Anesthésie pour chirurgie de la main: WALANT ou TRONCULANTE?

Pr Lynda ABED

Maitre de conférences « B »

CHU Douera

Faculté de médecine de Blida

La chirurgie de la main

- Chirurgie fréquente
- Développement de techniques chirurgicales mini-invasives
- Nécessité de mobilisation peropératoire: évaluation
- RAAC
- Ambulatoire
- Optimisation du parcours patient

Techniques anesthésiques

- ALR +++

Blocs tronculaires proximaux

Blocs distaux

Blocs digitaux
Intrathécaux

Choix de la technique

Type de chirurgie

Garrot

Analgésie PO prolongée

Mobilisation peropératoire

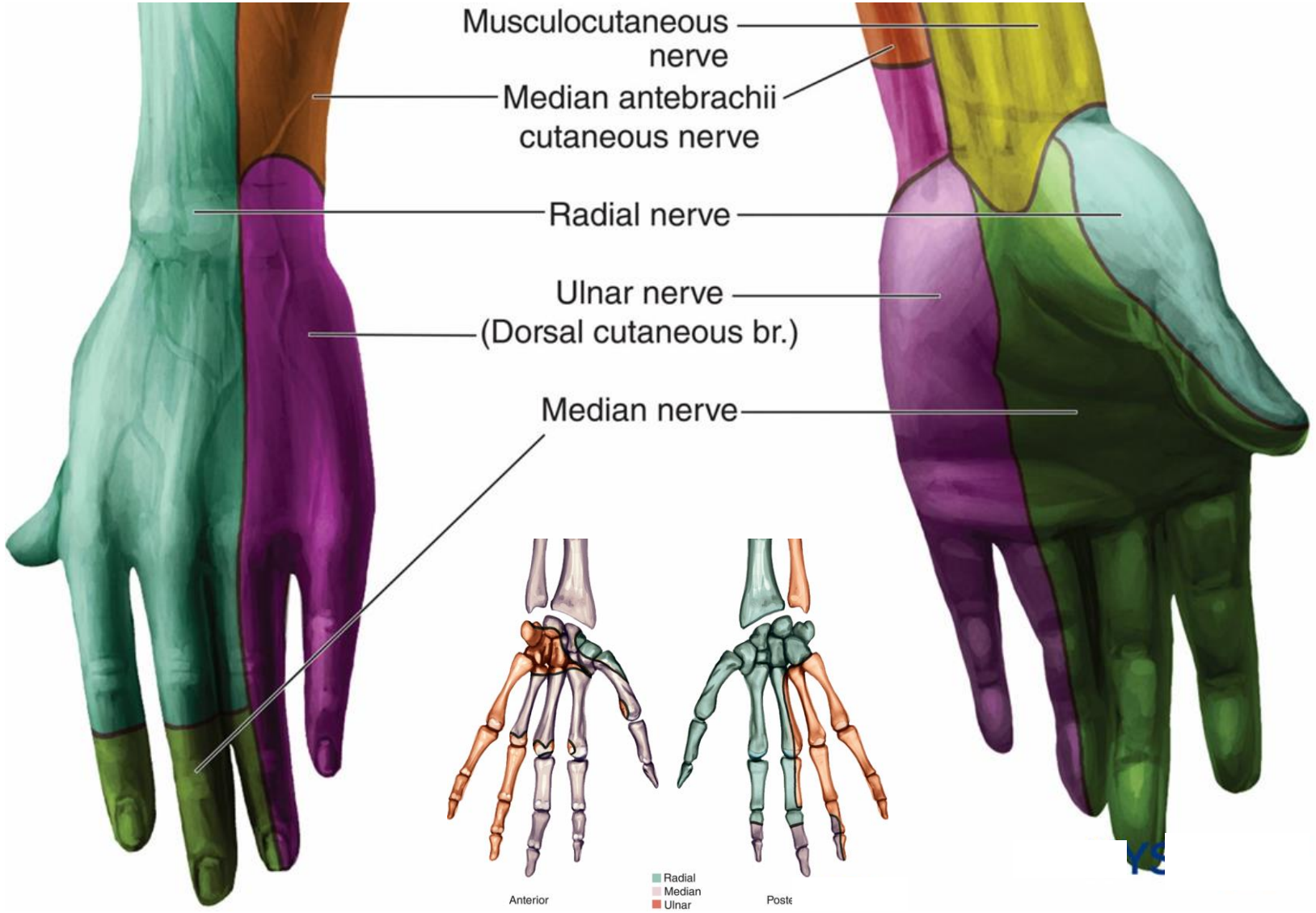
Nouveaux objectifs de l'ALR

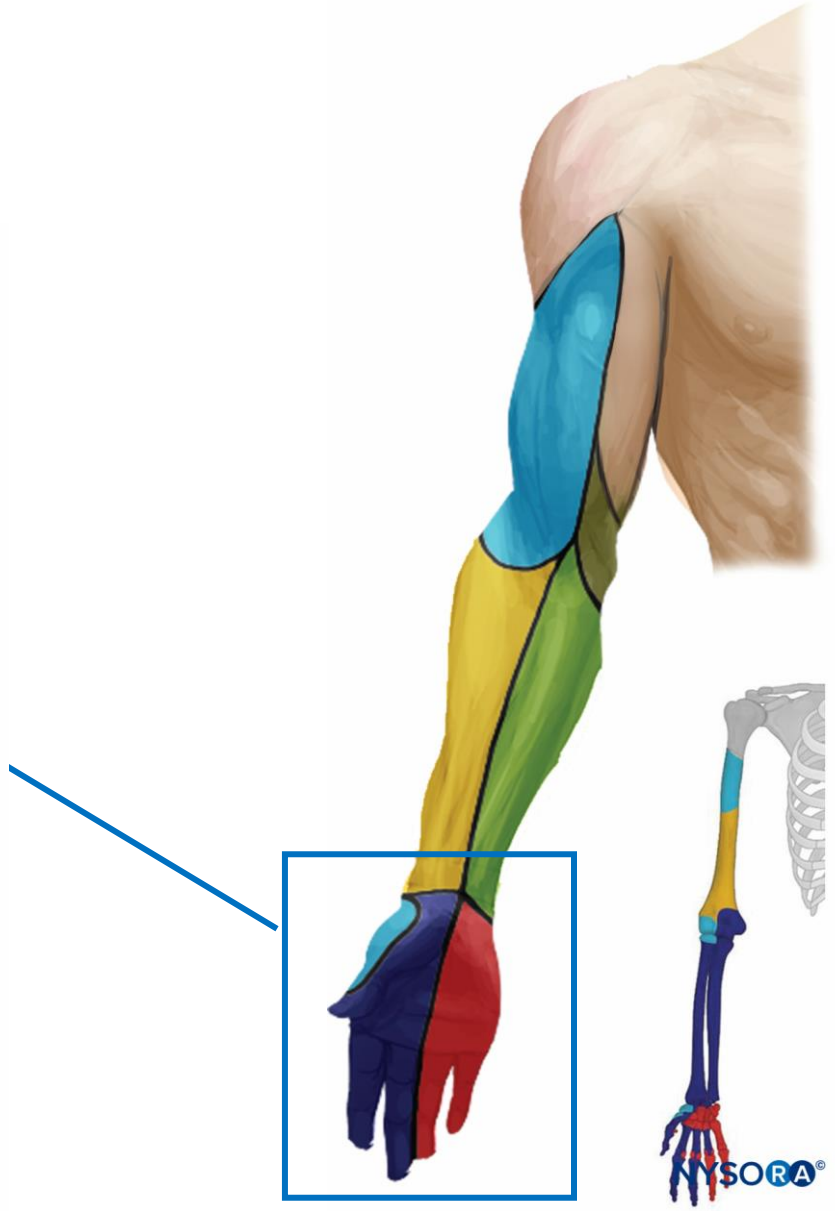
- Anesthésie courte pour le chirurgien
- Analgésie longue pour le patient
- Epargne motrice
- Association bloc proximal court/bloc distal long*

PAS DE BLOC MOTEUR

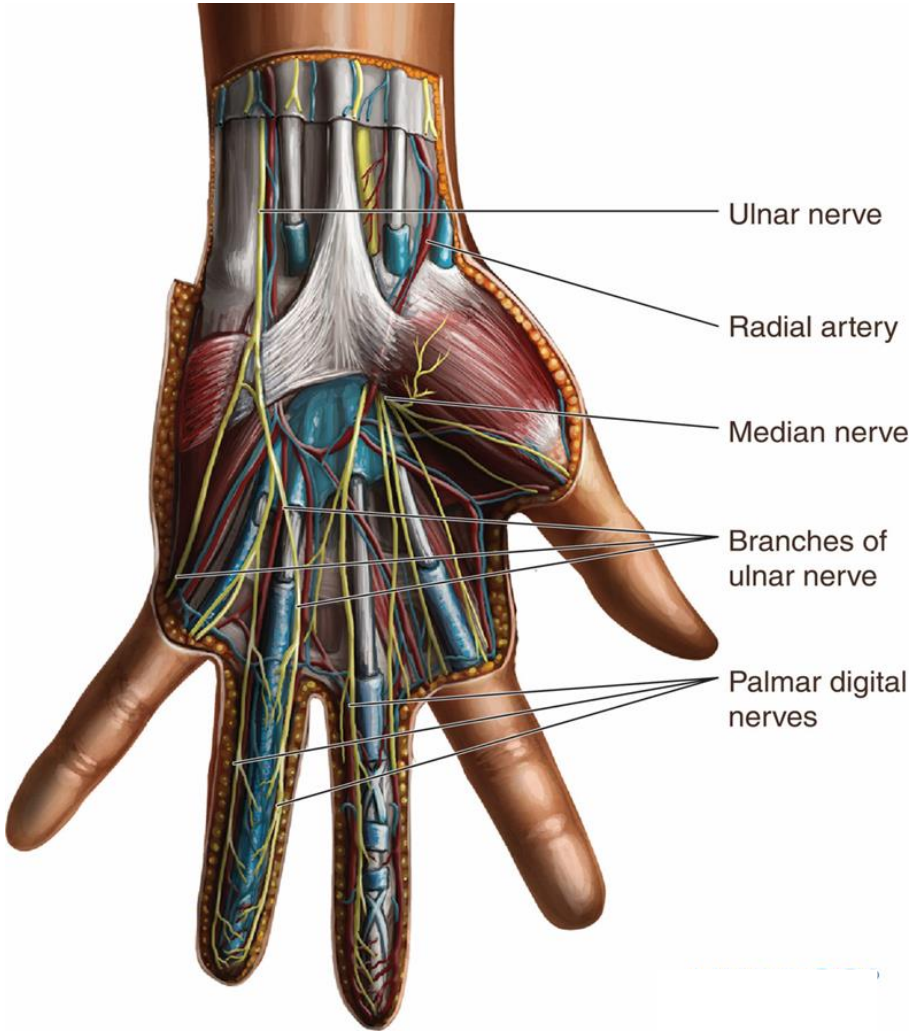
*** M. J. Fredrickson. British Journal of Anaesthesia 107 (2): 236–42 (2011)**

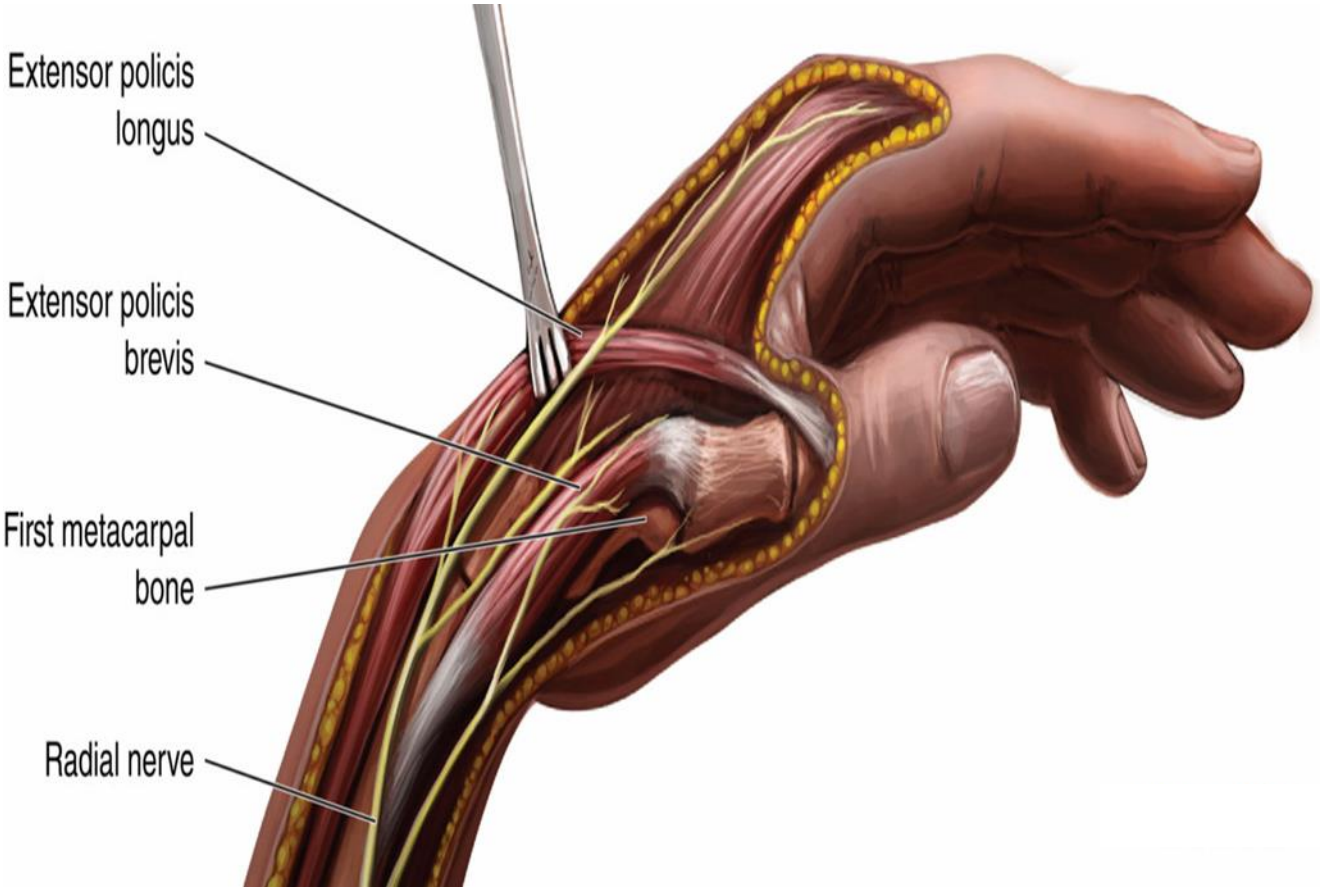
Anatomie: élémentaire!





Anatomie: élémentaire!





Blocs tronculaires

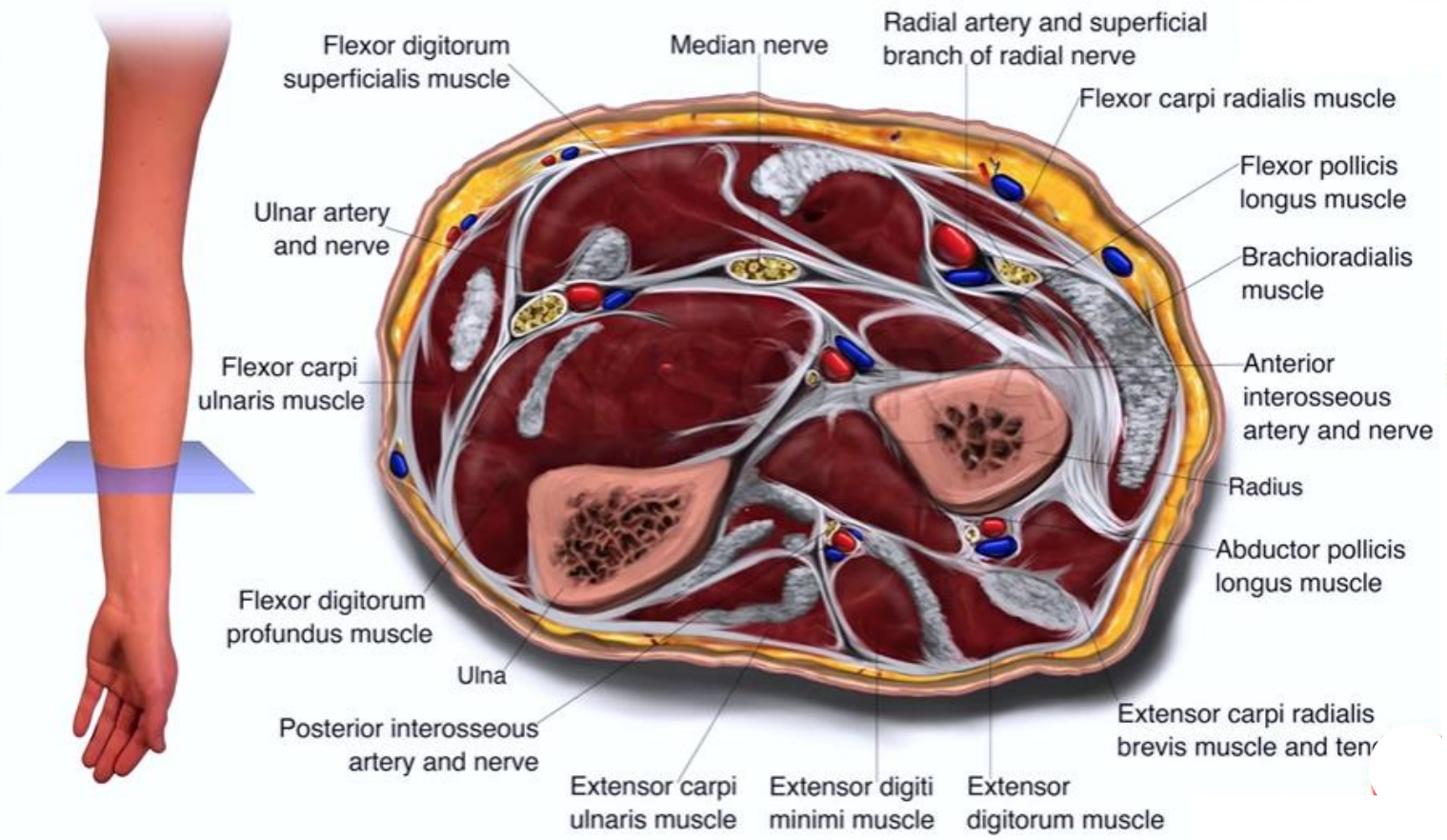
- Blocs distaux au poignet
- Sélectifs: branches terminales
- Simples
- Efficaces
- Épargne motrice
- Doses AL réduites

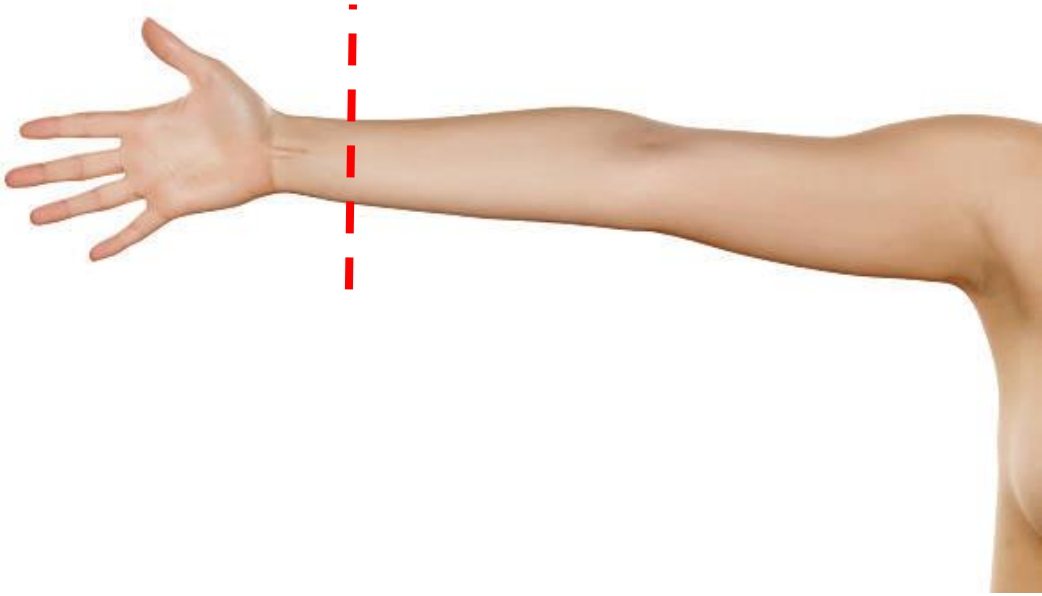
3 NERFS

3 BLOCS

MEDIAN
ULNAIRE
RADIAL

Comment?

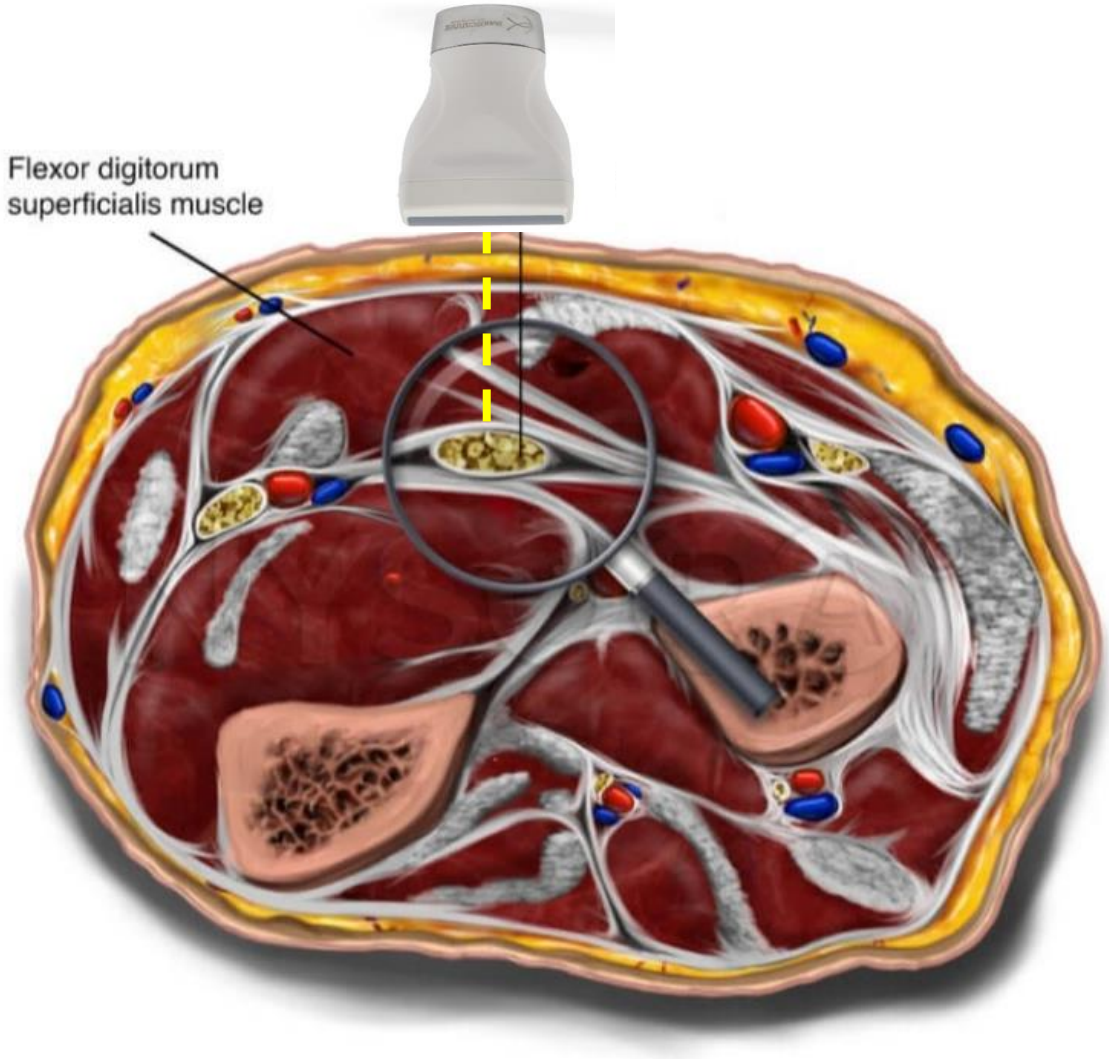

Flexor digitorum superficialis muscle
Median nerve
Radial artery and superficial branch of radial nerve
Flexor carpi radialis muscle
Flexor pollicis longus muscle
Ulnar artery and nerve
Brachioradialis muscle
Flexor carpi ulnaris muscle
Anterior interosseous artery and nerve
Radius
Abductor pollicis longus muscle
Flexor digitorum profundus muscle
Ulna
Posterior interosseous artery and nerve
Extensor carpi radialis brevis muscle and ten
Extensor carpi ulnaris muscle
Extensor digiti minimi muscle
Extensor digitorum muscle

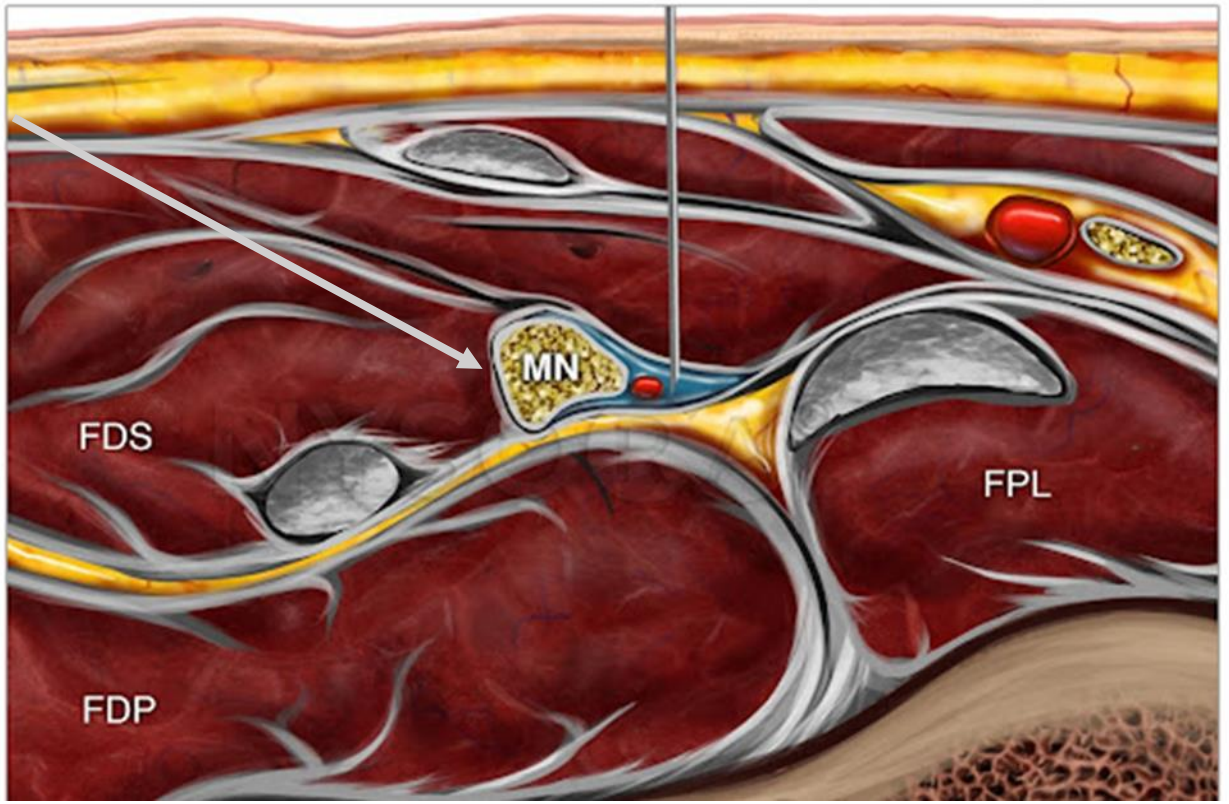


Comment?

Position patient

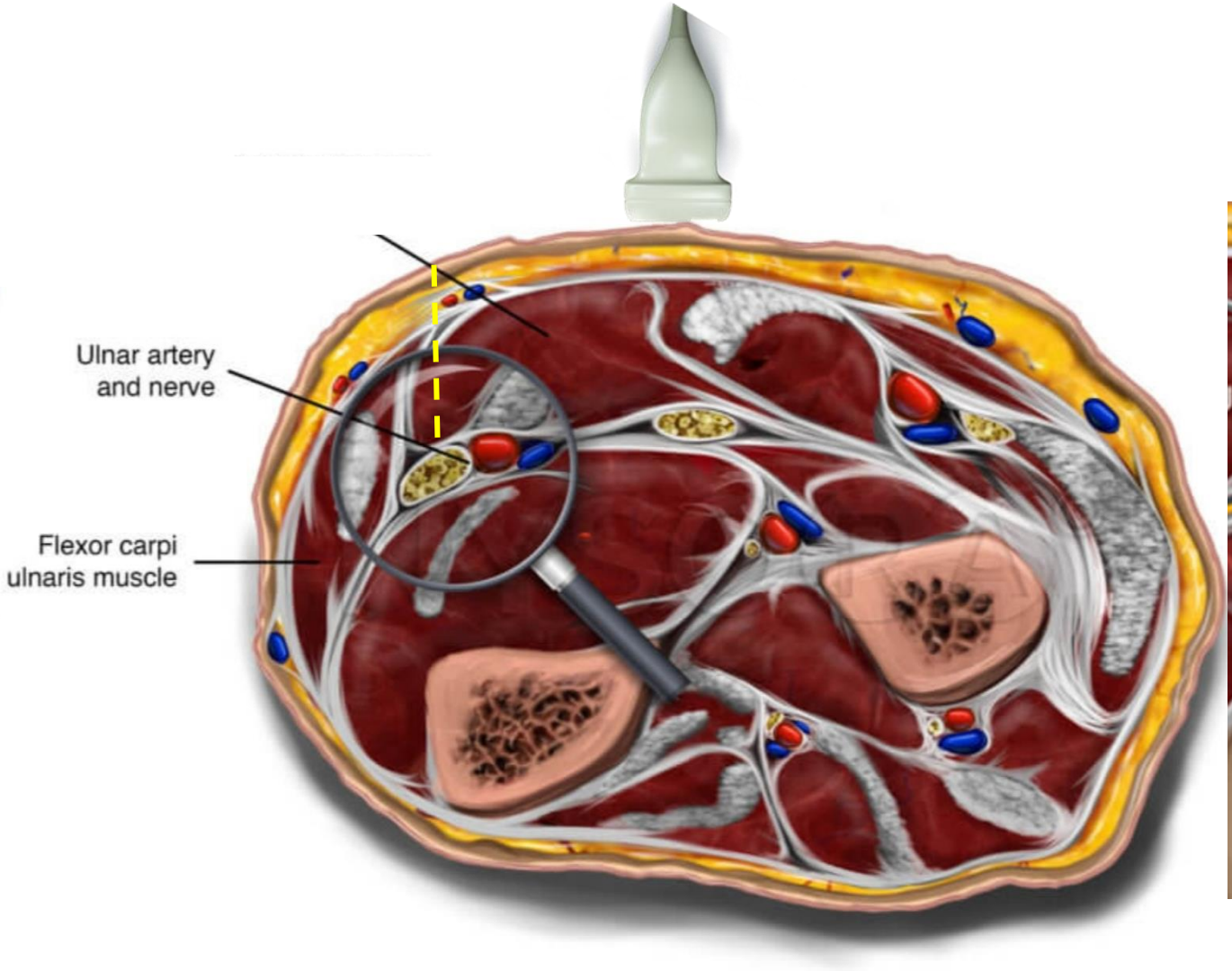
Sonoanatomie: Bloc médian

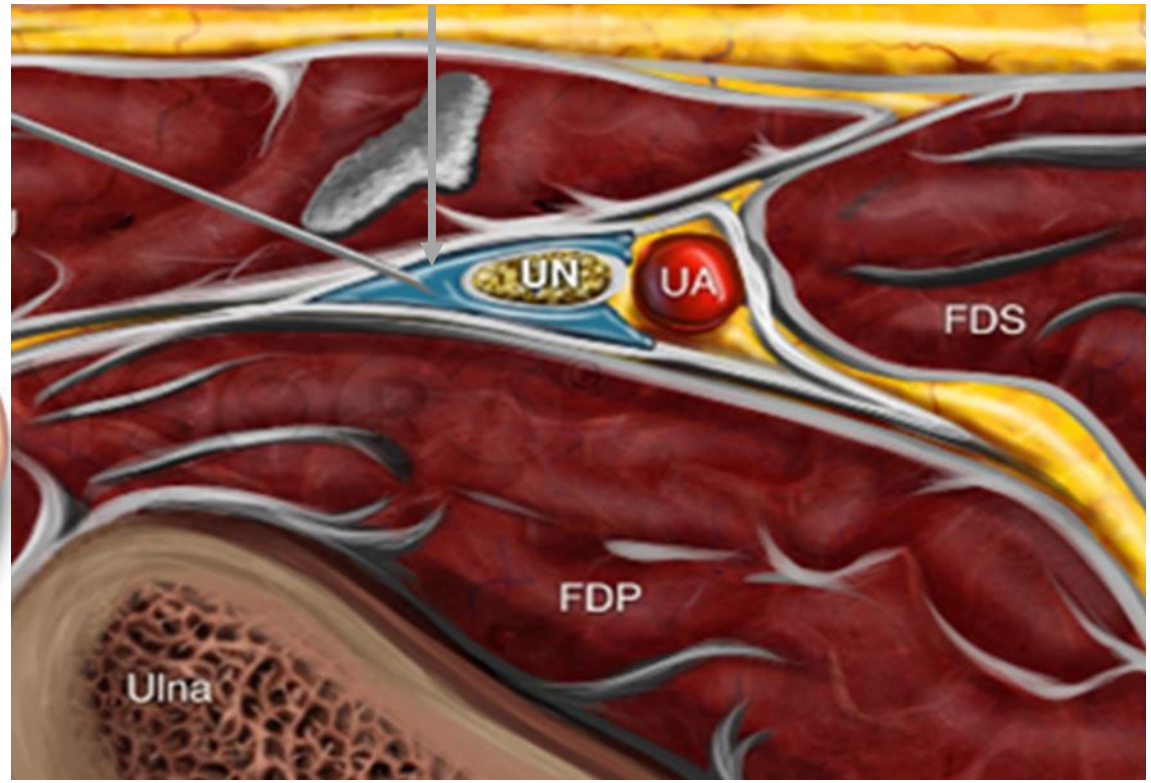




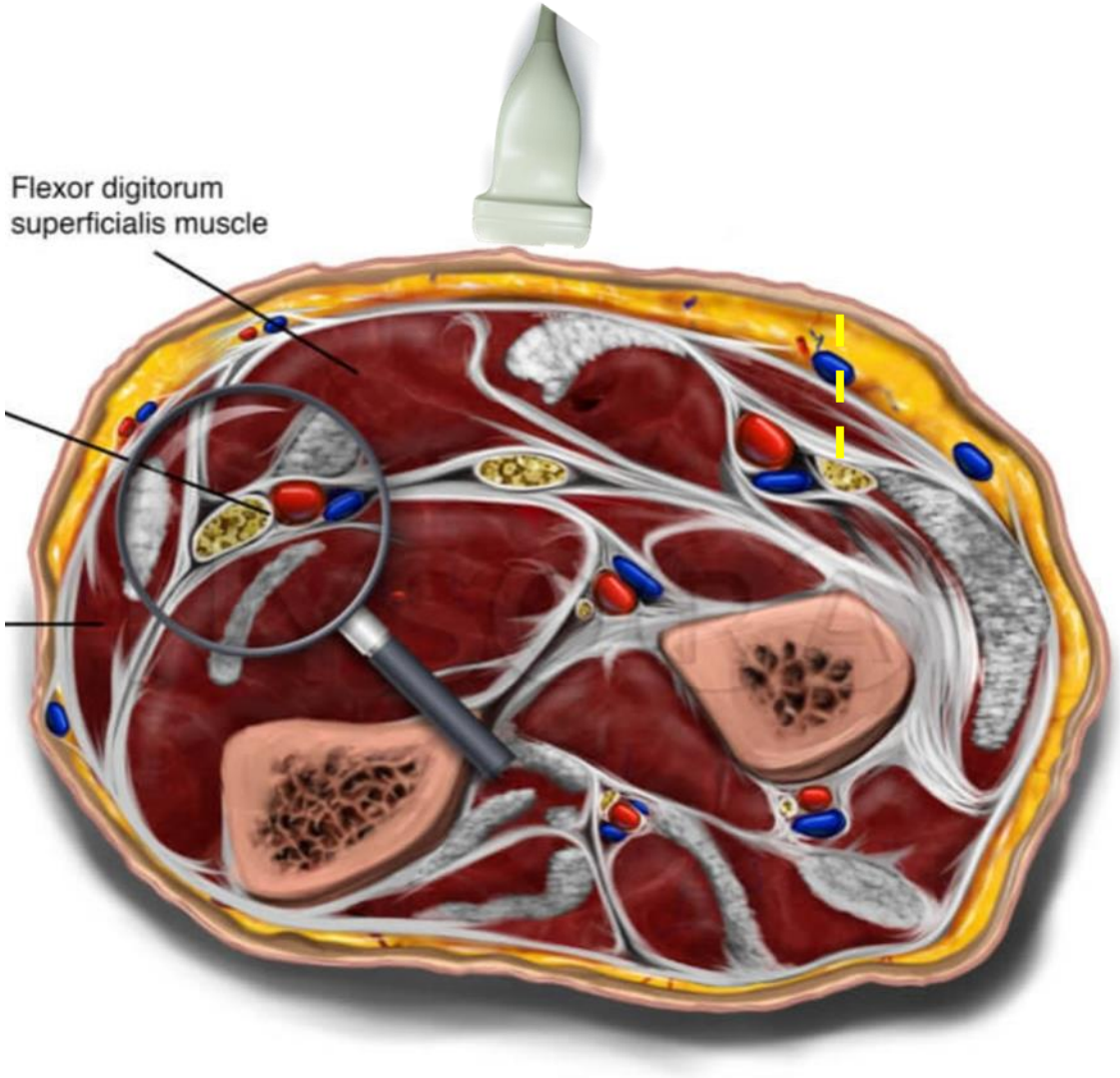
Sonoanatomie: Bloc médian

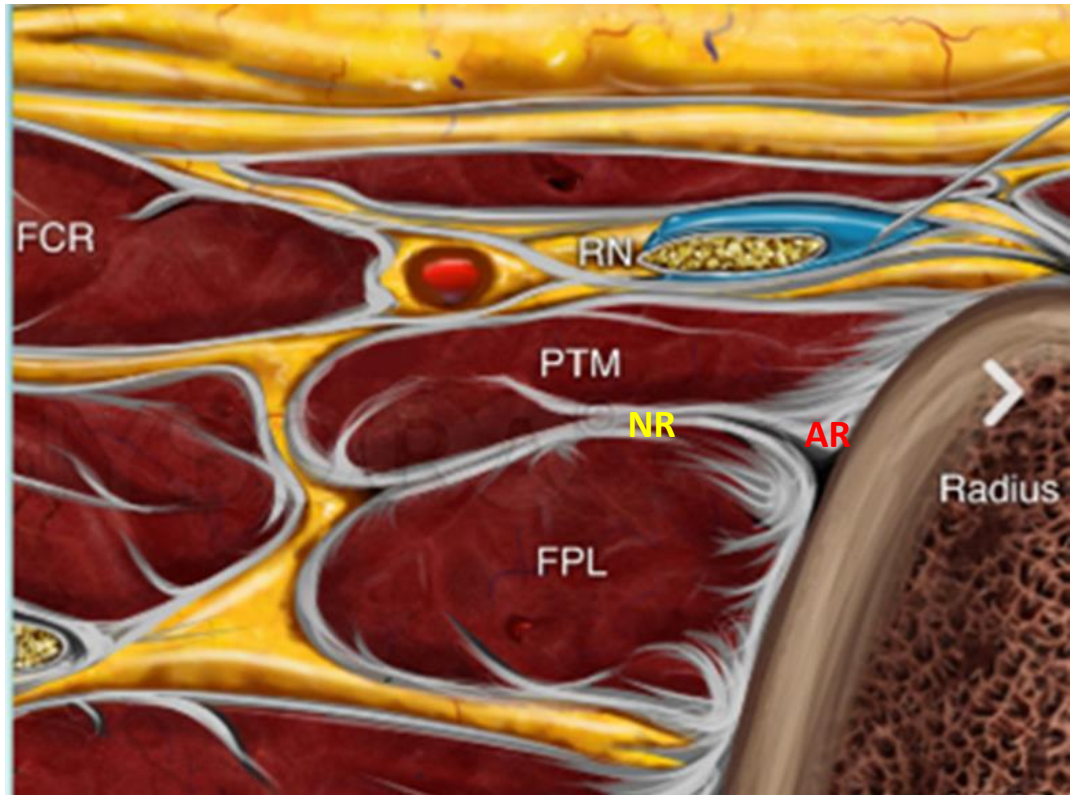
Sonoanatomie: Bloc ulnaire





Sonoanatomie: bloc radial





SAARSIU

WALANT

Quésaco?

WALANT

Wide

Awake

Local

Anesthesia

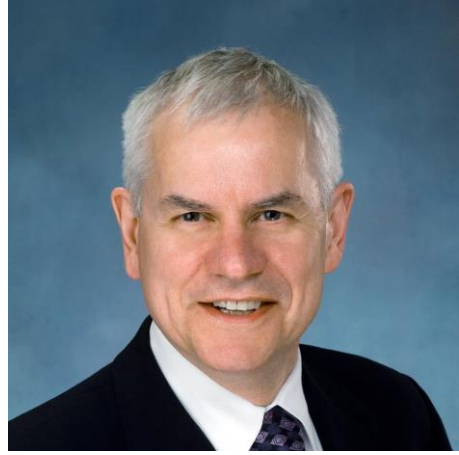
No

Tourniquet

Chirurgie de la main

- Chirurgie de la main
- Patient éveillé
- Anesthésie locale
- Garrot chimique

WALANT

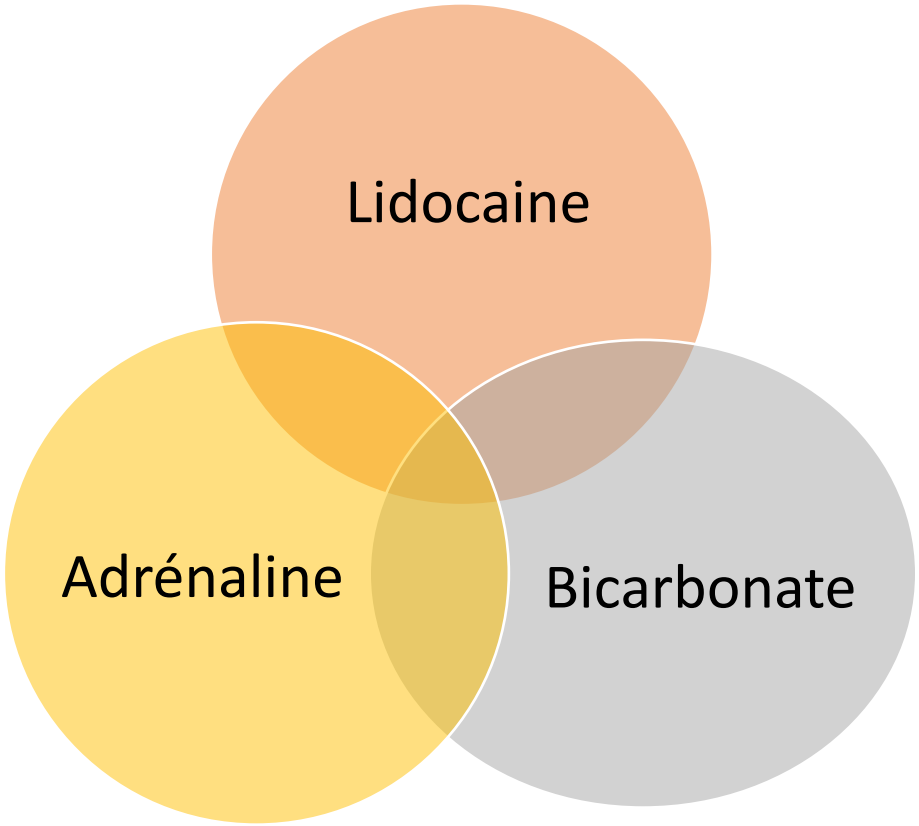


- Décrite dans les années 80
- DONALD LALONDE

MAIS DOSES AL IMPORTANTES

- Réappropriée par les anesthésiologistes
- Echoguidée
- Faibles doses
- Infiltration ciblée

Principe



7-10 ml SOLUTION

Lidocaine 1%: ANESTHESIE

Adrénaline 1/200000: VASOCONSTRICTION

Bicarbonate 8,4% : TAMPON

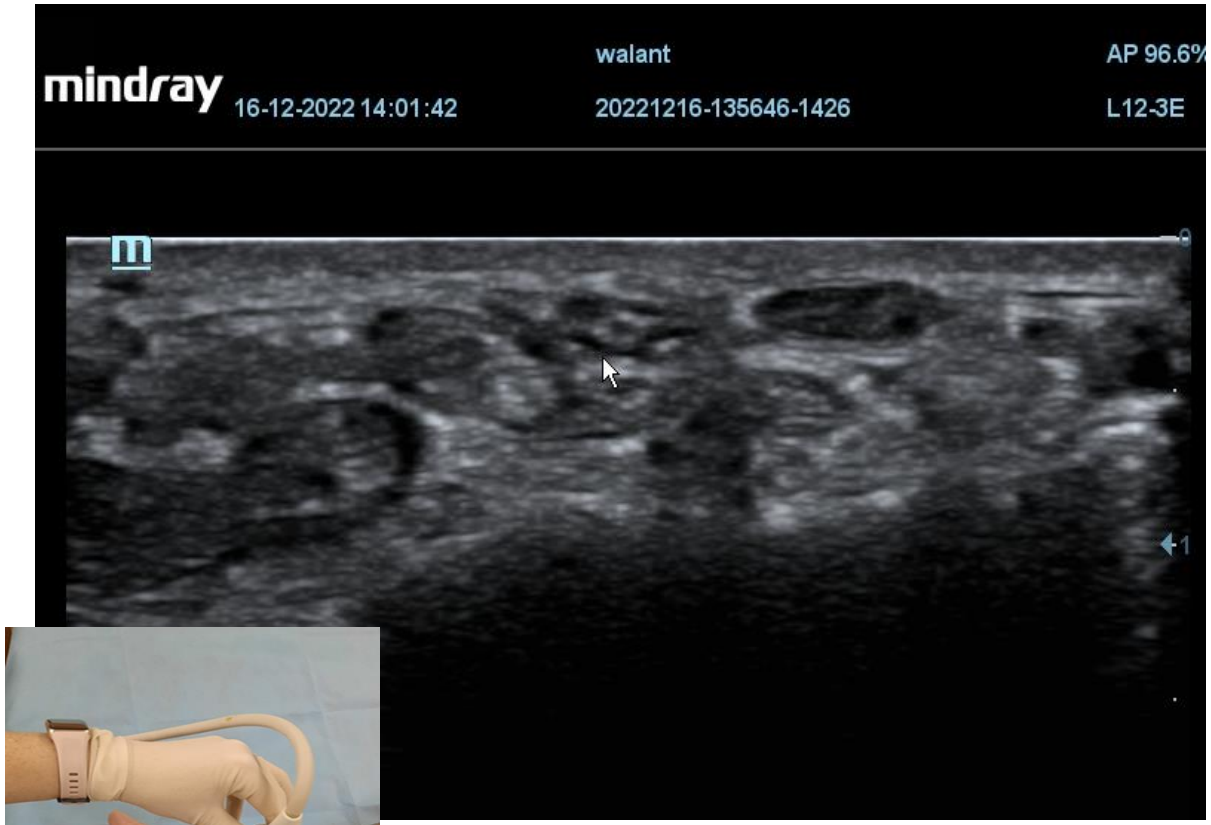
Principe

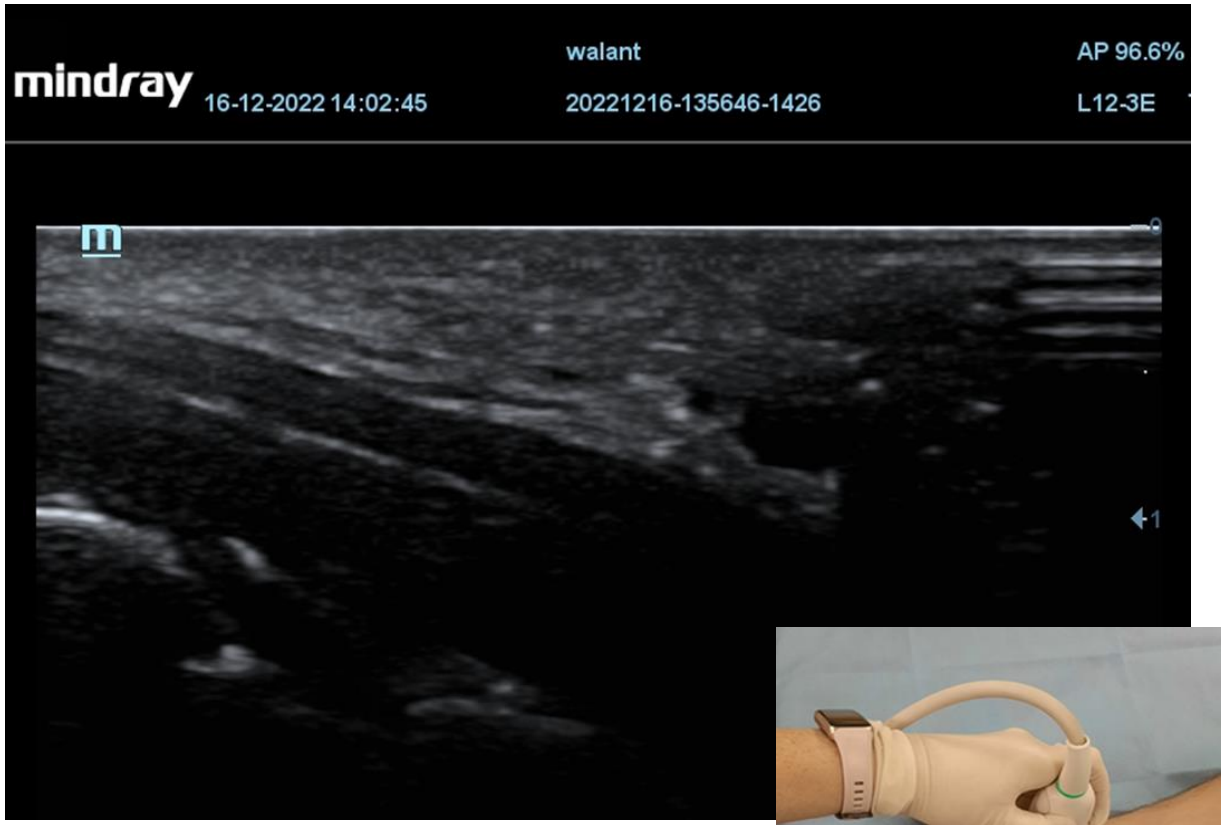
ANESTHESIE

+

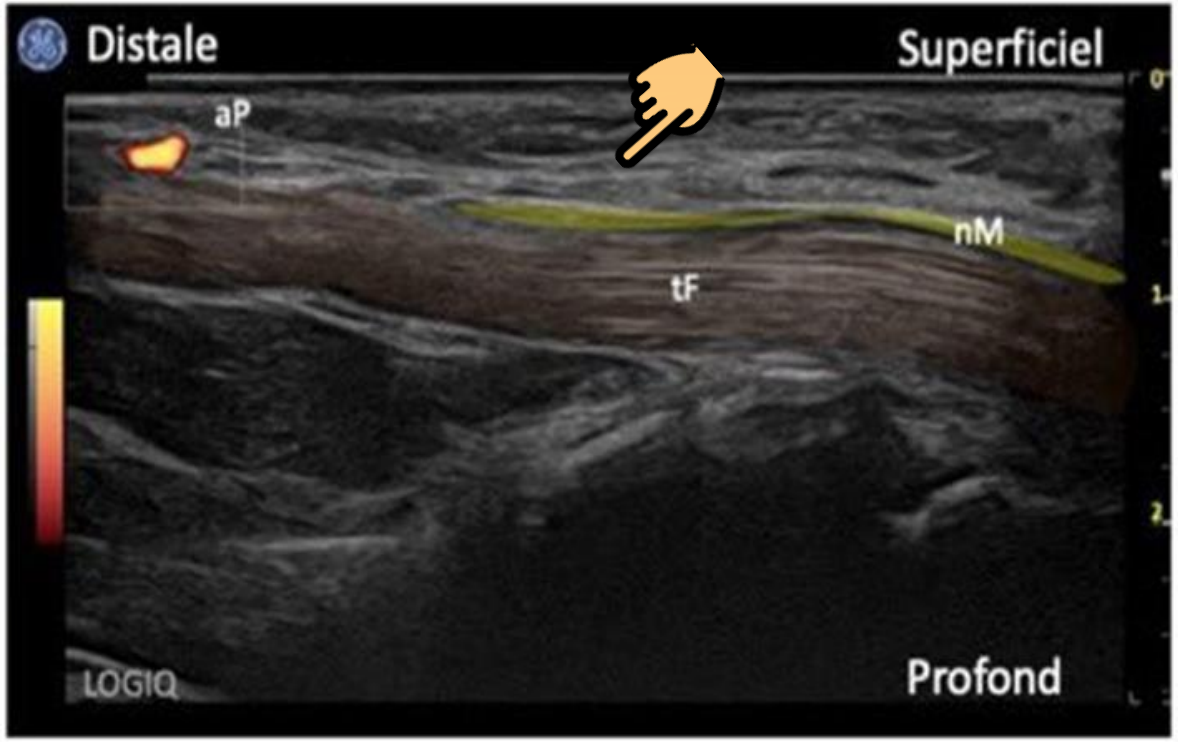
HEMOSTASE

Sonoanatomie





Sonoanatomie



Oui mais

Adrénaline → Extrémités → Vasoconstriction → NECROSE

REV BRAS ORTOP. 2017;52(4):383–389

SBOT
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Update Article

Is it safe to use local anesthesia with adrenaline in hand surgery? WALANT technique☆

CrossMark

Oui mais

SPECIAL TOPIC

A Critical Look at the Evidence for and against Elective Epinephrine Use in the Finger

REV BRAS ORTOP. 2014;49(5):452–460

ELSEVIER

RBO REVISTA BRASILEIRA DE ORTOPEDIA

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Original Article

Use of adrenalin with lidocaine in hand surgery☆,☆☆

*Ronaldo Antonio de Freitas Novais Junior**, *Jorge Ribamar Bacelar Costa*, *Jose Mauricio de Morais Carmo*

Background: Medical texts continue to perpetuate the belief that epinephrine should not be injected in fingers. Little attention has been paid to analyze the evidence that created this belief to see whether it is valid. The significance is that elective epinephrine finger injection has been shown to remove the need for a tourniquet, and therefore delete sedation and general anesthesia for much of hand surgery.

Methods: All of the evidence for the antiadrenaline dogma comes from 21 mostly pre-1950 case reports of finger ischemia associated with procaine and cocaine injection with epinephrine. The authors performed an in-depth analysis of those 21 cases to determine their validity as evidence. They also examined in detail all of the other evidence in the literature surrounding issues of safety with procaine, lidocaine, and epinephrine injection in the finger.

Results: The adrenaline digital infarction cases that created the dogma are invalid evidence because they were also injected with either procaine or cocaine, which were both known to cause digital infarction on their own at that time, and none of the 21 adrenaline infarction cases had an attempt at phentolamine rescue.

Conclusions: The evidence that created the dogma that adrenaline should not be injected into the fingers is clearly not valid. However, there is considerable valid evidence in the literature that supports the tenet that properly used adrenaline in the fingers is safe, and that it removes the need for a tourniquet and therefore removes the need for sedation and general anesthesia for many hand operations. (*Plast. Reconstr. Surg.* 119: 260, 2007.)

Do Not Use Epinephrine in Digital Blocks: Myth or Truth? Part II. A Retrospective Review of 1111 Cases

Saeed Chowdhry, M.D.
Lynn Seidenstricker, M.D.
Damon S. Cooney, M.D.
Ron Hazani, M.D.
Bradon J. Wilhelmi, M.D.

Louisville, Ky.; Chicago and Springfield, Ill.; Knoxville, Tenn.; and Pittsburgh, Pa.

Background: Epinephrine in digital blocks has been condemned by traditional medical theory. The authors provide a retrospective review of 1111 cases involving digital block anesthesia with epinephrine in conjunction with an extensive literature review.

Methods: The authors conducted a retrospective review of 1111 cases involving digital and hand surgery. Observations were made concerning the location of and indication for surgery, age, sex, type of block used, type and dose of anesthetic, use of epinephrine and concentration, use of a tourniquet, follow-up, and complications. Dorsal and transthecal techniques were used exclusively. Patients with vascular compromise did not receive epinephrine and were excluded from the study.

Results: One thousand one hundred eleven cases were reviewed, distributed among 692 male patients and 419 female patients. Sites of surgery ranged throughout the hand and all fingers for a variety of indications. Five hundred patients received injections of 1% plain lidocaine with a dosage range of 2 to 10 cc and an average of 5.7 cc. Six hundred eleven patients received injections of 1% lidocaine with epinephrine (1:100,000) in a dose range of 0.5 to 10 cc and an average dose of 4.33 cc. Nine hundred eighty-six patients (88.75 percent) followed up in the clinic. No patients suffered from digital gangrene in the epinephrine group.

Conclusions: After reviewing 1111 cases, there were no complications associated with the use of epinephrine in digital blocks. The authors suggest that correct application of epinephrine in digital blocks is appropriate, and defend its use. (*Plast. Reconstr. Surg.* 126: 2031, 2010.)

A Multicenter Prospective Study of 3,110 Consecutive Cases of Elective Epinephrine Use in the Fingers and Hand: The Dalhousie Project Clinical Phase

Donald Lalonde, MD, *Saint John, Canada,*
Michael Bell, MD, Paul Benoit, MD, *Ottawa, Canada,*
Gerald Sparkes, MD, *Saint John, Canada,*
Keith Denkler, MD, *San Francisco, CA,*
Peter Chang, MD, *Regina, Canada*

Purpose: To examine prospectively the incidence of digital infarction and phentolamine rescue in a large series of patients in whom local anesthesia with adrenaline was injected electively into the hand and fingers. There continues to be a commonly held belief that epinephrine injection is contraindicated in the finger despite a lack of valid evidence to support this concept in the literature.

Methods: From 2002 to 2004 there were 9 hand surgeons in 6 cities who prospectively recorded each consecutive case of elective hand and finger epinephrine injection. They recorded each instance of skin or tissue loss and the number of times phentolamine reversal of adrenaline vasoconstriction was required.

Results: There were 3,110 consecutive cases of elective injection of low-dose epinephrine (1:100,000 or less) in the hand and fingers and none produced any instance of digital tissue loss. Phentolamine was not required to reverse the vasoconstriction in any patients.

Conclusions: The true incidence of finger infarction in elective low-dose epinephrine injection into the hand and finger is likely to be remote, particularly with the possible rescue with phentolamine. (J Hand Surg 2005;30A:1061–1067. Copyright © 2005 by the American Society for Surgery of the Hand.)

Key words: Epinephrine, infarction, hand, finger, elective.

WALANT ou Tronculaires?

HAND/PERIPHERAL NERVE

- WALANT vs AG

- WALANT vs AL+garrot

Patients' Perspective on Carpal Tunnel Release with WALANT or Intravenous Regional Anesthesia

Journal of Orthopaedic Surgery

Article

Perceived comfort during minor hand surgeries with wide awake local anaesthesia no tourniquet (WALANT) versus local anaesthesia (LA)/tourniquet

Journal of Orthopaedic Surgery
25(3) 1–4
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DOI: 10.1177/2309499017739499
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Surgery Article

An Economic Analysis of MAC Versus WALANT: A Trigger Finger Release Surgery Case Study

HAND
2017, Vol. 12(4) 348–351
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DOI: 10.1177/1558944716669693
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TRONCULANTE

TRONCULAIRES

Anesthésie
Analgésie

WALANT

Garrot
Hémostase

WALANT ou Tronculaires?

- WALANT vs ALR: pas d'études

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WALANT TECHNIQUE IMPROVES THE EFFICIENCY OF DISTAL NERVE BLOCKS FOR CARPAL TUNNEL RELEASE

[1]M Doirado*, [2]F Le Sache, [2]L Thomsen, [3]G Aziz, [3]C Naudin, [3]M Merzoug, [2]D Barouk,

30 Patients
Canal carpien
Groupe 1: blocs distaux au poignet + WALANT
Groupe 2: blocs distaux + Garrot

RESULTATS

Conditions chirurgicales: similiaires
↓ EVA : Groupe 1
↓ Recours à la sedation: Groupe 1
↑Hématomes à 15 jrs: Groupe 2

Take home message

- Simple facile à réaliser: échographie!
- Safe: pas de complications
- Confort patient: satisfaction
- Pas de bloc moteur: autonomie + testing peropératoire
- Pas de garrot: idéal si garrot CI
- Analgésie post-opératoire
- Prudence terrains vasculaires: drépano, vascularites, angiopathie diabétique; sdme Raynaud…

WALLANT/Tronculaires:
« TRONCULANTE »
Best technique?

merci