

# Shave Biopsy Instrument: An Ergonomic Modification of Razor Blade

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## Abstract

The razor blade has been used by dermatologists as an alternative tool for performing shave excision and biopsy owing to its superior sharpness and flexibility. It is inexpensive and freely available but the bare blade design carries the risk of accidental injury to the operator and patient. We describe an easy modification of the razor blade for better grip, control, and safety in obtaining cutaneous shave specimens.

**Keywords:** DermaBlade®, innovation, razor blade, shave biopsy, shave biopsy instrument, surgical pearl

Shave excision is a simple and easy procedure usually performed using a scalpel with no. 15 blade. It can also be performed using a razor blade, which is very sharp and provides flexibility to the surgeon.<sup>[1]</sup> However, a razor blade is difficult to handle and maneuver with bare or gloved hands and carries the risk of accidental injury due to poor grip and inadvertent springing. The razor blade can also be broken to half but due to reduced strength, it is more prone to breakage. Also the practice of using half razor blade has resulted in cutting injuries and is therefore discouraged.<sup>[2]</sup> Several modifications of the razor blade have been devised to overcome its one or more disadvantages. Harvey and Fenske<sup>[3]</sup> introduced an adapter-designed version of the razor blade wherein the blade is embedded in a flexible polypropylene plastic polymer. Another biopsy device designed by Yang *et al.*<sup>[4]</sup> houses the razor blade within a container, which remains unexposed during the procedure. Both these shave biopsy instruments are not commercially available. DermaBlade® designed by Goldberg *et al.* is a proprietary product (Personna Medical, Staunton, Virginia) and is the only commercial available shave biopsy instrument. It is, however, not freely available in developing countries besides being uneconomical in resource poor settings. We suggest the use of a shave biopsy instrument, which is a modified version of the razor blade and an inexpensive improvisation of the DermaBlade®.

The plastic needle cover of a 22-gauge scalp vein set was cut to match the length of the blunt edges of the razor blade and then cut longitudinally on one side and slid along both the blunt edges. The tube latex of an intravenous infusion set was cut as per the length of the sharp edges and one sharp edge of the blade was inserted into a pocket made out of cutting the tube latex lengthwise [Figure 1]. The cap over the non-sharp edges provides better grip and control to the surgeon and the flexible tube latex covers the unused sharp edge to prevent accidental cut injuries [Figure 2]. The modified shave biopsy instrument so devised retains the inherent properties of a razor blade with the added advantage of better grip, control, and safety. Besides, it can be prepared from readily available source material and can be used as a cheaper alternative to DermaBlade®.

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## Conflicts of interest

There are no conflicts of interest.

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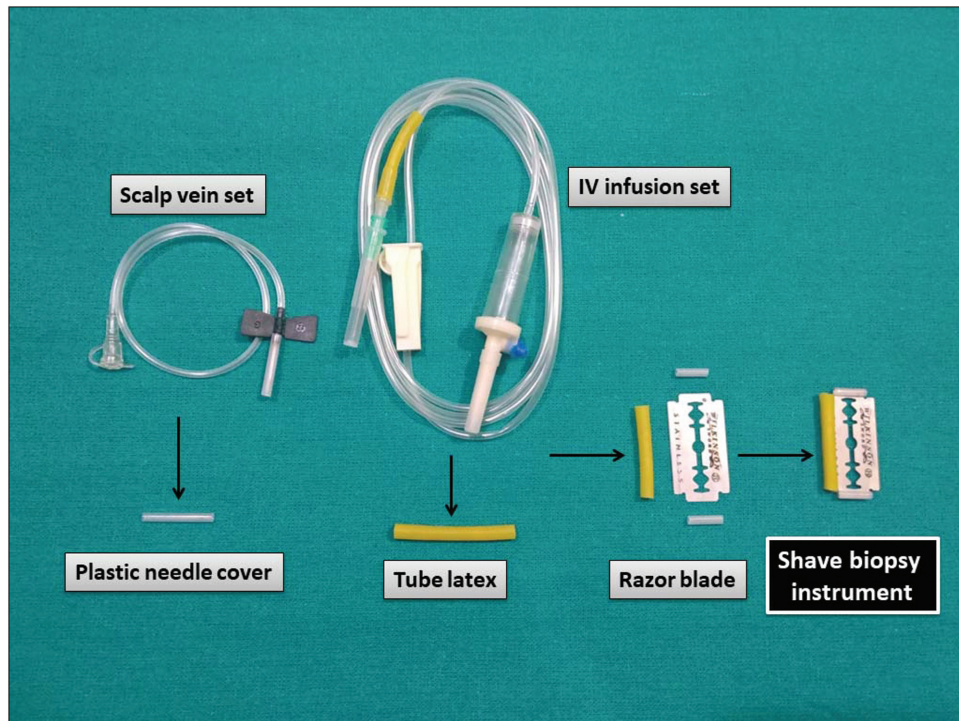
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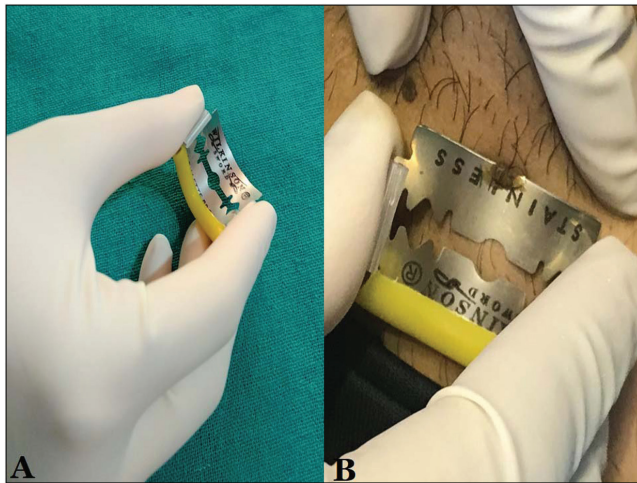
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**Figure 1:** Material used in making of shave biopsy instrument: plastic needle cover of a scalp vein set, tube latex of an intravenous (IV) infusion set, and a razor blade



**Figure 2:** Shave biopsy instrument. (A) Better grip, control, and operator comfort. (B) Shave biopsy of seborrheic keratosis

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