Script Concordance Test:
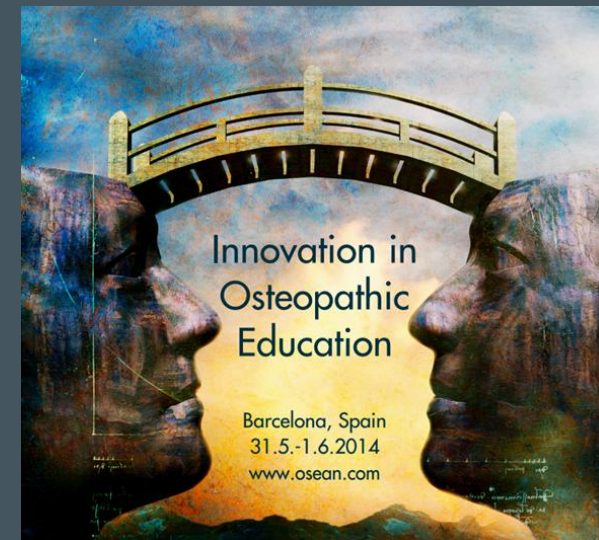# A novel computer based tool to assess clinical reasoning in osteopathy

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AIMS

1. To discover the SCT;

2. To discuss practical issues, underpinning theory and supporting research evidence;

3. To critically evaluate its appropriateness as a tool to assess osteopathy students' diagnostic reasoning, evaluation of risk and patient safety, and ethical aspects of osteopathic care;

4. To practise item writing and scoring.

HOW WILL SCT FIT IN?

- Should this assessment sit in current pre-registration programme assessment schedule? Or postgraduate?

- Should it be a pre-clinical test, final year test or penultimate year formative assessment?

- Evidence suggests that summative assessment overload is not conducive for learning, greater use of formative assessments driving learning – SCT could be a good tool.

- If new summative assessment - consider whether to replace other strategies or to add more summative ones.

- Consider the role of SCT as formative assessment tool.

WHAT SHOULD THE SCT ASSESS?

- Apart from clinical decision making…

- Treatment strategies/plan of care?

- Ethical dilemmas?

- Psychosocial factors?

- Assessment of learning outcomes or practice standards?

- Type of clinical presentations - OBU test based on average UK practice – what would this be for your country?

- Alternatively, are you testing a specialist area of practice, sports care, veterinary or paediatrics?

WHO WILL WRITE THE TEST?

- Experienced clinicians involved in education and/or familiar with current evidence so that questions can be taken from actual practice.

- If specialist areas, clinicians with recognised expertise in the field.

- Usually 2 clinicians but could be more. 10-15 scenarios (vignettes) with 3-4 questions per vignette.

- Consider whether diagnostic consideration should be the same or different for each question.

- Use of Likert scale – 5 or 3 point? (or more points have been used).

- Some questions should be clearer and less ambiguous; others should contain more uncertainty as experienced in clinical practice.

Example of a question sequence in a Script Concordance Test

The Key below is designed to assist you in rating yours response to questions. Please be aware that your should click on that response, which for each question, in your judgement is the most appropriate given the information provided

1) **Hypothesis is much less likely**
2) **Hypothesis is less likely**
3) **The new information has no effect on the hypothesis**
4) **The hypothesis is more likely**
5) **The hypothesis is much more likely**

2 (a) Peter a 24 year old male bricklayer presenting with low back pain and persistent stiffness and restriction of spinal movement

If you were considering a diagnosis of ankylosing spondylitis (AS) and Peter mentioned that he also has occasional Achilles tendonitis, how might this affect your diagnosis?

1 2 3 4 5

Hypothesis is much less likely   o   o   o   o   o   Hypothesis is much more likely

2 (b) Peter mentions that he has noticed that he has early morning joint stiffness for 1-2 hours

How would this knowledge effect the potential diagnosis of AS?

1 2 3 4 5

Hypothesis is much less likely   o   o   o   o   o   Hypothesis is much more likely

2 (c) On referral for blood tests, Peter has normal results for both erythrocyte sedimentation rate (ESR) and C reactive protein

What difference would this further information make to your hypothesis of AS?

1 2 3 4 5

Hypothesis is much less likely   o   o   o   o   o   Hypothesis is much more likely

PAPER OR ELECTRONIC

- Largely dependent on numbers.

- OBU used google documents in google drive

- Paper based? Advantages and disadvantages?

GROUP DISCUSSION AND PRACTISE

- Write 2 vignettes and 3 questions for each.

- Discuss possible answers to questions (5 point Likert scale)

GROUP DISCUSSION AND PRACTISE

- CONSIDER-

- Will your question be one of high uncertainty or will it give clear answers?

EXPERT OR REFERENCE PANEL?

- Experts not always reliable and up-to-date

- Important to recruit experienced clinicians who are able to make judgements in areas where the evidence is not clear or even available

- Who will be in your reference panel?

- Is there an obvious group?

- New evidence suggests that it is appropriate to include clinicians working in clinical setting where students work (e.g. experienced clinical tutors).

EXPERT OR REFERENCE PANEL?

- For year 2 students, could final year students be used as reference panel?

- Is there an ideal post-qualifying timeframe and post-graduate qualifications which would determine 'expertise'? 10 years or 10,000 hours?

- New consideration (Ottawa 2014) - reference panel providing clinical reasoning, this could be used for feedback and learning (+ maybe to discard one or two 'experts'!).

- Downside cost considerations – currently reference panel just paid for one hour's work.

MARKING CRITERIA

- Aggregate scoring. Some criticism of this scoring (Linneberry 2013); however, could this be attributed to poor choice of questions, too much ambiguity and not enough questions that require a more definite response.

- Student second guessing by going for midline responses.

- OBU use actual percentage and 50% pass mark – not used much elsewhere as an exam; not high stake or summative elsewhere. Mostly forms part of teaching clinical reasoning more effectively.

GROUP DISCUSSION AND PRACTISE

- Using previous tests and results try to score tests. Discuss what the pass mark should be?

- How would you feedback to students?

SUMMARY

- The students' preparedness for clinical practice is typically assessed using high fidelity long case exams, i.e., clinical competence assessments using real patients in a real clinical setting.

- The Script Concordance Test (SCT) is a reliable and valid computer based tool for assessment of clinical reasoning in the context of uncertainty, which is being increasingly used as an assessment strategy in medicine, and recently implemented in osteopathic education in the UK.