



# Bloc axillaire: Tips & tricks

**Pr Lynda ABED**

Maitre de conférences « A »

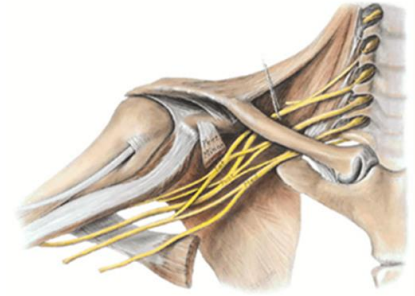
Anesthésie réanimation

CHU Douera- Université de Blida

CONFLIT D'INTERET

**I**  **ALR**

# Le bloc axillaire



- Bloc du plexus brachial
- Le plus réalisé des blocs du membre supérieur
- Superficiel: anticoagulation
- Simple à réaliser
- Larges indications: chirurgie coude/avant-bras/poignet/main

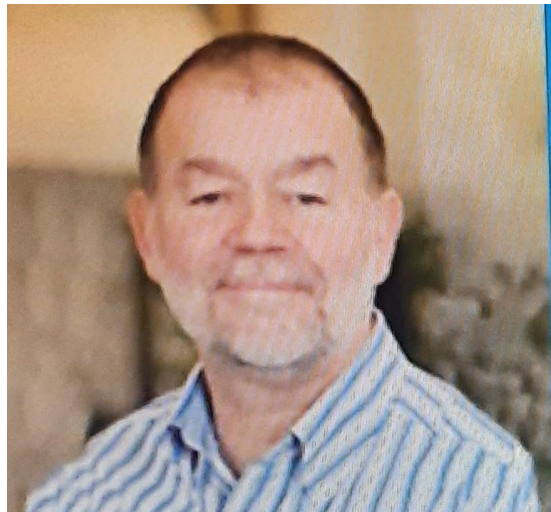
MAIS



# ECHEC & ~~MAT~~... BAX?



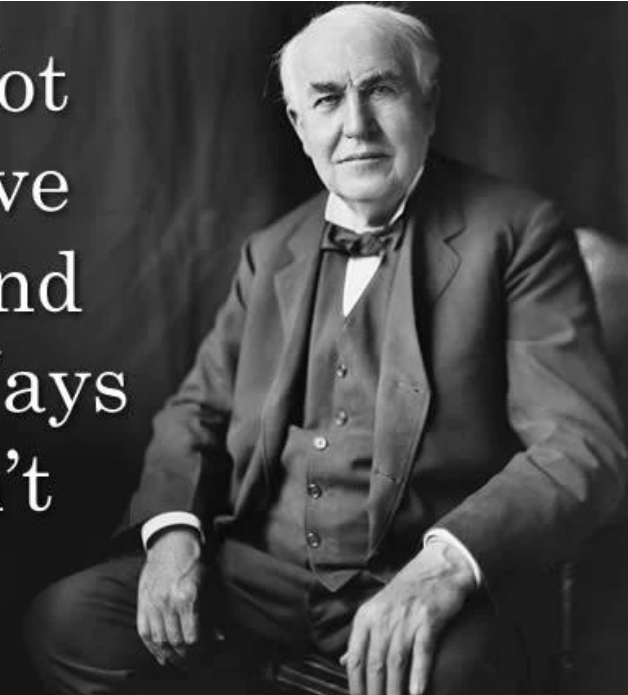
- Nécessité de recours à un bloc de complément
- Nécessité de sédation
- Conversion AG



It is not a failure to fail, it is a failure to **NOT** have a **PLAN** in case you fail.

- Barry Nicholls, 2011



I Have Not Failed, I've Just Found 10,000 Ways that Won't Work.



Carles, M. et al. Anesthésie et Réanim. 2019.

Article

## Impact of Regional Block Failure in Ambulatory Hand Surgery on Patient Management: A Cohort Study

Lucile Picard <sup>1</sup>, Pierre Belnou <sup>2</sup> , Claire Debes <sup>1</sup>, Nathanael Lapidus <sup>2</sup> , Eileen Sung Tsai <sup>3</sup>,

*J. Clin. Med.* 2020, 9, 2453



## Efficacy of Ultrasound-Guided Axillary Brachial Plexus Block: A Comparative Study with Nerve Stimulator-Guided Method

*(Chang Gung Med J 2005;28:396-402)*

10-17%

Evolution of ultrasound guided axillary brachial plexus blockade: retrospective analysis of 662 blocks

CAN J ANESTH 2008 / 55: 7 / pp 408-413

Si le « **PLAN A** »  
NE MARCHE PAS,

il reste encore

**25 lettres**

dans

**L'ALPHABET**





# Pourquoi ça marche pas?

Facteurs de risque?



*Article*

## Impact of Regional Block Failure in Ambulatory Hand Surgery on Patient Management: A Cohort Study

Lucile Picard <sup>1</sup>, Pierre Belnou <sup>2</sup>, Claire Debes <sup>1</sup>, Nathanael Lapidus <sup>2</sup>, Eileen Sung Tsai <sup>3</sup>, *J. Clin. Med.* 2020, 9, 2453

**Table 4.** Multivariate analysis: significant risk factors for RA failure.

Variable	OR	IC 95%	p-Value
Sex: female	2.35	1.24–4.45	0.01
Conventional surgery unit	2.33	1.25–4.34	0.01
Substance abuse	7.27	1.18–44.88	0.03
ASA score	2.02	1.01–3.94	0.04

562 patients

48 (8.5%) échec



But first: US machine



# Mon image

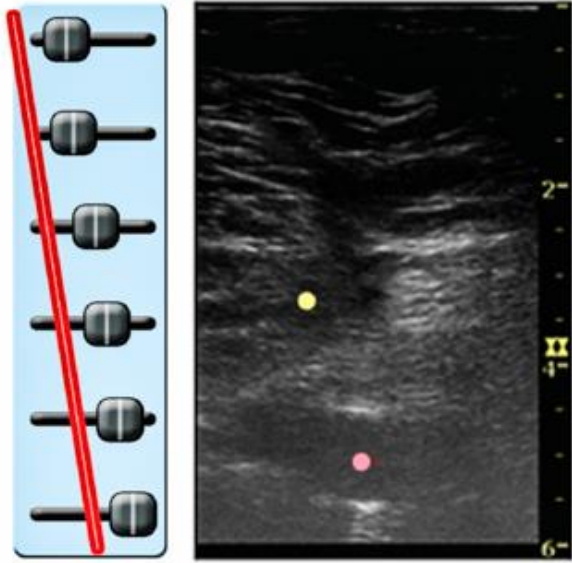
## ➤ Comment régler ma machine?

- Fréquence
- Profondeur
- Focus
- Gain
- Doppler couleur

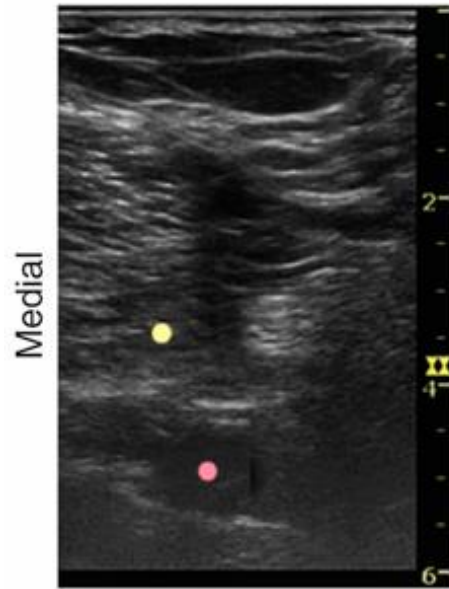
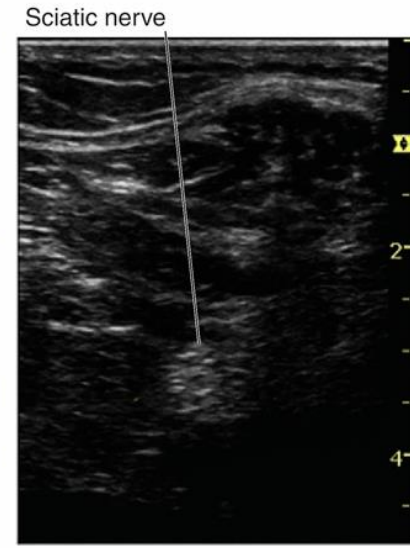
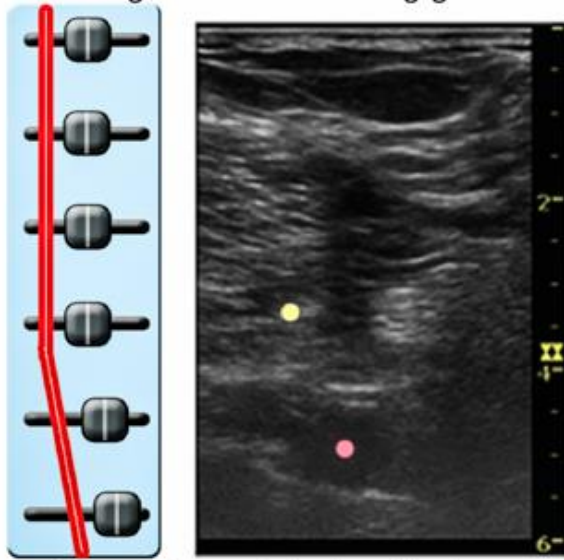
## ➤ Personnalisés:

- Sonde
- Geste
- Nature des tissus
- Profondeur
- Echogénicité

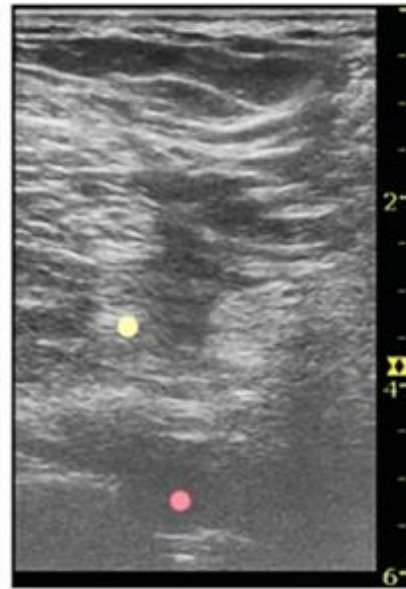




Progressive increasing gain



Optimal Gain



Overgain



Undergain

Je connais mon anatomie....enfin normalement!!

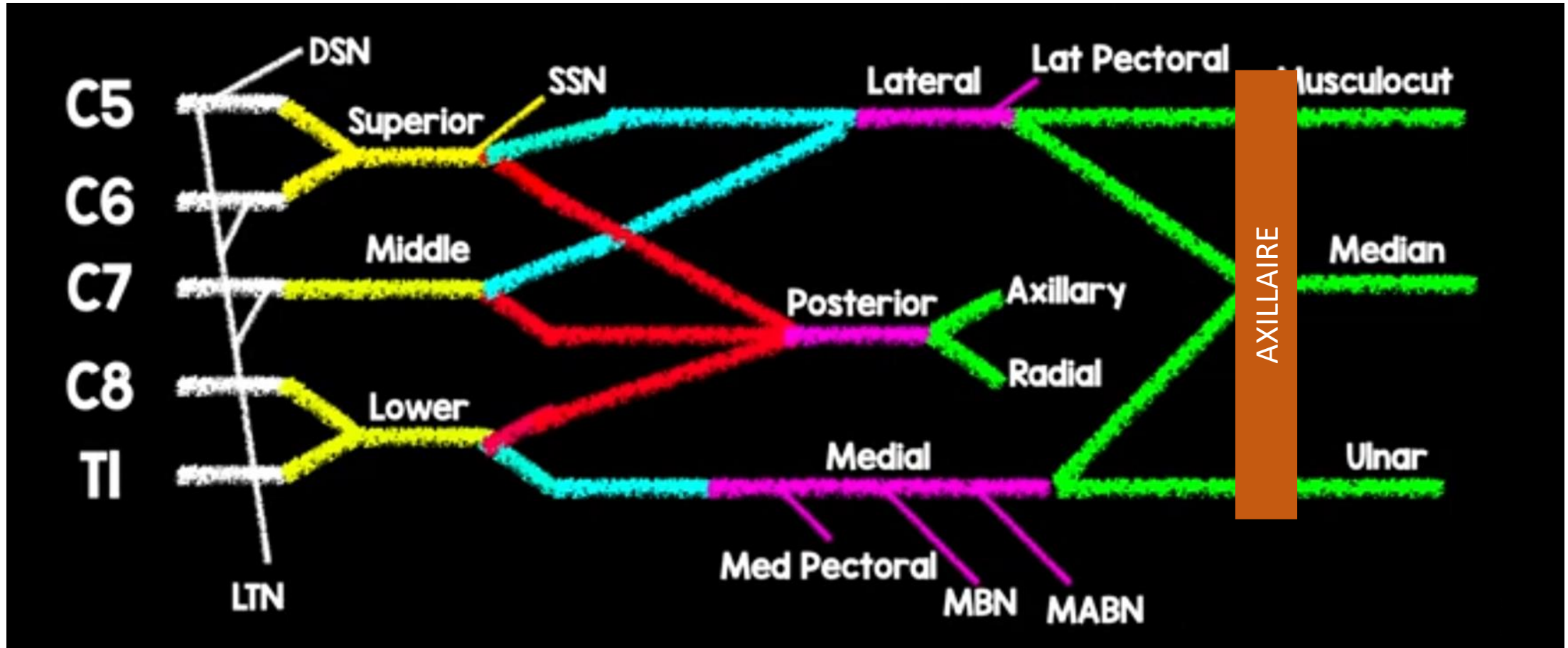


- ALR: exercice d'anatomie appliquée
- Anatomie: prérequis indispensable

MAIS

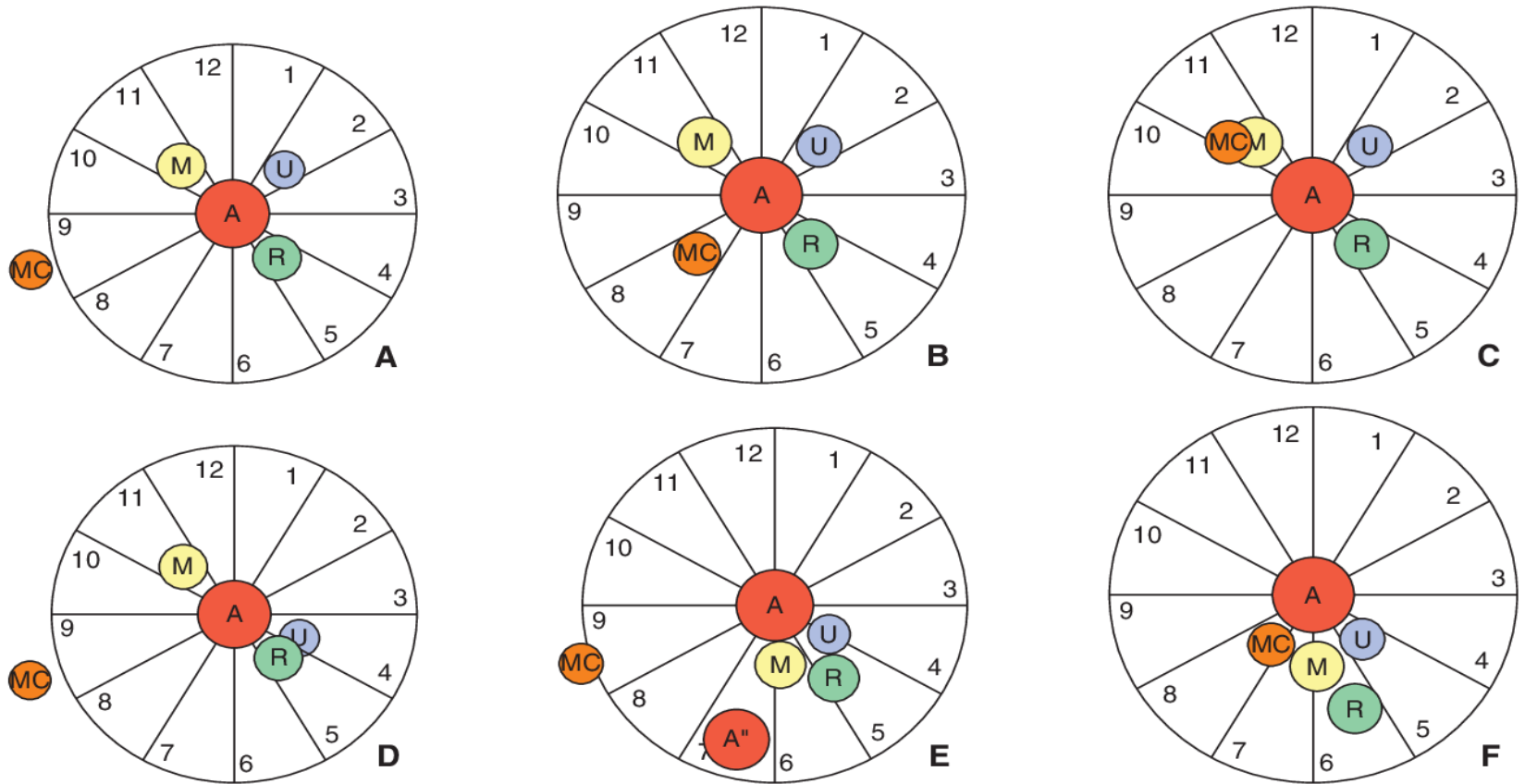
**Variations anatomiques 20-30%**

# Anatomie



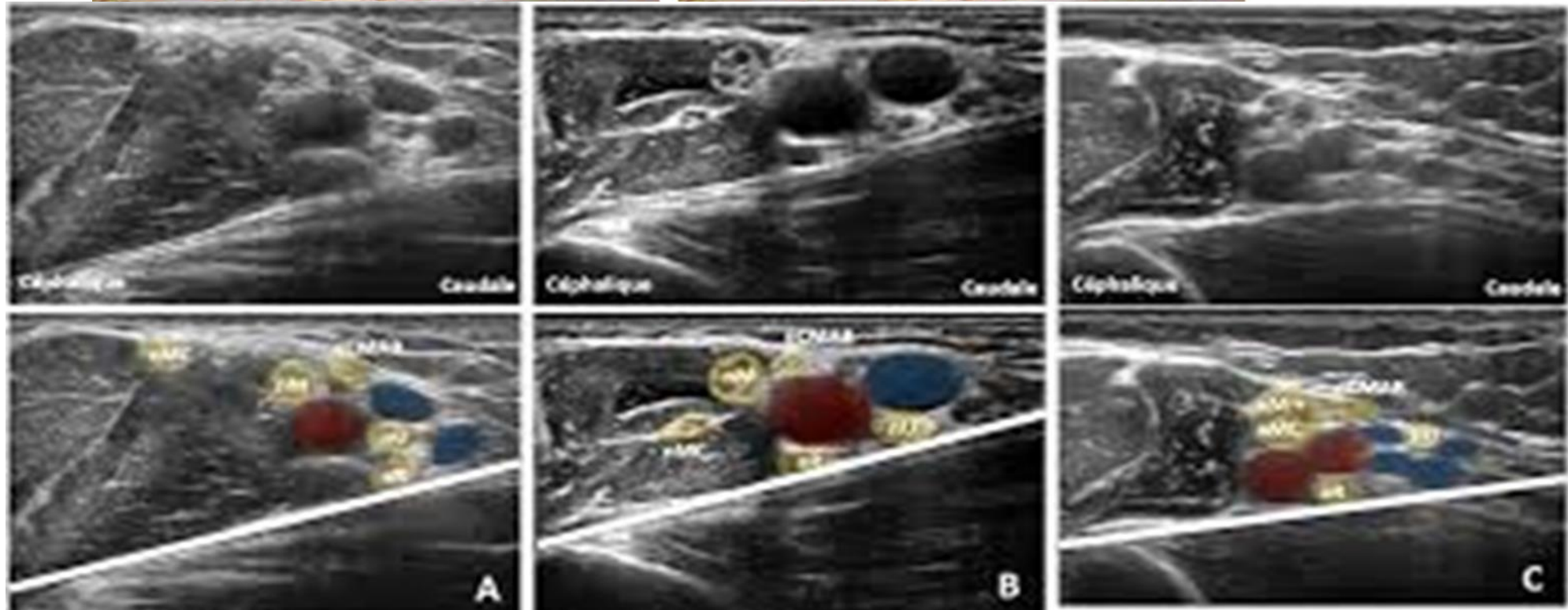
# Variations anatomiques

A. 65%  
B. 13%  
C. 5%  
D. 5%  
E. 5%  
F. 1%



15. Variations de la position relative des nerfs dans la fosse axillaire

# Variations anatomiques



# Variations anatomiques

## **Is the Musculocutaneous Nerve Really in the Coracobrachialis Muscle When Performing an Axillary Block? An Ultrasound Study**

Francis Remerand, MD,\* Jacky Laulan, MD,† Claude Couvret, MD,\* Michel Palud, MD,\* Anesth Analg 2010

- Nerf musculo-cutané:
  - En dehors du coraco-brachial (22%)
  - Collé au médian (16%)
  - A coté de l'artère axillaire (6%)
  
- Rameaux vers le médian\*

\*Guerra-Guttenberg.Clin anat. 2009

# Anatomie

Les petits nerfs

CMAB

CMB

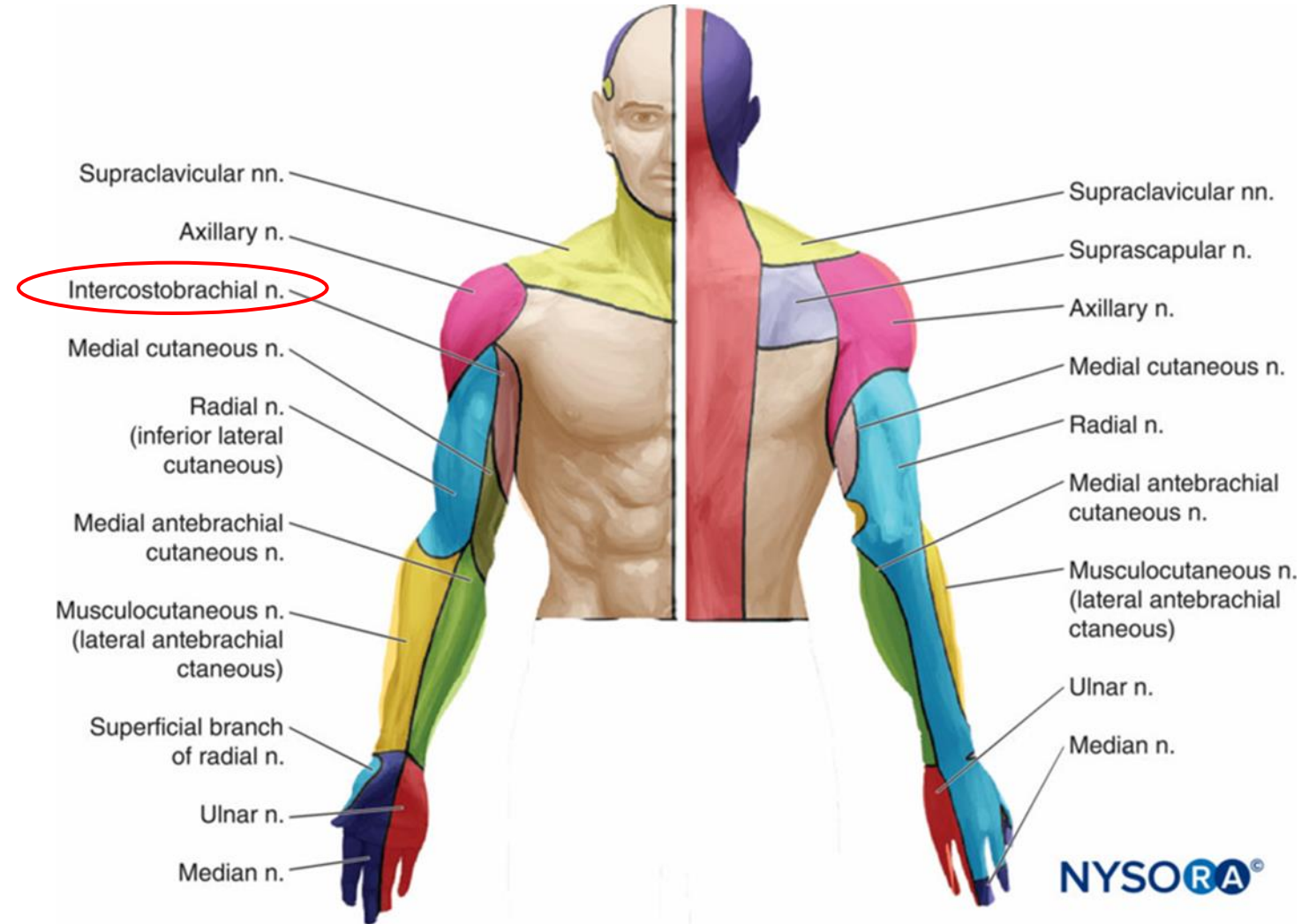
ICB

N. intercostobrachial:

T2 IC + CMB

T2 IC+ Faisceau médial

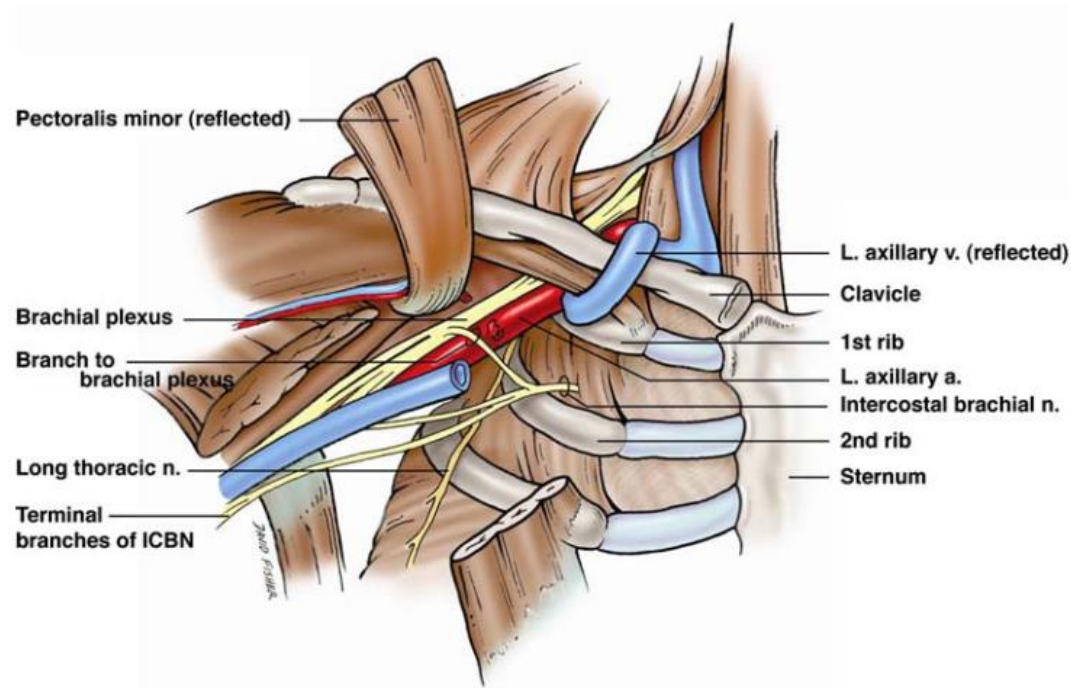
T2 IC+ PCMAB



# Anatomie

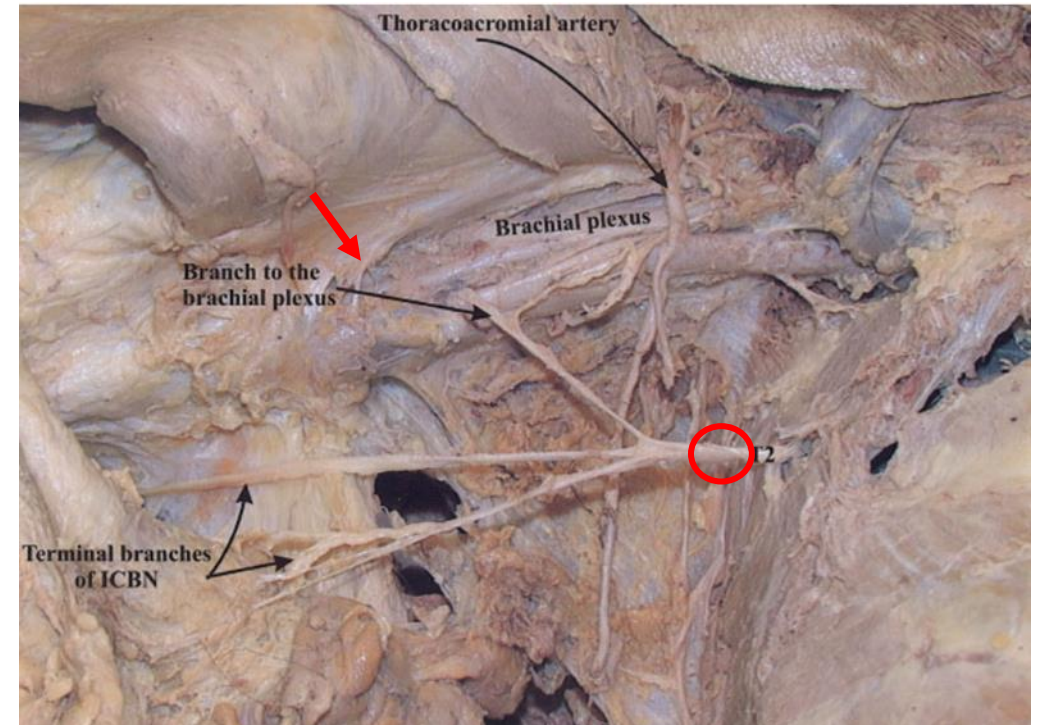
## The prefixed and postfixed brachial plexus: a review with surgical implications

Megan Pellerin · Zachary Kimball ·



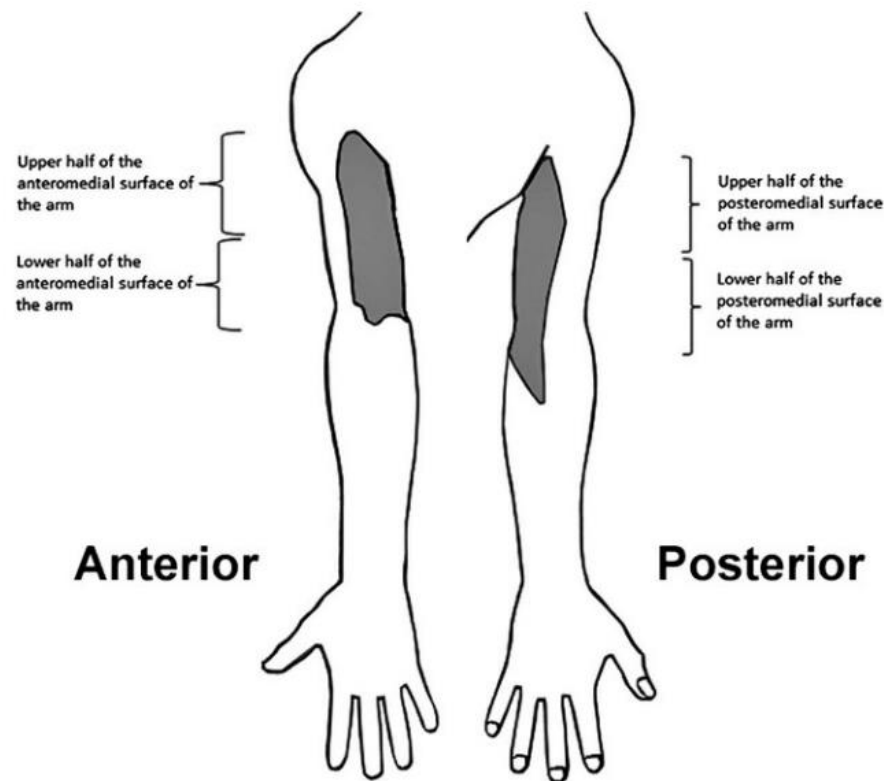
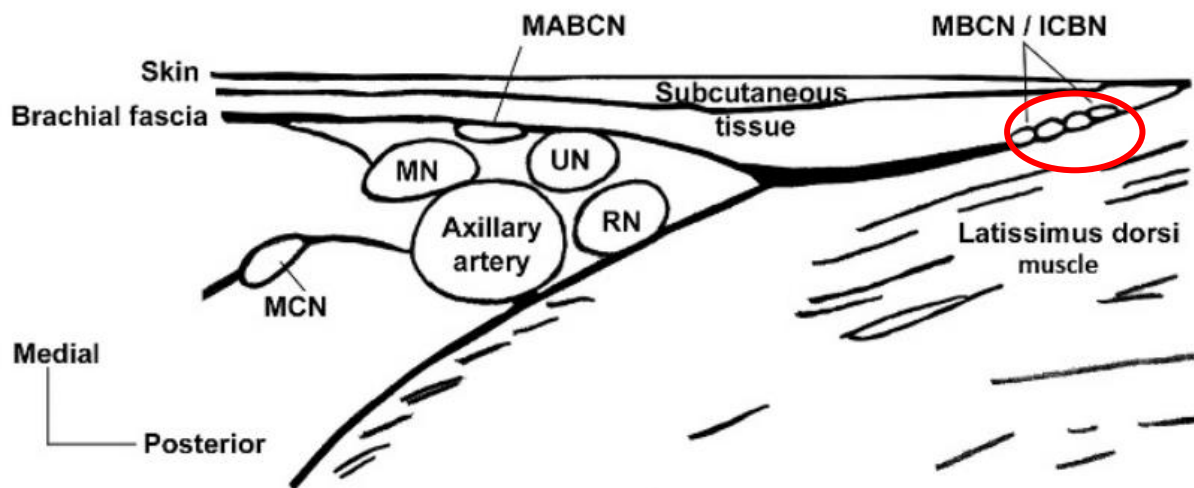
## The Gross Anatomy of the Extrathoracic Course of the Intercostobrachial Nerve

MARIOS LOUKAS,<sup>1,2\*</sup> JOEL HULLETT,<sup>3</sup> ROBERT G. LOUIS JR,<sup>3</sup>



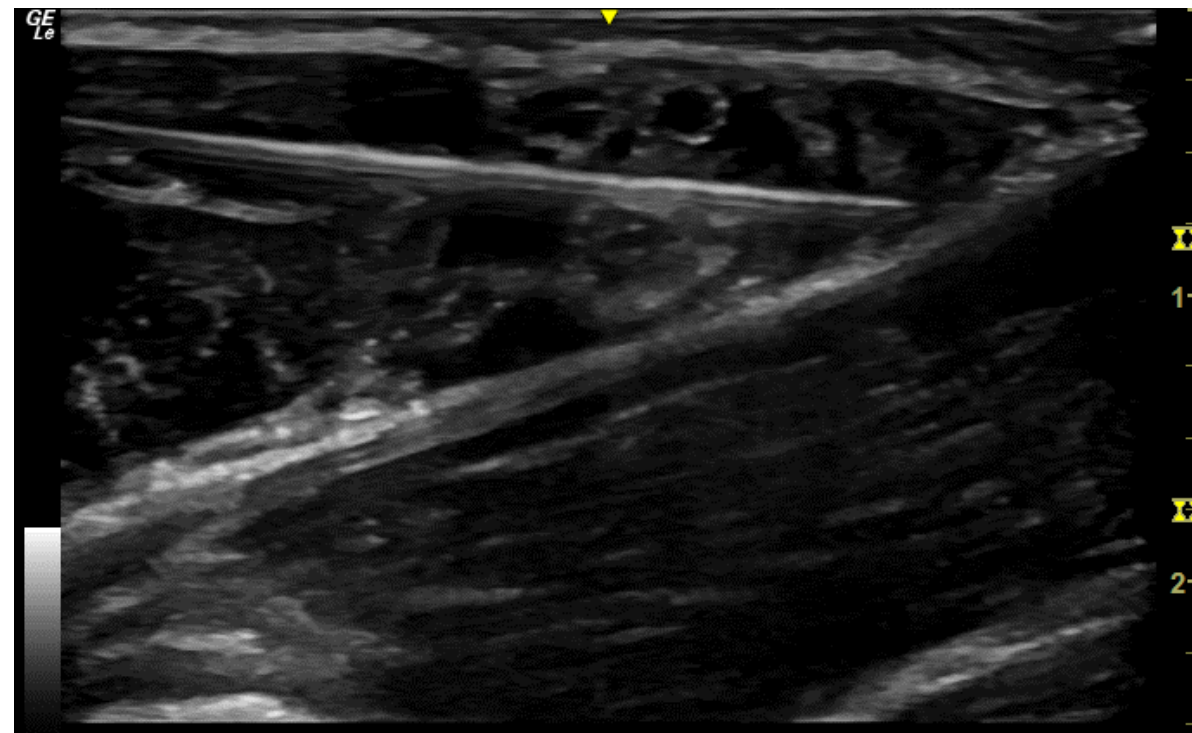
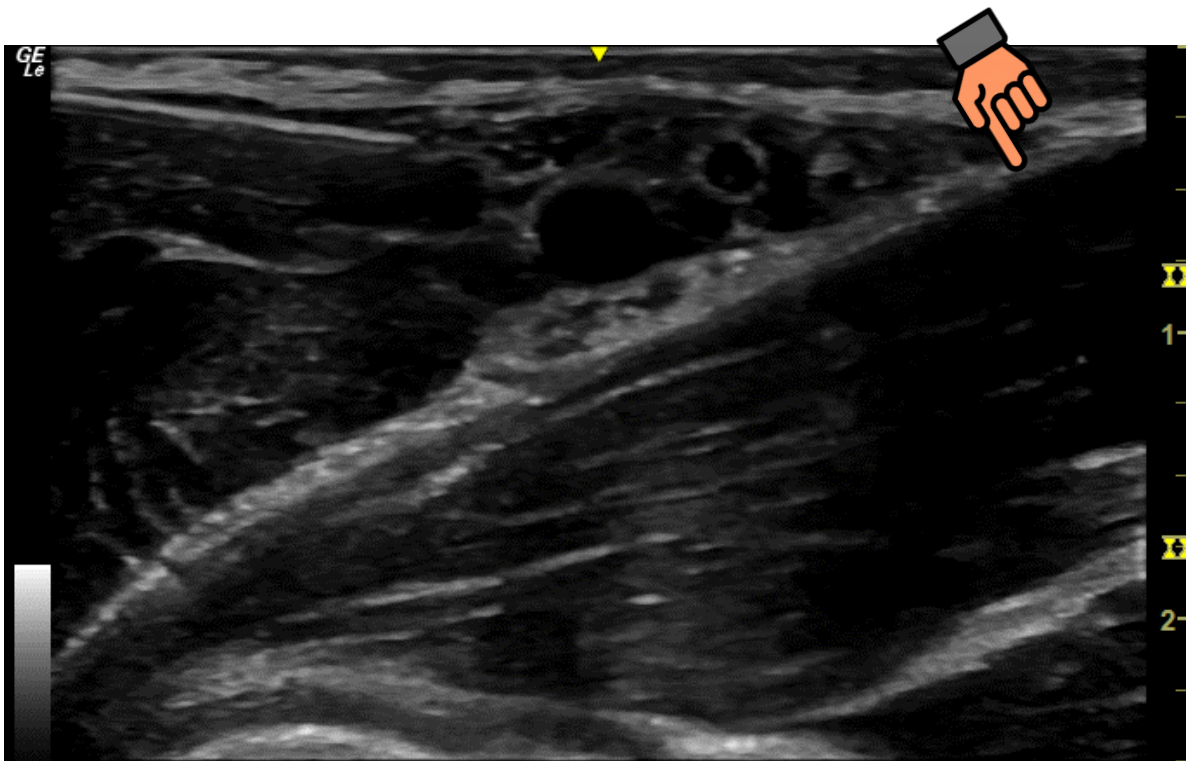
# Ultrasound-Guided Selective Versus Conventional Block of the Medial Brachial Cutaneous and the Intercostobrachial Nerves *A Randomized Clinical Trial*

Philippe Magazzeni, MD,\* Denis Jochum, MD,† Gabriella Iohom, MD,‡ Gérard Mekler, MD,\* , Month 2018



Skin distribution (and variations) of the MBCN and the ICBN (original image).

# L'intercostobrachial: petit mais costaud!



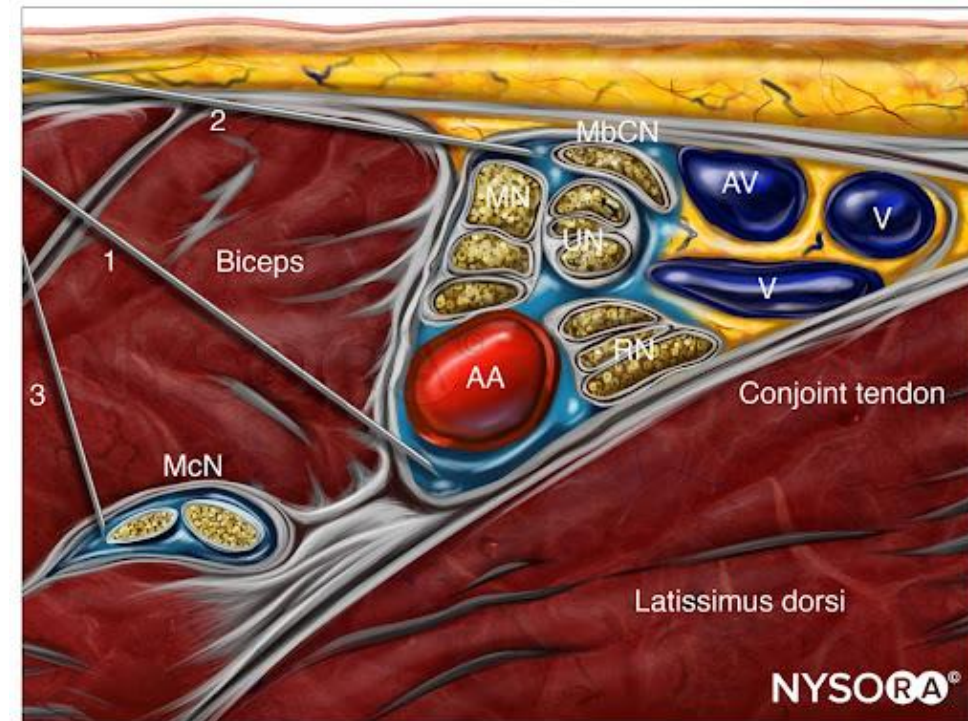
# Trop de nerfs!



- Hydrodissection
- Volume: 20 ml
- 3 injections: 2 autour de l'artère, 1 MC: fascia +++

ou

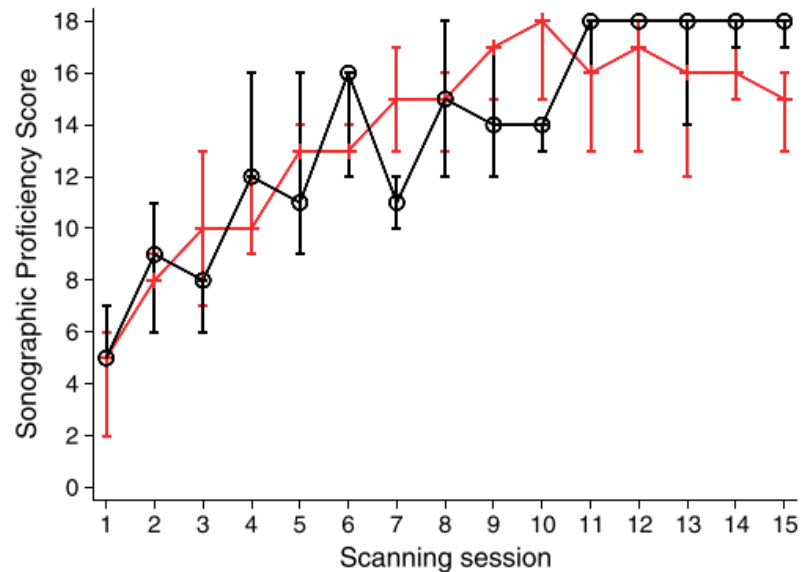
- Suivre les nerfs



# PRACTICE!

## Determining the Learning Curve for Acquiring Core Sonographic Skills for Ultrasound-Guided Axillary Brachial Plexus Block

Michael J. Barrington, PhD, MBBS, FANCA, \*† Laura P. Viero, BSc (Hons), ‡ *Regional Anesthesia and Pain Medicine* · 2016



**FIGURE 2.** Group median (and interquartile range) of “Sonographic Proficiency Scores” versus Scanning Session for massed (—+—) and distributed (—o—) groups.

8 à 10 scan: identifications des structures anatomiques

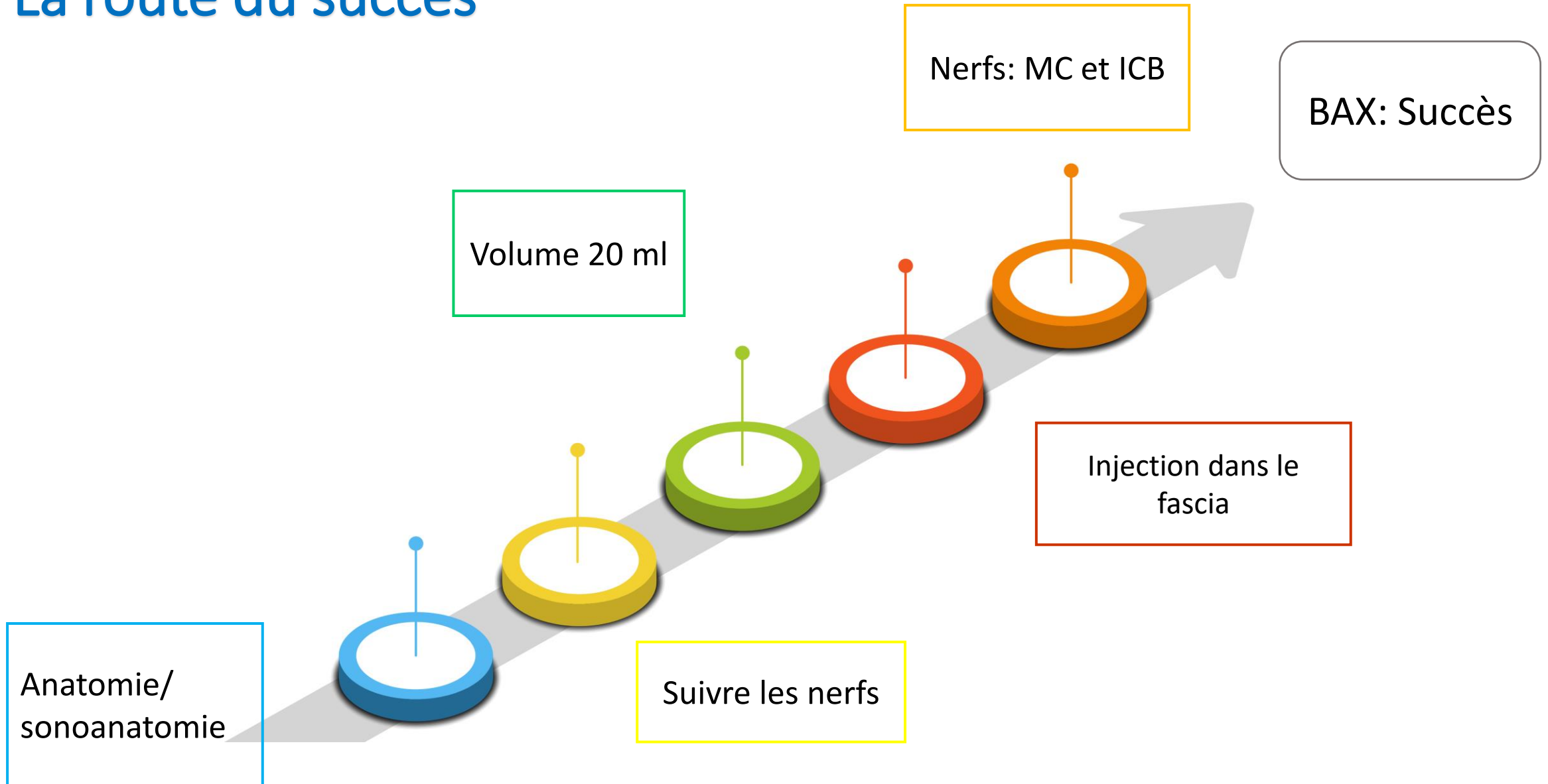
15 procédures: 90% de réussite

# Réussir mon BAX

- ✓ Anatomie/sonoanatomie
- ✓ Placez la sonde en position transversale au-dessus de l'intersection de l'insertion du muscle grand pectoral et du biceps.
- ✓ Repère: l'artère axillaire, **le tendon du grand dorsal**
- ✓ Hydrodissection
- ✓ Injection dans la gaine neurovasculaire +++
- ✓ Volume (20ml)
- ✓ Prendre le **musculo-cutané**
- ✓ Prendre l'**intercostobrachial** si garrot ou chirurgie du coude



# La route du succès



L'habitude fait l'habileté, et l'habileté  
participe grandement au succès

*Merci*





Lynda Abed



Lyndouche Grey



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