

Testing your anaesthetic before caesarean section

S.M. Yentis

Chelsea & Westminster Hospital
London, UK

Testing your anaesthetic

- What to test?
- What to aim for?
- What are people doing?
- What do I do?

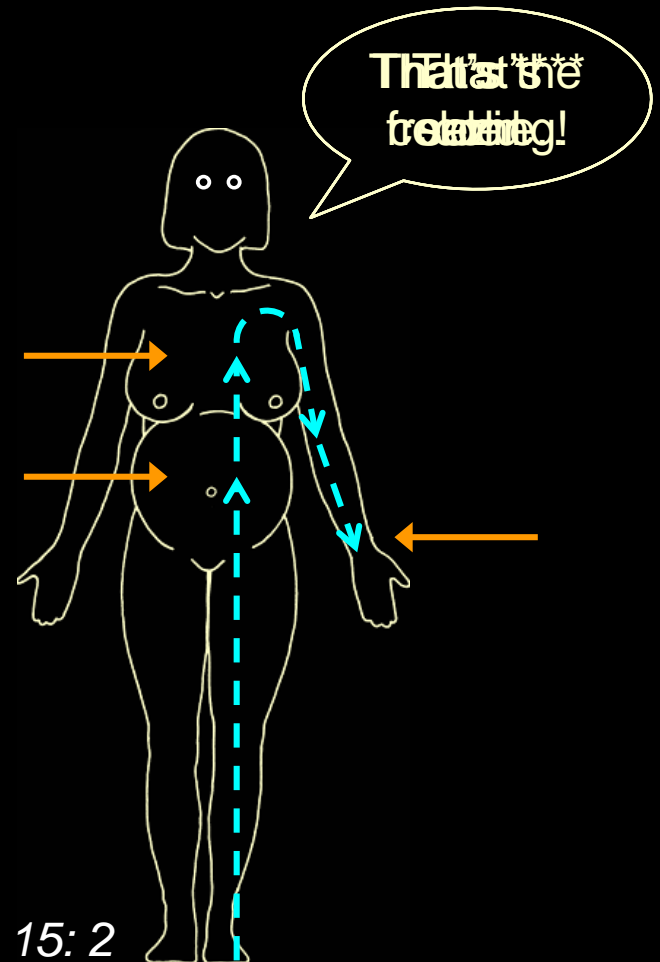
Testing your anaesthetic

- Competing interests
 - I am Editor-in-Chief of *Anaesthesia*
 - I have written articles on this topic
 - I have written expert witness reports on this topic

What to test?

- **Sensory**
 - cold / pinprick
 - touch
 - other
- Motor
- Other

i. where is the block?



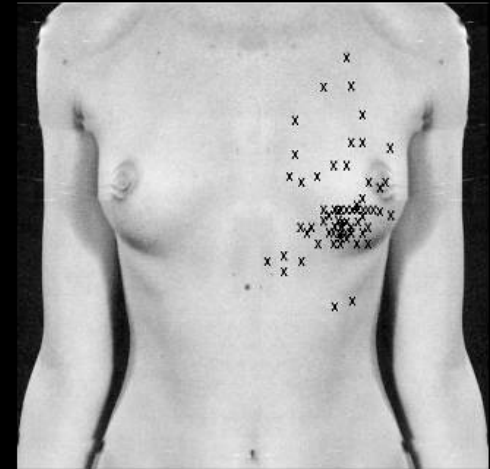
What to test?

- **Sensory**
 - cold / pinprick
 - touch
 - other
- Motor
- Other

- where is the block?
- how do we describe it?

*Where is
T5?*

T4
T5
T6



Congreve et al, Anaesthesia 2006; 61: 453

What to test?

- Sensory
 - cold / pinprick
 - touch
 - other
- Motor
- Other

i. how do we describe it?

What to test?

- Sensory
 - cold / pinprick
 - touch
 - other
- **Motor**
- Other

i. how do we describe it?

102 papers using the 'Bromage scale'

0 = no motor block; 3 = full paralysis	65%
1 = no motor block; 4 = full paralysis	7%
1 = full paralysis; 4 = no motor block	5%
Unspecified 3-point scale	3%
1 = full paralysis; 6 = no motor block	2%
1 = no motor block; 3 = full paralysis	2%
0% = no motor block; 100% = full paralysis	1%
Unspecified	16%

What to test?

- Sensory
 - cold / pinprick
 - touch
 - other
- **Motor**
- Other

i. how do we describe it?

102 papers using the 'Bromage scale'

0 = no motor block; 3 = full paralysis	65%
1 = no motor block; 4 = full paralysis	7%
1 = full paralysis; 4 = no motor block	5%
Unspecified 3-point scale	3%
1 = full paralysis; 6 = no motor block	2%
1 = no motor block; 3 = full paralysis	2%
0% = no motor block; 100% = full paralysis	1%
Unspecified	16%

What to test?

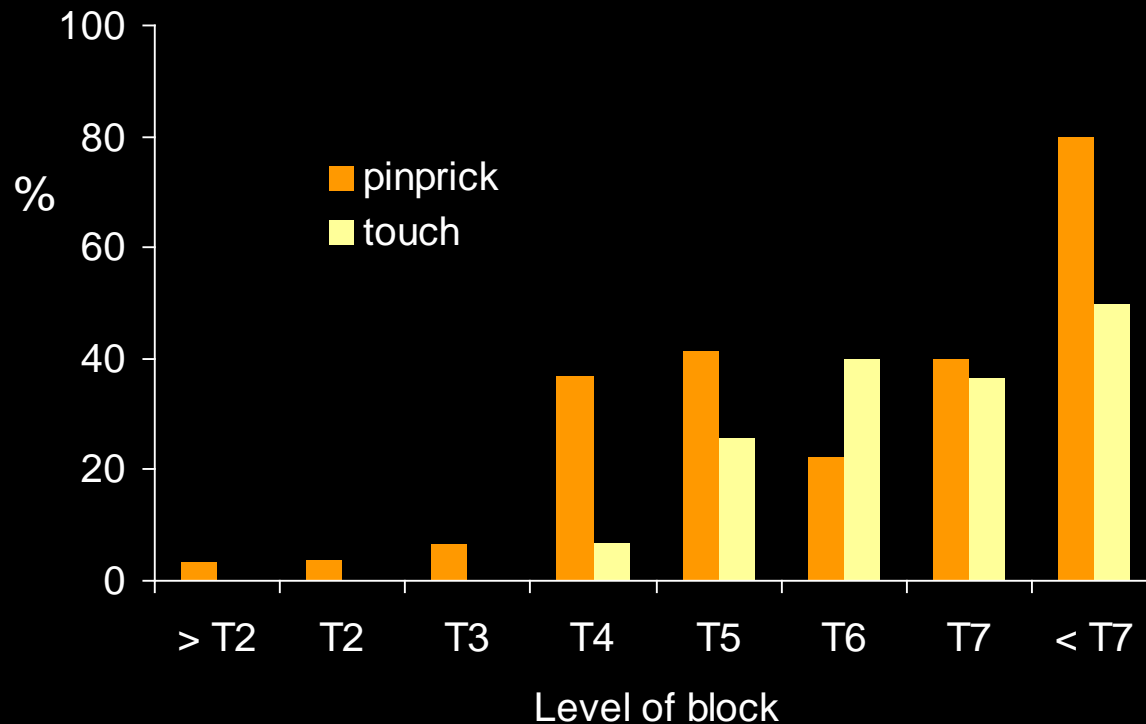
- Conclusions
 - Lots of potential for confusion / uncertainty
 - Important to be precise

What to aim for?

- In the Good 'ol Days:
 - adjust dosage according to formula
 - 'block' to ~T6-T8 (or even T10!)
 - inform mother she'd feel 'discomfort'
 - tell the surgeon to get on with it
- And then...
 - we got better at it
 - mothers had higher expectations
 - increasing medicolegal awareness

What to aim for?

- *Russell IF. Levels of anaesthesia and intraoperative pain at caesarean section under regional block. IJOA 1995; 4: 71*
 - 150 spinal + 70 epidural; 'all comers'



- touch a better predictor of pain
- block to T5 required

What to aim for?

- *Russell IF. Levels of anaesthesia and intraoperative pain at caesarean section under regional block. IJOA 1995; 4: 71*
 - BUT:
 - cold 'equivalent to pinprick'
 - no spinal or epidural opioids given
 - graph refers to *time of delivery* (block higher than at start of surgery in > 50%)

What to aim for?

- Other studies:
 - most women with a block above T4 do not have pain – *however it's tested*
 - most women who do have pain have a block to cold or pinprick above T4
 - no consistent relationship between cold / pinprick and touch
 - combination of methods better than a single modality

Russell, IJOA 2004; 13: 146

Russell, IJOA 2006; 15: 294

Ousley et al, Anaesthesia 2012; 67: 1356

What to test?

- Conclusions
 - Lots of potential for confusion / uncertainty
 - Important to be precise

What to aim for?

- Conclusions
 - cold / pinprick good enough in most cases
 - touch better
 - combination best

What are people doing?

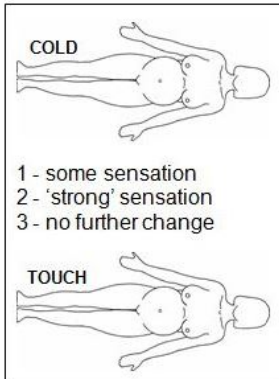
- Surveys of practice:
 - poor indicator of actual practice
 - most respondents use more than one method
 - most respondents use cold
 - most respondents aim for T4
 - most respondents check the lower end

What do I do?

Recording height of block before caesarean section under regional anaesthesia

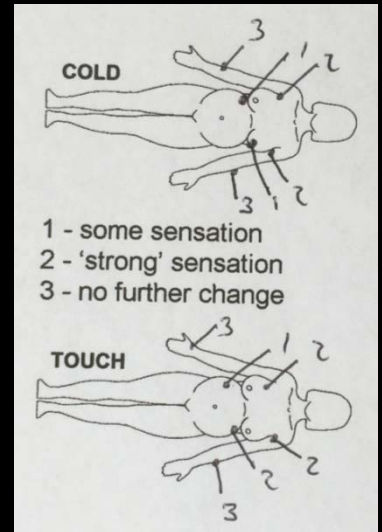
Whilst not a 'guideline' as such, interested obstetric anaesthetists may download the following template for printing stickers to assist the recording of height of sensory block. The stickers can be attached to the anaesthetic record and used to indicate: i) the method(s) of testing used; and ii) the height of block achieved for each method. The label size is 63.5 x 46.6 mm and the template is for 18 labels per sheet; Avery™ code L7161.

This label has been drawn and made available by Dr SM Yentis, and is in use at the Chelsea and Westminster Hospital, London.



The Word file can be downloaded by clicking [here](#).

Reference: Yentis SM. Height of confusion: assessing regional blocks before caesarean section. Int J Obstet Anesth 2006; 15: 2-6.



Conclusions

- We need to test more thoroughly
 - cold alone isn't enough to avoid trouble
 - touch alone isn't enough to avoid trouble
 - *especially when the block isn't perfect*
- We need to record more thoroughly
 - more specific description of what's actually being asked
 - single dermatome isn't enough
 - diagram / description better than dermatome / score



Thank you