



Royal College of  
**Paediatrics and Child Health**

*Leading the way in Children's Health*

# **MRCPCH CLINICAL EXAMINATION**

## **INFORMATION FOR HOSTS AND EXAMINERS**

Revised July 2011

## THE AIM OF THE EXAMINATION

The aim of the examination is to assess whether candidates have reached the standard in clinical skills expected of a **newly appointed Specialist Registrar / ST4**.

Candidates are expected to demonstrate proficiency in:

- Communication
- History-taking and management planning
- Establishing rapport with both parents and children
- Physical examination
- Child development
- Clinical judgement
- Organisation of thoughts and actions
- Recognition of acute illness
- Knowledge of paediatrics and child health
- Professional behaviour
- Ethical practice

## THE FORMAT OF THE EXAMINATION

Our examination has the advantages of structure and an objective marking scheme, but retains the strengths of the clinical examination, particularly the examination of real children. The Clinical Examination is popular with the children and families who help us, to whom we are extremely grateful.

It has a number of positive features including:

### **i) For the candidate:**

- 10 objective assessments of each candidate. The increase in the number and length of time of candidate assessment will increase reliability of the exam.
- Explicit and structured testing of communication skills
- Observed history taking and discussion of management
- 6 “short case” assessments, retaining the emphasis on clinical examination, but less time pressure on candidates and examiners as each case lasts 9 minutes
- Candidates will normally be assessed by a different examiner at each clinical station, so performance at one station does not influence the next station
- Assessment and management of the child with developmental problems.
- Acute paediatrics will be assessed for the first time

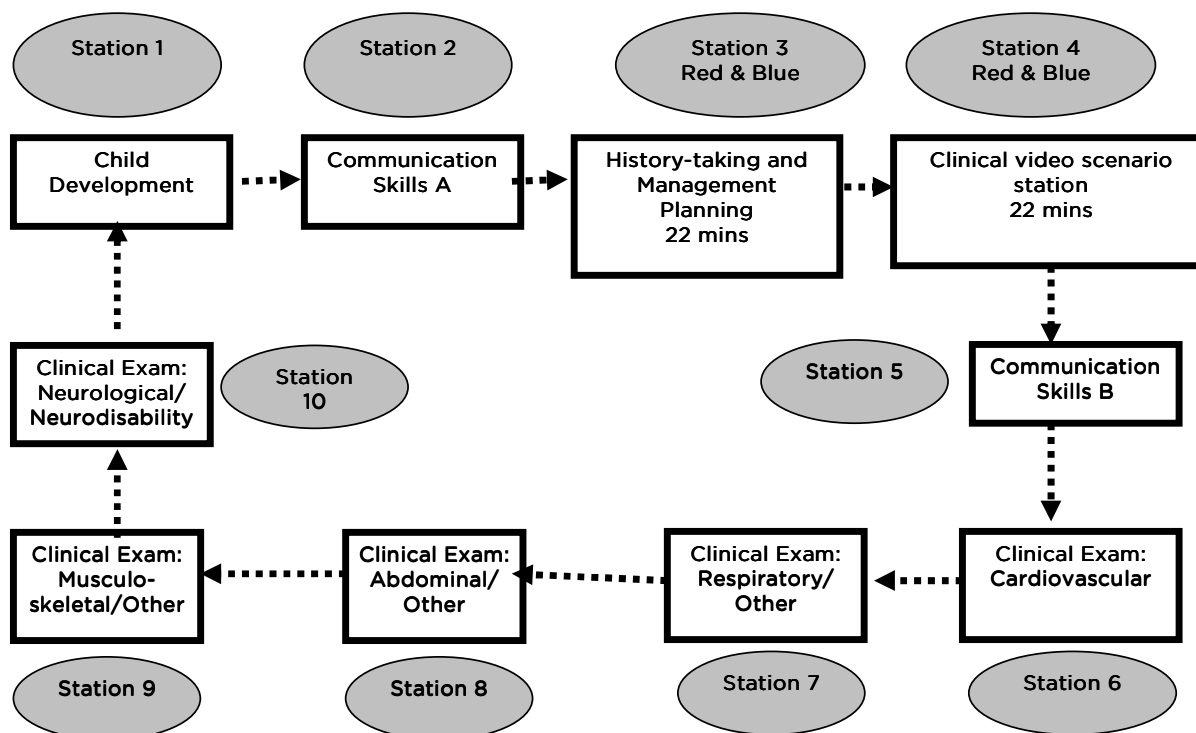
### **ii) For examiners:**

- 24 candidates can be examined each day
- Reduced number of examination days per year for the MRCPCH exam
- Examiners will be away from work for fewer days each year.
- Clear guidelines in form of anchor statements for each station
- Examiner gives final grade as assessment of candidate’s overall performance
- 4 minutes between candidates to make comments and determine final grade
- Easier time keeping

## The examination differs from an undergraduate OSCE:

- In many OSCEs, marks are awarded for each task performed according to a checklist. Our exam requires not only correct process, but also the ability to identify problems or signs and the integration of these findings.
- The final mark for each station (*the only mark which goes towards examination pass or fail*) is determined by the examiner assessing the candidate's overall performance.
- The stations are longer and the tasks more complex, in keeping with this being a postgraduate exam.

## THE EXAMINATION CIRCUIT



- 1 Examiner per station, none for clinical video scenario stations
- 10 Examiners for the circuit, 1 additional examiner for back up / quality assurance
- Candidates join at each station of the circuit making 12 total per circuit
- 2 candidates at the History Taking and management planning station & 2 at the Clinical Video Scenario station at any one time.
- In total there are 10 objective assessments per candidate
- The History-taking & Management Planning Stations and the Clinical Video Scenario Stations are 22 minutes in length, with the other 8 stations being of 9 minutes duration.
- There are 4-minute breaks between each Station with the entire circuit taking 152 minutes to complete.

# THE CLINICAL EXAMINATION

## Station 1: Child development – clinical assessment – 1 x 9 minutes

**Aim** – to assess the candidate’s ability to perform developmental assessment by

- Clinical developmental assessment of the child
- History taking from the parent / carer or child for areas where assessment is not possible, e.g. the silent child
- Appropriate use toys and other equipment for assessment provided at the station

As time is limited, candidates will usually be asked to assess a specific problem related to a child’s development.

**Candidate information** - The candidate will be asked to assess a specific area of the child’s development, principally by developmental examination of the child. The candidate is able to supplement their clinical findings if the examiners decide that history taking from the parent/carer is appropriate because the child is difficult or for domains where assessment is not possible. Candidates are told not to ask about the child’s management or therapy and parents will be told not to give this information. The candidate is expected to make an assessment of development and to be able to discuss the implications of their findings and the child’s management.

Suitable toys and other equipment will be provided. Candidates are asked not to bring their own toys to prevent problems with safety.

Details about what is expected of candidates when performing the clinical assessment of child development is provided in this document and the RCPCH website ([www.rcpch.ac.uk/exams](http://www.rcpch.ac.uk/exams))

Please note:

- The emphasis is on developmental assessment and candidates should not use history taking where clinical assessment is appropriate.
- The children should have a developmental abnormality
- Children will have a developmental age of less than 5 years.
- Formal psychometric testing will not be required.

This is complex area of paediatrics that relies upon experience and local knowledge of facilities available. In the examination the standard is that of a newly appointed Specialist Registrar. New Registrars may not have worked in a Child Development Centre.

### Guidance for hosts

- This is a 9-minute station
- The child should have a mild to moderate developmental problem with or without a syndrome or neurological abnormality.
- The child should have a developmental age of less than 5 years.
- Where there is a syndrome or neurological abnormality, the aim of the station should NOT be to test the identification of dysmorphic features or abnormal neurological signs.
- As there is not enough time to carry out a full developmental assessment (except perhaps in an infant), the examiners must decide which aspect of development they wish the candidate to assess. Where a candidate has done

very well and has completed their assessment quickly or where the child has been fractious, further instructions can be given.

- The suggested toys and tools should be provided at the station. Some of these are provided by the RCPCH and should be returned in the clinical pack box after the exam (see list). The toys/equipment should be provided on a separate high table from the small table used for testing. Toys should be laid out so that it is easy for the candidate to see what is available
- It is essential that a dedicated helper is allocated to the Developmental station to ensure the toys and other materials are tidied away after each candidate, allowing the examiner to focus on the assessment and ensuring that the children are not distracted.
- Candidates are not expected to perform psychometric testing. They should not use their own toys.
- Within 9 minutes the candidate should be able to test the indicated area of development and determine the nature and severity of the problem, and the degree of confidence with which this assessment is made.
- The candidate should be able to outline the main areas of management and demonstrate their knowledge of the roles of the members of the multidisciplinary team dealing with child developmental problems.
- **The room should contain a small table and two small chairs to allow the candidate to sit opposite the child.**
- **A mat should be provided to allow for play/testing on the floor.**

### Guidance for examiners

1. **Standard setting.** The Developmental station is paired with Station 2 (Communications).

Examiners need to agree the developmental problems, how the candidate should be allowed to use the history and what the candidate should find and conclude. If the two examiners have any difficulty with standard setting the senior examiner should be asked to join the discussion.

2. **Case introduction.** The pair of examiners should agree the area of development to be tested and the introduction. (E.g. Michael is 4 years of age and his mother Mrs Smythe is worried that he is clumsy and not good with his hands. Could you assess him please?)

3. **Conduct.** The examiner should greet the candidate and take the mark sheet. The candidate is then introduced to the child as described. In this station the examiner may ask questions, intervene, or prompt at any time. The examiner may ask about the technique of examination, the findings, and any issue related to the interpretation. Candidates may be asked to demonstrate clinical signs. It is helpful if the examiner or an assistant is able to clear away the toys used in this station after each candidate. This means that the candidate has to select appropriate equipment.

## Examples of Children

This station should examine the candidate's ability to assess specifically requested areas in a child with a developmental problem.

This may be a child with a neurological problem or syndrome who is developmentally delayed, or it may be a child who has an abnormal pattern of development e.g. autistic spectrum disorder.

Children with normal development should not be used.

### Example 1

4-year old boy with a right hemiplegia. Please assess his fine motor skills.

Tools should include the following:

12 x 1" blocks

scissors

colouring pencils and paper

small threading beads

picture book.

#### What is expected:

Assessment of building blocks skills 12 block tower or patterns of three steps using 6 blocks or more (9-10 blocks and can copy a 3 block pattern at age 3)

Can he cut paper? (age 3)

Can he draw a man with head, body, legs and arms?

Can he copy a X,V,H,T and O?

Can he lace small beads? (Large at 3)

How does he turn the pages of a book?

Does he perform well using **both** hands?

### Example 2

3-year old girl with Down Syndrome. Please assess her speech and language development.

Tools should include small everyday objects and pictures

#### What is expected:

History from parent - first cooing, babbling, words concerns about hearing, ENT interventions

Assessment of concentration and attention

Assessment of understanding

Assessment of object recognition and selection

Assessment of picture recognition and selection

Imitation of sounds and words

Words together - noun phrases and verb phrases

**Example 3**

4-year old child with autistic spectrum disorder whose sibling has ASD. Please assess whether you think it is likely that this child has ASD.

Tools should include a range of toys, ball and pretend play toys

**What is expected:**

Assessment of speech and language – history from mother

Assessment of interpersonal communication – does he point?, does he take mother to what he wants?, does he share the joy of toys?, how is his eye to eye contact, does he prefer to play on his own?, does he get emotional when his mother does?

Assessment of ritualistic or obsessive behaviour – does he like spinning objects, is he obsessional about particular things, is he rigidly ritualistic, does he dislike changes in routine?

Assessment of other traits – does he dislike crowded spaces, does he dislike loud noise?, does he dislike having his hair cut or washed?

Observation: Eye to eye contact, how does he enjoy directed play?, does he bring his toys to share pleasure?

**Example 4**

18 month old with developmental delay to approximately one year. Please assess fine motor skills

Tools required: small objects and toys – bricks, ball, doll, rattle, small picture book, in/out container, crayon/paper

**What is expected:**

Assessment of grasp – scissor or pincer grasp

Assessment of pointing – with index finger at objects of interest

Assessment of release of a small object into someone's hand

Assessment of crayon grasp and scribble

Assessment of turning of pages of a book

Build two brick tower (18 month old should be able to build 3 or more)

**Reference:**

A good reference is "Child Development. An illustrated guide by Carolyn Meggitt and Gerald Sunderland (ISBN 0-435-42056-9) published by Heinemann Educational Publishers, which outlines normal development at each key stage.

## **Stations 2 & 5: Communication Skills stations - 2 x 9 minutes**

**Aim** - to test the ability to communicate appropriate, factually correct information in an effective way within the emotional context of the clinical setting.

**Communication with** - a surrogate parent, health professional, social worker or a member of the public. This may also take the form of a telephone conversation with a surrogate. Usually communication is with a surrogate who is a member of staff or an actor.

**The task** - may take the form of teaching, breaking bad news, ethics, consent, counselling or professional behaviour. Candidates may be asked to explain use of common medical devices. There are common patterns of communication:

- information giving (e.g. explain how Daniel should deal with his diabetes on his school trip)
- breaking bad news (e.g. the results of your baby's MRI are back and show...)
- consent (e.g. Kelly is 2 years of age and she needs a lumbar puncture)
- critical incident (e.g. we had just discovered that your child has been given the wrong drug ....)
- education (e.g. overview of epilepsy to a nursing colleague who has just joined the team)
- All may include parental dissatisfaction, anger, etc so it is important that the role player is consistent with the candidates during the circuit.

**Candidate information** - written information will be provided about their role, clinical background and the task required. They will not be required to examine any patient; information including growth charts and results of investigations may be provided if relevant.

**Assessment** - to test communication skills. Candidates will be marked on these skills, which must be used to convey factually correct information in an appropriate fashion. It is not a test of the amount of information the candidate can convey. Candidates will be penalised for providing incorrect or superfluous information.

**Examiners** - one at each station. The examiner should rise and greet the candidate, take the mark sheet, explain that s/he will simply observe the communication and will tell the candidate when there are 2 minutes left. The examiner then introduces the candidate and takes a seat and observes. The examiner will advise the candidate at 7 minutes that there are 2 minutes left.

**Instructions** - For each scenario, the College will send (at least 4 weeks before the exam) 3 sets of instructions:

- (i) one for the candidate - giving a clear indication of the candidate's role, the setting and the task to be carried out.
- (ii) one for the role player - giving the setting, an explanation of their role, any relevant history and information and a list of questions that they may wish to pose to the candidate.
- (iii) one for the examiner - giving the above sets of instructions and also an indication of important points of assessment.



### **i) The instructions for candidates**

These should be made available outside the examination room in order that they are read and understood before the start of the station. We recommend presenting these in plastic wallets as the candidate should not write on the sheet. The candidates will read these in the period between stations. The candidates should not remove the instructions from the station. Candidates must have at least 2 minutes with the instructions; the first candidate of the circuit should be given the sheet 4 minutes before the exam commences. The candidate should leave the instructions on the chair outside the examination station before going on to the next station.

### **ii) The instructions for the role player**

These will include all relevant information and history that relate to the case. The role player will be guided as to what level of knowledge they should expect to exhibit. Consideration should be given as to how they might react if certain aspects are touched upon within the scenario. **It is important that the Host Examiner discusses these aspects with the role player in advance.** There is a document available that has guidelines for the rehearsal of role players. We recommend that the host meet each role player for discussion well in advance of the exam. The instructions will include a list of questions that may be addressed to the candidate; however they are not mandatory and should not be asked as a list.

### **iii) Instructions for the Examiner and Host Examiner**

**Standard setting.** Station 2 (Communications A) is paired with the Developmental station.

Station 5 (Communications B) is paired with the Clinical Cardiovascular station.

The Communication Station examiner should see all the role players for their station before the start of the circuit. They need to review the scenarios and discuss with the role player what he/she would expect to hear from a candidate. The examiner should go over with how the role player should react. The role player should be given some understanding of what a poor candidate might say and be aware that such instances may occur and that wrong information might be imparted – they should not rely on what is said to them by the candidates.

Before the examination commences, the host examiner should fully rehearse the role player. Role players must be warned to keep details about the scenario confidential.

**Preparation of the role players should be comprehensive.** It is not reasonable for the candidates to have a different experience as the exam goes on and the role player becomes familiar with the issues involved. It is vital that the role players are aware their “performance” should be consistent throughout the examination. Preparation can be done by telephone if it is not possible to meet face to face. Role players will need to be familiarised with any medical devices being used (e.g. inhaler, insulin syringe). They should also be warned that scenarios may be videoed for examiner training. Role players need to be selected principally on their ability and willingness to play the role of the patient, parent or other role. In some centres there may be individuals experienced in role playing for undergraduate examinations. Professional actors may be used but this is not essential. For some scenarios the age and sex of the surrogate may be important (e.g. father of a newborn, teenage girl etc.). If the scenario is with an adolescent, please try and find somebody who will be able to role play as realistically as possible. They should also come suitably dressed i.e. not in a nurse’s uniform with a nurse’s identity badge. The role player requirements will be forwarded to the Host Examiners about a month before the examination with full instructions for rehearsal.

The examiner should be given all 3 sets of instructions, have read and understood them. The instructions will clearly state the aspect of communication to be tested and give some indication as to how a good candidate would perform in this station.

**The examiner pairings (Communications A & Child Development; Communications B & Clinical CVS) should agree on setting a standard for each scenario. If they cannot agree, the Senior Examiner will have to be involved in the decision on final standard setting.**

## Sample Communication Skills Scenario

An example Communication Skills scenario is printed below. In this scenario the candidate is asked to explain to a mother a change to her son's asthma management regime.

### MRCPCH COMMUNICATION SKILLS STATION

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#### CANDIDATE INFORMATION

#### This station assesses your ability to give information to a parent

*This is a 9-minute station consisting of spoken interaction. You will have up to 3 minutes before the start of this station to read this sheet and prepare yourself. You may make notes on the paper provided.*

*When the bell sounds you will be invited into the examination room. Please take this instruction sheet with you. The examiner will not ask questions during the 9 minutes but will warn you when you have approximately 2 minutes left.*

*You are not required to examine a patient.*

*The encounter should be focussed on the task; you will be penalised for asking irrelevant questions or providing superfluous information. You will be marked on your ability to communicate, not the speed with which you convey information. You may not have time to complete the communication.*

**You are:** A specialty registrar (ST4) in paediatrics, working in a district general hospital

**You will be talking to:** Mrs Milligan, the mother of 7-year-old David

**Setting:** An interview room adjacent to the ward.

**Background Information:** David Milligan was admitted yesterday with poorly controlled asthma. Yesterday, he had an acute asthma attack with a cold. He has received 2-hourly nebulised salbutamol overnight, and a first dose of oral prednisolone

He has not been admitted before, but has symptoms of cough and wheeze most days, worsened by exercise and colds. He has previously used a salbutamol metered dose inhaler directly into his mouth as the only treatment for his asthma. There are no pets at home, and neither parent smokes.

He has a mild Harrison's sulcus, and a Peak Flow rate is 170 l/m (predicted 250). He is on the 10<sup>th</sup> centile for height.

You wish to start David on Beclomethasone dipropionate 200 micrograms twice daily in the first instance, using a large volume spacer. His mother has asked to see you to discuss this in more detail.

**Task: To explain your management strategy for David's asthma to Mrs Milligan.**

**YOU ARE NOT EXPECTED TO GATHER THE REST OF THE MEDICAL HISTORY**

**MRCPC COMMUNICATION SKILLS STATION**

**ROLE PLAYER INFORMATION**

*This is a 9-minute station consisting of spoken interaction between you and the candidate. There is no discussion with the examiner.*

**You are:** Dawn Milligan, a 32 year old married primary school teacher, and mother to David, and his 5-year old sister, Olivia. David was admitted to hospital last night for the first time, because of his asthma.

**Background information:** David has always been chesty especially with coughs and colds. Last year your doctor suggested that he might have asthma and gave you a blue Ventolin inhaler to use. It usually helps when he is bad. He gets a cough and wheezing when he runs, and generally gets chest infections with colds. He started with a cold 2 days ago, and got very wheezy and panicky last night, saying he couldn't breathe. Your husband brought him to hospital while you stayed with Olivia. David was admitted, and has had some nebulisers and medicine. Today he is a lot better, and you have relieved your husband, who has had to go to work.

**Any other information:** The doctor has seen David on the ward round, and suggested some regular inhaled steroids. You have also discovered that the medicine David is getting at the moment is a steroid. You have asked to discuss this with the doctor in more detail.

**Your general feelings:** You are worried about his asthma, and a little guilty that you haven't been treating it properly, but also somewhat suspicious of conventional medicine, and concerned about side-effects in general. You have concerns about steroids. You are aware that they may affect growth, and David is already conscious about being shorter than his friends. You also worry that he may become dependent on them. Your grandmother had steroids for arthritis, and had osteoporosis as a result.

**The following questions are for your guidance. They should not be asked as a list. Possible further questions:**

*The candidate should explain to you that David needs to take a regular inhaled steroid, through a spacer device.*

- You should express general anxiety and reluctance about the safety of inhaled steroids.
- You might also ask why the spacer is necessary, and what about the blue inhaler.

*The candidate may explore your worries about steroids in more detail*

- You should raise the concerns detailed above (growth, osteoporosis, will he get dependent on them, other side effects?)
- Are there any alternative treatments?

The candidate should also explain to you the different roles of the blue inhaler and the steroid inhaler.

- If they do not do this adequately, remain confused, and ask why he can't just use the steroid when he gets a cold.

**The main thing is to be CONSISTENT with your story and emotional response with each candidate.**

## **MRCPC COMMUNICATION SKILLS STATION**

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### **EXAMINER INFORMATION**

**This station assesses the candidates' ability to give information to a parent.**

*This is a 9-minute station consisting of spoken interaction between the candidate and role player. You should remind the candidate when 2 minutes remain; otherwise you should remain silent during the examination time.*

*If the candidate finishes early, you should check that they have finished. If yes, they should remain in the room until the session has ended.*

**The candidates' task: To explain their management strategy for David's asthma to Mrs Milligan.**

### **GUIDE NOTES TOWARDS EXPECTED STANDARD**

#### **Examiner marking criteria:**

Candidates should:

- Address the need for and safety of inhaled steroids?
- Explain why the spacer is necessary?
- Explain the different roles of a "blue" inhaler and a "steroid" inhaler?
- Address concerns about growth and osteoporosis, will David get dependent on them, or any other side effects?
- Discuss if there are any alternative treatments?

**You should warn the candidate when there are 2-minutes remaining. Otherwise please remain silent.**

**If the candidate completes the task before time, you should check that they are finished. If yes, they should remain in the room until the session has ended.**

### **Station 3: History taking and Management Planning - 1 x 22 minutes**

Please note that there are two History Taking and Management Planning stations running in parallel in each circuit

**Aim** - to assess that the candidate can take a focussed history, be able to summarise, identify key issues, prioritise and formulate a management plan.

**The task** - will be similar to a focussed "long case", usually with a parent and child. Occasionally a role player or health care professional or member of the public may be used.

In some ways it is easy to think of this station as being the "long case"! - in old exam speak. The centre chooses the cases, the subject, and the summary. The only input of the College is to provide a proforma for the information sheets for the candidate and the sheets for the examiners.

In choosing cases, there are no rules. It is best if each case is a child and parent. Most are a school age child with a parent. The central difference from the old long case is that the case does not have to be extraordinary - nasty Crohn's who also has cerebral palsy and a family history of Huntingdon's Chorea. In the new exam it is best to consider the child and parent one might see in Out Patients. They may have a common outpatient problem such as enuresis, abdominal pain, headaches. It may be a child with chronic disease and with a complex history and a range of problems. In this situation, identify a particular aspect for the candidate to focus on. It is best not to make things up, but to keep to real life. If, for example, you have a child with chronic active hepatitis on high-dose steroids and now troubled by weight gain, ask the candidate to take a focused history about the child's weight gain and give the candidate the diagnosis and current medication as background information. Other examples might be cystic fibrosis not gaining weight or poorly controlled diabetes.

The candidate will not be required to examine the patient; relevant information including growth charts and results of investigations may be provided.

A short summary of each child will be needed providing the examiner(s) with

- i. child's name, and age
- ii. child's problem list
- iii. child's outline history noting any points of importance in any area of the history
- iv. abnormal findings on examination, including growth and development

**i) Candidate instructions** - the Host Examiner should prepare the written instructions and notes for the candidate, role player and examiners.

The instructions to the candidates should provide them with information about their role:

- the setting
- who they are talking to
- their task with the parent and child - if they are to only take a history or conduct a complete consultation including informing the patient of their diagnosis or differential diagnosis and management plan
- their task with the examiner - usually to summarise the key points and outline their management plan
- relevant clinical background

This station has caused occasional confusion sitting immediately after a communication station. **The instructions to candidates make it clear that the purpose of the station is to make sure that the candidate can take a FOCUSED HISTORY.** The candidate should concentrate on taking the history. Some families may ask occasional questions which may be dealt with. As in clinical practice however, we would not provide advice or a solution to a clinical problem without first taking the history. It may be helpful to remind the candidates before the exam about the difference between the History Taking and the Communication stations.

**Timing of the station** - this will be:

- The total time with the patient will be a maximum of 13 minutes.
- A warning will be issued after 9 minutes
- The patient will leave after 13 minutes, 4 minutes after the 9 minute warning
- The examiner will then discuss the case with the candidate for 9 minutes.

If the candidate has reached the end of the interview in less than 13 minutes, the examiner will check that the candidate has finished and will wait until the 13 minutes has passed before continuing with the exam.

## **ii) Examiner instructions -**

The examiner should be provided with the information given to the candidate, and notes on important aspects about the child's history, examination and management.

The examiners from the two History Taking stations should both meet each child and parent/family. They should ensure that the families understand their role. They may tell the candidate anything that they know about the child's problems. The child will not be physically examined. The examiners should agree any pass/fail standards that are applicable, and the important issues that should arise in the discussion.

The examiner should rise and greet the candidate, take the mark sheet, and explain that s/he will simply observe the history taking. The examiner will remind the candidate when there are 4 minutes left, and will then discuss the child and their problem with the candidate. The candidate is then introduced to the child and parent. The examiner may intervene if asked by the candidate for guidance or if necessary. The examiner will not question the candidate during the initial 13 minutes.

The encounter should be focused on the specified task. Candidates will be considered to be wasting time for asking irrelevant questions or providing superfluous information and will be marked accordingly.

After the patient leaves, the examiner will discuss the case and its management with the candidate. It is not wise to allow the candidate to repeat the history, rather focussing on important points, noting information which helps with management and then discussing points which arise.

**An example scenario follows:**

## **STATION THREE: HISTORY TAKING AND MANAGEMENT PLANNING EXAMPLE SCENARIO**

### **Candidate Information**

**The task with the parent and child is to take a focused history. You may answer questions that the parent or child ask you.  
The examiner will focus on your management plan.**

*This is a 22- minute station. You will have up to 3 minutes before the start of this station to read this sheet and prepare yourself. You may make notes on the paper provided.*

*When the bell sounds you will be invited into the examination room. You may take this instruction sheet with you.*

*You will have 13 minutes with the patient, with a warning when you have 4 minutes left. You will then have a short period to reflect on the case, whilst the patient leaves the room. You will then have 9 minutes with the examiner.*

*You are not required to examine the patient.*

**Role:** You are the ST4

**Setting:** Children's Rapid Referral Clinic at a District General Hospital

**You are talking to:** Gregory a six-year-old boy and his mother

**Task: With the parent and child - take a focused history. You may answer questions that the parent or child ask.**

**With the examiner - discuss your management plan.**

Dear Dr .....

Gregory Durbin Age 6 years

This boy, who was born prematurely and has been seen regularly at your outpatient clinic mainly because of respiratory problems, has been noted by his mother to have become tired and listless over the past 3 months. On examination I can find no significant abnormalities.

I should be very grateful if you would see him and advise on appropriate investigations and management.

Yours sincerely,  
Dr G. Smith  
General Practitioner

**Background information:** Gregory has been seen regularly at the Outpatient Clinic, having required assisted ventilation for a prolonged period as a neonate.

**Any other information:** The current findings on physical examination are that Gregory is thin (0.4<sup>th</sup> centile) and short (2<sup>nd</sup> centile) but is otherwise normal.



## **STATION THREE: HISTORY TAKING SKILLS AND MANAGEMENT PLANNING EXAMPLE SCENARIO**

### **Role Player Information**

As the role player will be the parent of a “real” child, there is no need to provide them with written background details. In advance of the examination, the Host Examiner should brief the parent on what to expect and on what information to volunteer and how to “perform”.

### **Examiner Information**

*THE EXAMINER WILL RECEIVE THE SHEET GIVEN TO THE CANDIDATE AND HAVE DISCUSSED THE SCENARIO WITH THE ROLE PLAYER AND THE SECOND STATION EXAMINER.*

### **Additional Information For Examiner**

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**Examiners are asked to remind the candidate that the purpose of the station is to take a focused history and that throughout the consultation the candidate may feel it is necessary to respond to questions from the subject (role player).**

### **Background information for Gregory and Mother**

- Born at 33 weeks gestation
  - IUGR – birth weight 1.7 kg
  - Had severe RDS and was ventilated for 10 days; suffered unilateral pneumothorax
  - Subsequent admissions for bronchiolitis, head injury & herniorrhaphy
  - Has had treatment for “asthma” since first year of life.
  - Has been monitored by the growth clinic – height on 2<sup>nd</sup> centile, weight 0.4<sup>th</sup> centile.
  - Mother had a baby 6 months ago – no medical problems
  - Gregory had shingles 2 months ago
  - Recent concerns about lethargy – no pointers to organic causes
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## Station 4: Clinical video scenarios – 1 x 22 minutes

**Aim** - to assess the understanding of acute conditions or signs which cannot easily be shown or tested in other parts of the examination. The emphasis will be on general paediatrics and neonatal medicine. Candidates will watch up to 10 videos and make an assessment of clinical signs, illness severity, management or treatment. Cases may include acute problems such as respiratory distress, seizures and severe illness. There may be testing of signs found on clinical examination (e.g. cardiac murmurs or abnormal gaits). The video clips are accompanied by high quality sound recordings. Some of the clips may not have sound, in this case this will be indicated in the question.

**Assessment** - The material will be presented on a laptop computer. There will be up to 3 questions relating to each scenario which will be “best of many” format. The video clip may be replayed as many times as the candidate wishes at any time. Once a candidate has selected an answer to a question, the candidate cannot return to that question. The computer is set to allow 22 minutes and will then end the station.

### Station organisation

Two candidates will be assessed during each 22 minutes. An invigilator (not an examiner) will need to be present to ensure candidates do not talk to each other.

**(Please note: It is very important that candidates do not take notes that they have made during the video station out of the video station room once they have finished)**

A full guide to this station and the use of the computers will be sent to you separately.

## Stations 6 - 10: Clinical Examination - 5 stations x 9 minutes each

**Aim** - to assess clinical examination and interpretation of clinical signs. These cases are modelled on the “short cases” in previous clinical examinations. Each candidate will see one patient at each station. There is one examiner for each station.

**Candidate information** - A brief introduction to the patient and the task required will be given verbally by the examiner. The examiner will ask questions about the clinical findings and their interpretation or management implications at any stage during the 9-minute station.

**Electronic stethoscopes should not be used in the MRCPCH or DCH Clinical examinations unless a candidate has a hearing impairment. If so candidates should have declared this on their application forms and hosts will have been notified.**

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**Candidates are expected to dress in a manner appropriate to a normal working day in clinical practice, and to familiarise themselves with the principles of infection control. If inappropriate dress is observed this should be feedback to the senior examiner only. No further action need be taken.**

Details about what is expected of candidates when performing clinical examination of children is available on the RCPCH website.

([www.rcpch.ac.uk/publications/examinations\\_documents.html](http://www.rcpch.ac.uk/publications/examinations_documents.html))

## Guidance for hosts

It is necessary for the host examiner to carefully select children with important and clear clinical signs.

Please avoid selecting children with rare syndromes unless they have appropriate clinical signs, as spot diagnoses are tested elsewhere. Sometimes it is best not to select children with severe disease (e.g. severe spastic quadriplegia) where a meaningful examination cannot be performed.

Allocate children according to the system to be examined:

- Station 6: Cardiovascular
- Station 7: Respiratory/other
- Station 8: Abdominal/other
- Station 9: Musculoskeletal/other
- Station 10: Neurological/neurodisability.

On occasion it is not possible to test the given system in a certain station. We have warned candidates that children with abnormal signs in other systems may be used at any of these stations. For station 7 and 8, try to identify children with suitable respiratory signs and abdominal abnormalities respectively. As we appreciate this may not always be possible, children with signs from another system can be substituted for these 2 stations.

Occasionally, normal children may be used but this usually poses difficulties for the examiners and the candidates.

A manikin or model may be used in any station if no child is available. Testing of life support and resuscitation skills is demanded of all entrants to higher specialist training in the UK and it is not necessary to duplicate this in the MRCPCH.

Please provide a completed set of standard-setting forms with case summaries for the examiners. These need to give:

- v. child's first name, case reference ID and age
- vi. child's problem list
- vii. child's abnormal findings on examination, including those outside the system which is being examined

It is the responsibility of the examiners to ensure that signs are present on the day of the exam.

## Guidance for examiners

1. **Standard setting.** Examiners are paired for standard setting. There are 4 pairs of examiners:

- Stations 1 (Developmental) and 2 (Communications A)
- Stations 5 (Communications B) and 6 (CVS)
- Stations 7 (Respiratory) and 8 (Abdominal)
- Stations 9 (Musculoskeletal) and 10 (Neurological)

**It is essential that both examiners see all the children in each pair of stations.** The examiners need to check signs, and agree the pass/fail standards. Some signs are clear and candidates must find them in order to pass, while others are more equivocal. Examiners may determine that it is reasonable to prompt candidates but that they should then find the sign in question.

If the two examiners have any difficulty with standard setting the senior examiner should be asked to join the discussion.

2. **Case introduction.** The pair of examiners should agree the introduction to each case. (E.g. This is Meg, she is 3 years old and her parents have noticed that she keeps falling over when walking and that she cannot run. Could you assess her please.)

3. **Conduct.** The examiner should greet the candidate and take the mark sheet. The candidate is then introduced to the child as described. In this station the examiner may ask questions, intervene, or prompt at any time. The examiner may ask about the technique of examination, the findings, and any issue related to the interpretation of the signs. Candidates may be asked to demonstrate clinical signs.

## Marking Scheme and The Pass Mark

At the end of each station the examiner will make an overall judgement as to whether or not the candidate's performance was:

- Clear Pass: the candidate has reached the expected standard of a new ST4
- Pass: the candidate has reached the standard with some minor failings
- Bare Fail: the candidate is not quite ready to become a new ST4
- Clear Fail: the candidate has failed to reach the standard
- Unacceptable: this candidate has performed in a way that cannot be accepted.

The following marks will be awarded for each of the **overall** station judgements:

<b>Clear Pass</b>	<b>Pass</b>	<b>Bare Fail</b>	<b>Clear Fail</b>	<b>Unacceptable</b>
<b>12</b>	<b>10</b>	<b>8</b>	<b>4</b>	<b>0</b>

On the mark sheet the examiner is asked to provide feedback grading for component areas of assessment. These marks are not used in determining a candidate's success in the exam. They are very helpful to candidates seeking feedback. Whenever a non-pass grade is given the examiner should explain the reason for this decision. Examiners should be aware that photocopies of the mark sheets are available to candidates upon request.

At the bottom of the mark sheet the Final Grade is given. This grade determines success in the MRCPCH. The Final Grade is the examiner's overall view. (It is not an average of the feedback marks.)

The full range of marks should be used. The Clear Pass means that the standard has been achieved. It is not our aim to restrict this grade to candidates who are excellent.

- Anchor statements outlining the expected general standard for each station are provided to all examiners in order to aid them reach their overall judgements ([www.rcpch.ac.uk/publications/examinations\\_documents.html](http://www.rcpch.ac.uk/publications/examinations_documents.html))
- Whenever a non-pass grade is given, the examiner must make a clear note of the reasoning behind this decision. This note can be made on the front of the sheet or on the back in the shaded area.

- A similar scale of marks will be awarded for the Clinical Video Scenarios Station
- There will be a total of 10 judgements
- Candidates will fail if they do not obtain a total of 100 marks

The final pass/fail mark can be raised or lowered by the Senior Examiners Board.

### Unacceptable Grade

This is unusual. It is given to candidates whose behaviour, conduct or approach is entirely inadequate, unprofessional, or does not satisfy the basic requirements of a doctor training in paediatrics. Some unprofessional behaviour e.g. rough handling **must result in the automatic awarding of an unacceptable mark. If an Examiner marks the candidate as “unacceptable” for any component of the station, the final mark should be “unacceptable”.**

Full and clear documentation is essential if an Unacceptable grade is given. If the problem relates to approach to the child, the child or parents comments may be noted. All unacceptable grades must be discussed at the examiners meeting after the exam.

In exceptional circumstances, if a candidate’s behaviour is unprofessional, the examiner may stop the candidate and ask them to leave the station. This should be discussed immediately with the Senior Examiner who may decide to prevent the candidate from continuing with the examination. This situation has not yet arisen.

### Quality Assurance

An important difference between this exam and the current exam is that there is only 1 examiner at each clinical encounter. This has the advantage of allowing more stations and the candidate will feel that they are able to start afresh at each station.

Candidates will not fail on the basis of a single encounter (unless there is serious unprofessional behaviour), but will be marked on an accumulation of marks.

In order to check on the reliability of the conduct and marking of exams the following steps will be taken:

- An 11<sup>th</sup> examiner, whenever possible, will observe several stations per day (see Senior Examiner’s guide).
- **Each examiner is asked to examine once a year to maintain consistency.**
- Analysis of examiners’ marks will be made to identify anomalous marking behaviour. This can be done within each examination and across time by accumulating marks given by each examiner every time they examine.
- We may request that some stations at some centres are videoed. This will be used only to check on examiner reliability and for examiner training. The video will be of the examiner and patient and not of the candidate. When used for training we will check that the candidate cannot be identified. Videos will not be available for use over disputed marking or conduct of the exam. Signed consent will be obtained from the patients/parents etc before this is done.
- **Examiner training will be undertaken. All examiners must attend revalidation training once every 5 years.**

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- We will monitor the number of times each child is seen in the exam, each child's demeanour, the point in the circuit where each candidate commences and the topic examined so they can be analysed.

### **Candidates Known To Examiners**

In the past, we tried to avoid candidates being examined by consultants they had worked for. This was because there were only 3 pairs of examiners. As each candidate will now meet 9 independent examiners, we will no longer attempt to avoid candidates being examined by consultants they know. Special measures may be taken when the examiner and senior examiner are both concerned that the candidate is very well known or related to the examiner.

We will endeavour to avoid placing candidates within trusts where they have previously worked and where they may have prior knowledge of any of the patients selected. In addition it is important to remember that if your centre/hospital decides to run a course for the MRCPCH or other related study that you use a different set of patients to the ones used for the exam.

# PREPARATION FOR THE EXAM

The Host Examiner needs to:

- Liaise closely with the Assessment Department of the Royal College of Paediatrics and Child Health
- Notify examiners of travel and local accommodation
- Select two assistants to be in charge of each of the circuits. This is usually a registrar or staff grade person. Identify enough helpers to ensure that the exam runs smoothly
- PLEASE REFER TO THE ADDITIONAL HOST CHECK LIST ENCLOSED (Appendix 1 - Countdown to Hosting and Appendix 2 - Hosting Practicalities)

## Communication stations

- Communication scenarios will be provided for you by the College
- Please find suitable role players. They need to be able to play the part with conviction and consistency. Some roles may be emotionally taxing and the role players' ability to deal with this needs to be considered. The role players should be suitable for the role e.g. a role player being a pregnant mother needs to be female and of appropriate age. They must also be able to repeat the scenario up to 12 times, depending on the number of role players available for the circuit. The role players need to be well versed in the scenario well before the examination. They must know their role and cannot read their lines at the time! Remember the role players will make or break the Communication Scenarios.
- The host examiner will spend some time with each role player in the time before the exam, to ensure the role player's familiarity with the case, the task, and the conduct of the exam. There are full instructions on rehearsing role players.

## History Taking and Management Planning Station

- Identify suitable patients for the History Taking & Management Planning, Clinical Examination and Child Development stations. Inform the parents exactly what is involved and how long they will be needed. Determine the number required according to the nature of the problem and age of the child. (see Appendix 1 - Practicalities)
- Provide written instructions for the History Taking and Management Planning Stations, typewritten in a large font. Proformas are available from the College electronically. It is necessary to have the facilities to be able to amend these instructions on the day of the examination.
- If simulated patients are used, provide suitable briefing and training. For real patients, provide them with an explanation of the nature of the examination and what they are expected to do.
- After the exam, please send copies of the History Taking and Management Planning cases as used in the exam to the College together with the all the standard setting forms used in the exam.

## Clinical Video Scenario Station

Identify a suitable room with 2 desks/tables, electric power and arranged to avoid sunlight and candidates seeing each others screens. Laptops will be provided by the RCPCH. A helper will need to be available to assist and monitor candidates.

Please keep the RCPCH Examinations Department fully informed about any possible problems and confirm receipt of important documents, preferably by e-mail.

If any of the candidates have special needs or disabilities you will be informed about this in advance.

### **Selection of Cases**

- All scenarios and cases must be geared to the capability of a newly appointed ST4 or about to enter higher specialist training.
- The History taking and management planning station will usually involve a parent and child. These are likely to be similar to the children used as long cases in the past. The task required of the candidate must be identified, but should be sufficiently complex to allow the candidate to show their ability in performing a consultation and formulating a management plan. **Try and avoid asking parents to pretend about a problem e.g. to pretend that they do not know some aspect relating to the diagnosis or management. They are not trained actors, and the scenario will usually break down. It is best to concentrate on an active problem they are currently encountering.**
- In the History-Taking & Management Planning station highly emotionally charged situations or overly difficult patients should be avoided.
- For the clinical examination stations, children should have signs suitable for a newly appointed ST4. Rare syndromes or spot diagnoses are unsuitable and should be avoided.
- The number of patients required needs to be tailored according to the age and cooperation of the child and parent. During each circuit there are 12 candidates so sufficient patients are required to avoid them becoming overtired or uncooperative from over-use. (see Appendix 2 – Hosting Practicalities)
- Scenarios will be used only for one day but will not change between the morning and afternoon sessions as previously.

## **Space, Equipment and Patient Requirements For Hosting The Clinical Exam**

### **General points**

Each station needs to be clearly labelled.

Each candidate needs to be given a card outlining the circuit to be followed. These are provided by the College. Each candidate is given the card with his/her correct starting station; each examiner needs a list of the candidates that they are to examine.

Outside each station, a chair is needed for the candidate to sit. It needs to be clearly labelled. For the Communication and History Taking & Management Planning stations, there also needs to be copies of the instruction sheet for the candidates to read. It is important that candidates do not write on these instruction sheets, so if it is possible to have them laminated please do so; alternatively ensure enough spare copies are available to replace those that have been written on. Candidates will also be grateful for some water to drink to be available outside some of the stations.

**Have sterile wipes, hand cleansing gel or hand washing facilities available for use before candidates or examiners examine patients.**

As the examiners may well want to alter the candidate instruction sheets, have them on computer with printer nearby.

Have available - paper and pencils for notes and pencil sharpeners



The number of patients required for a station will depend on the nature of the encounter and age and temperament of the child. There are 12 candidates for each circuit, so each substation is likely to need 2 - 3 patients, but 4 may be needed for a toddler or active child is being examined. (see Appendix 2 - Hosting Practicalities)

Children will need toys to be kept amused and busy. Please ensure they are age appropriate. Also consider drinks, food and toilets.

It is also helpful for each examiner to have a digital timer clock.

All children, parents and simulated patients need to be seen by the examiners before the exam for standard setting. They therefore need to be available sufficiently early before commencement of the exam (60 minutes).

<b>General space requirements</b>	<p>Waiting room for candidates with food and drinks and nearby toilets.</p> <p>Waiting room for patients and simulated patients for the Communication stations and Consultation Skills and Management and play area for children and parents with food and drinks and nearby toilets.</p> <p>Area for “reserve” patients and parents to rest, play and eat.</p> <p>Waiting room for examiners and helpers with drinks and biscuits needs to hold at least 14.</p>
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**Station 2 & 5: Communication stations**

<b>Space</b>	<p>2 rooms            Chairs for candidate, examiner, parent +/- child or simulated patient            Examiner should be out of candidates’ line of vision.            If a child is present, toys etc</p>
<b>Equipment</b>	<p>Candidate instruction sheet on chair outside            Examiner instruction sheet            Patient/simulated patient instruction sheet            Clipboard for examiner for writing            Folders for mark sheets            Any device required for station (e.g. inhaler)</p>
<b>Role players</b>	<p>2 - 3 role players</p>

**Station 3(Red) & Station 3(Blue): History Taking and Management Planning (two stations)**

<b>Space</b>	2 rooms near each other Chairs for candidate, examiner, parent and child ( OR child or simulated patient) Examiner should be out of candidates' line of vision. If a child is present, toys etc
<b>Equipment</b>	Candidate instruction sheet on chair outside Examiner instruction sheet Patient/simulated patient instruction sheet Clipboard for examiner for writing Folder for mark sheets
<b>Patients</b>	2 - 4 children with parents (OR patients/simulated patients)

**Station 4(Red) & Station 4(Blue): Clinical case video scenarios**

<b>Space</b>	1 or 2 rooms with non-medical invigilator
<b>Equipment</b>	2 x desks or table with power socket & extension lead, if required. Shielded from glare on screens. Security for laptops. Backup computer.

**Stations 6, 7, 8, 9 & 10: Clinical Examination stations**

<b>Space</b>	Try to group pair of stations so that candidates can easily go from one station to the other (MSK / Other & Neurological, Respiratory & Abdomen etc) For the MSK and Neuro stations an area that will facilitate gait examination is advised. Will need either: 3 areas/rooms holding paired stations OR 1 large area divided into 5 stations (to hold 8-10 children, 5 examiners and 5 candidates) OR A combination of individual rooms to hold individual patients, examiners and candidates.
<b>Equipment</b>	Candidate instruction sheet on chair outside if used Examiner instruction sheet Clipboard for examiner for writing Mediwipes or hand gel or hand basin with alcohol swabs Box or tray for mark sheets Medical equipment - stethoscopes, tape measure, torch, neurological tray (tendon hammer, cotton wool, non-penetrating disposable sharps (e.g. neurotips), tongue depressor, ophthalmoscope etc

**Station 1: Child Development station**

<b>Space</b>	1 large room – it is imperative that a helper is assigned to this station to ensure that the toys/equipment are tidied and re-organised after each candidate
<b>Equipment for child development station provided by RCPCH Assessment</b>	Picture Cards “Quack Quack” Book Blocks Beads Laces Scissors Cotton reels Toy cups Toy saucers Toy animals Toy cars Spoons Four-piece inset board Differently abled dolls Other general dolls Brush/Comb Crayons Sponge ball
<b>Equipment to be provided by the host centre</b>	Small table and two small chairs – big enough for candidate to sit on Floor mat Paper for drawing and cutting Books with pictures of everyday objects and action pictures for describing/understanding assessment Container for assessing in and out, on and under Medium sized ball Large doll for pretend play preferably with hair to comb Inset board of six or more pieces
<b>Patients</b>	2 – 4 per station depending on age and temperament

## Conduct of the Examination

- **Ensure that candidates clean or wash their hands before examining any patient.**
- There will need to be at least two supervisors or timekeepers for each exam circuit and sufficient helpers to be able to ensure that candidates rapidly find the next station and changes of patients occur smoothly. **A helper should be reserved to tidy away the toys in the Developmental station after each candidate.** Please ensure that your administrator is available to alter on computer any candidate information sheet that needs changing. This should be printed and distributed to relevant parties.
- There will be a bell at the beginning of the exam. The bell sounds after 9 minutes, then after 4 minutes, then after another 9 minutes and so on. This bell marks the beginning and end of each 9 minute station. In History Taking and Management Planning, the first bell marks 4 minutes to go in history taking, the second the time for the child and parent to leave and the examiner discussion to begin, and the third the end of the station. In the 9 minute stations the 2 minute warning is signalled by a knock on the door rather than a bell as the latter would be confusing.
- In each centre the timing signals should be discussed and clearly understood by everyone before the exam begins.
- Time must be allowed for Standard Setting by the pairs of examiners before each circuit. This usually takes 35 - 45 minutes and never less than 30 minutes. It is most time consuming for the MSK - Other/Developmental stations examiners. Lunch arrangements must allow for this. **Standard setting is important!** It is sometimes necessary to start the second circuit of the day a few minutes late to allow completion of this task.
- Patients should be informed that they can answer all candidates questions accurately, unless instructed otherwise within the context of a scenario. They should not withhold information but should also not volunteer information that has not been asked for by the candidate. The exception is information about therapy and management in the Developmental station.
- It is important that for the scenarios the role players are as **consistent** as possible throughout the examination.
- Please ensure that everyone is polite and helpful to candidates as they are often anxious and stressed.
- **The helpers should not be SHO's who are taking the examination at the same sitting. Helpers should not directly observe the candidates in any of their stations or observe the videos. All helpers need to appreciate that all aspects of the examination are confidential, and no details about the examination for any candidate performance should be discussed with anyone else.**

## Instructions For Exam Organiser (Usually Registrar Or Equivalent)

- Ensure the exam location is well signposted.
- Make sure candidate's room is welcoming, with refreshments and is close to toilet facilities
- Point out toilets & fire escape routes
- Provide paper, pencils, sharpeners etc

- Check the identification of each candidate against a photograph on an official document, e.g. passport or identity card and their corresponding examination number. For candidates wearing a veil, please arrange for identity to be checked by a woman, paying attention to cultural sensitivities. Notify any discrepancies and absentees to host examiner.
- **Explain the circuit.** Give them a card showing where in the circuit they start with a list of each station in the circuit they should follow. Name and number each room / station so that it is obvious to the candidate where Communications skills 5 is for example. Colour coding Red and Blue (see circuit diagram) and other visual aids are helpful.
- Candidates should be given a set of mark-sheets. **The candidates should fill in their name and number on each mark-sheet.** Please provide 2B pencils for this. Block out squares like national lottery.
- Inform candidates that they should hand the relevant mark-sheet to the examiner on entering each station.
- Remind candidates that there will be an instruction sheet by or on the chair outside stations 2, 5 & 3(red) or 3(blue) which they should read before starting the station. Remind candidates to hand the instruction sheet back when they have finished this station.
- **Hand cleaning will be available outside each clinical station.** Candidates should wash their hands or use the alcohol hand cleaner while waiting for each station.
- Remind candidates that they should not communicate with other candidates involved in the same circuit.
- Please ask them to SWITCH OFF all mobile phones and beepers.
- Reassure candidates that every station is marked separately so if one station does not go as well as they would have liked they can start the next station afresh.
- Ensure that the candidate is outside their first station five minutes before the start of the examination.
- Be very kind and helpful as candidates are likely to be anxious. Do not underestimate the importance to candidates of being well treated by the staff at the Examination Centre. It really makes a huge difference to them, as evidenced from candidate feedback. Have a quick word and smile with candidates before they depart even though the exam result is not known a friendly word is likely to help.

### Instructions for Time Keeper(s)

- It is essential that a reliable and firm time keeper is appointed as it is VITAL that the examination runs to time.
- Ring bell at 9 minutes to END. (see Appendix 2 - Hosting Practicalities)
- Then, ring bell after 4 minutes to START.
- For the history taking and Management Planning station - the bell at 9 minutes informs the candidate that they have only 4 minutes remaining with the patient. Patient leaves 4-minutes later, after 13 minutes in the station.

### Instructions for Patients' Helpers

- Make sure waiting area welcoming with refreshments and toys
- Point out toilets, changing facilities and fire escapes
- Ensure all patients/parents/role players are **IN PLACE** in sufficient time (60 Mins before exam starts so examiners can see them and confer)

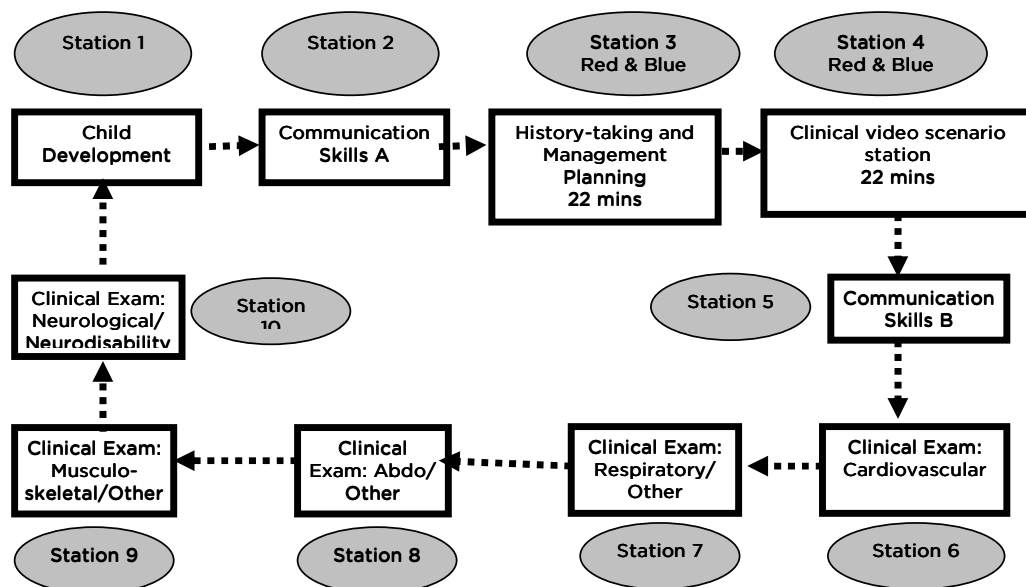
- While the examiners are standard-setting, prepare patients for examination in both of the paired stations simultaneously so that the examiners can flow freely from one to the next and make best use of the time available
- Keep an eye on the children. Unlike the old exam where children could be under-used or missed these children will be seen for 9 minutes with 4 minutes rest *repeatedly* through the session. Check if they need a rest, drink or the toilet during the 4 minutes. Ensure they return in time or substitute a spare and LET EXAMINER KNOW WHICH SPARE IS NOW ON STATION.
- Check that parents and children are happy before leaving and haven't picked up any incorrect information.
- If you are helping with the Developmental station please ensure the room is tidy and toys are put away between each candidate.

## Organisation of Circuit

The most efficient way to run the exam is to consider the candidates as going through the examination in pairs.

If we imagine the two candidates who start at the beginning of the circuit:

- Candidate A starts in Child Development (Station 1) and Candidate B starts in Communication A (Station 2). This exam last 9 minutes
- After the 4 minute interval, they swap over for the next 9 minutes.
- They then pass into the one of the two History taking and Management planning stations (Station 3 (Red) or 3 (Blue)) for a period of 22 minutes (13 minutes of history taking followed by 9 minutes of discussion with examiner)
- Next they take the Video station (Station 4 (Red) or 4 (Blue)) for 22 minutes
- The pair then go to stations 5 (Communication B) and 6 (Cardiovascular), each station lasting 9 minutes and swapping in the 4 minute interval
- The pair then go to stations 7 (Respiratory) and 8 (Abdominal), each station lasting 9 minutes and swapping in the 4 minute interval
- The pair then finally go to stations 9 (Musculo-skeletal) and 10 (Neuro), each station lasting 9 minutes and swapping in the 4 minute interval



**NB** Please remember that a candidate will be at every station for the duration of the circuit.

Each circuit will accommodate 12 candidates. There will normally be 2 circuits per day allowing for 24 candidates to be examined.

It is crucial that stations are clearly marked and candidates and examiners have details of exactly where they have to go and the time of each change over.

# Appendix 1: Countdown Timetable for Hosts

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## 6 MONTHS:

- Cancel Clinics
- Work out rooms needed
- Start identifying suitable patients:
  - Notify colleagues & registrars of need for patients
  - Exam patient database
  - Notices in Outpatients
  - Child Development Centre patients

## 3 MONTHS:

- Start list of patients USING HEADINGS (cvs, history-taking, respiratory)
- Host Examiner to receive Host Book from College
- Book accommodation for examiners (**up to 10. Use fake names if necessary.**)
- Templates of letters to patients set up
- Prepare draft room plan
- Assess from list of patients number needed
- Recruit helpers for day
- Host Examiner calls team meeting (to include colleagues, nurses, secretary, Registrars, ward clerk/admin support, manager)
- Order clipboards, hand wipes etc...
- Send college information about Centre (maps, local hotels for candidates)

## 2 MONTHS:

- Open bank account
- Book venue for examiners' dinner
- Book Taxi firm
- Book day catering for examiners, children & parents, staff, etc
- Equipment check list
- Invite patients, including return acceptance form

## 6 WEEKS:

- Team meeting to familiarise staff with details
- Identify potential role players for Communication Station

## 4 WEEKS:

- Host pack arrives, including role player requirements for Communication Stations
- OPEN CHECK & CONFIRM WITH COLLEGE
- Check there are enough patients for each area
- Preparation of Circuit: Signs labelling each station, enough staff to man circuit, enough furniture/equipment
- Receive examiner contact details from college
- Send examiners a welcome letter with full explanation of arrangements



- Prepare examiner files:
  - Timetable
  - Layout of circuit
  - History-taking & Management station (Long case type summary)
  - Clinical Stations (Short case summaries)

#### **1 WEEK:**

- Withdraw cash to pay children
- Confirm patient attendance & taxis
- Receive Communication Scenarios from College:
  - Send copies to role players (make sure kept confidential)
  - Store originals securely
  - Discuss purpose and case with Role Players by telephone
- Walk circuit with time keepers and Registrars
- Host to think about allocating examiners to stations (in conjunction with senior examiner). Avoid special interests if possible.

#### **NIGHT BEFORE:**

- Check examiners have arrived at hotel (if applicable)
- Put up signs around hospital & circuit

#### **ON THE DAY:**

- Examiners arrive at **08:15**. Coffee.
- Ensure water available at each examiner station.
- Make sure that rooms/areas are properly laid out and labelled
- Briefing by senior examiner where they finalise who takes which station.
- Examiners take a familiarisation tour.
- Patients arrive at **08:45 (13:00 for pm circuit)**
- "Pairs" of examiner see respective cases
- Amend History-Taking instructions if required
- Customise Communication Station scenarios to match role player if required
- Quick examiner meeting at end of 1<sup>st</sup> circuit to identify any issues with running of examination
- Examiners' meeting at end of day-provide comments & feedback to college.
- Overall marks to be transposed onto marks return sheet for transmission back to College

#### **AFTER THE EXAM:**

- Send mark sheets back to College
- Thank you letters to patients, parents & role players
- Thank you to Hospital authorities for use of rooms
- Pay the bills (Taxis, catering etc)
- **Send accounts / reconciliations to College within 8 weeks!**
- Keep MRCPCH book of patients for next time
- Keep ALL relevant stationary & bell for next time in box labelled MRCPCH
- Retain contact numbers for hotels, catering, taxis etc...this will save your secretaries hours of work next time.
- **Offer to host next year!**

## Appendix 2: Hosting Practicalities

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### Room Requirements:

- 2 rooms for the Communications Stations (to hold examiner, candidate, surrogate/patient, observer). Minimum needs: 3 chairs. No bed or cot needed.
- 2 rooms for the History Taking stations (to hold examiner, candidate, parent & child, observer). Minimum needs: chairs for family, candidate and examiner. No bed or cot needed.
- 1 room not in bright sunlight for video scenarios station (with 2 power sockets, 2 chairs and tables facing). This does not need to be clinical accommodation.
- 1 large room for examiners for pre-exam briefing and post-exam meeting (to hold 14 plus)
- 1 candidates waiting room
- 1 patients waiting area

### Short Case options:

- 3 areas / rooms holding “paired” clinical stations (i.e. CVS & Abdomen, Neurological & Respiratory, Other & Child Development)

OR

- 1 large area to be divided into 5 Clinical Stations (to hold 8-10 children, 5 examiners and 5 candidates) and a separate area for the Child Development station

OR

- A combination of individual rooms to hold individual patients, examiners and candidates

### Special Notes:

- The CVS room/area should not be too noisy
- The Neuro / MSK Other stations need sufficient space for gait testing
- The Development station needs to be in a larger quiet room/area with appropriate equipment/toys.
- Beds/cots should be appropriate for age of children and conditions
- Chair for candidate outside each station

### PATIENT NUMBERS (Minimum)

There are 12 candidates in each session. The number of patients will depend on how many times you think they can be examined in 2 ½ hours. In general, younger children can be examined fewer times in a session.

e.g. if you have 2 patients in a clinical station, each will be examined 6 times in a session,

if you have 3 patients, they will be examined 4 times,

if you have 4 patients they will be examined 3 times.

**NB** *There is nothing to stop you from asking the patients and role-players to stay for both sessions. However, it is very tiring for a role player to do both a morning and afternoon circuit. Also, young children are likely to become fretful if asked to stay for the whole day, and it is also more difficult for parents if they are also looking after other children. For role players, make sure that they do not have to look after any of their children as well and that they do not have any conflicting responsibilities e.g. picking up a child from school.*

Ask patients to arrive for **08.45** in order that they can be in place for **09.15** to be assessed by the examiners. Patients arriving for the afternoon session should report for **13.00** in order to be seen by the examiners at **13.20**.

<b>STATION</b>	<b>AM</b>	<b>PM</b>
Communication - role players	2-4	2-4
History taking(long case)	<b>3(to be rotated throughout session, see below)</b>	<b>3(to be rotated throughout session, see below)</b>

<b>CHILDREN REQUIRED</b>		
<b>STATION</b>	<b>AM</b>	<b>PM</b>
Clinical CVS	2-3	2-3
Respiratory	2-3	2-3
Neuro	2-3	2-3
Abdo	2-3	2-3
MSK-Other	2-3	2-3
Child development	3	3
<b>TOTAL</b>	<b>18-25</b>	<b>18-25</b>

Please remind patients that they are required to stay for the duration of the whole circuit,  
i.e. 08.45-12:32 OR 13.00-16:32. Lunch will be provided

<b>History Taking and Management Planning Subject Rotation</b>		
<b>Timing</b>	<b>Red Station</b>	<b>Blue Station</b>
0-13 mins	Subject A	Subject B
13-26 mins	REST PERIOD & SWAP	
26-39 mins	Subject C	Subject A
39-52 mins	REST PERIOD & SWAP	
52-65 mins	Subject B	Subject C
65-78 mins	REST PERIOD & SWAP	
78-91 mins	Subject A	Subject B
91-104 mins	REST PERIOD & SWAP	
104-117mins	Subject C	Subject A
117-130 mins	REST PERIOD & SWAP	
130-143 mins	Subject B	Subject C
143 mins	SUBJECTS NO LONGER REQUIRED	

**MRCPCH CLINICAL CIRCUIT TIMETABLE**

Station Number	1	2	3 (red)	3 (blue)	4 (red)	4 (blue)	5	6	7	8	9	10
Timing			Candidate number			Candidate Number		Candidate Number				
-04	1	2	3	4	5	6	7	8	9	10	11	12
+09	Swap		3	4	5	6	Swap to Next Station in Sequence					
+13	2	1	3	4	5	6	8	7	10	9	12	11
+22	All Out and Swap to Next Station in Sequence											
+26	11	12	1	2	3	4	5	6	7	8	9	10
+35	Swap		1	2	3	4	Swap to Next Station in Sequence					
+39	12	11	1	2	3	4	6	5	8	7	10	9
+48	All Out and Swap to Next Station in Sequence											
+52	9	10	11	12	1	2	3	4	5	6	7	8
+1.01	Swap		11	12	1	2	Swap to Next Station in Sequence					
+1.05	10	9	11	12	1	2	4	3	6	5	8	7
+1.14	All Out and Swap to Next Station in Sequence											
+1.18	7	8	9	10	11	12	1	2	3	4	5	6
+1.27	Swap		9	10	11	12	Swap to Next Station in Sequence					
+1.31	8	7	9	10	11	12	2	1	4	3	6	5
+1.40	All Out and Swap to Next Station in Sequence											
+1.44	5	6	7	8	9	10	11	12	1	2	3	4
+1.53	Swap		7	8	9	10	Swap to Next Station in Sequence					
+1.57	6	5	7	8	9	10	12	11	2	1	4	3
+2.06	All Out and Swap to Next Station in Sequence											
+2.10	3	4	5	6	7	8	9	10	11	12	1	2
+2.19	Swap		5	6	7	8	Swap to Next Station in Sequence					
+2.23	4	3	5	6	7	8	10	9	12	11	2	1
+2.32	<b>END OF CIRCUIT</b>			<b>END OF CIRCUIT</b>			<b>END OF CIRCUIT</b>					

## Appendix 3: Alternative Overseas Circuit

There is an alternative ways of running the circuit which has minimal space requirements and can be used in overseas centres with limited candidate numbers. This circuit will accommodate only 12 candidates per day.

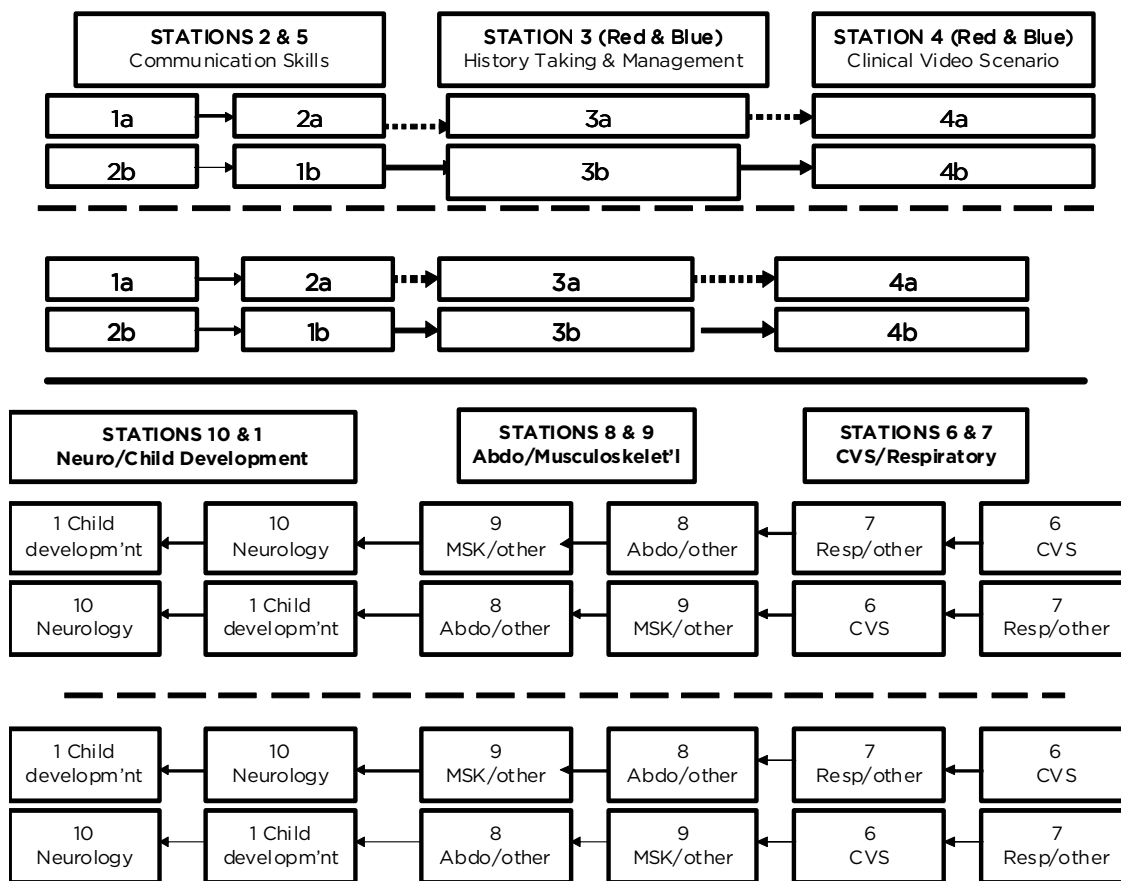
Stations 2 & 5 – Communication skills/Ethics  
 Stations 3(Red & Blue) – History taking and management planning  
 Station 4(Red & Blue) – Clinical case scenarios (video)

This circuit is run twice in the morning. **It is essential to avoid communication between candidates**, this is followed in the afternoon by:

Station 6 & 7 - Clinical examination (CVS – 6, Respiratory/other – 7)  
 Stations 8 & 9 - Clinical examination (Abdominal/other – 8, Musculoskeletal/other – 9)  
 Stations 10 & 1 - Clinical examination (Neurology – 10, Child development – 1)

Again this repeats to allow you to have completed the examinations for 12 candidates.

This circuit will also only use a maximum of 6 examiners, 4 examiners are necessary for the morning and another 2 are needed to make up the 6 stations in the afternoon.





Royal College of  
**Paediatrics and Child Health**

*Leading the way in Children's Health*

# **WRITTEN EXAMINATIONS**

## **How to Write Questions**

**Parts 1A and 1B**

**Part 2**

**2011**

Editor: Bob Dinwiddie  
Authors: Mary Rossiter and Bob Dinwiddie

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Please send completed questions to:

Part 1: Question Board Team, Assessment Department  
Address: 5 - 11 Theobalds Road, London, WC1X 8SH  
E-mail: [Anchelle.Condor-Brown@rcpch.ac.uk](mailto:Anchelle.Condor-Brown@rcpch.ac.uk) / [sheran.mahal@rcpch.ac.uk](mailto:sheran.mahal@rcpch.ac.uk)  
or email: Colin Campbell – address: [cacamp22@yahoo.co.uk](mailto:cacamp22@yahoo.co.uk)

Part 2: Question Board Team, Assessment Department  
Address: 5 - 11 Theobalds Road, London, WC1X 8SH  
E-mail: [Rachael.davey@rcpch.ac.uk](mailto:Rachael.davey@rcpch.ac.uk)  
or e-mail to Bob Dinwiddie – address: [rdinwiddie@doctors.org.uk](mailto:rdinwiddie@doctors.org.uk)  
(We will also accept pictures, charts etc needing questions and questions which need illustrations)

No	Subject List	Subject Feedback Part 2	Competencies List	Competency Feedback Part 2
1	Accidents and poisoning	Community	A Science of Practice	Clinical Care
2	Adolescence Medicine	Community	B Aetiology/ Pathophysiology	Clinical Care
3	Anatomy	Science	C Age Related Needs	Clinical Care
4	Cardiovascular medicine	Internal paed	D Factors in Health	Clinical Care
5	Cross-specialty problems	Community	E Recognise Normal/Abnormal	Clinical Diagnosis
6	Dermatology	Specialties	F Recognise Common/Unusual	Clinical Diagnosis
7	Development/ Neurodevelopment	Growth & Development	G Life Threatened/Resuscitation	Clinical Management
8	Disability/Education	Community	H Analysis and Diagnosis	Clinical Diagnosis
9	Endocrinology	Growth & Development	I Clinical Decision Making	Investigation/Treatment
10	Epidemiology/statistics	Science	J Clinical Investigation	Investigation/Treatment
11	Ethics Management	Science	K Clinical Management/ Therapeutics	Clinical Management
12	Fetal Medicine	Prenatal	L Maths and Prescribing	Investigation/Treatment
13	Gastroenterology/ Hepatology	Internal Paediatrics	M Referral Multidisciplinary	Clinical Management
14	Genetics/Dysmorphology	Science	N Reasoning in Procedures	Investigation/Treatment
15	Growth/Puberty	Growth & Development	O Complication of Disease	Clinical Management
16	Haematology	Specialties	P Complication of Treatment	Clinical Management
17	Hearing/ENT	Community	Q Own Limitation	Governance
18	Immunisation/Preventive Medicine	Community	R Consent	Governance
19	Immunology/Allergy	Specialties	S EBM and Governance	Governance
20	Infectious Disease/Tropical Medicine	Specialties	T Research Methods/Ethics	Governance
21	Life Support	Internal Paediatrics	U Critical Appraisal	Governance
22	Molecular Biology	Science		
23	Musculoskeletal	Specialties		
24	Neonatology	Perinatal		
25	Nephro-urology	Internal Paediatrics		
26	Neurology	Specialties		
27	Nutrition	Growth & Development		
28	Oncology	Specialties		
29	Organisation of Care in UK	Community		
30	Palliative Care	Specialties		
31	Pathology	Science		
32	Pharmacology/ Therapeutics	Science		
33	Physiology, biochemistry and Metabolism	Science		
34	Psychiatry/ Behavioural Medicine	Community		
35	Research and Audit	Science		
36	Respiratory	Internal Paediatrics		
37	Safeguarding Children	Community		
38	Surgical	Internal Paediatrics		
39	Vision/Ophthalmology	Specialties		

#### Feedback

##### Part 1

Candidates are given feedback on their marks in the following categories:  
Basic Science, Clinical Diagnosis, Clinical Management, Community Child Health, Neonatal/Perinatal

##### Part 2

Candidates are given feedback on their marks in the various subjects and competencies grouped into the following categories:

**Subjects:** Science of Paediatrics, Community Paediatrics, Internal Paediatrics, Growth and Development Specialties, Perinatal

**Competencies:** Basis of Clinical care, Clinical Diagnosis, Clinical Investigation and Treatment, Clinical Management, Governance, Research and Ethics.



## “House Style” grammar and presentation

The following guidelines are given to introduce a standard style of presentation of the written paper to the candidates. It is not meant to be prescriptive but can be followed in most questions.

### Generic style

**Tense:** there is no standard tense. Emergency and urgent problems in case histories read well in the present tense.

Only use **punctuation marks** where absolutely necessary – this give a clearer more easily read text in the exam paper. Questions should follow the style of the examples below.

**Numbers** should be written numerically as “4” and not “four”.

Weights in kg with appropriate number of decimal places, e.g. baby 1.57kg, child 32kg. Centiles are usually added in brackets, e.g. 23kg (10-25<sup>th</sup> centile). Head circumference in cm, e.g. 38.5cm (50<sup>th</sup> centile).

Findings on **examination** need not be in full sentences and rates are given /min, e.g. “On examination he appeared well”. Chest clear, Pulse 120/min, respiration 24/min, blood pressure 95/60 mmHg. .

**Answers** should be in alphabetical order (or College staff will do this).

This is a UK examination. It will therefore contain history, terms and **spellings** commonly seen in the UK. Words which you can spell with a “z” or an “s” should be used with “s”, e.g. use “recognised” rather than “recognized”. Colloquialisms should be avoided. Greek letters  $\alpha$  and  $\beta$  should be spelt out in full. The following terminology is recommended; GP for general practitioner, lower case for outpatient department, emergency department, social worker, health visitor, consultant paediatrician etc.

**Syndromes:** Apostrophes are not usually added except where they are in generally accepted use e.g. “Crohn’s”.

Names of **bacteria** should begin with an upper case letter e.g. Pseudomonas aeruginosa, E.coli.

Standard **international units** should be used for all laboratory data. Drug dosage should be written as micrograms and not mcg or  $\mu\text{g}$ . In lab results mmol/l,  $\mu\text{mol/l}$  and pmol/l are used. Commonly used abbreviations such as ALT, AST, ALP can be used.

Approved **drug names** in lower case are used. If a term has two names the second should be added in brackets, especially if this is in common use.

Examples:

- congenital adrenal hyperplasia
- Cushing’s disease
- E. coli septicaemia
- furosemide (frusemide)

**Alphabetical order** highlight all options on the list → Table → A-Z sort → OK then for **bullets** go to format → Bullets and numbering → Numbered → A.B.C. →OK then to **remove full stops** go to format → Numbered → A.B.C. → customise → number format → OK

### Superscript/subscript

Superscript: Press Cntrl Shift = (altogether) type script e.g. 39<sup>0</sup> then Cntrl Shift = to return to normal

Subscript: Press Cntrl= (altogether) type script e.g. HbA<sub>1c</sub> then Cntrl = to return to normal

## PART 1 WRITTEN PAPER

### How to Write Questions for Part 1a and 1b

Author: Mary Rossiter Part 1 Question Coordinator

#### The Part 1 examination

#### The Part 1 examination currently consists of two papers each lasting for two and a half hours

Part 1a covers the areas of child health that are relevant to all of those who will be working with children in their medical careers, not just those entering mainstream paediatric hospital practice. It covers the basic knowledge and clinical skills required to practice competently at this level. The examination is joint between DCH and MRCPCH.

Part 1b covers the paediatric problem-solving skills and scientific knowledge underpinning paediatrics relevant to those who are pursuing a career in specialist paediatrics. This is equivalent to the previous Part 1 paper with greater emphasis on the scientific basis of paediatrics. The problem-solving skills are those expected of a candidate after one to two training posts, each of six months duration.

From 2010 both examinations will consist of:

12	Extended matching questions (EMQ)	3 marks each stem = 9	(108 marks)
15	Multiple true/false questions (MTF)	1 marks each item = 5	(75 marks)
48	Best of 5 questions (B of 5)	4 marks each question	(192 marks)

All lists of options in any type of question should be in alphabetical order (college administrative staff will do this).

**Questions are graded** as follows:

E = Essential

I = Important

A = Acceptable

1 = Very difficult

2 = Moderately difficult

3 = Easy

## SAMPLE QUESTIONS FOR PART 1

### MULTIPLE CHOICE

**Multiple choice (MCQ) questions** are most useful when testing knowledge when there is an absolute Yes/No answer.

#### Example

Subject: Dermatology Feedback: Clinical Diagnosis  
Competency: Recognise Normal and Abnormal

Erythema nodosum

- A characteristically leaves scarred areas after resolution
- B consist of painless subcutaneous nodules on extensor surfaces
- C has recognised association with inflammatory bowel disease
- D is a complication of poorly controlled insulin dependent diabetes
- E is associated with the use of oral contraceptives

**Key** C has recognised association with inflammatory bowel disease  
E is associated with the use of oral contraceptives

**Grades** A I2  
B I3  
C I3  
D I3  
E I3

**Template for Multiple True/False Questions**

<b>Categories</b>	
<b>Competency</b>	
<b>Stem</b>	

<b><u>Answer items</u></b>	
A	
B	
C	
D	
E	
<b>Answer key:</b>	
<b>Grades</b>	
<b>Reasoning and Comments</b>	
<b>References ESSENTIAL</b>	

**Journey of the question**

<b>Author</b> (name and date)	
<b>Edited by</b> (names and dates)	
<b>Approved Vice –chair</b> (date)	
<b>Used</b> (date and comments)	

## BEST OF FIVE

**Best of 5 (Bof5) questions** are used to test judgement and experience. A simple statement or short clinical scenario leads in to five options. All are possible, one is completely or nearly correct. The candidate has to choose the best option and is prevented from regurgitating lists learned in the library.

They should only cover one aspect of the topic so suitable stems should indicate one type of answer e.g.:

“What is the most likely diagnosis?”

“What is the most useful investigation?”

“What is the best next step?”

“What is the best advice to give to the parent?”

“What is the best description of the pathogenesis of this condition?”

“What is the commonest cause of this condition?”

*We recommend that stems should be fairly detailed including clinical scenarios and sufficient details to make all answers possible.*

### Example

Subject: Gastroenterology and Hepatology  
Competency: Clinical investigation  
Feedback category: Clinical diagnosis

A 7 year-old boy presents with a 4 day history of bloody diarrhoea. He is not clinically dehydrated but looks pale and his urine output is poor. His blood pressure is 150/100mmHg. He has a nose bleed soon after admission.

Initial blood results:  
haemoglobin 6.2 g/dl  
white cell count  $15.7 \times 10^9 / l$   
platelet count  $30 \times 10^9 / l$

What is the best test to do next?

**SELECT ONE ANSWER ONLY**

- A Abdominal ultrasound scan
- B Bone marrow aspirate
- C Coagulation screen
- D Serum creatinine
- E Stool sample for culture

Key D Creatinine Grade E2

**Template for Best of Five Questions**

<b>Categories</b>	
<b>Competency</b>	
<b>Stem</b>	
<b>Question</b>	<b>SELECT ONE ANSWER ONLY</b>

**Answers**

A	
B	
C	
D	
E	
<b>Answer key:</b>	<b>Grade</b>
<b>Reasoning and Comments</b>	
<b>References ESSENTIAL</b>	

**Journey of the question**

<b>Author</b> (name and date)	
<b>Edited by</b> (name and date)	
<b>Approved Vice –chair</b> (date)	
<b>Used</b> (date and comments)	

## EXTENDED MATCHING

**Extended matching (EMQ) questions** are used in much the same way as Best of Fives. In this case a list of 10 possible answers is offered followed by three statements or clinical scenarios. The candidate chooses the best option from the introductory list. Again, all are possible, one is completely or nearly correct. We recommend that stems should be fairly detailed including clinical scenarios and sufficient details to make at least five answers possible.

They should only cover one aspect of the topic so suitable questions might be:

“Choose the clinical observation most likely to lead to a diagnosis in each of the following”

“Choose the most likely diagnosis in each of the following”

“Choose the investigation most likely to give a definitive diagnosis in each of the following “

### Example

Subject: Cardiology

Competencies: Clinical management/therapeutics

Feedback categories: Internal paediatrics Clinical management

### This is a list of management options:

- A Defibrillation
- B Ice pack on the face
- C Inhaled salbutamol
- D Intravenous adenosine
- E Intravenous amiodarone
- F Intravenous lignocaine
- G Intravenous sotalol
- H Oral digoxin
- I Radiofrequency ablation
- J Synchronised DC cardioversion

Choose the best treatment for each of the following:

### SELECT ONE ANSWER ONLY FOR EACH QUESTION

**Note:** *Each answer may be used more than once*

1. An overweight 3-month-old presenting with a narrow complex tachycardia at 300 beats/min (3 marks)  
**Key B** Ice pack on the face **Grade E3**
2. An unconscious 4-year-old found drowned in a pond with ventricular fibrillation (3 marks)  
**Key A** Defibrillation **Grade E3**
3. Recurrent episodes of SVT in a 7-year-old despite treatment with 3 different anti-arrhythmic drugs over 4 years (3 marks)  
**Key I** Radiofrequency ablation **Grade E2**

Template For Extended Matching Questions

<b>Categories</b>	
<b>Competency</b>	
<b>Options (10)</b>	<p>This is a list of.....</p> <p>A</p> <p>B</p> <p>C</p> <p>D</p> <p>E</p> <p>F</p> <p>G</p> <p>H</p> <p>I</p> <p>J</p>
<b>Question</b>	<p>Choose.....</p> <p><b>SELECT <u>ONE</u> ANSWER ONLY FOR EACH QUESTION</b></p> <p><i>Note: Each answer may be used more than once</i></p>



**Stems**

<u>Stem1</u>	
<b>Answer key:</b>	<b>Grade</b>
.....	
<u>Stem2</u>	
<b>Answer key:</b>	<b>Grade</b>
.....	
<u>Stem3</u>	
<b>Answer key:</b>	<b>Grade</b>
<b>Reasoning and Comments</b>	
<b>References ESSENTIAL</b>	

**Journey of the question**

<b>Author</b> (name and date)	
<b>Edited by</b> (name and date)	
<b>Approved Vice –chair</b> (date)	
<b>Used</b> (date and comments)	

**The Part I Question Bank has shortages of good questions on the following subjects:**

COMMUNITY CHILD HEALTH including Public health, Development and Neurodevelopment, Disability and Education, Hearing and ENT
BASIC SCIENCE including molecular biology
Life support
Ethics
Palliative Care
Safe Prescribing (see p17)

## Part 2 WRITTEN PAPER

### How to Write Questions for Part 2

Author: Bob Dinwiddie Part 2 Question Coordinator

**The Part 2 written examination consists of two sixty question papers each lasting two and a half hours.**

Each paper contains case histories, data interpretation, x-rays and photographic material. There are no MTF questions in Part 2.

The question format includes the following types. "Best of List" (also known as "Single Best Answer") in which the candidate is asked to choose the one best answer from a list of 5-16 possible options. "n from many" questions in which the candidate is asked to choose two to four answers from a list of 6-16 options. For example, the signs on a chest x-ray or the findings on an ECG. These types of questions are used to test judgement and experience. A short clinical scenario with or without laboratory data leads into a list of options. All are possible but only one to three of those listed are judged to be the most correct. Extended Matching Questions (EMQs) are also used and here the candidate is given a list of 10 options at the beginning of the question which might include diagnoses, investigations, treatments, drugs or other management steps. After the list 3 short clinical scenarios or statements are made. They are then asked to choose the option on the list which is most correct. Each option may be used, more than.

All lists of options in any type of question should be placed in alphabetical order. At the end of the sentence containing the question the number of marks, which can vary from two to nine, is allocated to it, (in brackets) e.g. What is the diagnosis? (4 marks).

Answer options should only cover one aspect of the topic. Suitable items should indicate one type of answer such as the following:

"What is the most likely diagnosis?"

"What is the most useful investigation?"

"Which of the following is the next best step in management?"

"What is the best advice to give to the parent?"

"What is the best description of the pathogenesis of this condition?"

At the end of each question the answer key is given e.g. **Key B** asthma

**Example of “Best of” (“Single best answer”)**

Subject: 13 Gastroenterology                      Feedback: Internal Paediatrics  
Competency: H Analysis and diagnosis              Feedback: Clinical Diagnosis

Question:

A 10 year old girl presented because of poor growth and 4 months of ill-defined abdominal pain. On examination her height was 128 cm (10<sup>th</sup> centile) and weight 22kg (<3<sup>rd</sup> centile). She had several mouth ulcers, appeared pale but examination was otherwise normal.

Investigations:

Blood results

haemoglobin	9.6 g/dl
MCH	26 pg
MCV	76 fl
white cell count	6.6 x 10 <sup>9</sup> /l
platelets	500 x 10 <sup>9</sup> /l
CRP	22mg/l
ferritin	15 µg/l (15-250)

What is the most likely cause of her problems? (4 marks)

**SELECT ONE ANSWER ONLY**

- A coeliac disease
- B Crohn’s disease
- C eosinophilic colitis
- D iron deficiency anaemia
- E psychogenic pain
- F ulcerative colitis

**Answer Key:** +4 B Crohn’s disease

This question is one with a short clinical history. Others have longer histories of 2–4 paragraphs ± results.

### Example of “n from many”

Subject: 20 Infectious Disease                      Feedback: Specialties  
Competency: K Clinical management/therapeutics      Feedback: Clinical investigation

#### Question:

A term baby is born to an HIV positive mother. She has had an undetectable HIV viral load for the past 14 months. You are called to see the baby immediately after he is born.

What two steps would you take? (6 marks)

#### SELECT TWO ANSWERS ONLY

- A apply for an emergency protection order
- B order a chest x-ray
- C start AZT (zidovudine) prophylaxis
- D start cotrimoxazole prophylaxis
- E start penicillin prophylaxis
- F take blood for a full blood count
- G take blood for the infant’s HIV status
- H take cord blood for maternal HIV levels

**Key** +3 **C** start AZT  
+3 **G** take blood for infant’s HIV status

This question is one with a short clinical history. Others have longer histories of 2 - 4 paragraphs ± results.

#### Extended matching questions (EMQs)

See Part 1 example page 10

## Evidence Based Medicine

Questions on Evidence Based Medicine are an important competency to be tested as recently requested of the College by PMETB. One way to test this is to examine the abstract and contents of a peer reviewed published paper and to prepare a question on the possible findings. An example is shown below:

**Study:** Randomised controlled trial of delayed cord clamping on the haematological and iron status of normal term infants at the age of 6 months born in Mexico City.

**Objective:** To assess whether a 2 minute delay in cord clamping of normal full-term infants improved haematological and iron status at 6 months of age.

**Design:** A randomised controlled trial.

**Methods:** 476 mother-infant pairs were randomly assigned to delayed cord clamping (2 minutes after delivery of the infant's shoulders) or 10 seconds afterwards.

**Outcome:** Haematological status and ferritin levels at 6 months of age. Analysis was by intention to treat.

**Results:** 358 (75%) mother-infant pairs completed the trial. Sixty three percent of the early clamping group vs sixty seven percent of the delayed clamping group were breast feeding 6 months after birth. At 6 months of age infants who had delayed cord clamping had a mean corpuscular volume of 81.0 fl vs 79.5 fl ( 95% CI -2.5 to -0.6)  $p = 0.001$ . Ferritin levels were 50.7 $\mu\text{g/l}$  vs 34.4 $\mu\text{g/l}$  (95% CI -30.7 to -1.9)  $p = 0.0002$ . The effect of delayed cord clamping was significantly greater for infants with a birthweight between 2.5 and 3.0 kg. Lancet 2006;367:1997-2004

Which two of the following conclusions can be reached from this abstract? (6 marks)

### SELECT TWO ANSWERS ONLY

- A A more appropriate study design would have been a cross sectional analysis of ferritin levels in all infants born in the participating hospitals at the age of six months analysed by time of cord clamping post delivery
- B Birth weight between 2.5 and 3 kg has no effect on iron stores at the age of 6 months
- C Delayed cord clamping for 2 minutes after delivery significantly increases iron stores at 6 months of age
- D The drop out rate at follow-up invalidates the conclusions
- E The effects of breast versus bottle feeding in the two study groups has no effect on the results of the study
- F The sample size of the study is too small to reach an evidence based conclusion

**Key** +3 **C** delayed cord clamping for 2 minutes.....  
+3 **E** the effects of breast versus bottle feeding....

## Safe Prescribing

This is a field of medical practice in which mistakes not infrequently occur. It is therefore important that this area of competency is tested in both Part 1 and Part 2 of the examination. Areas which can be tested are shown in the table:

Drugs	Doses
Drug levels	Immunisations
Blood products	Fluid management
Side effects	Poisoning
Mineral and nutritional supplements	
Patient age groups	
Preterm infant	infants
Children	adolescents
Settings	
Emergency	routine
In-patient	out-patient
Medication	
Oral, IV, nebulised	
Dose frequency – regular, once only, prn	

Questions could be set regarding appropriate dosage for age and condition, such as for example in epilepsy, fluid management in acute disease as in diabetes or septicaemic shock. Other examples would include advice to parents regarding possible side effects of newly prescribed medication and monitoring of the response to treatment.

Candidates are not expected to remember individual doses – these are available in the BNFC. Relevant paragraphs from this can be quoted where necessary. Any calculations should be very simple as calculators are not allowed in the exam!

A sample question is set out below:

A six year old boy with chronic asthma is not responding to prophylactic inhaled corticosteroids and bronchodilators. You wish to start him on an anti-leukotriene medication.

Which of the following advice should you give to his parents? (6 marks)

### **SELECT TWO ANSWERS ONLY**

- A abdominal pain is not uncommon when starting treatment and if present it should be discontinued
- B a full blood count should be checked after 2 months to exclude leucopenia
- C anti-histamines for allergic reactions are contra-indicated while on this medication
- D hair loss is a recognised side effect and if present the drug should be discontinued
- E headache is a common side effect of this medication which if present is an indication to discontinue it
- F the dose should be doubled during acute asthmatic episodes

**Key** A abdominal pain is not uncommon when.....  
E headache is a common side effect of.....

**Template for Writing Part 2 Questions**

Question Type and Bank number (if allocated) SH, H, D, C, X, EBM, EMQ

<b>Question Setting Group and date</b>	
<b>Subject category and competency</b>	
<b>Stem</b> <b>History/data</b> <b>Answer list for EMQs</b>  <b>Question + marks</b>  <b>How many answers to select?</b> (no more than 3)  <b>Options/items</b>  List options alphabetically  “Best of” and “n of many” need 5-16 options  “EMQ” needs 10 options  For 2 answers or more allow at least 3 options per answer  Answer Key	<b>SELECT <u>ONE TWO THREE</u> ANSWERS ONLY (marks)</b>
<b>Notes and Comments</b>	
<b>Dbase data</b> <b>E-mail contact for further correspondence</b>	
<b>Action</b>	To Vice Chairs/PRE's for approval

## Marking of Part 2 Questions

At the end of setting each question, the possible marks to be given (between 2 and 9) should be indicated.

Marks are given according to the amount of work the candidate has to do to answer the question. A question based upon a long case history with laboratory data would attract more marks than one based on a short history only. Marks are also adjusted according to the importance of the question in clinical practice.

The following table should act as a guide. The marks given are for each individual question. If the candidates are asked to choose 3 answers within one question each correct option will score 2-3, giving an overall total of 6-9 marks.

Type of question	Usual mark
case with data and or photograph	5-8 3-5
short case with photograph	4 3-5
short case with laboratory data	5 3-5
simple case introduction with photograph	3 - 5
simple case introduction with laboratory data	5 3-5
extending matching questions (score for each scenario/question)	4 3/scenarios

Questions are now "Criterion referenced" for weighting in the final assessment of the overall pass mark. This requires that an estimate is made of "What percentage of borderline candidates would you expect to pass this question?" This figure is set by a panel of experienced College trained criterion reference judges.

Questions that are **not** needed:

- Cow's protein allergy
- Crohn's disease
- Early puberty
- Haemolytic uraemic syndrome
- Kawasaki syndrome
- NEC
- Obesity
- Rehydration fluids

Questions that **are** needed:

- Good clinical photographs
- Interpretation of lab data
- X-rays



## Guidance Notes on the Submission of Images for Part 2 Questions

### Introduction

Images are used within exam papers primarily to test candidates' ability to identify a condition and/or illness based on visual evidence and a brief description of that case. Short history, clinical, data and x-ray questions can all use images as part of their format.

### Choosing a camera

A typical digital camera will normally be sufficient for taking good quality images. Photos should preferably be taken in a jpg format, GIFs and EPS files are also acceptable and PDFs for graphs and charts. A macro setting can be useful for close-up images.

X-ray film and hard copies of graphs and diagrams can be submitted. The college can convert these into a digital format. Consent is not required for these so long as all identifiable information is removed.

### Resolution required for a good quality image

Ideally the image will be no less than 300 dpi<sup>1</sup> for colour and 150 dpi for greyscale.

### What do we mean by a good quality image?

A good quality image should clearly show the clinical signs to be tested. It must be well focussed without movement artefact and clear colours. Relevant text on the image should be clearly defined but all patients' identification must be removed.

### Obtaining Consent

It is essential that you first check with your hospital if you wish to take clinical photographs that this is permissible and then that informed consent is obtained for all patients. Consent is mandatory for all images showing any part of the body.

In general consent will be given by the parents or guardian by signing the consent form (this can be obtained from the College). Children under 16 who have the capacity and understanding to give permission for an image may do so.

If the parents or guardians strongly object but the child agrees then it is best not to continue. If the parents or child change their mind at any point it is best to erase the image and destroy the consent form.

### What you should do with the image when submitting it

When the question for an image is being generated then the image should be cut and pasted directly onto the question template. If an image does not have a question it can be given directly to the question facilitator at the question setting group. This will be taken to another question setting session for completion. All image containing questions are sent to exam boards for approval by the Part 2 vice chairs.

### Check list for submitting images for Part 2 questions

Check list	Yes	No
Has consent for use of the image been obtained from the patient and parent or guardian?		

<sup>1</sup> Dots per inch

Is the image in one of the following formats – jpg, gif, EPS or PDF?		
Are all clinical signs clearly shown?		
Is it correctly exposed?		
Is all text within the image legible and has all identifiable information been removed?		

If you have had to select 'No' for any of these items please make sure the image is checked and approved by the facilitator for the day.

## RESULTS

When giving laboratory data cite reference ranges for results which are not in frequent use or where reference ranges vary between laboratories. The words plasma or serum are not used before each result.

### EXAMPLE OF THE RESULTS STYLE

Arterial blood gas		Note kPa to mmHg, multiply by 7.5
pH	7.12	
pCO <sub>2</sub>	4.5 kPa (34 mmHg)	
pO <sub>2</sub>	7.8 kPa (59 mmHg)	
base excess	-12.3 mmol/l	
Blood		
haemoglobin	11.3 g/dl	
MCV	72 fl	
white cell count	9.6 x 10 <sup>9</sup> /l	
neutrophils	5.1 x 10 <sup>9</sup> /l	Note differential as count not %
lymphocytes	3.9 x 10 <sup>9</sup> /l	
monocytes	0.4 x 10 <sup>9</sup> /l	
eosinophils	0.2 x 10 <sup>9</sup> /l	
platelets	132 x 10 <sup>9</sup> /l	
ESR	10 mm/hr	
sodium	137 mmol/l	Describe haematology, insert space, then biochemistry, insert space, then unusual results eg ammonia
potassium	4.7 mmol/l	
urea	4.7 mmol/l	
creatinine	48 µmol/l	
bicarbonate	21 mmol/l	
total bilirubin	119 µmol/l	<b>the words serum or plasma are not used</b>
conjugated bilirubin	6 µmol/l	
albumin	36 g/l	
ALT	32 U/l	
ALP	312 U/l	
glucose	5.6 mmol/l	

list unusual results with ref ranges, e.g. ammonia, TFT's etc.

Blood culture                      awaited

### Urine

pH	5
blood	+++
protein	+/-
ketones	neg
nitrite	neg
white cells	15 x 10 <sup>6</sup> /l
red cells	nil
microscopy	no organisms
culture	awaited

### CSF

appearance	clear, xanthochromic	
opening pressure	10-100 mmH <sub>2</sub> O	
white cell count	25 x 10 <sup>6</sup> /l	
neutrophils	90%	Note differential as count OR percentage
lymphocytes	10%	
Gram stain	neg	
protein	1.2 g/l	
glucose	5.1 mmol/l	
culture	awaited	

## NORMAL RANGES

### Laboratory Tests - Normal Ranges and Units for use by MRCPCH Question Setting Groups

We would expect the candidates to know the normal values and units of the most common laboratory data such as Hb, MCV, MCHC, urea and electrolytes etc. Although many of these are quoted here they are set out as an aide-memoire for those deciding on abnormal values to be used by Question Setting Groups.

#### Haematology

haemoglobin	g/dl
red cells	$10^{12}/l$ (4.2-5.9)
PCV	actual number
MCV	fl (75-90)
MCH	pg (27-32)
MCHC	g/dl (27-32)
haematocrit	absolute number or l/l (0.37-0.42)
WBC	$\times 10^9/l$ express differential as absolute count not%
platelets	$\times 10^9/l$ (150-450)
ESR	mm/hr (<15)
prothrombin time	seconds (10-15)
PTT	seconds (30-48)
APTT	seconds (22-45)
ferritin	$\mu g/l$ (15-300)
fibrinogen	g/dl (2-4)
serum B <sub>12</sub>	ng/l (160-900)
serum folate	$\mu g/l$ (4-18)
red cell folate	$\mu g/l$ (160-640)

#### Blood Gases

pH	absolute number e.g. 7.10
pCO <sub>2</sub>	kPa (4.6-6.0) 35-45 mmHg $pCO_2 = \frac{pH(nmol/l \times HCO_3)}{24}$
pO <sub>2</sub>	kPa (11-14) 84 – 100 mmHg
bicarbonate	mmol/l (24-31)
base excess	mmol/l
base deficit	express as base excess - mmol/l

#### Biochemistry

albumin	g/l (35-55)
ALT	U/l (< 40)
aldosterone	pmol/l (< 1000)
<b>ALP</b>	U/l
	infants less than 1 week < 25OU/l
	Infants <500 U/l
	age 1-10 <300 U/l

	Male	Female
10-11	250-730	250-950
12-13	275-875	250-730
14-15	170-970	170-460
16-18	125-720	75-270

alpha-1-antitrypsin	g/l (1.8-4.0)
ammonia	µmol/l (30-60)
amylase	U/l (100-400)
AST	U/l (<50)
ASO titre	U/l (<200)
bilirubin (total)	µmol/l (<20)
bilirubin (conjugated)	µmol/l (<2)
calcium	mmol/l (2.2-2.75)
chloride	mmol/l (95-105)
cholesterol	mmol/l (3.1-6.0)
copper	µmol/l (12-29)
cortisol	nmol/l (am 200-700, midnight <140)
CRP	mg/l (<10)
creatine kinase	U/l (60-300)
creatinine	µmol/l (20-80)
glucose	mmol/l (3.3-5.5)
gamma GT	U/l (7-40 > 1 year)
HbA <sub>1c</sub>	mmol/mol tlb (28-42)
25- Hydroxyvitamin D	nmol/l (50-250) 25-50nmol/l-insufficiency <25nmol/l-severe deficiency
IgA anti-tissue transglutaminase antibodies	
immunoglobulins	IgG g/dl
neonate	6.5-14.5
1-6 months	1.5-8.0
1 year	3.0-12.0
>1 year	3.0-15.0
IgE	<230U/l
iron	µmol/l (5-30)
iron binding capacity (TIBC)	µmol/l (45-72)
ketones	mg/l (<30)
lactic dehydrogenase (LDH)	U/l (< 700)
lactate dehydrogenase (LDH)	U/l (<700)
lactate	mmol/l (1-2.8)
magnesium	mmol/l (0.6-1.0)
osmolality	mosm/kg (275-295)
parathyroid hormone (PTH)	pmol/l (0.1-4.5)
phosphate	mmol/l (1.3-2.1)
potassium	mmol/l (3.5-5.2)
sodium	mmol/l (135-145)
total protein	g/l (55-80)
triglyceride (fasting)	mmol/l (0.6-1.7)
thyroxine (total) tT4	nmol/l (120-300)
thyroxine (free T <sub>4</sub> , fT <sub>4</sub> )	pmol/l (11-24)
T3 (fT3)	pmol/l (3-9)
TSH	mU/l (0.3-4.5)
urea	mmol/l (2.5-6.6)
uric acid	mmol/l (0.12-0.33)
zinc	µmol/l (11-24)

### Urine

osmolality mosm/kg (> 870)  
protein/creatinine ratio mg/mmol  
white cells x10<sup>6</sup>/l  
urine protein excretion rate <4mg/hr/m<sup>2</sup>

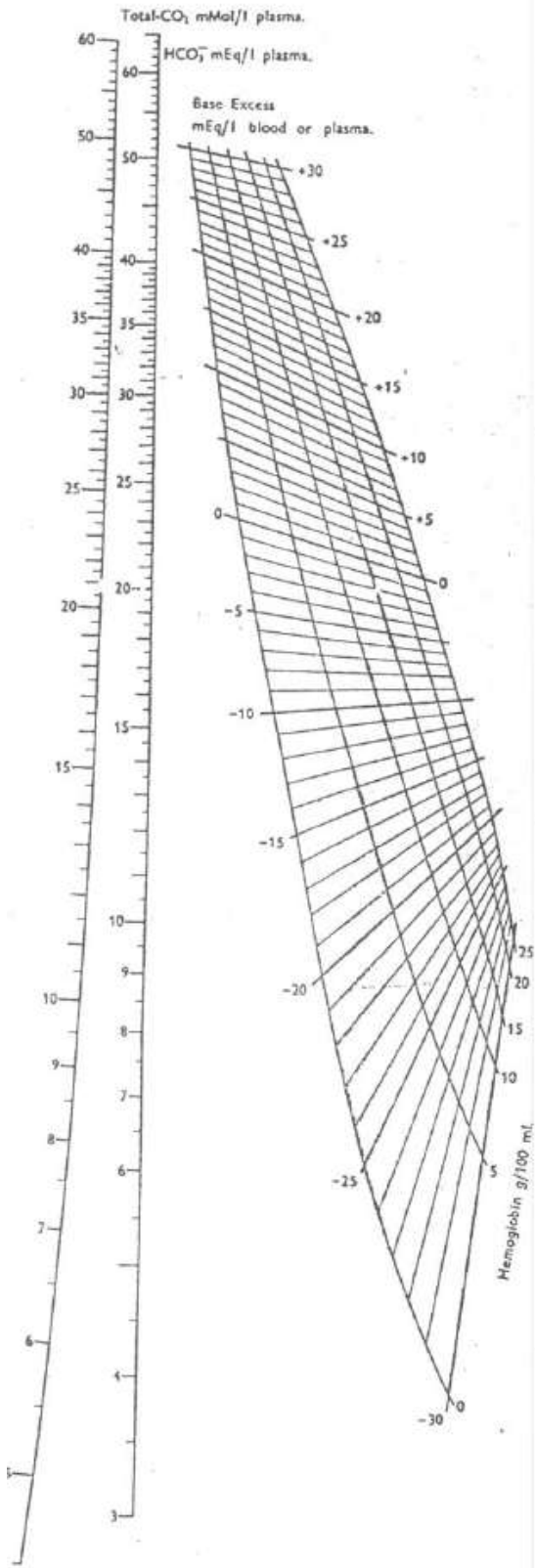
### Sweat

chloride mmol/l (<50)  
sodium mmol/l (<50)

negative/positive

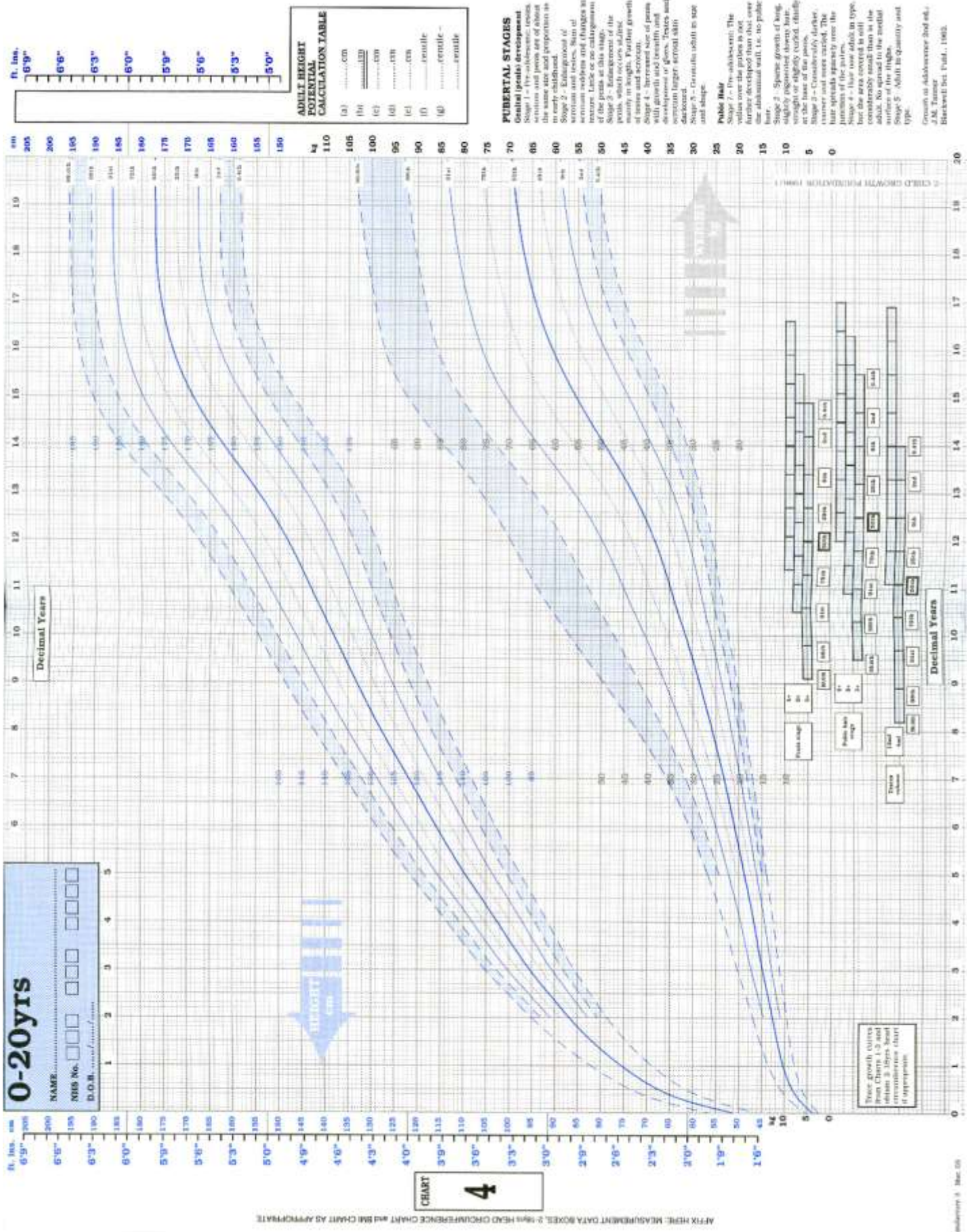
IgA	IgM
g/dl	g/dl
0-0.1	0-0.3
0.05-0.6	0.1-1.0
0.2-0.8	0.4-2.0
0.3-3.0	0.4-2.0

## How to check Blood Gas Results- Siggaard Anderson Nomogram



T = 37°C





Growth Chart - Boy

**0-20yrs**

NAME: \_\_\_\_\_  
 NHS No.   
 D.O.B.



NOTE: HERE MEASURED DATA BOXES. 1.5cm HEAD CIRCUMFERENCE CHART AND BMI CHART AS APPROPRIATE.

**ADULT HEIGHT POTENTIAL CALCULATION TABLE**

(a)	.....cm
(b)	.....cm
(c)	.....cm
(d)	.....cm
(e)	.....cm
(f)	.....cm
(g)	.....cm



**PUBERTAL STAGES**

**Breast Development**

Stage 1 - Pre-adult: The breasts are small and the areola is small.

Stage 2 - The papilla enlarges. The areola enlarges and the areola diameter is small.

Stage 3 - Further enlargement of the areola and the areola diameter is small.

Stage 4 - Projection of areola and papilla to form a secondary mound above the level of the normal areola.

Stage 5 - Mature stage. The projection of papilla only, due to recession of the areola to the general contour of the breast.

**Pubic Hair**

Stage 1 - Pre-adult: The pubic hair is not visible over the pubes.

Stage 2 - The pubic hair is sparse and the pubes is not further developed than the areola.

Stage 3 - Sparse growth of long, slightly pigmented, wavy hair along labia.

Stage 4 - Considerably darker, coarse and more curled. The hair spreads sparsely over the pubes.

Stage 5 - Hair now adult in type, but the area covered is still considerably smaller than in the adult. No spread to the normal adult stage.

Stage 6 - Adult in quantity and type.

Growth of Adolescence 2nd ed. J.M. Tanner (1967)

CHILD GROWTH FOUNDATION 1996/1





Royal College of Paediatrics and Child Health

Leading the way in Children's Health

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I give my permission for the photograph/video, which was taken with the permission of me/my child

on..... at.....

to be used in printed or video form as part of the Examinations of the Royal College of Paediatrics and Child Health. I understand that the purpose of these Examinations is to help in the selection and training of future GPs and specialists. I understand that these photographs/videos will be kept securely and not made further available without my further permission.

Name in capital letters (subject of photograph/video)

(Name of Parent/Guardian of photograph/video) subject of (enter name or delete as appropriate)

Address

Post Code:

Signed: Date:

I also agree/do not agree (please delete) to this photograph or video being published in any form for the education of medical practitioners and allied professionals.

Signed: Date:

(To be completed by doctor) I have explained to my patient/parents of my patient (Please enter name)

On:

the nature of the above request. I believe that he/she understands the nature of this request and of the consent given.

Signed:

Name in Capital letters:

Address

Date:

**RECOMMENDED SPELLING of COMMON SYNDROMES AND DISEASES**

Addison's disease	Pseudo-Bartter syndrome
Alport syndrome	Raynaud phenomenon
Asperger syndrome	Rett's syndrome
Austin-Flint murmur	Reye's syndrome
Bartter syndrome	Romberg sign
Beckwith-Wiedemann	Scheuerman disease
Cell histiocytosis	Schwachman syndrome
Creutzfeldt-Jakob disease	Sotos syndrome
Coombs test	Stevens-Johnson syndrome
Crohn's disease	Still's disease
Cushing syndrome	Sturge-Weber syndrome
Di-George syndrome	Tay-Sachs disease
Down syndrome	Turner Syndrome
Duane syndrome	von-Willebrand disease
Dubin-Johnson syndrome	Werdnig-Hoffman disease
Ebstein anomaly	Williams syndrome
Edward's syndrome	Wilms tumour
Ehlers-Danlos syndrome	Wilson's disease
Eisenmenger syndrome	Wolff-Parkinson-White syndrome
Erb's palsy	Wood's light
Fallot tetralogy	
Fanconi syndrome	
Fragile X syndrome	
Friedreich's Ataxia	
Gaucher disease	
Gowers' sign	
Gilbert syndrome	
Gram stain	
Guillain-Barre syndrome	
Henoch-Schönlein purpura	
Hirschsprung disease	
Hodgkin lymphoma	
Horner syndrome	
Huntington chorea	
Hurler syndrome	
Joubert syndrome	
Kartaganer's	
Kawasaki disease	
Klippel-Fiel	
Klinefelter syndrome	
Krabbe disease	
Marfan syndrome	
Langerhans '	
Leigh's	
Meckel's diverticulum	
Menke's disease	
Noonan syndrome	
Osgood-Schlatter's disease	
Patau syndrome	
Parinauds syndrome	
Pearson's syndrome	
Perthes disease	
Peutz-Jeghers syndrome	
Pierre-Robin sequence	
Pompe's disease	
Potter syndrome	
Prader-Willi syndrome	