

Regional Blocks

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qemerg.org; @qemerg

Local vs Regional



+Quick
+Easy



+Less Volume
+Less Painful
+No tissue distortion
+Form of analgesic treatment

Examples of Useful Blocks



Ankle Blocks

Blind or with dynamic
POCUS guidance

Posterior Tibial
Sural
Saphenous
Deep Peroneal
Superficial Peroneal



Femoral Blocks

Blind or with dynamic
POCUS guidance

3-in-1 Femoral Block
Decreases opiate need
by >50%



Facial Blocks

Generally done by
landmark only

Supraorbital/trochlear
Nasal
Infraorbital
Mental



Wrist Blocks

Blind or with dynamic
POCUS guidance

Median
Radial
Ulnar



Finger/Metacarpal Blocks

Generally done by
landmark only

Ring
Tendon sheath
Metacarpal

Possible Complications

-CNS toxicity

Metallic taste → numb tongue → lightheaded → tinnitus → visual changes → muscle twitches → seizures → coma → apnea

-CV toxicity

Myocardial depression, hypotension, bradycardia, ventricular dysrhythmias

-Allergic reaction

More common with esters; usually preservative in amides (methylparabern); if known, use 1% diphenhydramine

-Neuronal ischemia

-Infection

-Vasovagal reaction

-Intravascular injection

-Vascular injury

-Epinephrine Reaction



Avoidance of Complications

- 1) Aseptic Technique
- 2) Use POCUS when available
- 3) Be conscious of dose
- 4) Inject slowly
- 5) Aspirate frequently
- 6) Caution if liver disease, CHF, pseudocholinesterase deficiency
- 7) Use epinephrine only when necessary
- 8) Avoid repeated blocks

Management of Complications

- ▶ Initial focus = ABCs & seizure suppression if indicated
- ▶ Cardiac arrhythmias may require adjustment of ACLS algorithms
- ▶ AVOID vasopressin, CCBs, βBs or local anesthetic
- ▶ Decrease individual epi dose to less than 1 µg/kg
- ▶ Lipid emulsion (20%) therapy if systemically unwell
- ▶ Bolus of 1.5 mL/kg followed by 0.25 mL/kg/min (lean body mass)
- ▶ May repeat bolus up to 2x +/- double infusion rate if needed
- ▶ Report LAST events at lipidrescue.org and use of lipid at lipidregistry.org

References

Roberts "Clinical Procedures in Emergency Medicine"
Hahn "Regional Anesthesia"
Hadzic "Peripheral Nerve Blocks"
New York School of Regional Anesthesia
Chan "US Imaging for Regional Anesthesia"