

## INTRAVENOUS REGIONAL ANAESTHESIA OF THE ARM

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Intravenous regional anaesthesia, also called a Bier block, can provide intense surgical anaesthesia for short surgical procedures (<45- 60 minutes) on the forearm and hand. It is most commonly used for carpal tunnel release.

An intravenous catheter is usually inserted on the dorsum of the hand and double pneumatic tourniquet is placed on the arm. The extremity is exsanguinated by tightly wrapping an Eschmark elastic bandage from distal to proximal direction. The upper (proximal) tourniquet is inflated, Eschmark is removed, and 40- 50 ml of 0.5% lidocaine is injected over a period of 2- 3 minutes through the catheter, which is removed at the end of the injection.

Anaesthesia is usually well established after 4- 5 minutes. Patients usually complain of tourniquet pain after 20- 30 minutes. When this occurs the lower (distal) tourniquet is inflated and only then the proximal is deflated. Patients usually tolerate the lower tourniquet for another 15- 20 minutes because it is already inflated over an anaesthetized area.

With very short procedures, the tourniquet must be left inflated for a total at least 15- 20 minutes to avoid a rapid intravenous systemic bolus of local anaesthetic that can cause a seizure. Slow deflation can also provide a safety margin.