

Duke Flap Course Dissection Guide: Unlocking the Secrets of the Workhorse Flaps

In the realm of reconstructive surgery, the workhorse flaps reign supreme. These versatile flaps are indispensable for a vast array of procedures, offering surgeons unparalleled precision and versatility. Among these workhorses, the Duke flap stands out as a legend, renowned for its reliability and effectiveness.

This comprehensive guide will delve into the intricacies of the Duke flap dissection, providing a step-by-step roadmap to mastering this surgical technique. Armed with this knowledge, surgeons can unlock the full potential of the Duke flap, empowering them to achieve exceptional outcomes in their reconstructive surgeries.



The Workhorse Flaps - Latissimus Dorsi: Duke Flap Course Dissection Guide (Duke Flap Course, The Workhorse Flaps Book 1) by Paul D. Sponseller

★★★★★ 5 out of 5

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Anatomy of the Duke Flap

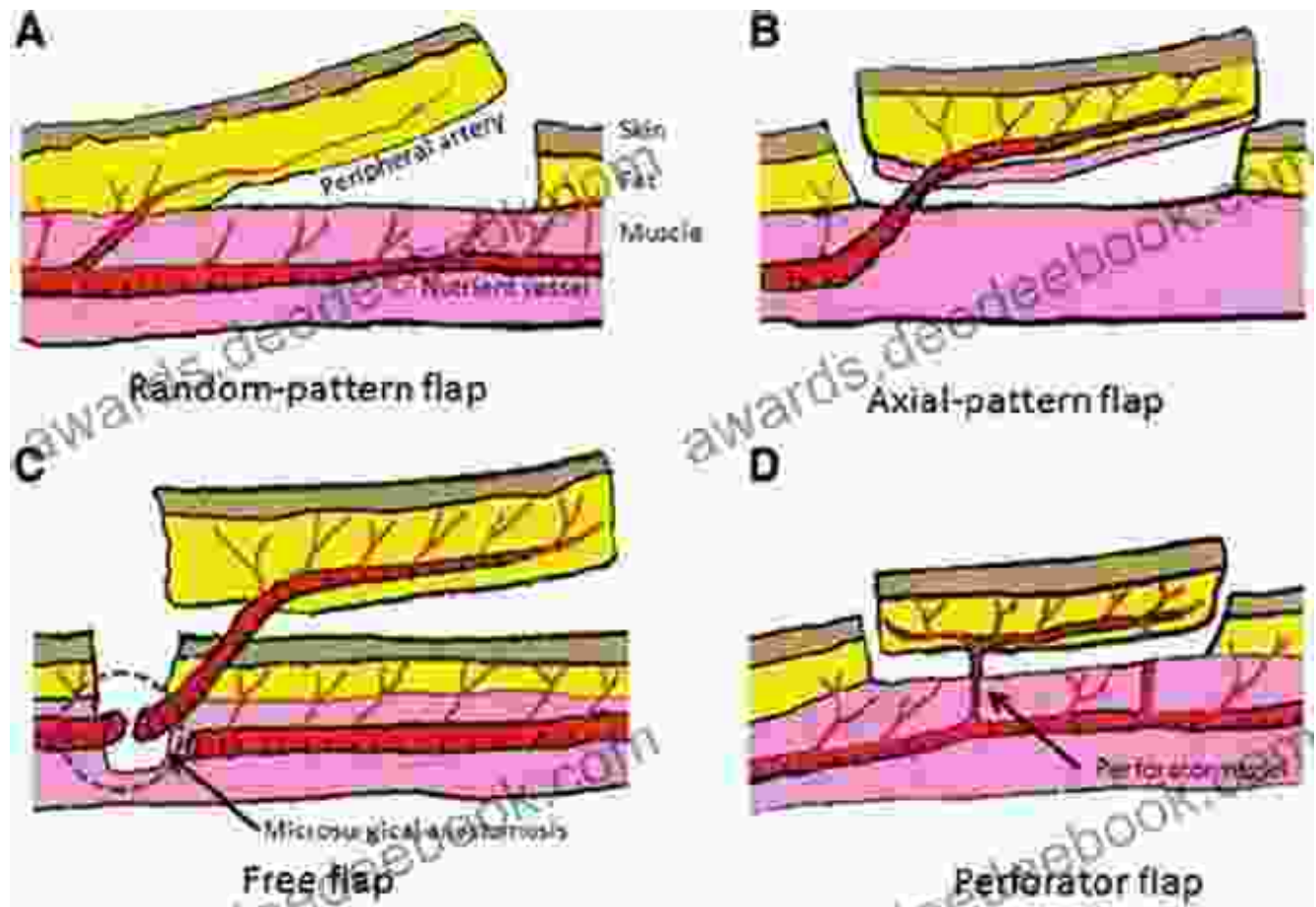
The Duke flap is a transposition flap based on the superficial branch of the radial artery. It is located on the volar forearm and consists of skin, subcutaneous tissue, and the underlying fascia.



- **Skin:** The skin of the Duke flap is thin and pliable, making it ideal for use in delicate facial and hand surgeries.
- **Subcutaneous tissue:** The subcutaneous tissue of the Duke flap is relatively sparse, allowing for easy dissection and mobilization.
- **Fascia:** The underlying fascia of the Duke flap provides a strong and stable base for the flap, ensuring its integrity and durability.

Blood Supply

The Duke flap is supplied by the superficial branch of the radial artery, which runs along the radial border of the forearm. This artery gives off numerous perforating branches that supply the skin and subcutaneous tissue of the flap.



The perforating branches are typically located within 1-2 cm intervals, ensuring a reliable blood supply to the entire flap. This abundant vascularization contributes to the Duke flap's exceptional survival rates and resistance to ischemia.

Advantages of the Duke Flap

- **Reliability:** The Duke flap has a proven track record of success, with high survival rates and minimal complications.

- **Versatility:** The flap can be used to reconstruct a wide range of defects, including those in the face, hand, and trunk.
- **Thin and pliable:** The thin and pliable nature of the flap makes it ideal for use in delicate facial and hand surgeries.
- **Excellent color match:** The skin of the Duke flap often matches the surrounding skin well, resulting in an aesthetically pleasing outcome.
- **Minimal donor site morbidity:** The donor site of the Duke flap is typically small and easily concealed, minimizing the impact on the patient's overall appearance.

Duke Flap Dissection Guide

The dissection of the Duke flap is a meticulous procedure that requires careful attention to detail. This step-by-step guide will walk you through the essential steps of the dissection.

Step 1: Patient Positioning

The patient is positioned supine with the arm abducted and externally rotated. A tourniquet is applied to the upper arm to minimize bleeding during the dissection.

Step 2: Incision Planning

The incision is planned along the radial border of the forearm, extending from the wrist crease to approximately 5 cm proximal to the elbow. The incision should be centered over the superficial branch of the radial artery.

Step 3: Skin Incision and Flap Elevation

The skin is incised along the planned incision line. The skin and subcutaneous tissue are elevated as a single flap, taking care to preserve the underlying fascia.

Step 4: Identification of the Superficial Branch of the Radial Artery

The superficial branch of the radial artery is identified along the radial border of the forearm. The artery is typically found within 1-2 cm of the fascia.

Step 5: Ligation of the Perforating Branches

The perforating branches of the radial artery are ligated to minimize bleeding and ensure the viability of the flap.

Step 6: Subfascial Dissection and Elevation of the Flap

The subfascial dissection is performed, freeing the flap from the underlying structures. The flap is elevated as a single unit, including the skin, subcutaneous tissue, and fascia.

Step 7: Closure of the Donor Site

The donor site is closed primarily using interrupted sutures. A skin graft may be required if the donor site is large.

Variations of the Duke Flap

There are several variations of the Duke flap that can be used to address specific surgical needs.

Reverse Duke Flap

The reverse Duke flap is a modification of the traditional Duke flap where the blood supply is reversed. This technique is used to reconstruct defects on the dorsum of the hand and wrist.

Extended Duke Flap

The extended Duke flap is a longer version of the traditional Duke flap that can be used to reconstruct larger defects. This variation requires the ligation of additional perforating branches of the radial artery.

Clinical Applications of the Duke Flap

The Duke flap has a wide range of clinical applications in reconstructive surgery.

Facial Reconstruction

The Duke flap is commonly used in facial reconstruction surgeries, including those involving the nose, lips, and eyelids. Its thin and pliable nature makes it ideal for delicate facial procedures.

Hand Reconstruction

The Duke flap is also frequently used in hand reconstruction surgeries, including those involving the fingers and thumb. Its versatility and durability make it a reliable choice for reconstructing complex hand defects.

Trunk Reconstruction

The Duke flap can also be used to reconstruct defects on the trunk, including those in the chest, abdomen, and back. Its large size and excellent color match make it suitable for reconstructing larger defects in these areas.

The Duke flap is a versatile and reliable workhorse flap that has earned its place in the arsenal of reconstructive surgeons. Its exceptional survival rates, ease of dissection, and wide range of clinical applications make it an indispensable tool for surgeons seeking to achieve optimal outcomes in their patients.

By following the steps outlined in this guide, surgeons can master the Duke flap dissection technique and unlock the full potential of this surgical workhorse.



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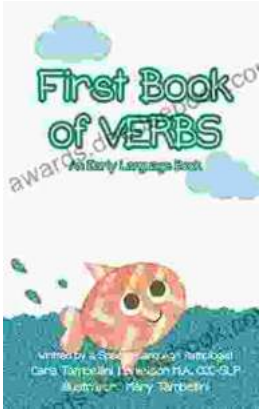
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