

SAMBA 2024 Annual Meeting

May 2-4, 2024



Perioperative Allergy

Busting Perioperative Common Myths

Common Perioperative Culprits

Agents Implicated in Perioperative Allergic Reaction
Antibiotics
NMB drugs
Chlorhexidine
Dyes
Sugammadex
Latex
α -Galactosidase, gelatins
Allogeneic blood components
Hypnotics
Opioids
Radiocontrast media
Local Anesthetics

Frequently Reported



Very Rare

Charles et al. Perioperative Anaphylaxis.
Anesthesiology 2023; 138:100–110.

Perioperative Allergy Misconceptions...

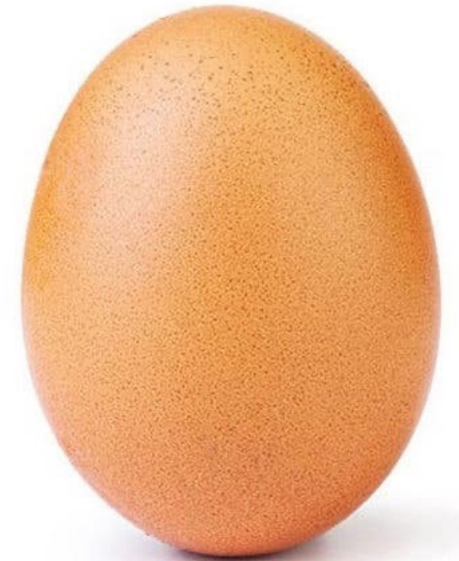
Propofol and Food Allergy

- Propofol is an alkylphenol derivative (2,6-di-isopropylphenol) formulated as an oil-in-water emulsion using:
 - 10% refined soybean oil
 - 1.2% highly purified egg lecithin
 - 2.25% glycerol
- The isopropyl group or the phenol ring is likely the allergenic determinant vs. the lipid vehicle

Dewachter P, et al. Anaesthetic management of patients with pre-existing allergic conditions: a narrative review. Br J Anaesth. 2019; 123(1):e65-e81

Propofol and Food Allergy

- Propofol is an alkylphenol derivative (2,6-di-isopropylphenol) formulated as an oil-in-water emulsion using:
 - 10% refined soybean oil
 - 1.2% highly purified egg lecithin
 - 2.25% glycerol
- The isopropyl group or the phenol ring is likely the allergenic determinant vs. the lipid vehicle
- Vast majority of egg allergy is to proteins in the egg *white*.
- Propofol has lecithin, a fatty substance in egg *yolk* with no role in egg allergy



Dewachter P, et al. Anaesthetic management of patients with pre-existing allergic conditions: a narrative review. Br J Anaesth. 2019; 123(1):e65-e81

Propofol and Food Allergy

- Propofol is an alkylphenol derivative (2,6-di-isopropylphenol) formulated as an oil-in-water emulsion using:
 - 10% refined soybean oil
 - 1.2% highly purified egg lecithin
 - 2.25% glycerol
- The isopropyl group or the phenol ring is likely the allergenic determinant vs. the lipid vehicle
- Major soy allergens are proteins belonging to the cupin family
- Soybean oil in propofol is highly refined and unlikely to contain allergenic particles



Dewachter P, et al. Anaesthetic management of patients with pre-existing allergic conditions: a narrative review. Br J Anaesth. 2019; 123(1):e65-e81

Propofol and Food Allergy

- Propofol is an alkylphenol derivative (2,6-di-isopropylphenol) formulated as an oil-in-water emulsion using:
 - 10% refined soybean oil
 - 1.2% highly purified egg lecithin
 - 2.25% glycerol
- The isopropyl group or the phenol ring is likely the allergenic determinant vs. the lipid vehicle
- Major peanut allergens have been identified and belong to the prolamin superfamily



Dewachter P, et al. Anaesthetic management of patients with pre-existing allergic conditions: a narrative review. Br J Anaesth. 2019; 123(1):e65-e81

No evidence for contraindications to the use of propofol in adults allergic to egg, soy or peanut[†]

L. L. Asserhøj*, H. Mosbech, M. Krøigaard and L. H. Garvey

Danish Anaesthesia Allergy Centre (DAAC), Allergy Clinic UA-816, Copenhagen University Hospital, Gentofte, Kildegårdsvej 28, 2900 Hellerup, Denmark

- Study A: examined the frequency of propofol allergy in 153 patients with suspected perioperative allergic reactions
- Study B: retrospectively investigated propofol tolerance in 99 patients with a positive IgE to egg, soy, or peanut

No evidence for contraindications to the use of propofol in adults allergic to egg, soy or peanut[†]

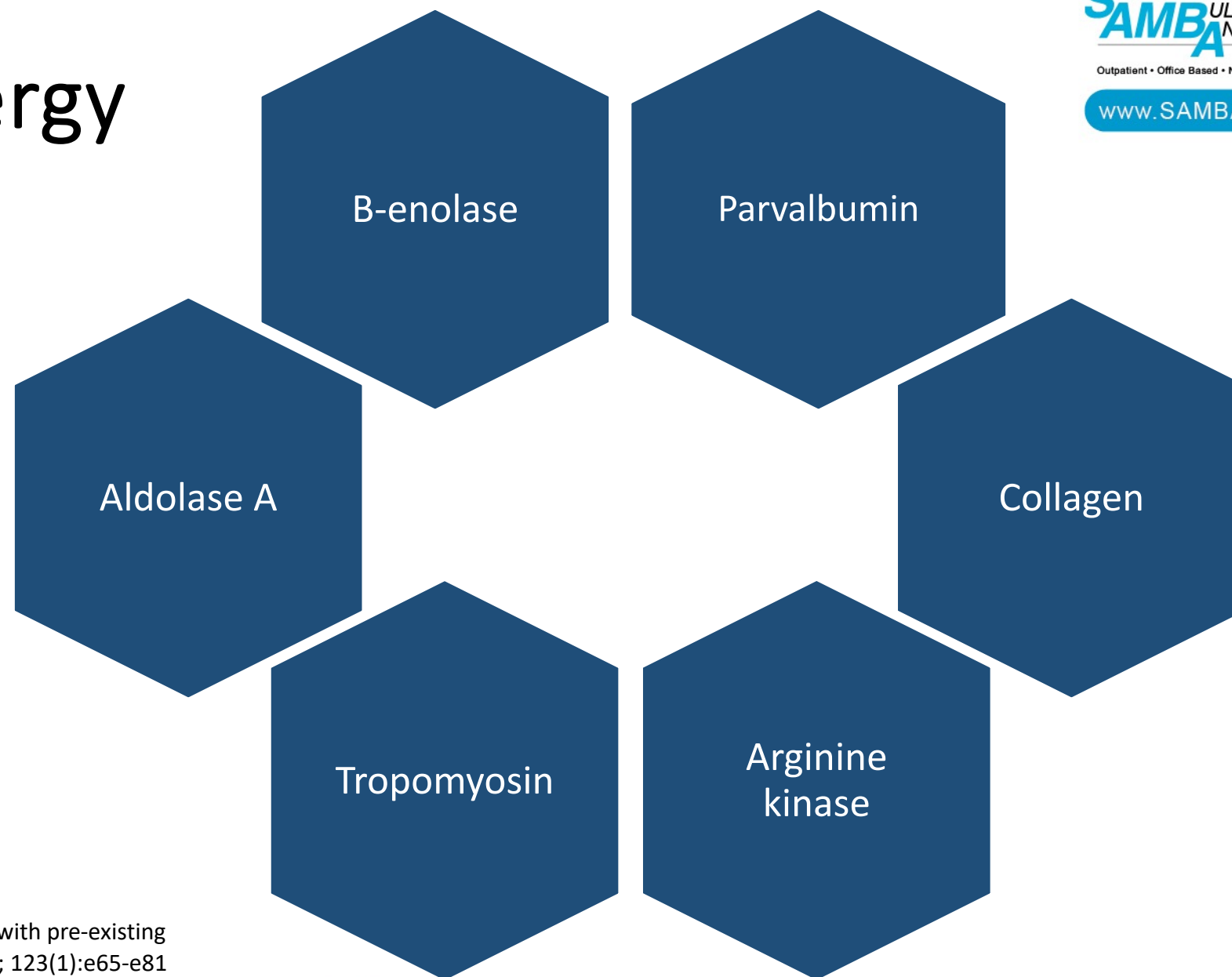
L. L. Asserhøj*, H. Mosbech, M. Krøigaard and L. H. Garvey

Danish Anaesthesia Allergy Centre (DAAC), Allergy Clinic UA-816, Copenhagen University Hospital, Gentofte, Kildegårdsvej 28, 2900 Hellerup, Denmark

- Study A: examined the frequency of propofol allergy in 153 patients with suspected perioperative allergic reactions
- **4(2.6%) were diagnosed with propofol allergy. None had egg, soy, or peanut allergies**
- Study B: retrospectively investigated propofol tolerance in 99 patients with a positive IgE to egg, soy, or peanut
- **No signs of allergic reaction to propofol in 171 anesthetics**

Seafood Allergy

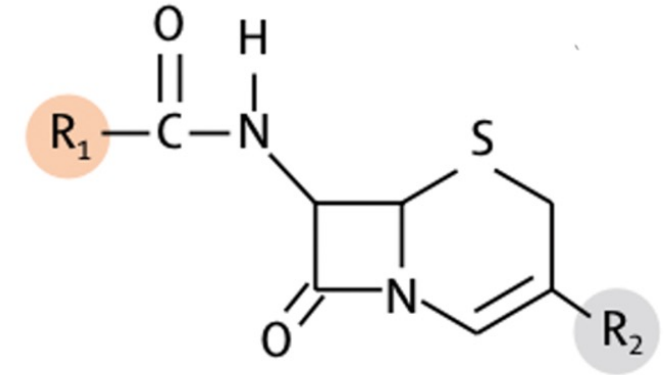
~~Iodine~~



Dewachter P, et al. Anaesthetic management of patients with pre-existing allergic conditions: a narrative review. Br J Anaesth. 2019; 123(1):e65-e81

PCN allergy and Cefazolin

- IgE-mediated allergy to β -lactams is related to the R1 side chain, *not* the β -lactam core
- Cefazolin has a unique R1 side chain
- PCN allergy does NOT predict cefazolin allergy
- Patients reporting a PCN allergy have a 50% increased odds of SSI
- Safety profile and cost for cefazolin is superior to second-line antibiotics



Vorobeichik L, et al. Misconceptions Surrounding Penicillin Allergy: Implications for Anesthesiologists. *Anesth Analg* 2018; 127(3): 642-9.

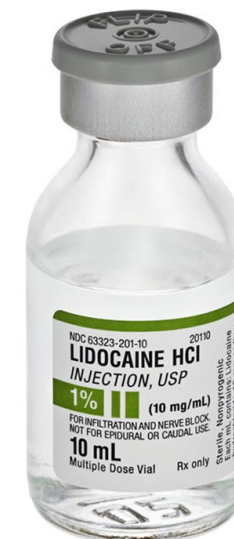
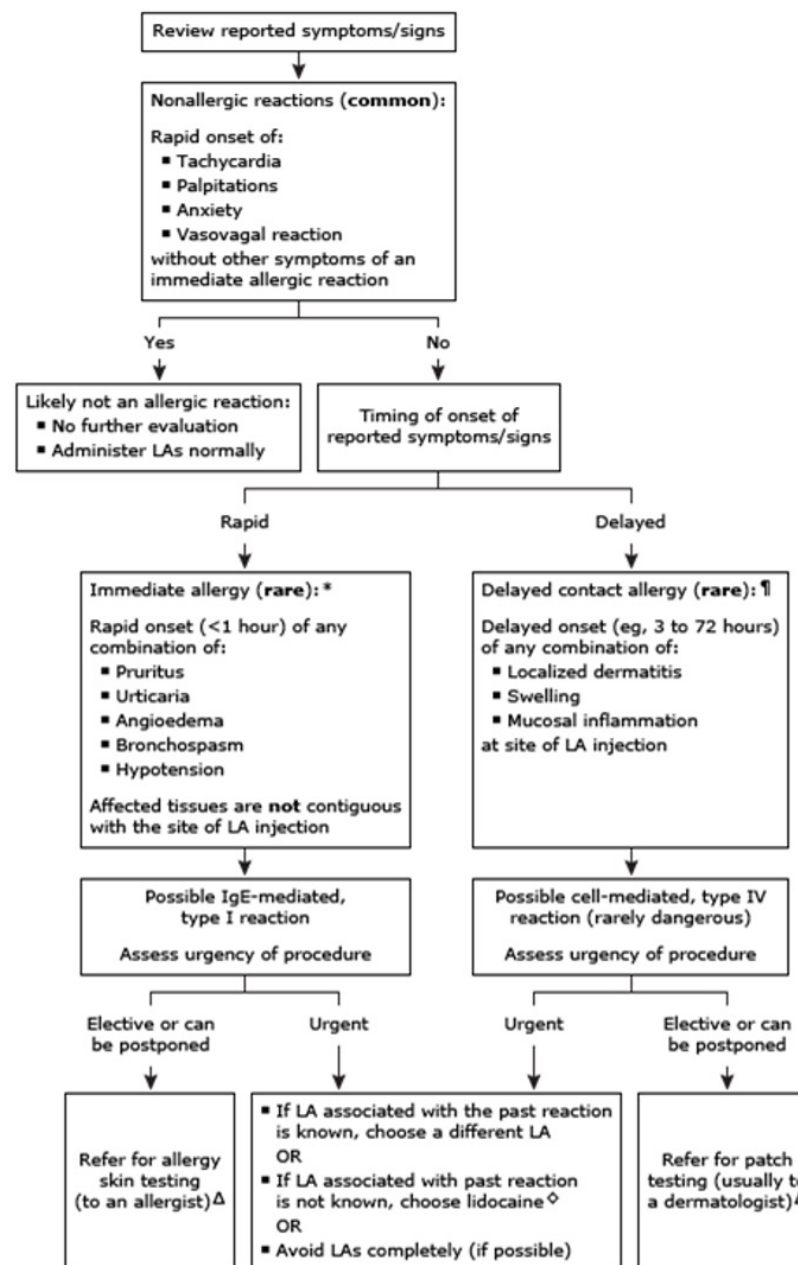
Twenty Years' Experience with Anaphylaxis-Like Reactions to Local Anesthetics: Genuine Allergy is Rare

Axel Trautmann, MD, Matthias Goebeler, MD, and Johanna Stoevesandt, MD *Würzburg, Germany*

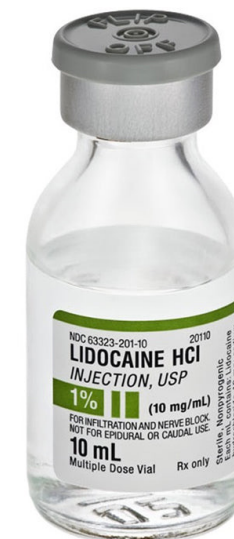
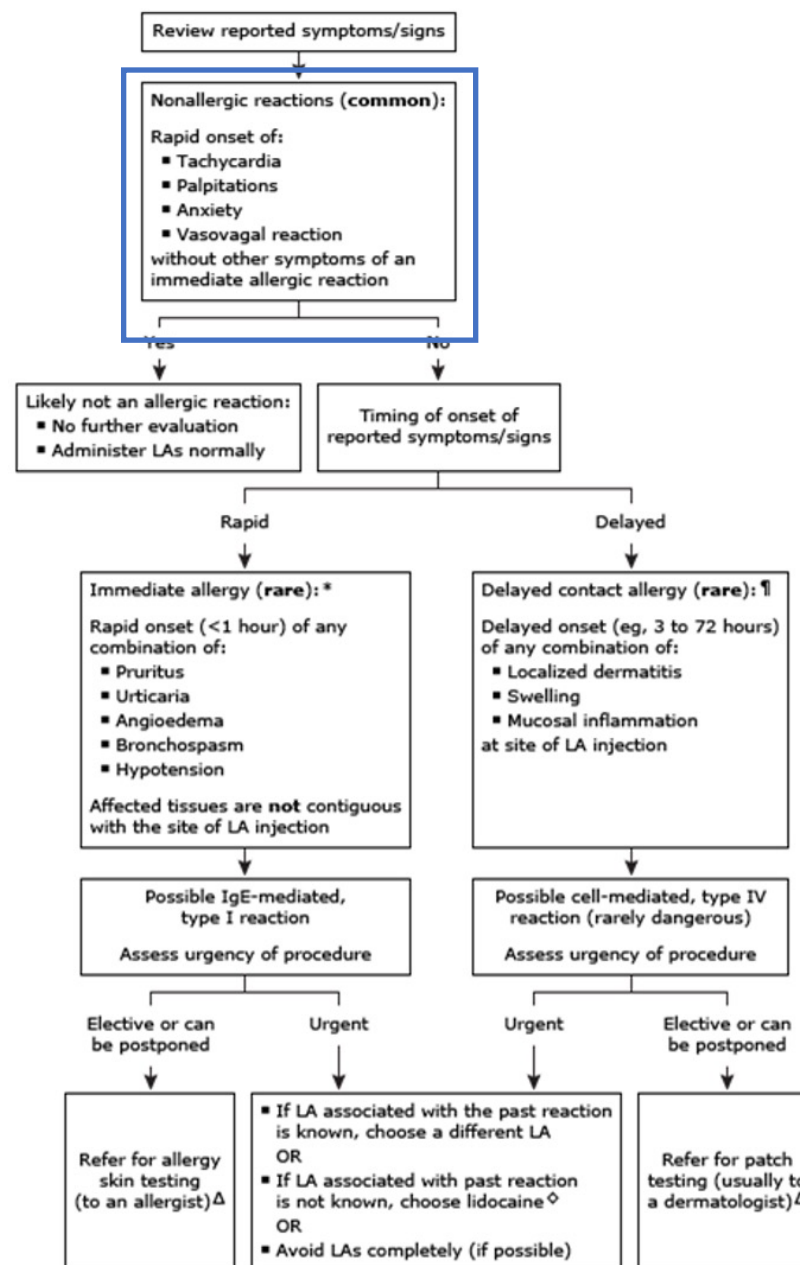


- Immediate hypersensitivity reactions are very rare
- 20 yr in an allergy clinic:
 - **402 patients referred** for LA reaction
 - 29 described episode c/w acute urticaria within 30 min of LA injection
 - **2 had IgE-mediated LA allergy**

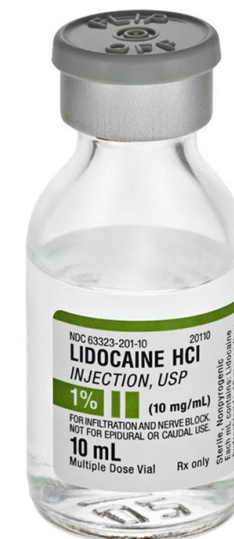
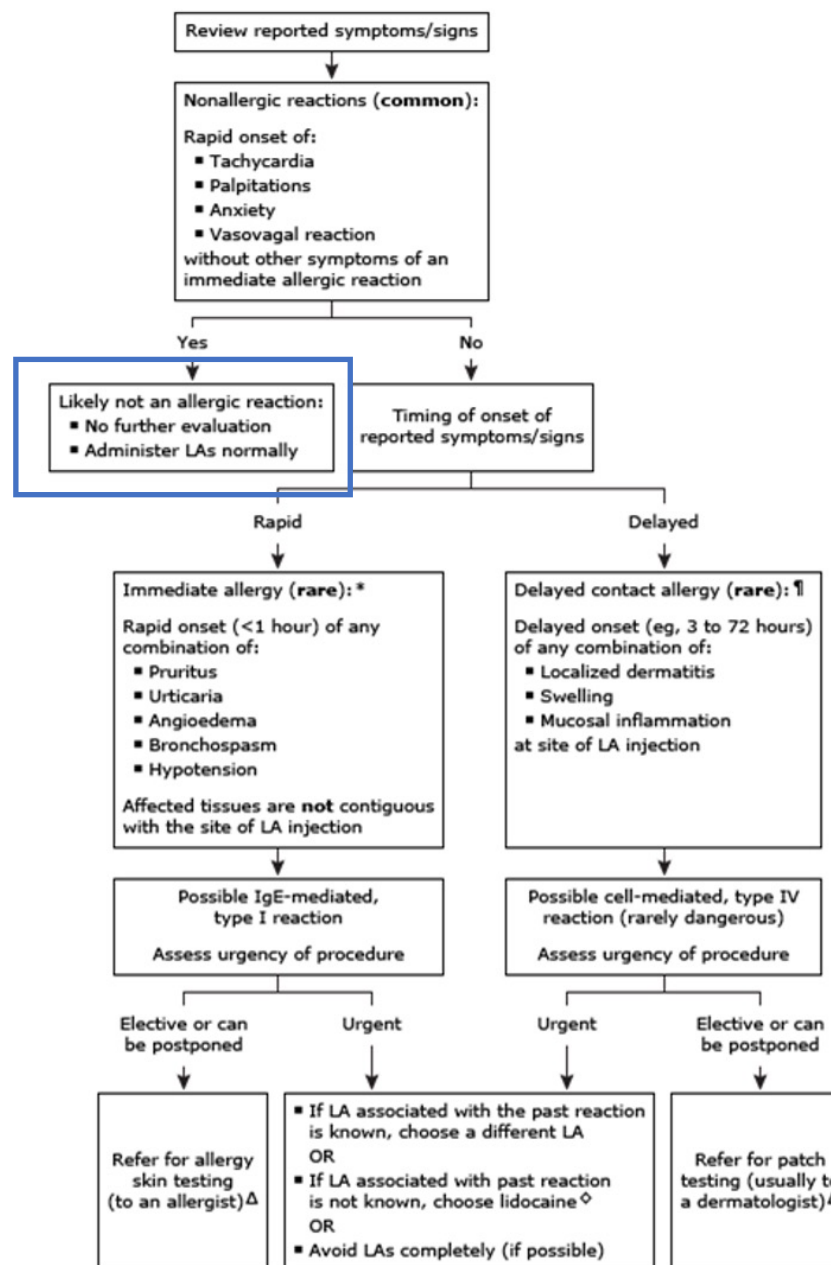
Approach to Patient who Reports Previous Adverse Reaction to Local Anesthetic



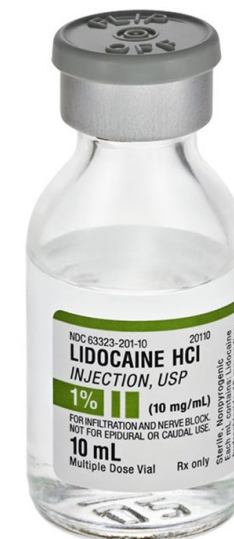
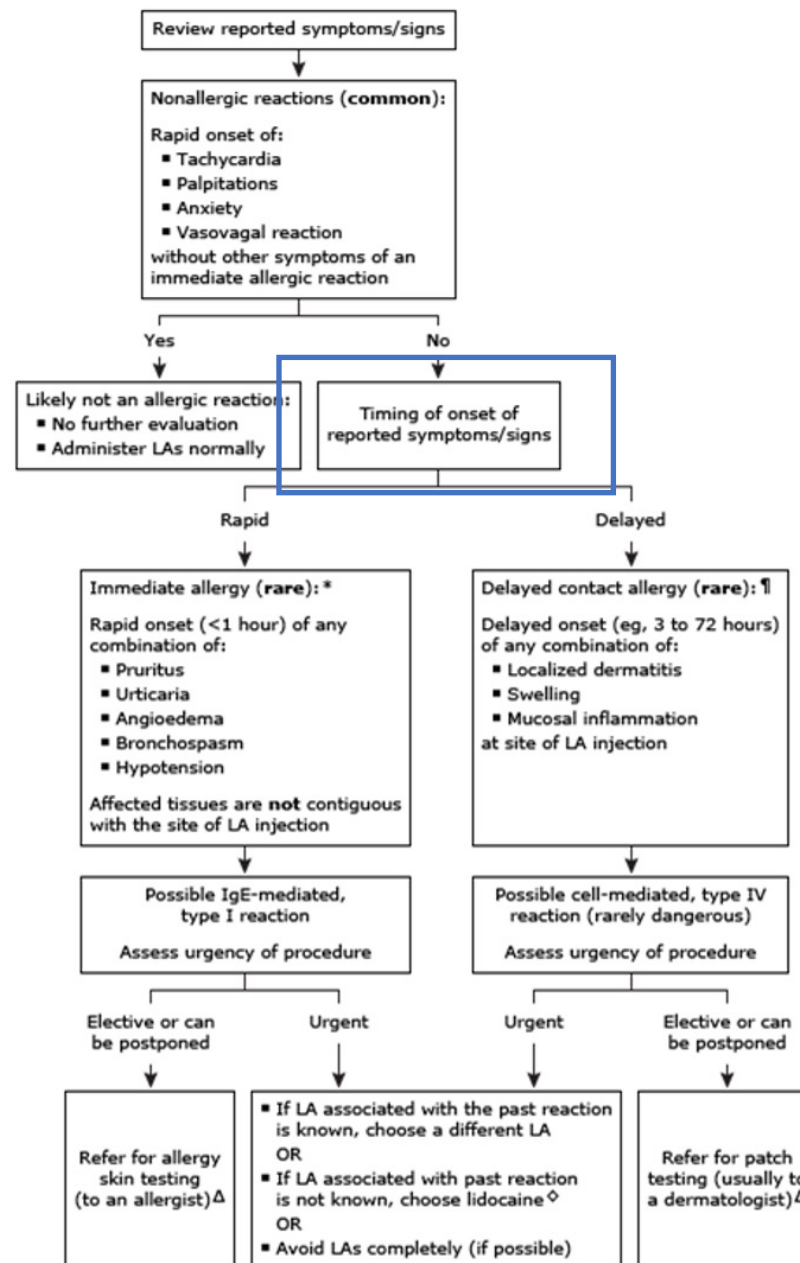
Approach to Patient who Reports Previous Adverse Reaction to Local Anesthetic



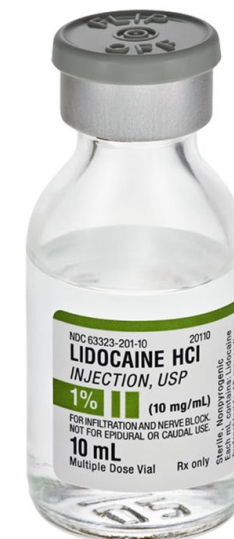
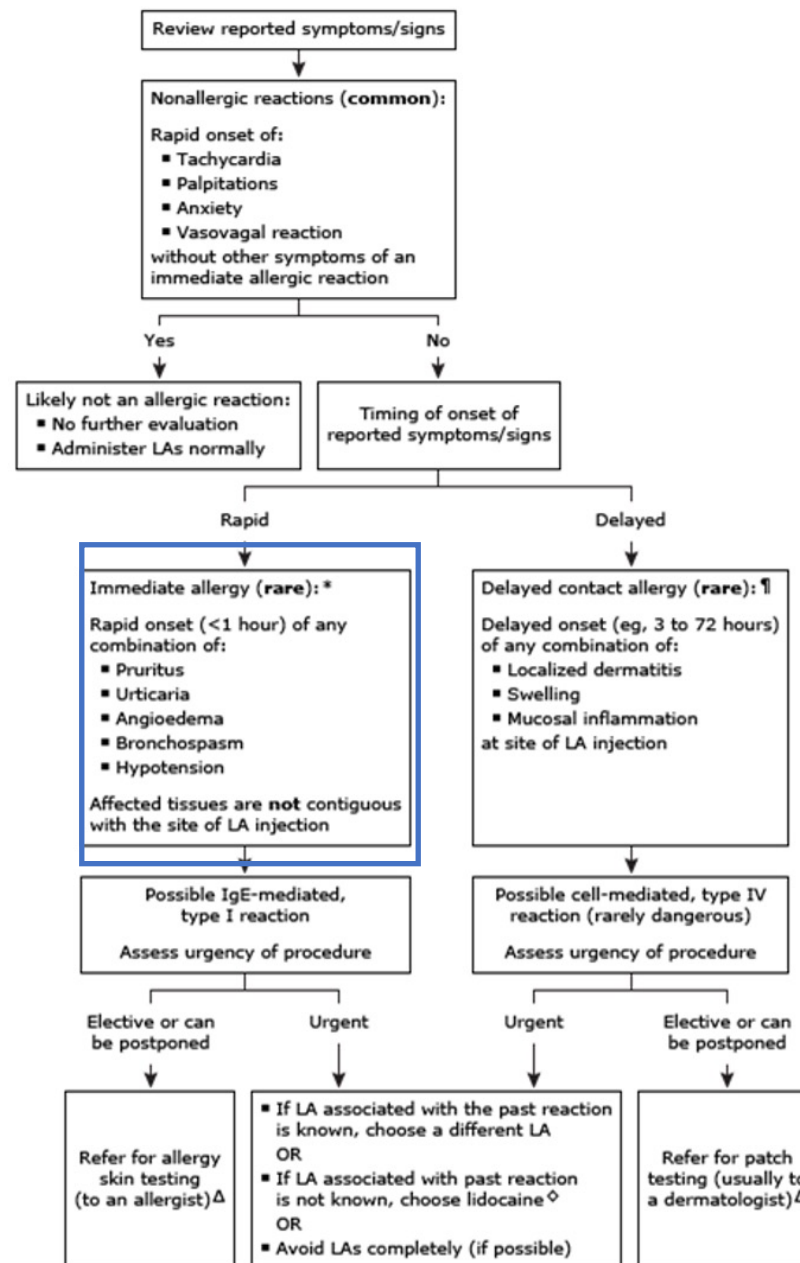
Approach to Patient who Reports Previous Adverse Reaction to Local Anesthetic



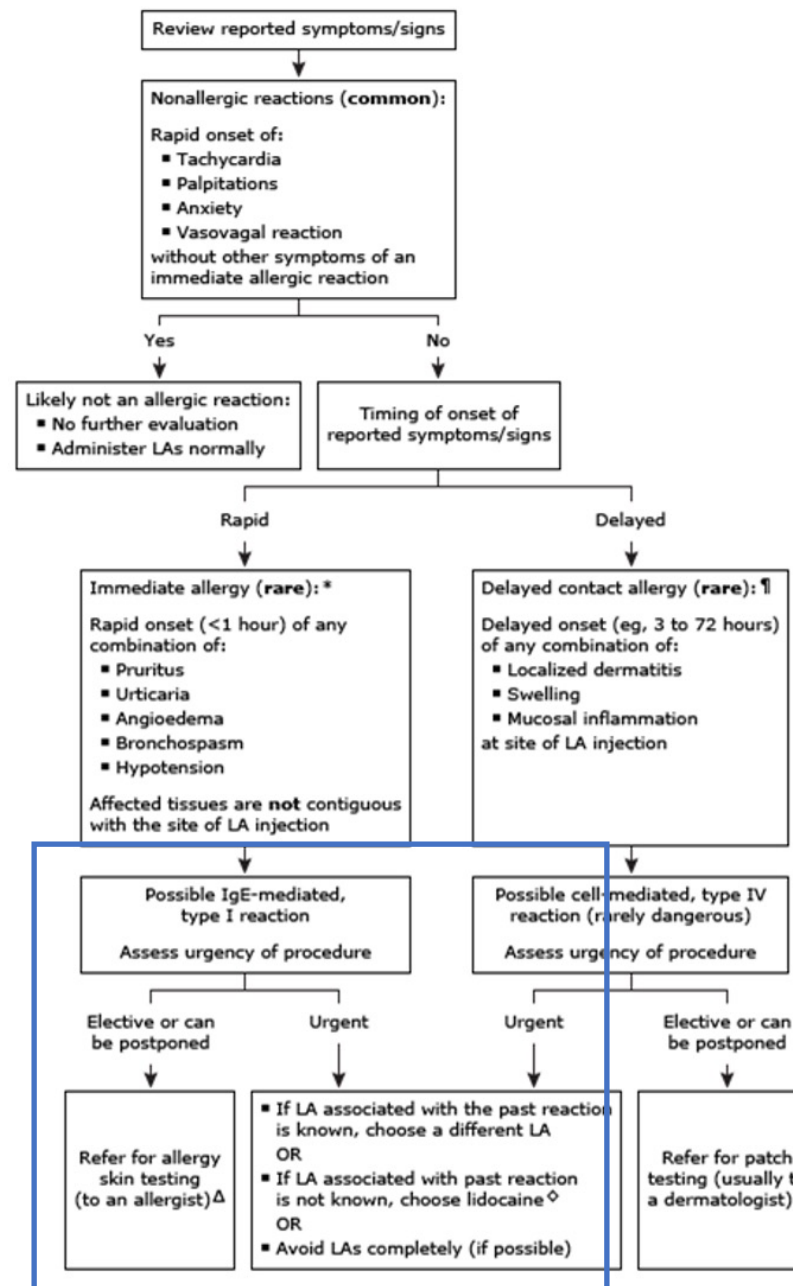
Approach to Patient who Reports Previous Adverse Reaction to Local Anesthetic



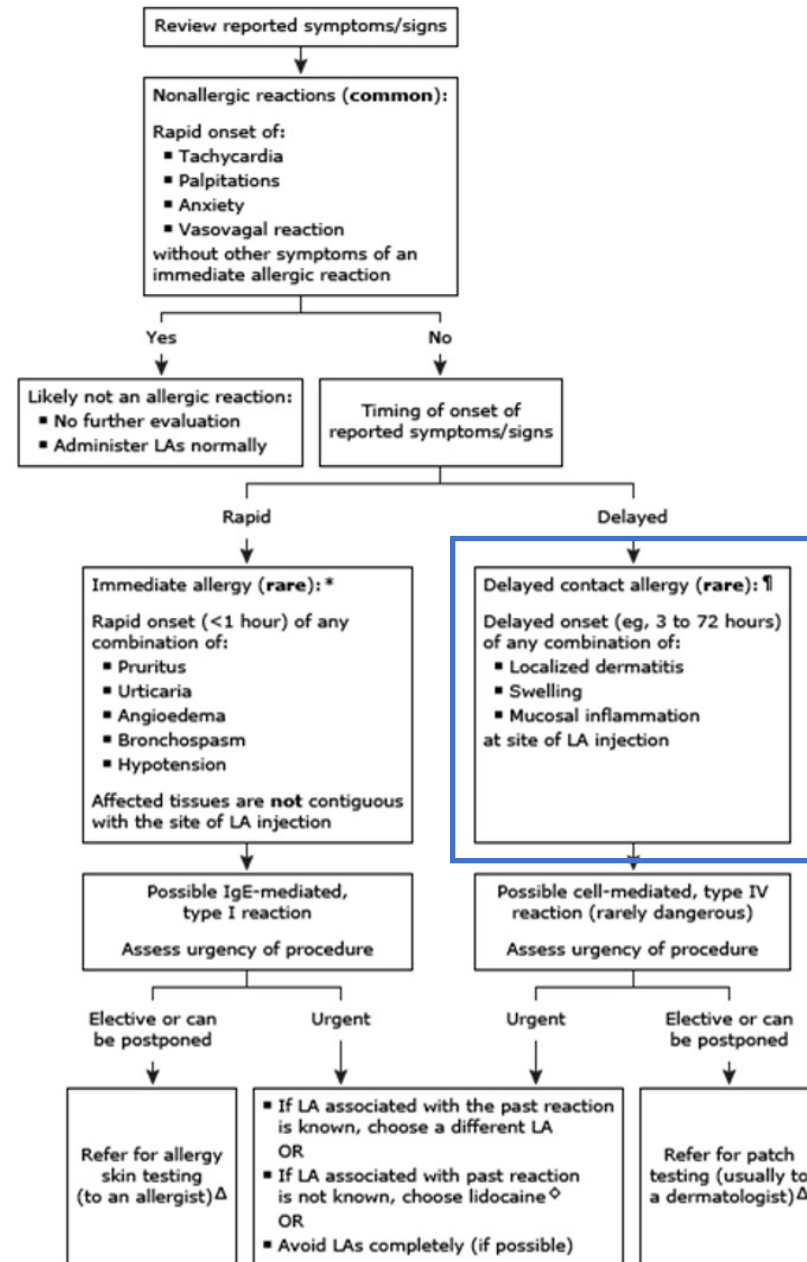
Approach to Patient who Reports Previous Adverse Reaction to Local Anesthetic



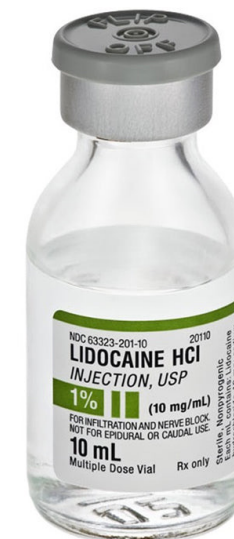
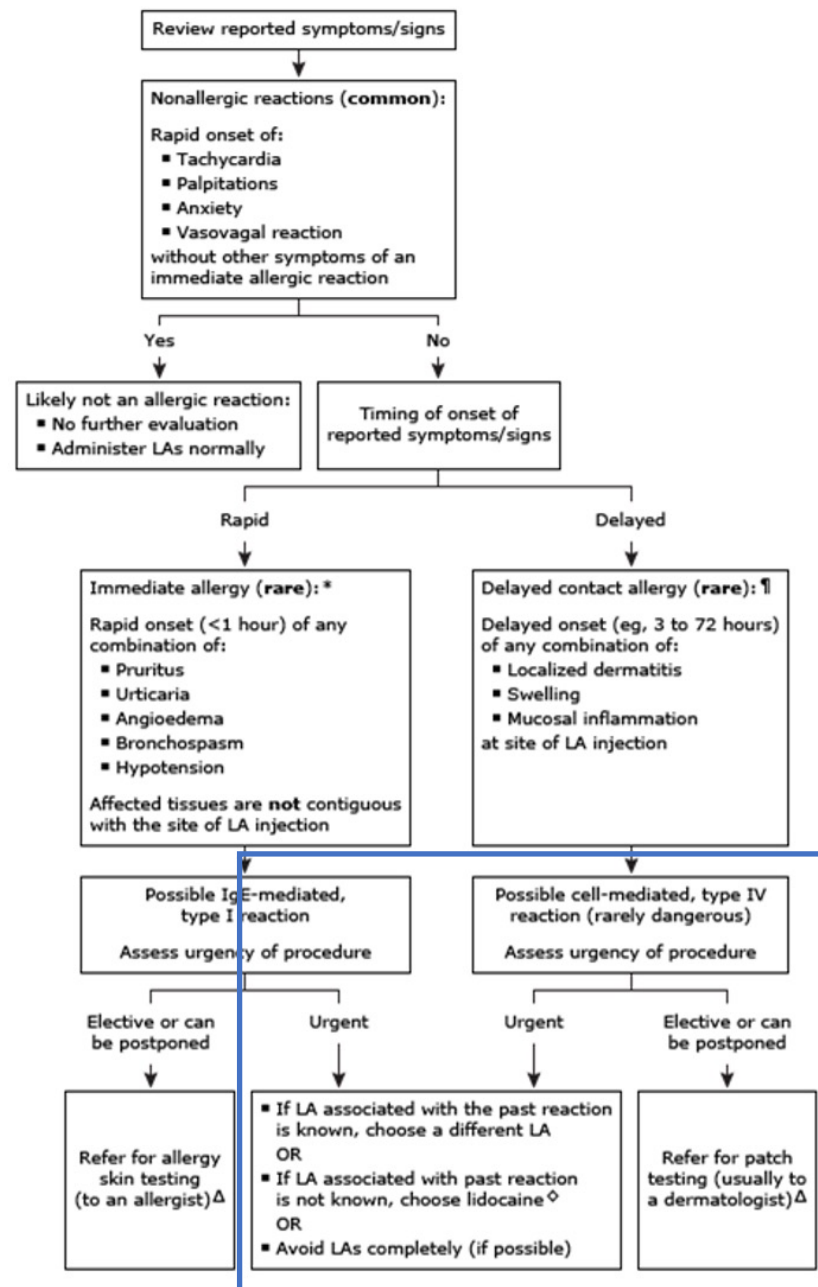
Approach to Patient who Reports Previous Adverse Reaction to Local Anesthetic



Approach to Patient who Reports Previous Adverse Reaction to Local Anesthetic



Approach to Patient who Reports Previous Adverse Reaction to Local Anesthetic



Summary

- There is no association between food allergies and propofol allergy
- There is no association between shellfish allergy and iodine allergy
- There is no association between PCN allergy and cefazolin allergy
- IgE-mediated local anesthetic reactions are extremely rare