickness burns is usually accomplished with a split-thickness skin graft. The graft consists of the epidermis and a portion of the dermis removed from the donor site of an intact area of skin by a special instrument called a **dermatome** (Fig. 13-8). With extensive burns, it is often difficult to find enough viable skin to cover the burns; therefore available donor sites and special techniques are used. Split-thickness skin grafts may be sheet graft or mesh graft.