

## Generates / tests diagnostic hypotheses

**Green** – Demonstrates comprehensive history of presenting complaint with focussed supplementary questions that are based on the probability of disease and are sufficient to support a diagnosis or diagnoses

**Red** – Demonstrates incomplete history of presenting complaint with questions unrelated to the probability of disease and insufficient to support a diagnosis or diagnoses

**Green** – Demonstrates clear evidence of diagnostic hypothesis generation and testing

**Red** – Shows little or no evidence of hypothesis generation and/or hypothesis testing

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### About this task

It is important to demonstrate a safe and thorough approach to making diagnoses and to ensure that important diagnoses are effectively ruled in or ruled out. It is also essential that serious disease is ruled in or out of a possible working diagnosis.

Here's the approach to take:

- Generate a list of differential diagnoses based on the presenting symptom or problem. A lot of this information will come from open questions, but you will supplement this with closed questions (see Toolkit sections '*Uses open questions appropriately*' and '*Uses closed questions appropriately*')
- Use a series of closed questions to test each hypothesis and weigh up its likelihood.
- Specifically rule out or rule in serious disease by the use of closed questions

### Audio consultations

In an audio consultation, you have less supporting information than in a face-to-face consultation. Unless you ask the patient to come to the surgery, you do not have the benefit of an examination, or access to any local tests such as urinalysis or pulse oximetry. So, it's even more important to generate an accurate list of possible differential diagnoses and ask discriminating questions in order to discover the most likely diagnosis and rule in and out serious disease. This will help you decide what to do next - give advice, see in surgery, refer to another provider.

!!When consulting via audio, please resist the temptation to miss out the process of *generating diagnostic hypotheses*. You might think that once you have decided to call the patient in for a face-to-face consultation (or not) you can stop thinking about diagnostic hypotheses. But this stage is vital - it will inform the urgency of your next step and may determine how you plan for the next step.!!

### Educational Activities

**Activity 1:** To check your ability to identify a realistic list of differential diagnoses watch/listen to a series of consultations with your trainer where you and your trainer write down a list of plausible differential diagnoses for the presenting problem. At the end of each consultation compare lists with your trainer. If you are regularly missing possible diagnoses, then ask yourself (and discuss with your trainer) whether you are missing particular

sorts of differential diagnoses. Looking at the book “Symptom sorter” is also a good way to make sure you are not missing important diagnoses.

**Activity 2:** Using the ‘*Hyper-condensed Curriculum*’, (see link below) and ‘*Symptom Sorter*’ (6th edition, 2020), write down a list of presenting symptoms for which you would find it challenging to generate a list of differential diagnoses. Practice producing useful and discriminating questions for these symptoms. Role play is very useful to cover rarer differential diagnoses.

<https://www.rcgp.org.uk/training-exams/training/gp-curriculum-overview/rcgp-curriculum-super-condensed-curriculum-guides.aspx>

**Activity 3:** Work with your peer study group. Make a list of some commonly presenting problems or symptoms, for example, Tired all the time, epigastric pain, pain in the leg etc.

Take it in turns to think of a different patient presenting with these problems and how the age and sex might affect the list of differential diagnoses that occur to you initially.

For example, a woman aged 46 years with TATT, you might think of 1) Anaemia due to heavy periods, 2) Stress/low mood, 3) Thyroid disorders as the top 3 most likely differentials.

This is a particularly important exercise if you have changed medical careers or are less experienced in UK general practice.

**Activity 4:** Repeat Activity 3 above generating ‘red and yellow flag’ questions for a list of serious differential diagnoses. An example might be Cauda equina syndrome when the presenting symptom is back pain.

Make sure you discuss in your peer group how you might decide when you should ask red/yellow flag symptoms in relation to two questions a) How probable is a serious diagnosis in this case? b) Does your serious but less probable diagnosis have potentially catastrophic sequelae if missed?

The Cauda equina is a good general practice example as although very rare, the complaint of back pain is very common and the potential sequelae of paralysis severe, if missed.

## Audio consultations

Review a series of audio consultations. In how many of these consultations did you generate a list of possible diagnoses, and in how many of these did you test these possible diagnoses and rule out or in serious disease?

## Reflective Exercises

**Exercise 1:** Your diagnostic hypothesis testing must be efficient and ‘good enough’ for safe, independent practice.

- Reflect on any gaps in your knowledge of UK medicine.
- Undertake a curriculum self-assessment, using the headings from the RCGP curriculum.
- In areas where you are less confident around your level of diagnostic knowledge, discuss in your peer study group and with your trainer.
- What methods of improving your knowledge can you use? NICE, Clinical knowledge summaries, GP Library on FourteenFish are all useful resources.
- Also consider using PUNS (Patient Unmet Needs) during consultations to generate and guide your revision by producing DENS (Doctor’s Educational Needs)

## Related interpersonal skills

Practicing and developing the following interpersonal skills will allow the task of '*Generates / tests diagnostic hypotheses*' to be achieved more effectively:

- Uses closed questions appropriately
- Verbalises thinking

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