

# Tattoo and Regional Anaesthesia

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## Citation

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## Abstract

### Objective:

Is the presence of a tattoo a contraindication for regional anaesthesia?

### Methods:

We conducted a survey among consultant anaesthetic colleagues with obstetric sessions to determine current opinion. We also interviewed a tattoo artist and a consultant dermatologist to help us with risk assessment.

### Results:

The survey results suggest that majority would ignore presence of tattoo and proceed with regional anaesthetic techniques. The interviews with tattoo artist and consultant dermatologist do not suggest any risks.

### Conclusion:

There is potential risk of neurological complications with neuraxial analgesia or anaesthesia in patients with tattoo. This raises issues about explaining risk to patients during consent process which needs further debate.

## INTRODUCTION

Tattooing and body piercing is becoming increasingly popular. There is no definitive information in literature about possible risks associated with regional anaesthesia. This raises concerns about explaining risks to the patient during consent for regional anaesthetic techniques.

## PURPOSE

We wanted to discuss possible ramifications of neuraxial analgesia and anaesthesia in patients with tattoo. We also wanted to determine common practices or protocols followed by Anaesthetic consultant colleagues in our region? We chose anaesthetic consultants with obstetric sessions due to frequent use of neuraxial analgesia and anaesthesia in the speciality.

## METHOD

- Postal questionnaire sent to Consultant Anaesthetists with obstetric sessions in all hospitals in the Cambridgeshire region.
- Interview with a Tattoo Artist
- Interview with a Consultant Dermatologist

## QUESTIONNAIRE

Parturient presenting with midline lumbar tattoo requesting regional anaesthesia.

### Would You

- Site spinal/epidural in usual space disregarding tattoo?
- Site spinal/epidural avoiding tattooed skin if possible?
- Refuse a regional technique?

## RESULTS

Results from responses of 28/35 consultant anaesthetists with obstetric sessions.

-Site spinal/epidural in usual space disregarding tattoo?

65% -Yes

35% - No

-Site spinal /epidural avoiding tattooed skin if possible?

45%- Yes

55%- No

-Refuse regional anaesthesia?

100%- No

### EXPERT OPINIONS

- Tattoo artist: The dyes are like food colours and are not harmful
- Consultant Dermatologist: In his opinion there is not a problem. The substances used are deemed to be inert.

### DISCUSSION

Tattoo derived from Tahitian word 'tatu' which means to mark something. The needle used for tattoo penetrates epidermis in to dermis and pigment injected in entire needle tract. Needle is inserted less than 1mm. Pigment in dermis remains permanently. Tattoo pigments can be Organic and Inorganic (Titanium dioxide, cadmium sulphide, cadmium selenide, cinnabar, carbon, iron oxide). Complications of tattoos include allergic reaction, pseudo lymphoma, granulomatous reaction, localized infection, HIV, Hepatitis B and C infections 1. Local complications of regional anaesthesia in presence of tattoo include local Infection, risk of chemical arachnoiditis, infection in epidural or subdural space, epidermoid tumours and coring 1. Coring is result of hollow needles with or without stylet entrapping fragment

tissue (cores) in the bore. Injection through this needle results in deposition of entrapped tissue in a deeper site. Non-styleted needles have higher risk of coring.

Theoretical Risk for Anaesthetist is introduction of needle through tattoo may result in pigmented tissue core injected into epidural, subdural or subarachnoid spaces. It is difficult to quantify the risk.

### RECOMMENDATION

Small skin incision over the tattoo before insertion of spinal or epidural needle may avoid the risk of coring. This raises consent issues due to potential risks with regional anaesthesia which needs further debate.

### ACKNOWLEDGEMENTS

Mystic Ink Tattoo Artists, Victoria Street, Cambridge, England

Dr C. Banfield, Consultant Dermatologist, Hinchingbrooke Hospital, Huntingdon, England

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### References

r-0. Douglas MJ, Swenerton JE. Epidural anesthesia in three parturients with lumbar tattoos: a review of possible complications. Can J Anaesth. 2002; 49: 1057-60.

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