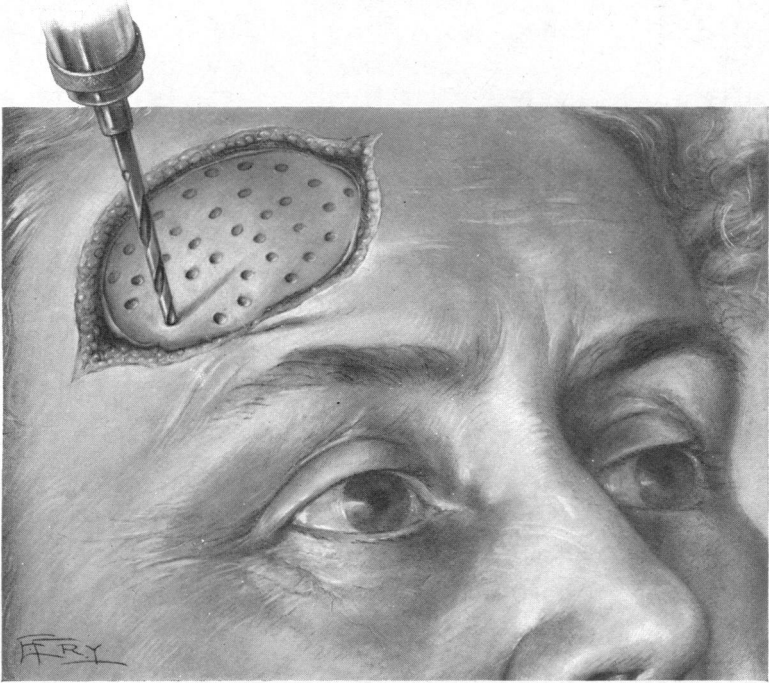
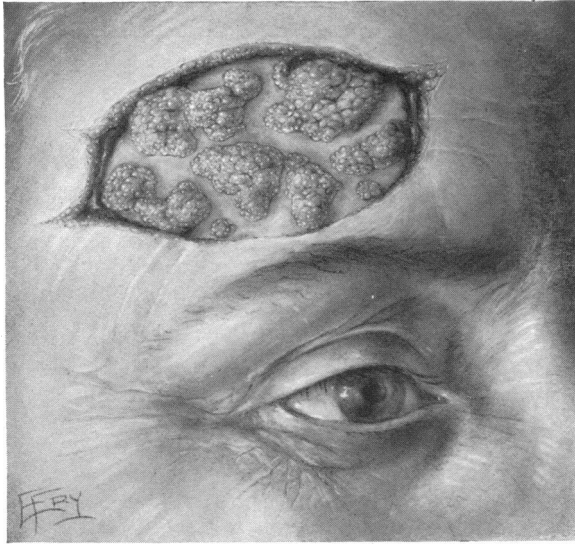


FIG. 1.



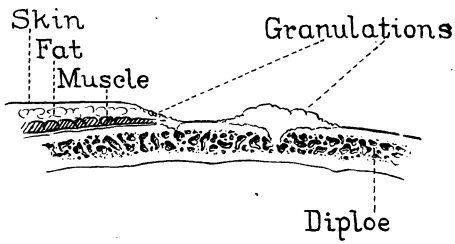
Drilling surface to diploe.

FIG. 2.



Granulations appearing through outer plate for blood supply to graft.

FIG. 2a.



Transverse section showing granulations and opening into diploe.

THE PREPARATION OF DRY BONY AREAS FOR SKIN GRAFTING

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THE method herewith described for hastening the healing of denuded surfaces of bone is so seldom used as to warrant a brief description. The extreme slowness of healing of such large exposed areas of bone is a source of great discomfort as well as prolonged disability to the patient. Such areas may be located on the tibia or the maxilla, but are usually on the skull, most commonly occasioned by denudation from traumatic scalping. Cases have been reported that were from one to two years in healing. They may have been occasioned by burns, by infections—especially with the pneumococcus—or by the removal of large malignant periosteal growths. In the latter case, the periosteum being involved in the growth, the safest surgical procedure is radical excision of the scalp with the tumor and scraping of the periosteum from the bone. Malignant disease of the periosteum has a great tendency to recur and is best treated by thorough application of the actual cautery to the bony surface. Occasionally such a wound may be covered by skin-grafting or by sliding over it adjacent tissue. Such areas are often too large and unfavorably located to cover with pedicled flaps, and in malignancy it is not always advisable to do so, nor to attempt immediate skin grafting, as thereby one may cover areas containing undestroyed malignant cells. If the wound is left open, should disease recur, it may be recognized early and subjected to treatment. The margins of the wound throw out granulation tissue which soon starts a red line of osteoporosis at the margin of the exposed bone. After many months the hard outer layer either shells off in a flake or comes away in particles as the granulations spread over the wound after penetrating the outer bony layer. The process, however, may require several months before a suitable area for skin grafting is secured.

To avoid this long delay, for many years I have practised a method which has reduced to a short period a process which formerly took months. The principle involved is not new, but the simplicity of the technic readily adapts it to frequent use. By means of a small drill the entire dry area of bone is perforated like a sieve, or cribriform plate, all over its surface (Fig. 1). These perforations are about a

quarter of an inch apart and penetrate to the diploe of the skull or to the blood supply of the bone involved so that each perforation shows a slight hemorrhage. Through these perforations, granulations are rapidly thrown out and soon merge together on the surface, allowing an abundant blood supply for the skin grafts (Fig. 2).

Since infection of the diploe or vascular area of the bone may occur, such a wound must receive excellent care at least until protective granulations appear. During a number of years past several cases have been thus treated. These have included large areas of the skull remaining after the excision of carcinoma, sarcoma, or infections with pneumococci. The speedy healing of the wound has been very gratifying.

Occasionally, also recurring ulcer of the leg in elderly people involves the bone. The usual history is that when young they had a prolonged osteomyelitis with extensive destruction of both bone and soft tissues. The scar of the skin is solidly attached to the bone which early in life furnishes nutrition to it, but as time passes the bone becomes of ivory hardness and occasions indolent ulcers, due to malnutrition, which recur from time to time. While some cases may be readily covered by sliding adjacent tissue over the areas, it is a simple process to drill a few openings into the bone until it bleeds freely. The resulting granulation tissue with its new vessels then furnishes nutrition for the denuded bone.