

The Modified UQ Flap: An Alternative for Other Flaps

Mohammadreza Hassani, MD, MMed (Skin Cancer)*; Cliff Rosendahl, MBBS, PhD†‡

Recently, the UQ flap (UQF)¹ has been described as a safe and convenient method of wound closure on the leg.¹ However, in some situations, a *modified* UQF can be an arguably better alternative to other flaps. Transposition flaps, especially rhomboid flaps, are most suitable for such a modification. In these cases, when alternatively applying the modified UQF, unlike with the UQF, this flap would be “detached” from the bed and moved toward the defect. Therefore, the modified UQF is much more mobile compared with the classic UQF, permitting closure of larger defects.

While the classic UQF is designed for the distal leg, the modified UQF is suitable for other skin areas that have more favorable blood supply, with advantages explained below.

In design, amongst the random pattern flaps, transposition flaps are the most complex,² involving more complicated tissue rearrangement than simple advancement or rotation. As the rhomboid transposition flap is elevated and transposed, all tension on the flap is directed toward closing the secondary defect (Fig. 1). The authors suggest that the gap between F and C (Fig. 1) is wide (same size of the defect), causing significant tension at this level. Also, one tip of the flap must be moved a long distance (from G to H) to reach its destination. To decrease the tension, lengthening of all sides of the flap² or other modifications (Dufornetel³ and Webster⁴) of the rhomboid flap have been recommended.

However, with the modified UQ flap (Fig. 2), there is no intervening tissue, and there is less tension as the flap is moved a shorter distance (green arrow in Fig. 2) compared with its counterpart, the rhomboid flap. Also, its unique shape, especially the curved leading edge, makes it different from other transposition flaps. The modified UQF can be considered for defects with any size for which a rotation or transposition flap is warranted.

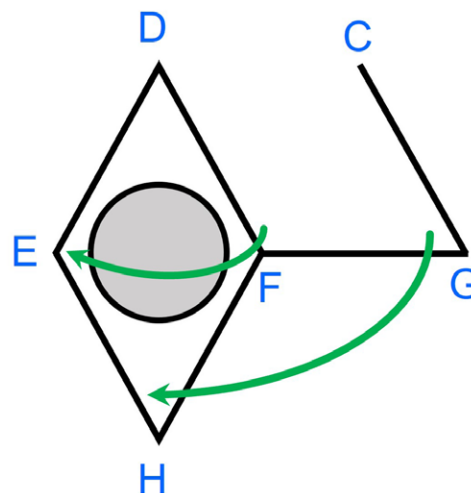


Fig. 1. Schematic view of the rhomboid flap. The shape and dimensions of a lesion are shown in gray color, and the flap movement is shown by green arrows.

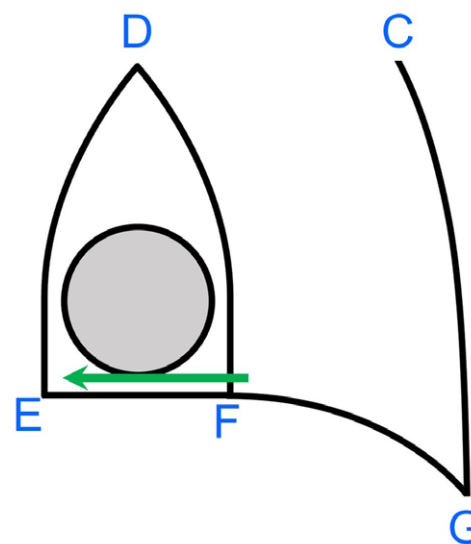


Fig. 2. Schematic view of the modified UQ flap. The shape and dimensions for a lesion are shown in gray color, and the flap movement is shown by a green arrow. It should be emphasized that the flap is detached from the bed and pulled toward the defect so that F reaches E, and the defect is closed.

From the *Omega Health Medical Centre, Cairns, Australia; †General Practice Clinical Unit, Medical School, The University of Queensland, Australia; and ‡Tehran University of Medical Sciences, Iran.

Received for publication November 1, 2022; accepted December 5, 2022.

Copyright © 2023 The Authors. Published by Wolters Kluwer Health, Inc. on behalf of The American Society of Plastic Surgeons. This is an open-access article distributed under the terms of the [Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 \(CCBY-NC-ND\)](https://creativecommons.org/licenses/by-nc-nd/4.0/), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

Plast Reconstr Surg Glob Open 2023; 11:e4789; doi: [10.1097/GOX.0000000000004789](https://doi.org/10.1097/GOX.0000000000004789); Published online 23 January 2023.

Disclosure: The authors have no financial interest to declare in relation to the content of this article.

Related Digital Media are available in the full-text version of the article on www.PRSGlobalOpen.com.

Cliff Rosendahl, MBBS, PhD

97 Coondoorroopa Drive

Macleay Island

Queensland, Australia

Email: c.rosendahl@uq.edu.au

When designing the modified UQ flap, the orientation of the flap should be in a direction so that the greater side-edge (line “CG”; Fig. 2) acceptably aligns parallel to relaxed skin tension lines (RSTL), or biodynamic excisional skin tension (BEST) lines (whichever is relevant based on the skin laxity of the area). This can be a rule unless it causes unacceptable deformation of an adjacent anatomical structure such as an eyelid, eyebrow, or nasal ala. There are six photo-documented cases for which the flap was deployed. The cases were followed up after 2–3 months, and there were no complications. (See Video [online], which provides additional information and presents two cases of flap deployment.)

We suggest that the modified UQ flap with its unique shape and no intervening tissue can be simple for execution and a safe method of wound closure.

REFERENCES

1. Hassani M, Hertess I, Tucker S, et al. The UQ flap: a novel modification of the keystone flap. *Plast Reconstr Surg Global Open*. 2022;10:e4619.
2. Robinson JK, Hanke CW, Siegel DM, et al. *Surgery of the Skin: Procedural Dermatology*. St. Louis: Mosby-Elsevier Health Sciences; 2010.
3. Dufourmentel C. La Fermeture des Pertes de Substance Cutanee Limitees' Le Lambeau de Rotation en L pour Losange'dit'LLL'. *Ann Chir Plast*. 1962;7:61–66.
4. Webster RC, Davidson TM, Smith RC. The thirty degree transposition flap. *Laryngoscope*. 1978;88:85–94.