

## Autologous tissue for reconstruction of the breast summary

**Autologous reconstruction** uses the patient's own tissue to recreate the breast resulting in a reconstructed breast with a more natural consistency.

Timing of reconstructive surgery after mastectomy can be immediate or delayed.

Main donor site options for autologous breast reconstruction:

- abdominal flaps
  - DIEP, free-TRAM, pedicled-TRAM, muscle-sparing TRAM, SIEA
- latissimus dorsi (LD) flap
- buttock or gluteal artery perforator (GAP) flaps
- others e.g. transverse upper gracilis (TUG) flap.

### Radiotherapy

Radiotherapy (before or after surgery) is associated with negative effects on size, shape, symmetry and skin pigmentation of breast.

Currently no consensus for timing of reconstruction and post-mastectomy radiotherapy (PMRT).

The decision about the need and timing of PMRT and breast reconstruction should be discussed in an MDT with the patient well informed of options.

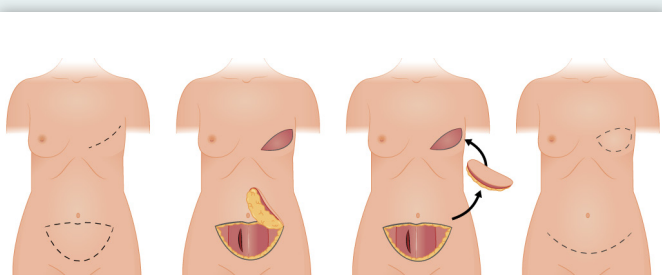
Most patients will develop a degree of distortion or contracture of skin envelope, however autologous reconstruction is more robust to PMRT than other reconstructive methods.

### DIEP flap

- Same skin and soft tissue as a TRAM but based on DIEA perforators rather than muscle.
- Function of rectus is preserved with greater pedicle length.
- Technically challenging microvascular transfer.

### Pedicled TRAM flap

- Supplied by superior epigastric vessels.
- Based on one or both rectus abdominis muscles.
- Donor site usually reconstructed with mesh or ADM. May cause significant donor site morbidity.



### Free TRAM flap

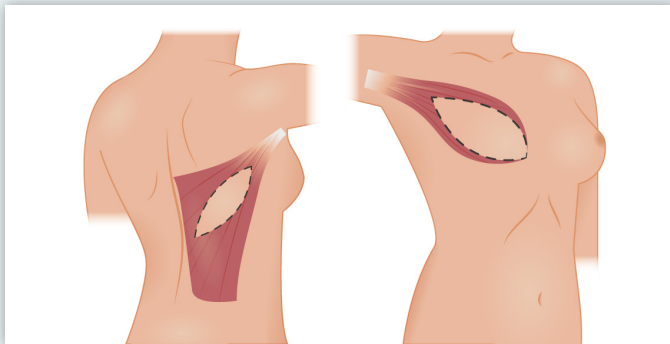
- Based on the deep inferior epigastric artery and vein.
- Muscle divided both ends.

### Muscle sparing TRAM

- More limited harvest of rectus abdominis and rectus sheath decreases donor site morbidity.
- Nahabedian classification of grades of muscle-sparing trams.

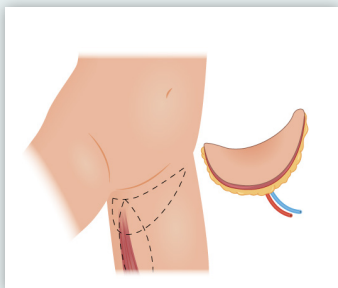
### Latissimus dorsi (LD) flap

- Type 4 musculocutaneous flap - harvested with island of overlying skin and fat.
- Based on the thoracodorsal artery / vein (usually pedicled flap).
- Usually not sufficient volume alone, often supplemented with implant.



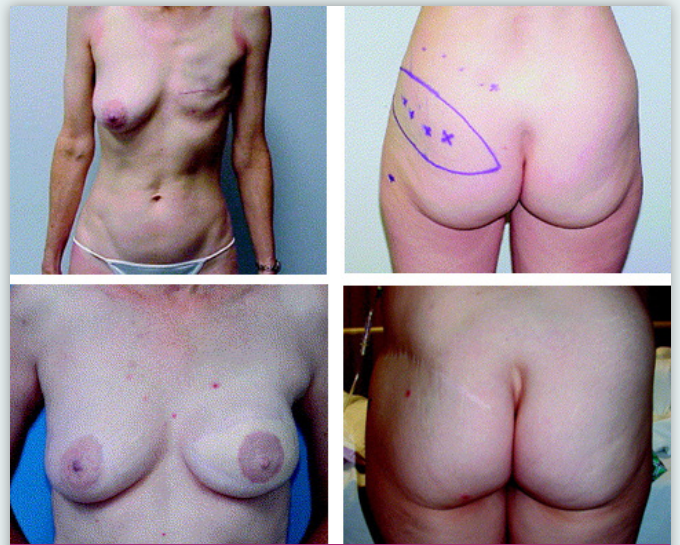
### Transverse upper gracilis (TUG) flap

- Part or all of gracilis muscle with a paddle of skin and fat from upper medial thigh.
- Used to reconstruct small or partial breast defects.



### Gluteal artery perforator (GAP) flap

- Perforating vessel dissected through gluteus maximus to either the superior gluteal artery (SGAP) or inferior gluteal artery (IGAP).
- IGAP more favourable in terms of buttock contour and scar concealment.
- Patients who do not have sufficient abdominal tissue to reconstruct a breast, or who have previously had an abdominoplasty or other prohibitive surgery, may be candidates.



Breast reconstruction using the S-GAP flap.  
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