

Local skin flaps for covering vulval surgical skin defects

Target audience

- Gynaecologists (all grades), gynaecology and ward nurses, GPs, vulval clinic teams (includes dermatologists and GUM physicians)

Background

- Cutaneous flaps contain the full thickness of the skin and superficial fascia and are used to fill small surgical defects. They are a useful procedure for gynaecologists involved with the removal and repair of vulval skin. They enable quicker wound healing, better function less post op pain, and cosmetic outcome compared to a primary closure under tension.
- Adequate vascular supply to the flap is essential. The skin can be divided into three main layers including the epidermis, the dermis, and the subcutaneous tissue. Blood is supplied to the skin mainly by two networks of blood vessels. The **deep** network lies between the dermis and the subcutaneous tissue, while the **shallow** network lies within the papillary layer of the dermis. The epidermis is supplied by diffusion from this shallow network and both networks are supplied by collaterals, and by perforating arteries that bring blood from deeper layers. Preservation of these vessels with surgical planning and technique is crucial to enable the viability of the flap.

Types of local cutaneous flaps

Local cutaneous flaps are created by freeing a layer of tissue and then stretching the freed layer to fill a defect. This is the least complex type of flap and includes

- rotating an adjacent piece of tissue, resulting in the creation of a new defect which must then be closed Fig 1 and 2.
- Other local flaps – please see pictures for options. Fig 3 relies on a separation of the skin on a deep layer of fat which is advanced.

Figure 1 - Transposition flaps - *Rhomboid flap* principle and application to the vulva for perineal defects

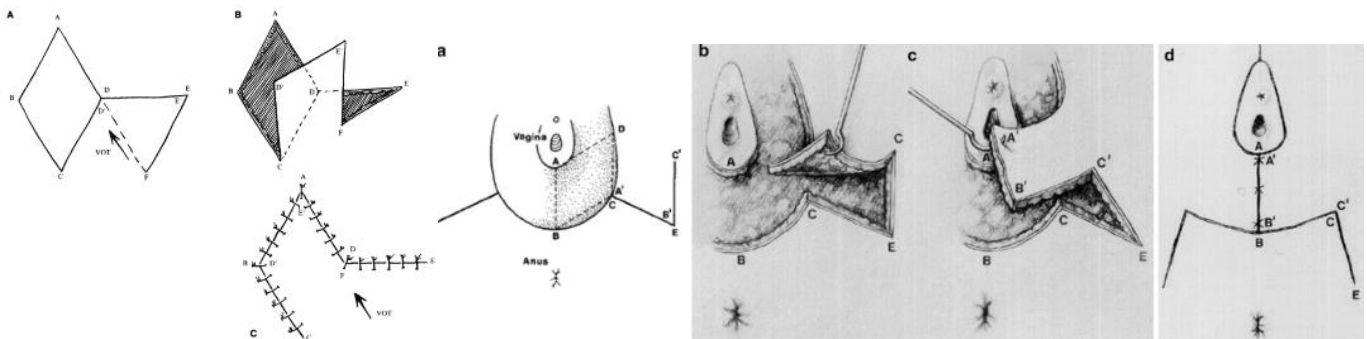
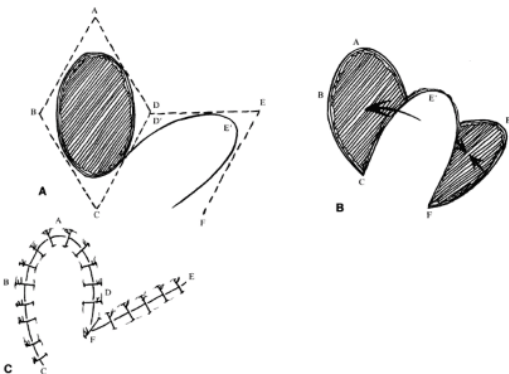


Figure 2 - Transposition flaps other examples

Figure 3 - Transposition flaps for VIN (pics - preop, 3 and 6 months)



Indications

- Surgical defects created by excision of skin (either superficial eg VIN, or eg wide local excision) where a primary closure without tension is not possible.

Contraindications

- Systemic factors leading to impaired wound healing (eg smokers, poorly controlled diabetes).
- Skin factors eg dermatitis, infection, radiotherapy and lichen sclerosis.

Pre-op planning

- Preoperative planning is crucial to give the patient an outline of the procedure, valid consent and the enable theatre list planning. Surgical margins should not be compromised. For cancer this can be 1.5cm clearance, for VIN 0.5 to 1cm is suggested (see ref).
- Patients may need consenting for 'vulval excision +/- local skin flap'.

Intraoperative

- The procedure is usually carried out under general anaesthetic as a day case or overnight stay.
- Mark out the area of the flap with a pen.
- Infiltration of skin with local anaesthetic.
- Attention to haemostasis – avoid excess diathermy as this can necrose the tissue and lead to seromas.
- Sutures 4/0 vicryl rapide to skin. Use interrupted 4/0 vicryl rapide to deeper layers to avoid seromas forming which can lead to wound breakdown.

Post-operative care

- On the ward, check for haematomas (may need drainage).
- Post-op care includes keeping the skin clean, avoid irritants and clinical review 2 weeks later for wound review.
- Consideration of a urinary catheter to keep the area dry.
- Ask the patient to avoid excessive leg movement and direct sitting on the area for 2 weeks.
- *Flaminal* topical twice a day.
- Bruising and partial wound breakdown is common.
- Warn patients that discharge and/or a bloodstained loss is common.

Other considerations

- Think about topical oestrogen replacement as an adjunct.
- Post-operative care might include vaginal dilators and psychosexual support.

Figure 3 - other techniques of skin closure

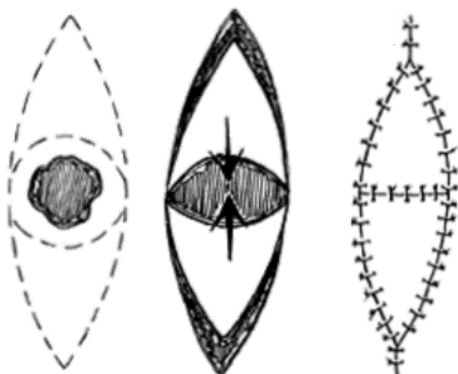
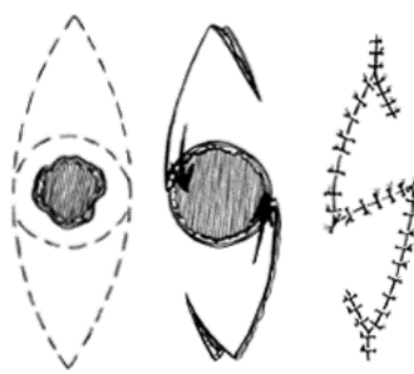


Figure 4 - other techniques of skin closure



Reference

- RCOG and BGSC Guidelines for the Diagnosis and Management of Vulval Carcinoma <https://www.rcog.org.uk/globalassets/documents/guidelines/vulvalcancerguideline.pdf>
- <https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Gynecologic-Practice/Management-of-Vulvar-Intraepithelial-Neoplasia>