

Development of a Novel Feedback Tool for Regional Anaesthesia Training

Chao-Ying Kowa¹, Deepa Divakar¹, Kunal Joshi¹, Rachel Baumber¹, Kate Adams¹, Simeon West², Boyne Bellew¹

1. Royal National Orthopaedic Hospital, UK
2. University College Hospital, UK

Background:

- Ultrasound-Guided Regional Anaesthesia (UGRA) occupies an increasingly wider curriculum role
- UK anaesthetic trainees are expected to independently perform a variety of blocks upon completing training.
- UGRA is challenging to master; high-quality feedback is vital in enabling skill acquisition(1).
- Retrospective Video Review (RVR) is associated with accelerated learning when gaining procedural skills(2), but has yet to be evaluated in UGRA.
- We aimed to evaluate the feedback process and further improve it.

Methods:

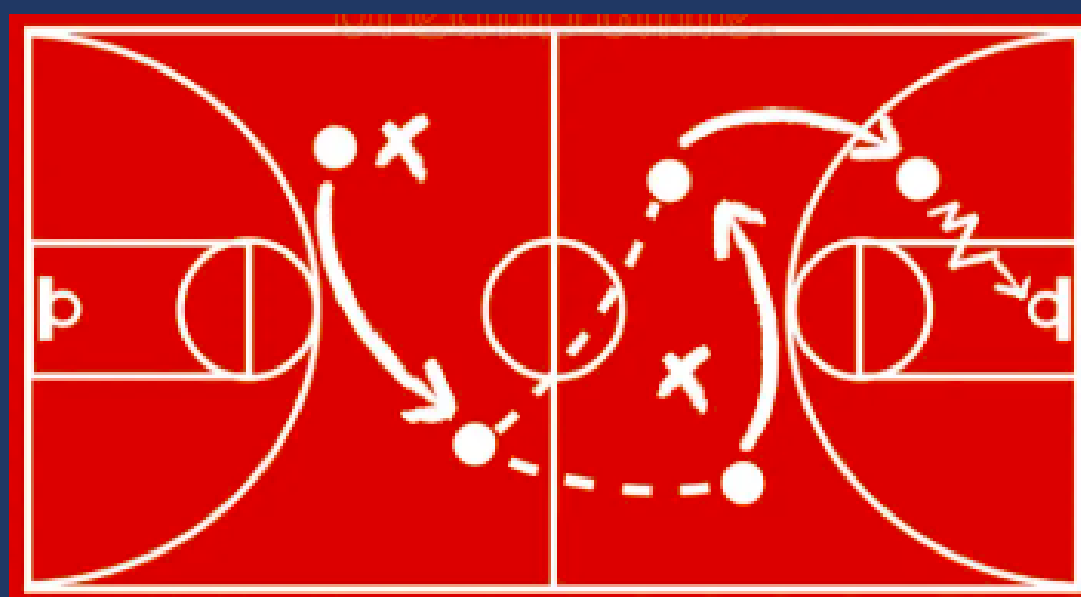
- We conducted a national survey evaluating UK anaesthetists' attitudes and practices regarding feedback provision in UGRA training.
- Concurrently, we developed a feedback framework incorporating RVR of the ultrasound block video specifically performed by the trainee.
- This was trialled in a tertiary orthopaedic hospital as a Quality Improvement Project, with trainer-trainee pairs interviewed on their experience using this educational tool.



High quality feedback is vital in enabling skill acquisition in Regional Anesthesia



A national survey demonstrated a desire for improved feedback tools by both trainees and trainers



Similar to video analysis of players' performance in sports coaching, we incorporated Retrospective Video Review into a feedback framework, and evaluated its use



Its strengths included: benefits of a structured checklist; increased detail of discussion and greater objective evidence to base feedback on

Results:

- Of the 126 survey respondents, 62% were trainers and 38% were trainees.
- 36% of trainees were ambivalent/dissatisfied about feedback quality. Trainers were receptive to a feedback tool. Time taken to teach; clinical turnover; managing awake patients were barriers to feedback provision.
- 6 trainers and 4 trainees trialled the educational tool. Common themes included: greater objective evidence to base feedback on; increased discussion detail/quality (particularly with awake patients); benefits of checklist/structured approach.

Conclusion & Perspectives:

- This is the first national survey on UGRA feedback, and the first preliminary evaluation of RVR use incorporated into a UGRA feedback framework.
- There is further scope to develop our tool with the aim of validating it, such that it may be utilised widely to improve trainee-trainer experience.

Feedback Framework for Regional Anaesthesia training

Is feedback invited / agreed upon by both trainee and trainer?
Feel free to use framework as you see fit / choose an area of focus

1 **Positioning & Set Up**

Ergonomic positioning:

1. Patient
2. Equipment
3. Proceduralist

2 **Equipment selection**

Appropriate selection:

1. Ultrasound probe
2. Needle
3. LA/adjuvant: choice/concentration/volume

3 **Sonoanatomy**

Identification of key structures on survey scan

4 **UGRA techniques**

1. Probe orientation:
 - Correlation of probe-screen-patient orientation (screen left-right & patient medial-lateral or anterior-posterior)
2. Image optimisation:
 - Using probe manipulation/nerve localisation techniques
3. Needle insertion point and trajectory
4. Needle tip:
 - Location in real-time
5. LA spread:
 - Recognition of spread, adjusting needle position to optimise LA distribution
6. Needle handling & respect for tissue

5 **Miscellaneous (if applicable)**

1. Neurostimulation: Choice of current and motor endpoints
2. Testing the block: Onset and block success via motor/sensory testing
3. Rescue block: Formulation and performance

Adapted from Chuan et al. (2015)

Scan for further information

