A modified skin grafting knife

Uday S. Chatterjee, Firdos Ahmed, Tapas Majhi
Department of Plastic Surgery, Calcutta Medical College and Hospital, Kolkata, India.

ABSTRACT
We describe a skin grafting knife made by modifying an ordinary razor blade. This knife is cheap and useful in grafting smaller wounds.

KEY WORDS
Skin grafting, knife

INTRODUCTION
It is well known that skin is the best dressing and small wounds which may otherwise need regular and prolonged dressings can heal rapidly when covered with split thickness skin graft. For surgeons who do not regularly perform skin grafting, investment in a standard Humby’s skin grafting knife may not seem worthwhile. We describe a novel skin grafting knife made by modifying an ordinary razor blade that is cheap and effective.

DESIGN
The knife is made out of an ordinary sandwich razor. The handle of the razor is shortened to 2.5 to 3 cm by cutting the rest of the handle with an iron cutting ‘hand saw’. This offers the surgeon a better grip (Figure 1). The edge of the lower plate of the safety razor which is in proximity to the handle is trimmed along the slot by the same iron cutting ‘hand saw’ to expose more of the shaving blade (Figure 1), and for pooling the peeled skin. An ordinary shaving blade is placed between the two plates of the razor when it is to be used for harvesting skin grafts (Figure 2).

TECHNIQUE
We performed majority of the skin graft harvests under local anaesthesia as small wounds were to be grafted. After infiltration of the local anaesthetic at the donor
site, the knife is placed over the stretched skin such that the sharp edge of shaving blade is in contact with the skin. The index finger is placed on the shortened handle and the middle and thumb on either sides (Figure 2). Next, the knife was moved side to side and at the same time advanced forward keeping the tailored edge in front so that the cutting edge peeled a partial thickness skin graft in a tangential manner. At the same time the thickness of the graft was judged by carefully observing the cutting edge of the shaving blade, which is observed through the semi-transparent graft. Peeled off skin is pooled over the edge of the razor was then grafted on the wound as usual.

Since 1989, we have used this knife in 47 patients, out of whom 23 needed multiple grafts. Donor areas healed without complications except in one child a year old in whom it healed partially by secondary intention. Since then we have avoided the use of this knife to harvest skin in children below the age of 8 years.

**DISCUSSION**

This is an inexpensive device that can be made from a safety razor. The knife is easy to handle and small skin grafts can be easily obtained. However, grafts of only about 2.5 cm in width and 5 cm in length can be obtained at a time, and it may be necessary to obtain multiple pieces for larger wounds. If larger grafts are required, it may be best to raise them using a Humby’s knife. Also, use of this knife is best avoided in children of below the age of 8 years to avoid bad scar in donor area. Another disadvantage is that the thickness of the skin is judged only by eye estimation.