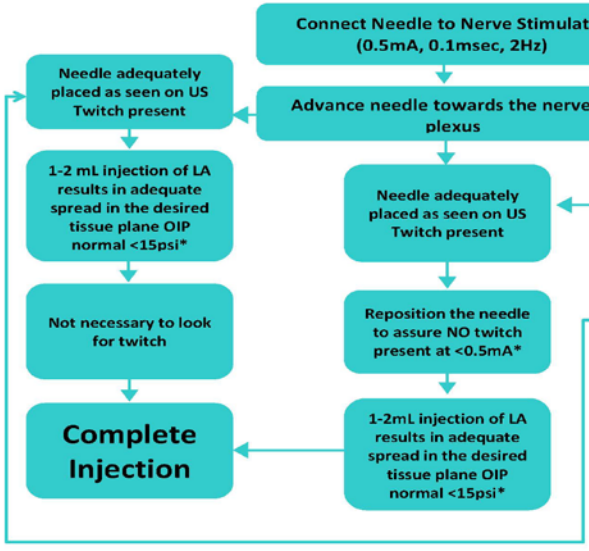
CURRENT TRENDS

- 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 mths
  - 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 catheter techniques are popularized.
  - PNB offers the advantage of providing 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)



Legend:
US – Ultrasound
NS – Nerve Stimulator
***OIP normal (<15 psi)** – Based on data both in animal models and clinical trials where opening injection pressure required to inject into fascicles or at needle-nerve contact exceeded 15 psi (Acta Anaesthesiol Scand, 2007; 51(101-7), RAPM 2012; 37;525-9, Anesthesiology 2014;120:1246-53).
*0.5 mA – Data from several studies suggest that twitch (EMR; evoked motor response) at <0.2 mA (0.1 msec) may indicate intraeural needle placement or needle/nerve contact (Anesth Analg 2005; 101;1844-6, Anesthesiology 2009; 110;1235-43)

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