



Brachio-Basilic transposition technique to achieve improved patency



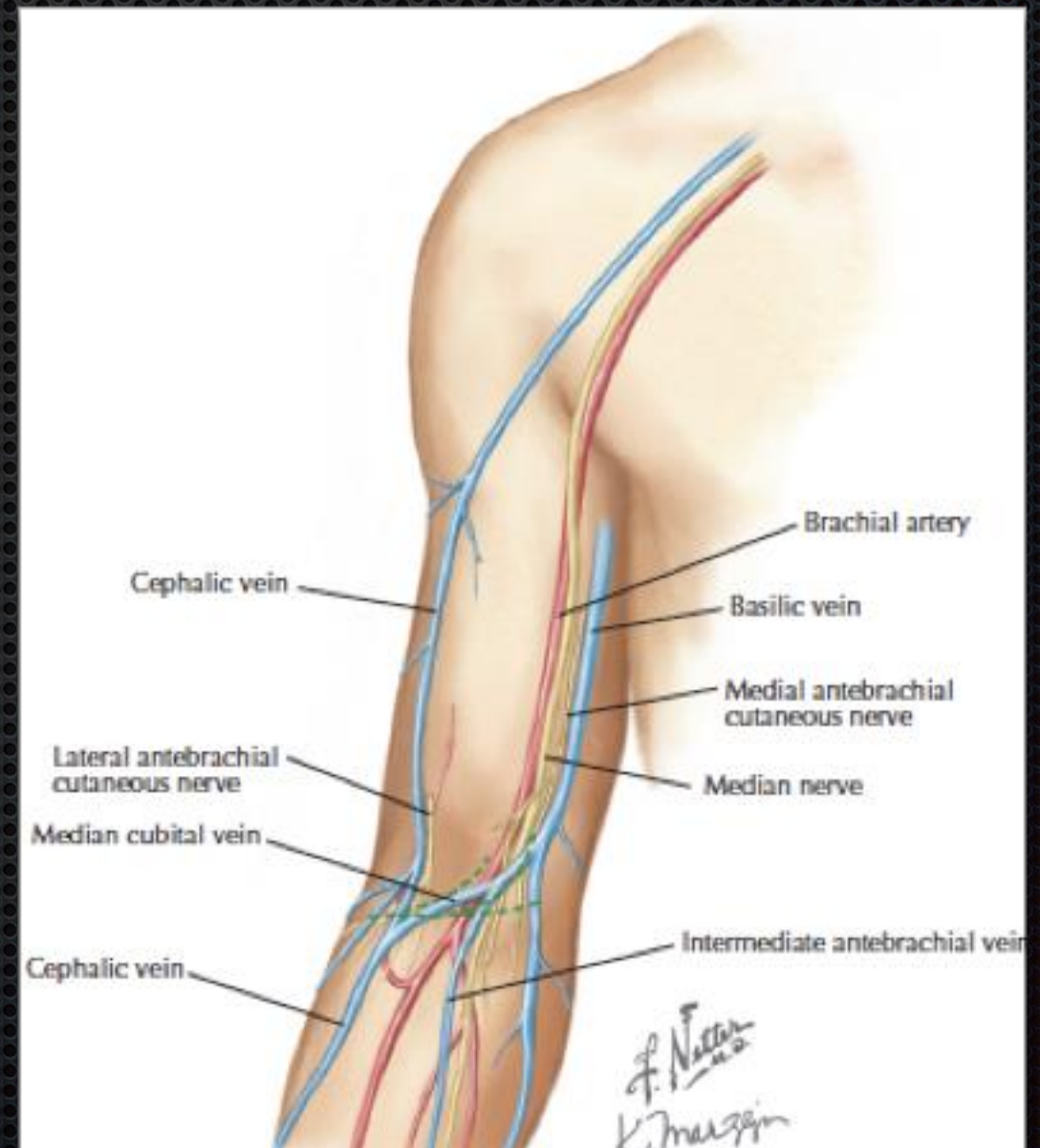
Wiwat Yimkosol, MD, thai board of vascular surgery

Topic

- Introduction
- Pre operative selection
 - one stage BVT
 - two stage BVT
- Surgical techniques
- Post operative surveillance

Introduction

- deep location, close to NV bundle “Hidden vien”
- inaccessible with venipuncture
- wider diameter than cephalic vein



The order of preference for placement of fistulae

1. A wrist (radiocephalic) primary fistula.
2. An elbow (brachiocephalic) primary fistula.
3. A transposed brachial basilic vein fistula.

Basilic vein to brachial
artery fistula: a new access
for chronic hemodialysis.

Dagher FJ, Gelber RL,
Ramos EJ, Sadler JH.



Indication

- Failed Radio-cephalic AVF or Brachio-cephalic AVF
- Upper arm cephalic vein unsuitable for AV access
- suitable basilic vein

Advantage

- cheap
- high patency rate, 1 year patency rate (64 - 90%)
- less infection rate

Disadvantage

- take time to create, large raw surface (increase risk of hematoma).
- a greater incidence of steal and arm swelling than other fistula types.
- more technically challenging, especially in obese individuals.

Pre operative evaluation

Pre operative evaluation



A comparison of the outcomes of one-stage and two-stage brachiobasilic arteriovenous fistulas

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Randomized controlled trial comparing primary and staged basilic vein transposition

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Similar failure and patency rates when comparing one- and two-stage basilic vein transposition

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Objective: Basilic vein transposition is recommended in patients who are not candidates for a radial or brachial artery to cephalic vein fistula for dialysis access. Both one-stage and two-stage procedures have their advantages and disadvantages. Which procedure results in improved outcomes remains unclear.

Methods: A systematic review was conducted of the MEDLINE and EMBASE databases for studies that compared one-stage and two-stage brachial-basilic vein transpositions. Abstracts and full-text studies were screened independently by two reviewers with data abstraction done in duplicate. Random-effects meta-analysis was used to identify differences in primary failure rates and 1-year primary and secondary patency rates. Study quality was assessed by a previously described tool designed for observational studies reporting on dialysis access outcomes.

Results: Of 1662 abstracts screened, 97 were selected for full-text review. Of these, eight studies (one randomized trial, seven observational studies) involving 882 patients met the inclusion criteria. The pooled odds ratio estimate for primary failure was 1.21 (95% confidence interval [CI], 0.73-1.98; $P = .46$), suggesting no difference in failure rate between one-stage and two-stage transpositions. Similarly, the estimated odds ratio for 1-year primary patency rate of 1.39 (95% CI, 0.71-2.72; $P = .33$) and 1-year secondary patency rate of 1.02 (95% CI, 0.36-2.87; $P = .98$) indicated no difference between the two groups. Study quality was limited by unclear outcome definitions, minimal control for confounding, and variable selection criteria. The decision to pursue a one-stage vs a two-stage procedure was often based on size of the basilic vein, with a two-stage procedure reserved for patients with smaller veins.

Conclusions: Meta-analysis of the existing literature comparing one-stage and two-stage basilic vein transposition suggests no difference in failure and patency rates, despite the two-stage procedure's being used in patients with smaller basilic veins. These findings are limited by the small size, observational design, and inconsistent quality of included studies. Reserving a two-stage procedure for patients with smaller basilic veins appears justified, although the strength of the evidence is limited. (J Vasc Surg 2015;61:809-16.)

Pre operative evaluation

- Ultrasound pre operatively
 - Diameter
 - Continuity
- two stage ==> diameter basalic v. < 4 mm.
- single stage ==> diameter basalic v. > 4 mm.

Surgical techniques

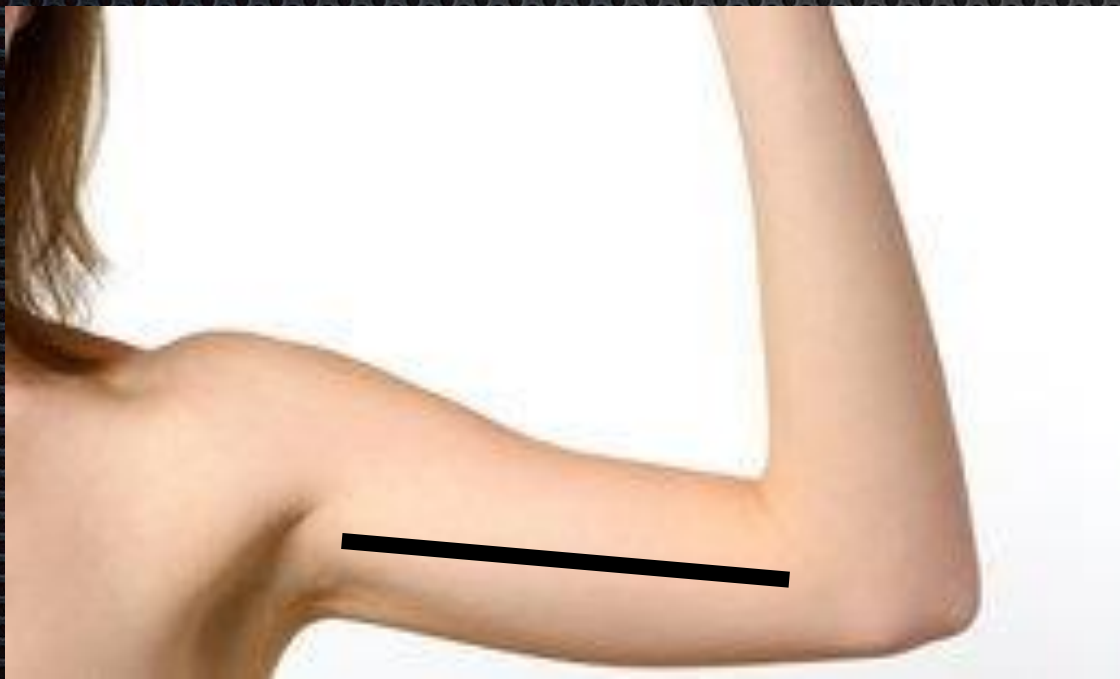
Single stage BVT

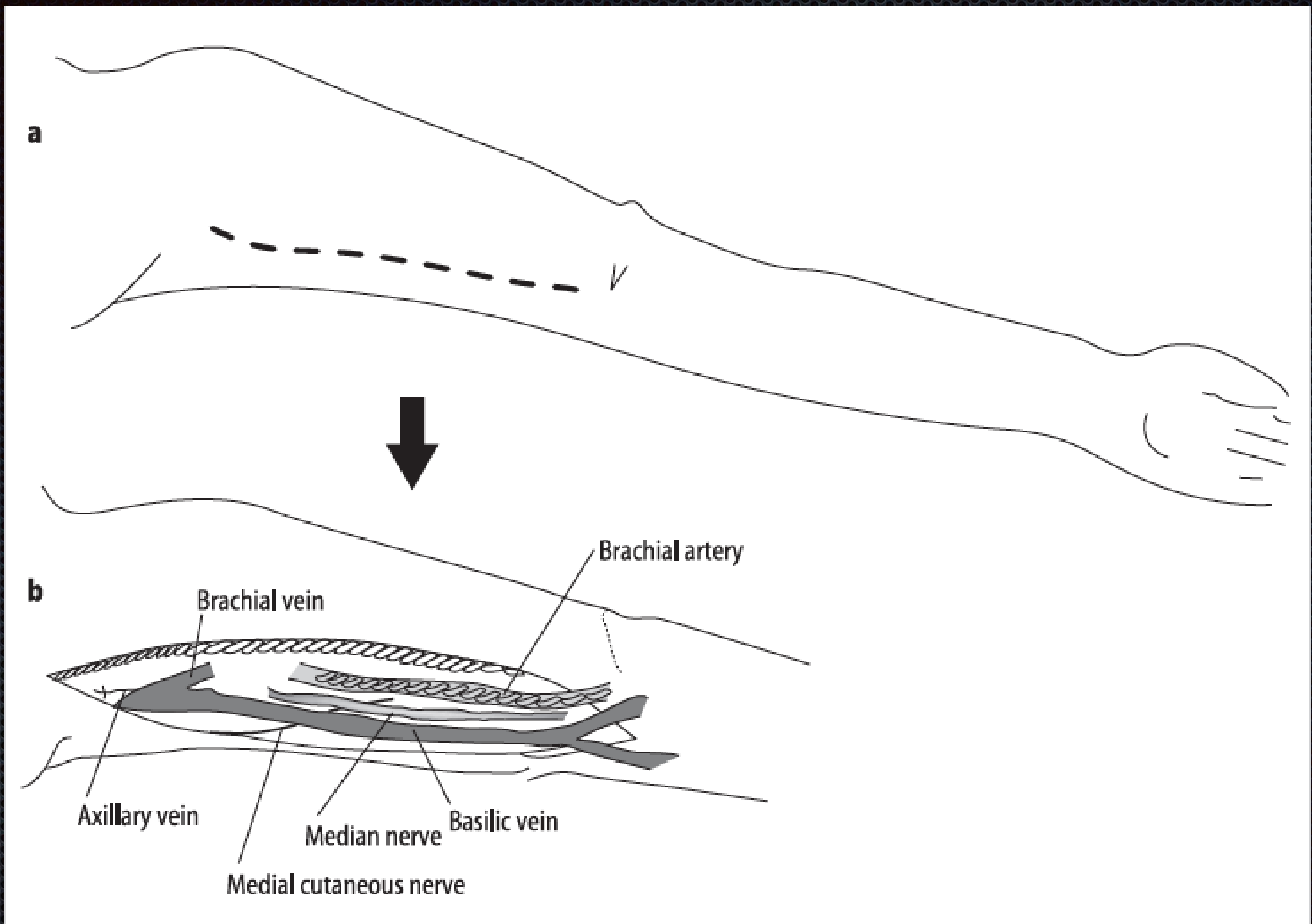
Anesthesia

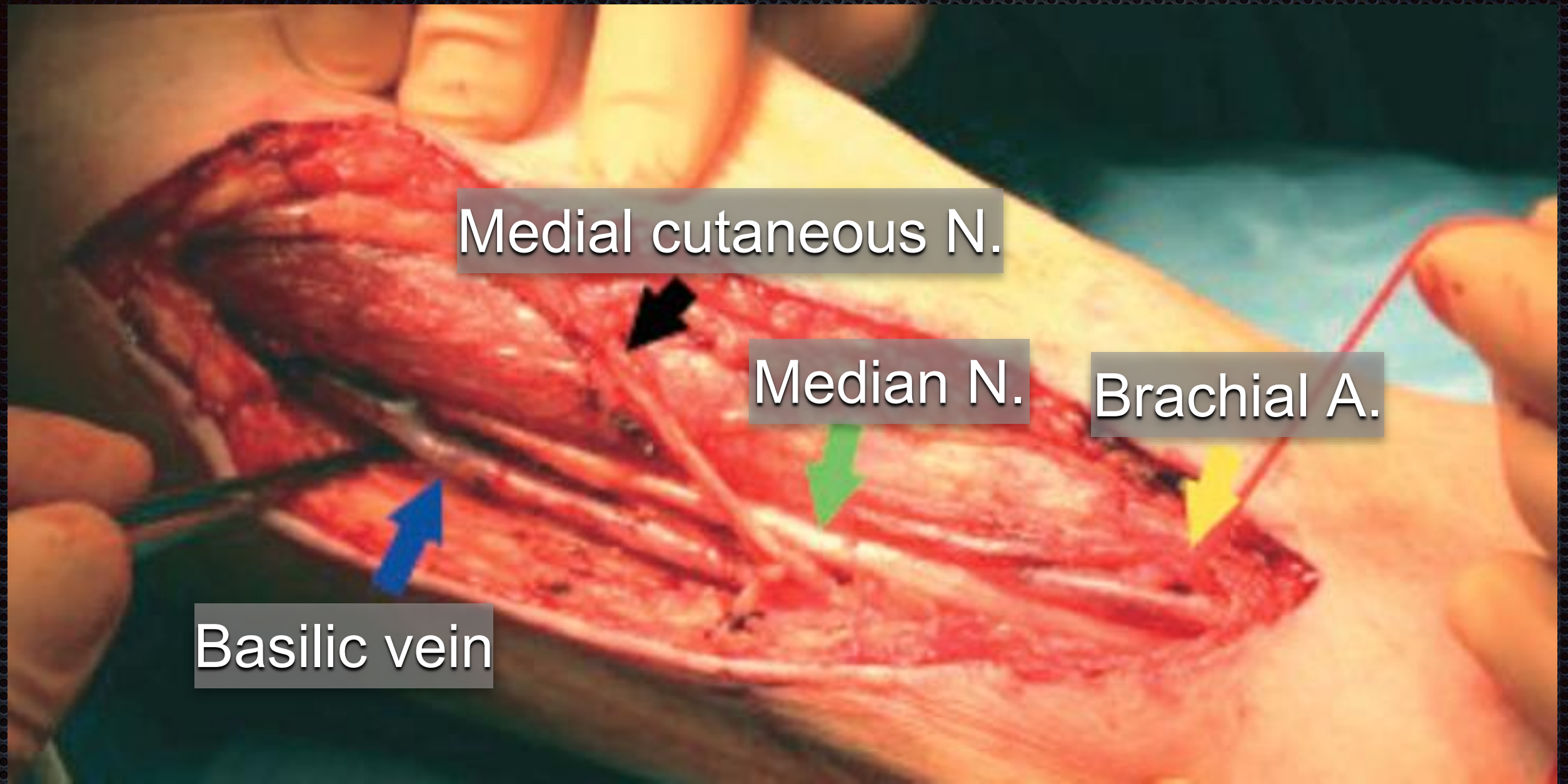
- General anesthetic
- Brachial plexus nerve block
- Local anesthetic with sedation

Skin incision

- Single-arm incision along the course of basilic vein
- Two or Three longitudinal skin incision





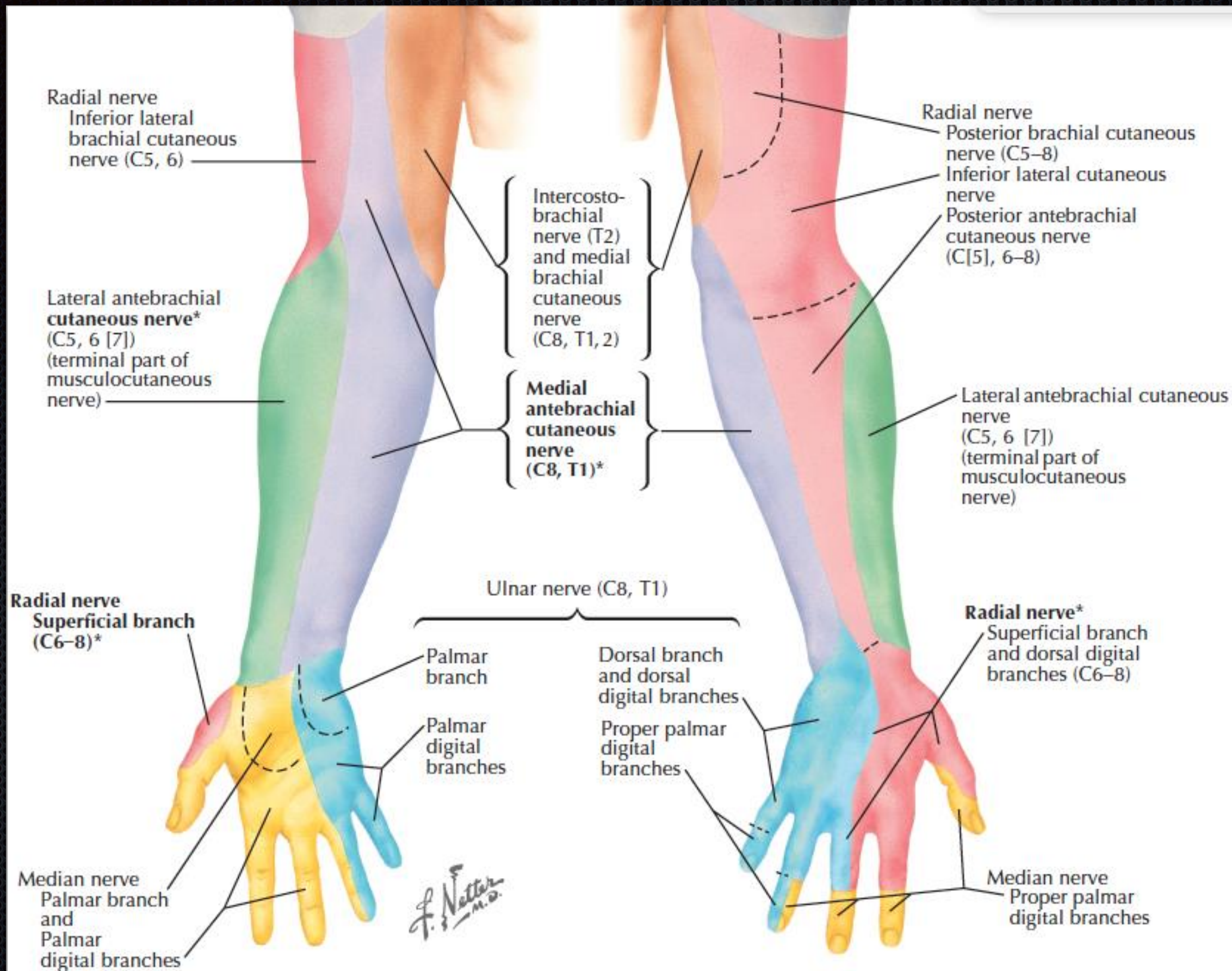


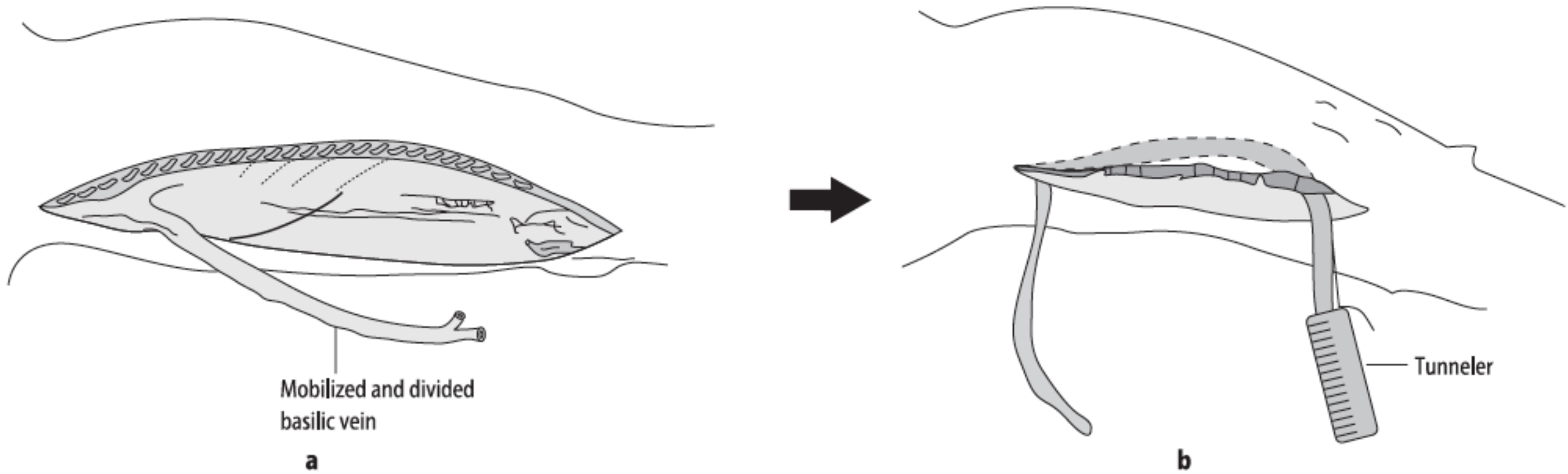
Medial cutaneous N.

Median N.

Brachial A.

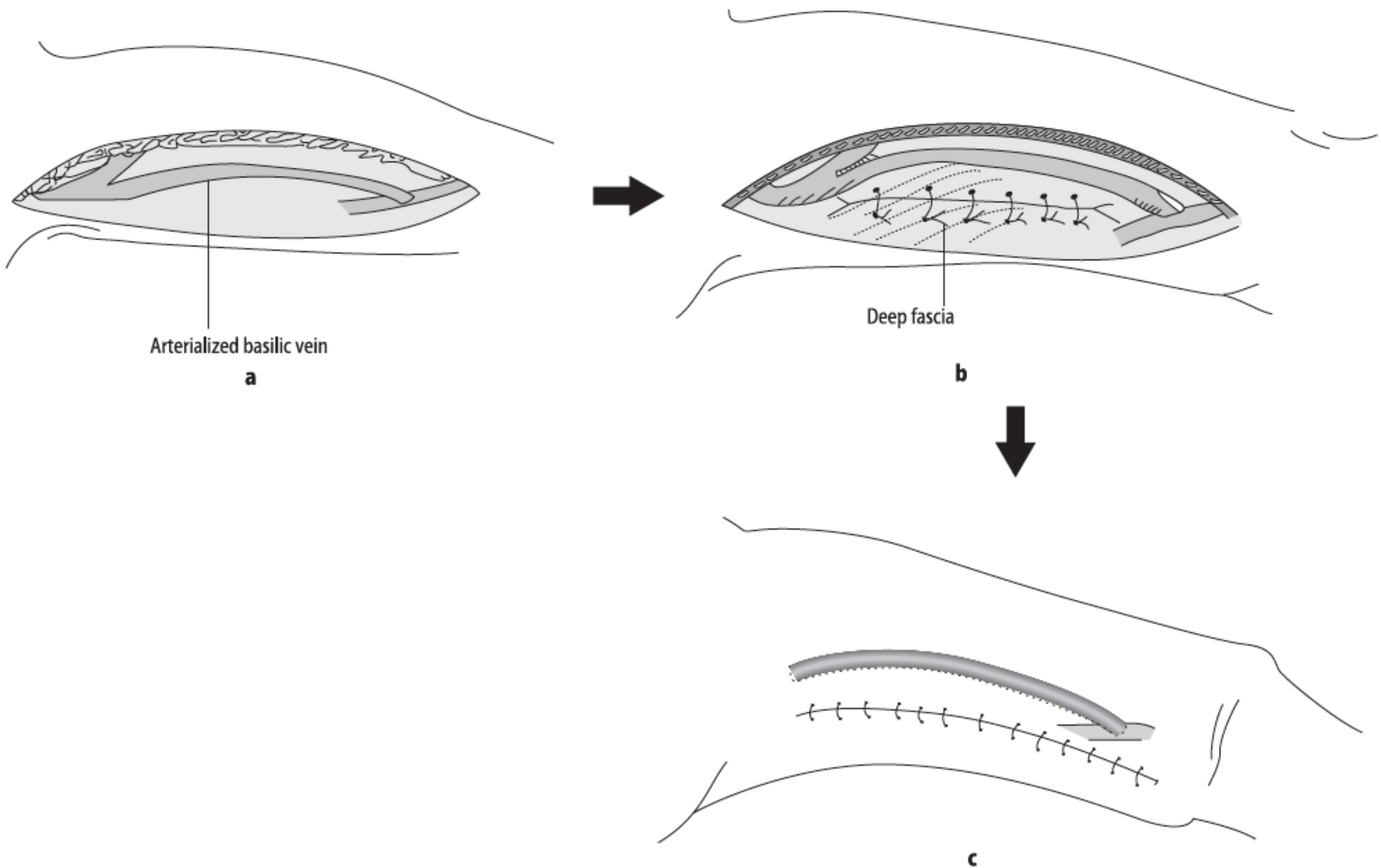
Basilic vein







Two-stage BVT





Post operative surveillance

- Team work coordination
 - Patient education
 - Hemodialysis nurse
 - Nephrologists
 - Radiologist
 - Surgeon

Thank you for your attention