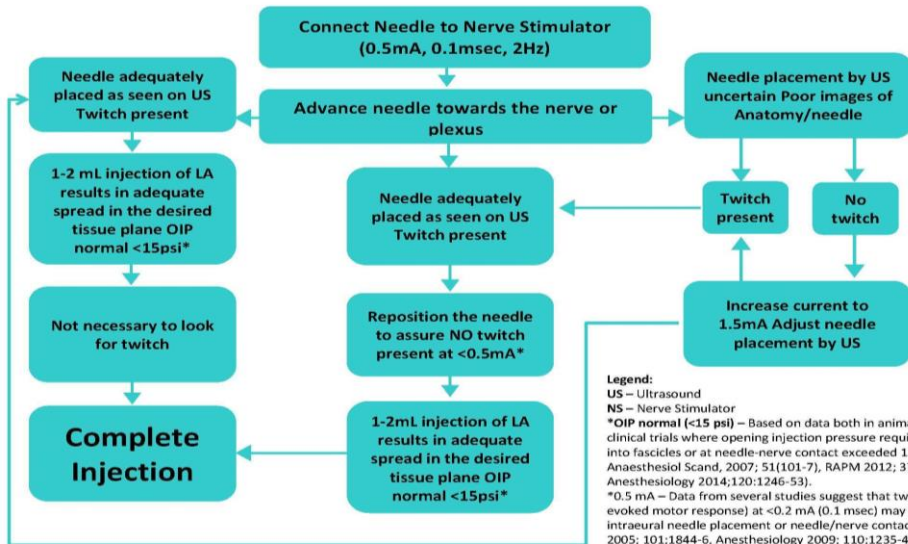


CURRENT TRENDS

- Complications in Paediatric RA (ADARPEF Study in 1996, 2010)
 - Overall RA complication rate in children is low at 0.09-0.12%.
 - Complications are more frequent in children < 6 months
 - CNB has higher (6X) complications than PNB
- Trends in Paediatric RA
 - There is a move from CNB to PNB (40%→66% in ADARPEF's study)
 - Caudals still account for most (80%) of CNB
 - PNB offers the advantage of providing a target-controlled area of localized anaesthesia / analgesia, reducing the amount of LA used, thus systemic absorption is smaller. It is most useful in cases where CNB is contraindicated Eg. Truncal PNB may substitute CNB for laparotomy
- Technique evolution
 - Timeline
 - 1962- nerve stimulator
 - 1994- ultrasound
 - 2003- ultrasound in paediatric RA
 - Ultrasound vs nerve stimulator
 - Shorter block performance time
 - Higher success rate
 - Longer block duration
 - Less volume of LA
 - Visibility of neuraxial structures esp in infants < 3mth old
 - Useful in paralysed patients or those with neuropathy

Suggested Standard Monitoring For Nerve Blocks

Ultrasound + Nerve Stimulation + Opening Injection Pressure (OIP)



References:

1. Eccofey C, Lacroix F, Giaufre' E et al. *Epidemiology and morbidity of regional anaesthesia in children: a follow-up one-year prospective survey of the French-Language Society of Paediatric Anaesthesiologists (ADARPEF)*. *Pediatr Anesth* 2010; 20: 1061–1069.
2. Polaner DM et al. *Pediatric Regional Anesthesia Network (PRAN): a multi-institutional study of the use and incidence of complications of pediatric regional anesthesia*. *Anesth Analg*. 2012 Dec;115(6):1353-64
3. Rubin K, Sullivan D, Sadhasivam S. *Are peripheral and neuraxial blocks with ultrasound guidance more effective and safe in children?* *Pediatr Anesth* 2009; 19: 92–96
4. Marhofer, P., Ivani, G., Suresh, S., Melman, E., Zaragoza, G., Bosenberg, A. (2012), *Everyday regional anesthesia in children*. *Pediatric Anesthesia*, 22: 995–1001
5. *The ASRA Evidence Based Medicine Assessment of the UGRA and pain medicine*. *Reg.Anesth and Pain Medicine* 2010; 35;S1-9
6. *NYSORA textbook. Hadzic's Peripheral nerve blocks and anatomy for ultrasound-guided regional Anaesthesia T*
7. Eccofey C, Bosenberg A, Lonnqvist PA, Suresh S, Delbos A, Ivani G. *Practice advisory on the prevention and management of complications of pediatric regional anesthesia*. *J Clin Anesth*. 2022 Aug;79:110725. doi: 10.1016/j.jclinane.2022.110725. Epub 2022 Mar 18. PMID: 35313269.