

Eldor Spinal Needle

Dr. Neeti Singh, Dr. N. Subedi, Dr. B. Shrestha, S. K. Mahargan, S. Tabdar,

B. M. Shrestha and Dr. J. Agrawal

KATHMANDU MEDICAL COLLEGE &
NARAYANI SUBREGIONAL HOSPITAL

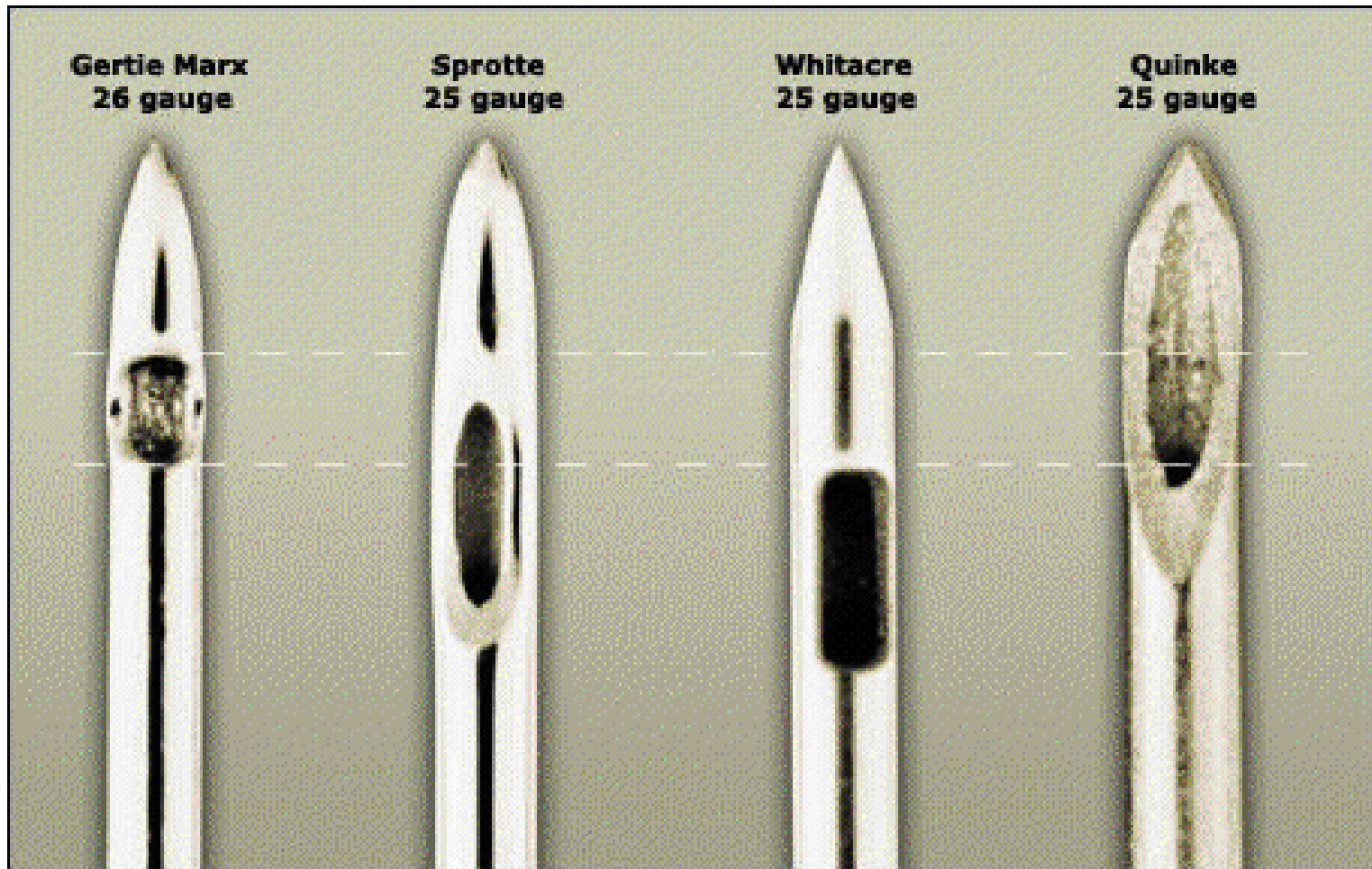
Introduction

- Eldor Spinal needle – A Pencil Point Needle
- Invented by Prof. Joseph Eldor – 1995
- Double hole needle

History of Pencil Point Needle

- Greene - in 1926 a needle with a point that is "round, tapering, and sharp".
- Kirschner - in 1931 a needle for spinal anesthesia with an opening in the shaft.
- Hart and Whitacre - in 1951 their pencil-point spinal needle, known as Whitacre needle.
- Sprotte, Schedel and Pajunk - 1987 modified the Whitacre needle, known as Sprotte needle
- Joseph Eldor – 1995 Double hole Pencil Point

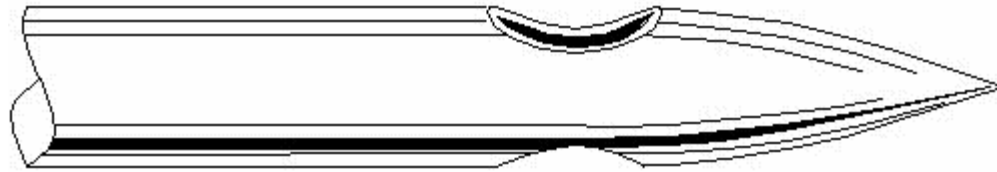
Different types of spinal needle



Pencan spinal needle



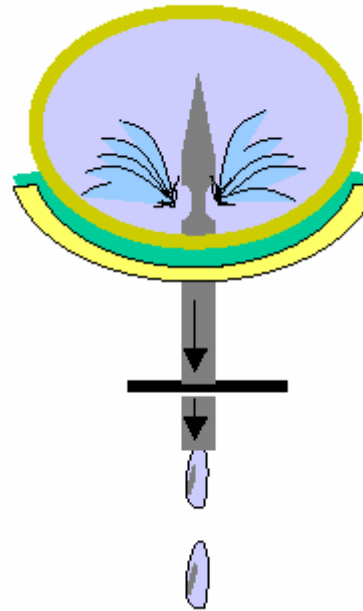
Eldor Spinal Needle



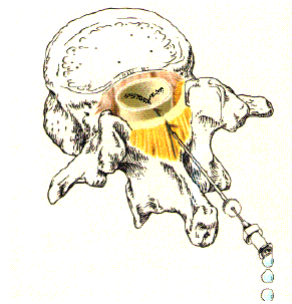
A new pencil-point spinal needle

- **It is named double-hole pencil-point (DHPP) spinal needle, and is composed of a blunt ogival tip and two circular holes opposing each other just proximal to the tip.**
- **The area of the two holes is almost the same as of the single hole Sprotte needle`s area, which enables more rapid CSF reflux**

ELDOR Spinal Needle Has a 3.5 Times Better CSF Backflow Than the Pencan Spinal Needle

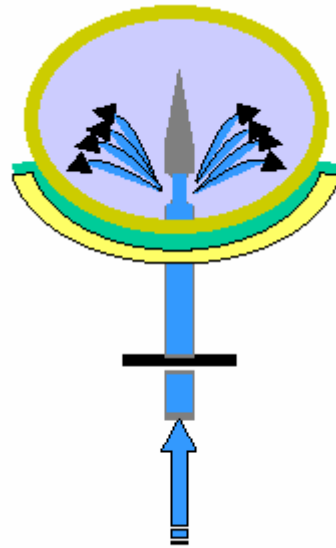


The ELDOR Spinal Needle Has a 3.5 Times Better CSF Backflow Than the Pencan Spinal Needle



- **The ELDOR Spinal Needle Has 1.8 Times Less Backache Than the Whitacre Spinal Needle**

ELDOR Spinal Needle Has a 5 Fold Increase in the Immediate Dispersal Area



The ELDOR Spinal Needle Has a 5 Fold Increase in the Immediate Dispersal Area Compared to the Whitacre Needle

- This advantage of the Eldor spinal needle over the Whitacre needle can improve anesthetic spread, provide optimal anesthesia and lessen the risk of local anesthetic toxicity.**

ELDOR Spinal Needle Vs. the Other spinal needles

- **The ELDOR Spinal Needle Has a 5 Fold Increase in the Immediate Dispersal Area Compared to the Whitacre Needle**
- **The ELDOR Spinal Needle is Stronger than the Gertie Marx Needle**
- **The ELDOR Spinal Needle Has a 3.5 Times Better CSF Backflow Than the Pencan Spinal Needle:**

ELDOR Spinal Needle is Stronger than the Gertie Marx Needle

- **The maximum force needed to bend the Eldor spinal needle was 9.65 lbs. compared to the maximum force of 9.16 lbs. needed to bend the Gertie Marx needle. Despite the fact that the Eldor needle has two holes at the tip compared to one hole of the Gertie Marx needle the Eldor spinal needle is stronger than the Gertie Marx needle of the same gauge.**

- The rate of PDPH is higher with 27-G Quincke and Whitacre needles and greater in women than in men.
- Postdural puncture headache after spinal anaesthesia in young orthopaedic outpatients using 27-g needles Despond, Olivier, MD; Meuret, Pascal, MD; Hemmings, Gisgele, MD Can J Anaesth 1998 / 45 / 1106-1109

- 26G Atraucanb needle - higher rate of successful identification of the subarachnoid space at the first attempt, faster CSF backflow, and fewer paraesthesia compared with the 25G Whitacre needle
- PDPH is more
- Comparison of 26-gauge Atraucanb and 25-gauge Whitacre needles: insertion characteristics and complications Sharma, S. K., MD FRCA; Gambling, D. R., MB BS FRCPC; Joshi, G. P., MD FFARCSI; Sidawi, J. E., MD; Herrera, E. R., MD CAN J ANAESTH 1995 / 42: 8 / pp706-10

Our Experience with Eldor needle

- Number of Cases – 60
- ASA – I & II
- Age - 16 to 60 years
- Weight – 35 Kg to 70 Kg
- Female - 40
- Male - 20

Type of Cases -

- Caessarian Section – 30 cases
- Hernia – 10 cases
- Lower limb surgery – 6 case
- Prostrate – 8 cases
- Vaginal Hysterectomy, Pelvic Floor Repair – 6 cases

Procedure

- Midline approach
- Level - L3 and L4
- Dural puncture – successful at first attempt in 30 cases. Multiple attempt in 30 cases and failure in 5 cases – not included in the study

- Multiple attempt and failure were in hands of junior colleagues

- 2 cases of PDPH was also present in cases where Multiple attempt was done.

- Pushing drugs through syringe was easier and less resistance felt compared to Quincke

- Outcome – PDPH was comparatively less in cases done with Eldor spinal needle compared to Quincke needle which is commonly used in our set up.

? ELDOR Needle

- Reduces the incidence of PDPH
- It is the only needle with double hole
- It is also a pencil point needle