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| THE SOCIETY OF CLINICAL PERFUSION SCIENTISTSOF GREAT BRITAIN AND IRELANDTHE COLLEGE OF CLINICAL PERFUSION SCIENTISTSOF GREAT BRITAIN AND IRELAND |  |

Practical and Viva Voce Examination – Guidance for examiners

***Practical***

All parts of the marking form must be completed.

A registered supervisory perfusionist should be accessible from the examinee’s department.

Scoring scheme guidelines:

0 = critical mistake \*

1-2 = very poor

3-4 = poor

5 = average

6-7 = good

8-9 = very good

10 = excellent

\* In the event of a critical incident during the practical, the examination is suspended.

A poor score is one that scores 4 or less in any section. If there are more than 3 of these in the exam, the practical is failed. Please refer to the section guide below for a breakdown on assessing the candidate during the practical exam.

***Viva Voce***

Approximately 45 minutes to 1 hour should be allowed for the viva voce examination.

Each examiner may question the student on **two** main topic areas. Each topic area may lead to secondary questioning. All questions asked must be recorded on the ‘Practical and Viva Voce Examination Marking Form’.

Each topic area assessed will be scored out of a possible 25 marks. Your assessment will be based upon the knowledge demonstrated by the student. Topic areas to be assessed must be agreed between examiners before commencement of the viva voce. The pass mark for practical and viva voce exam is 50%.

***After the exam***

A debriefing by both examiners will follow where the student is informed of their success or failure. In the case of failure / critical incident, a detailed report must be submitted to the Chair of Education and Training. It is advised that the examiners keep a copy of such report.

The successful examinee should be informed that they are not allowed to practise perfusion without supervision until they have registered with the College of Clinical Perfusion Scientists of Great Britain and Ireland.

Completed marking forms by both examiners should be submitted online:

[www.scps.org.uk/education/information-for-examiners.](https://www.scps.org.uk/education/information-for-examiners)

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| THE SOCIETY OF CLINICAL PERFUSION SCIENTISTSOF GREAT BRITAIN AND IRELANDTHE COLLEGE OF CLINICAL PERFUSION SCIENTISTSOF GREAT BRITAIN AND IRELAND Practical Examination Scoring Guide |  |

Please find below an outline to the areas that are included for assessment in each of the sections of the practical exam. This list is not exhaustive but should be used as a guide to the areas of knowledge and skills that should be demonstrated during the exam.

The range of Marks is between 1 and 10 (for sections 7 and 10 these marks are halved with the maximum mark being 5) and the pass mark is 50%. A student will fail the practical if the following occur:

* A critical incident occurs. This is scored as ‘0’ and the examination will be stopped.
* 3 (or more) scores of 4 or below agreed by both examiners regardless of whether the pass mark has been achieved.
* An average of less than 50% agreed by both examiners.

The practical examination is divided into 10 sections with sections 1, 3 & 5 further divided into subsections attracting their own marks. Areas that the examiners should be looking for in each section are detailed below:

Section 1: Pre-Bypass Preparation

5 marks for pump related preparation, 5 for patient related preparation

* Appropriate selection of CPB disposables
* Equipment selection, testing and assembly
* Referral to patient notes demonstrating ability to identify relevant tests, co-morbidities and their potential influence
* The availability of replacement equipment
* Adequate stock of drugs and fluids
* Anticipation of potential for use of additional devices

Section 2: Circuit Assembly

10 marks

* This must be assembled in the presence of both examiners
* Must follow departmental protocol
* Sterility
* Appropriate speed, accuracy and confidence
* Heat Exchanger must be tested

Section 3: Priming of Circuit

5 marks for Drugs and Fluids, 5 marks for de-airing/calibration/occlusions/checklist

* Selection of appropriate drugs and fluids
* Must follow departmental protocol
* Priming of oxygenator and circulation through circuit
* Adequate de-airing
* Occlusions set
* Appropriate level for bypass initiation
* Appropriate speed, accuracy and confidence when completing checklist with each area clearly checked before signing off
* Double checks with second perfusionist completed (as per department protocol)

Section 4: Initiation of Bypass

10 marks

* Confident and unhurried by surgical/anaesthetic demands
* Seamless transition from patient’s circulation to CPB
* Awareness of levels/pressures/gas exchange/temperature requirements
* Communication with multidisciplinary team
* Demonstrates control
* Achieves ‘steady state’ in appropriate time

Section 5: Bypass Management

60 marks

* Levels (10 marks)
  + Appropriate placement of level sensor
  + Achieves full flow without compromising level
  + Understands fluid management options
  + Understands causes of level problems
  + Must follow unit protocol
* Flows (10 marks)
  + Achieves full flow, generating appropriate pressure
  + Understands flow/pressure relationship
  + Understands impact of under and over flowing
  + Demonstrates understanding of flow and temperature relationship
  + Avoids large, unnecessary swings in flow rate
  + Adheres to departmental protocol
* Pressure (10 marks)
  + Maintains adequate and appropriate pressures
  + Demonstrates appropriate use of vasoconstrictors/vasodilators
  + Avoids large swings in pressure
  + Understands the pressure/flow relationship
  + Adheres to departmental protocol
* Temperature (10 Marks)
  + Reaches required temperatures appropriately
  + Demonstrates understanding of flow/temperature
  + Demonstrates understanding of temperature gradients
  + Demonstrates understanding of changing patient demands during the case
  + Use of temperature probes
* Blood Gases (10 Marks)
  + Appropriate and timely testing in accordance with departmental protocol
  + Understanding and maintenance of ‘normal’ ranges
  + Appropriate use and reference to in-line monitoring devices
  + Demonstrates understanding of parameters measured
* Myocardial protection (10 Marks)
  + Follows instructions accurately and safely
  + Awareness of temperature, flows and pressures
  + Awareness of ECG and adequate arrest/activity
  + Awareness of changing potassium levels and its potential impact
  + Adheres to departmental protocol
  + Awareness of other forms of myocardial protection if used

Section 6: Communication

10 Marks

* Clear, concise and accurate communication at all times
* Demonstrates confidence and interacts with all members of the team
* Demonstrates leadership as and when required
* Communicates any problems as they arise
* To score well, candidate must overcome nerves

Section 7: Maintenance of Records

5 Marks

* Must be accurate and representative of the case
* Electronic and/or paper depending on protocol

Section 8: Termination of Bypass

10 marks

* Smooth and controlled
* Good communication
* Unhurried by clinicians
* Confident
* Awareness of pressures, flows and patient response to filling
* Level alarm should not be overridden until venous line is fully clamped

Section 9: Aseptic Technique

10 marks

* Equipment should be clean
* Hands washed after waterlines have been connected
* Sterility checks of oxygenator and packs
* Aseptic handling at tubing/oxygenator interface
* Awareness of sterile field
* General cleanliness
* All equipment used in accordance with manufacturer’s instructions

Section 10: Post Bypass Procedures and Disposal

5 Marks

* Awareness of patient condition post bypass
* Anticipation of further intervention
* Safe and clean disposal of circuit

Any deviation from the departmental protocol should be discussed and explored in the viva with good reasons required to justify this. Incidents that occur during the exam should be used as a basis for questions in the viva but questions can cover any area of perfusion.