StratOG

Royal College of Obstetricians & Gynaecologists

Good practice guide: eLearning

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Contents

1. Introduction

This good practice guide has been produced as an introduction to eLearning for staff, Members, Fellows and Trainees of the RCOG who are interested in developing an eLearning resource.

The main aims of the guide are:

- to provide an overview of what the RCOG considers to be 'good practice' in eLearning
- to describe some of the different styles/methods of eLearning available to those who would like to develop an eLearning resource for StratOG
- to offer useful guidance on how to develop effective and engaging eLearning resources
- to explain the RCOG's development process for new eLearning products as set out in the eLearning strategy, including quality assurance aspects.

For more information on how this guide fits into the RCOG's eLearning strategy, please see Section 8.

We hope you find this guide useful. Comments, feedback and suggestions for improvement are very welcome.

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2. eLearning definition

According to Jisc, who champion the use of digital technologies in UK education and research, elearning can be defined as:

"learning facilitated and supported through the use of information and communications technology[1]".

Put more simply, it can be described as:

"Using technology to deliver learning".

eLearning may involve the use of some, or all, of the following technologies:

- desktop and laptop computers
- tablet devices such as iPads
- software, including assistive software
- interactive whiteboards
- digital cameras
- mobile and wireless tools, including mobile phones
- electronic communication tools, including email, discussion boards, chat facilities and video conferencing
- Virtual Learning Environments (VLEs).

The term eLearning is broad and covers a range of activities from supported learning, to blended learning (the combination of traditional and eLearning practices), to learning that is delivered entirely online.

In the past eLearning was often associated with distance or remote learning. You may have heard of eLearning referred to as:

- Online Learning
- Technology Enhanced Learning
- Web Based Learning
- Internet Based Instruction
- Virtual Learning
- Computer assisted instruction.

The important thing to remember with eLearning is that whatever the technology used, learning is the vital element.

[1] JISC. Effective Practice with e-Learning: A good practice guide in designing for learning. 2004.

3. What are the advantages of eLearning?

Studies have shown that if properly implemented, eLearning can be as effective as more traditional methods of education[2].

The main advantages that eLearning offers to busy healthcare professionals such as our Fellows, Members and trainees are:

- **Flexibility**. Learning can be scheduled around other commitments such as work, family and patients. Learners can study anywhere they have access to a computer and Internet connection.
- **Convenience.** Rather than having to travel in to the College, it is possible to undertake learning in the convenience of the home, hospital or practice.
- **Learning can be individualised and accommodates many learning styles.** Self-paced learning modules allow learners to work through materials at a pace that suits them.
- **Active learning.** eLearning encourages learners to take responsibility for their own learning and encourages a more immersive learning environment which engages the learner's attention.
- **Learning can be compressed and more efficient.** A study by Brandon Hall found that there is a 35-45% saving of learning time when a course is taken out of the classroom and delivered as eLearning[3].
- **Allows the chance to practice skills.** eLearning allows healthcare professionals to learn skills in a simulated environment using technology before undertaking them in supervised clinical practice.

The advantages of eLearning to the RCOG are:

- **It allows us to reach audiences in hard to reach areas**, for example international Fellows, Members and trainees or those living in remote parts of the UK.
- **eLearning resources can be more easily updated than classroom or paper based training**. Changes to NICE guidelines and medical procedures can easily be accommodated and immediately made available to its users.

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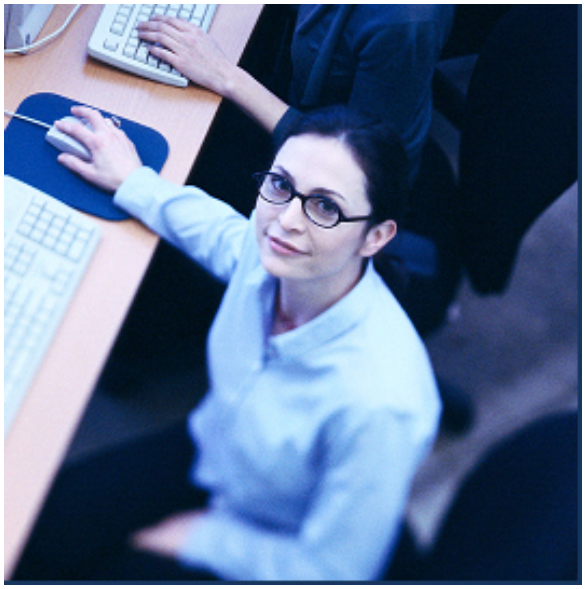
[2] Cook DA, Levinson AJ, Garside S, Dupras DM, Erwin PJ, Montori VM. Internet-based learning in the health professions: a meta-analysis. *JAMA* 2008;300:1181-96.

[3] Epic. Organisational benefits of eLearning. 2012. [http://epiclearninggroup.com/uk/files/2012/08/WP_organisational_benefits1.pdf]

- **In the long term eLearning can be more cost effective** and have lower delivery costs than traditional face to face (F2F) training.
- **Helping the College achieve some of its strategic objectives.** eLearning is a suitable tool for helping the RCOG achieve some of its strategic objectives such as supporting Fellows and Members throughout their career with a meaningful CPD programme and providing new resources to help increase the pass rates for the Part 1 and Part 2 MRCOG examinations.
- **Faster time to market for eLearning courses.** Courses can be quickly built to respond to changes in the Curriculum, training needs etc.
- **eLearning is more inclusive.** Providing that people have access to a computer and the internet, eLearning resources can be used by a wider range of people than traditional taught courses.
- **It is greener.** The only carbon cost of an eLearning resource is that of running a computer for the duration of the training. All the supporting materials are electronic and hosted within the resource. When compared to in-house training courses which require delegates to travel to attend them and often have hand-outs and other paper-based resources, eLearning is a much more environmentally friendly option.



4. Different types of eLearning

This section provides information on some of the different types of eLearning, including synchronous, asynchronous and blended learning.

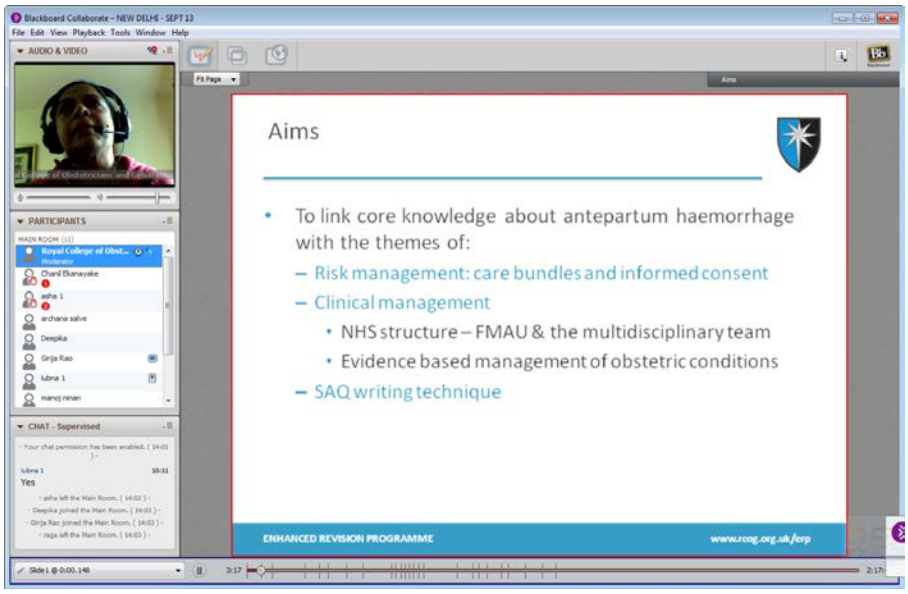
eLearning generally takes place:

- In real time (synchronous or instructor led eLearning) OR
- At a time that suits the student (asynchronous or self-paced eLearning).

1. Synchronous eLearning

This occurs in a virtual classroom when two or more people are communicating in real time. Examples of synchronous elearning are online chats and videoconferencing. Any learning tool that is in real-time that allows learners and teachers to ask and answer questions immediately, is synchronous. Rather than learning on their own, learners are able to interact with other learners and their teachers during the lesson.

RCOG example - The Enhanced Revision Programme



The Meetings Directorate have been running a number of real-time online lectures as part of the Enhanced Revision Programme. This 15-week learning programme currently supports candidates in Sudan, Pakistan and India sitting the Part 2 MRCOG written exam, helping them to achieve membership of the RCOG. Mapped to the syllabus of the Membership examination, it focuses specifically on practising O&G in the UK within the NHS.

2. Asynchronous learning

This takes place outside of real time. Participants study at a time that is convenient for them, using technology such as email, e-courses, online forums, audio and video recordings. With asynchronous learning, learners will typically complete lessons on their own, using the internet as a support tool as opposed to taking part in online interactive classes.

Learners are able to follow the curriculum at their own pace, a perfect option for users who enjoy taking their time and who prefer to research topics on their own.

RCOG example - StratOG core training tutorials

The StratOG core training tutorials are a good example of asynchronous learning. Trainees decide where and when they would like to use the tutorials, and study the materials at their own pace. The tutorials are mapped to the core curriculum and help trainees gain the knowledge for core training and the MRCOG examinations.

For more information see:
https://stratog.rcog.org.uk/tutorials/core-training

3. Blended Learning

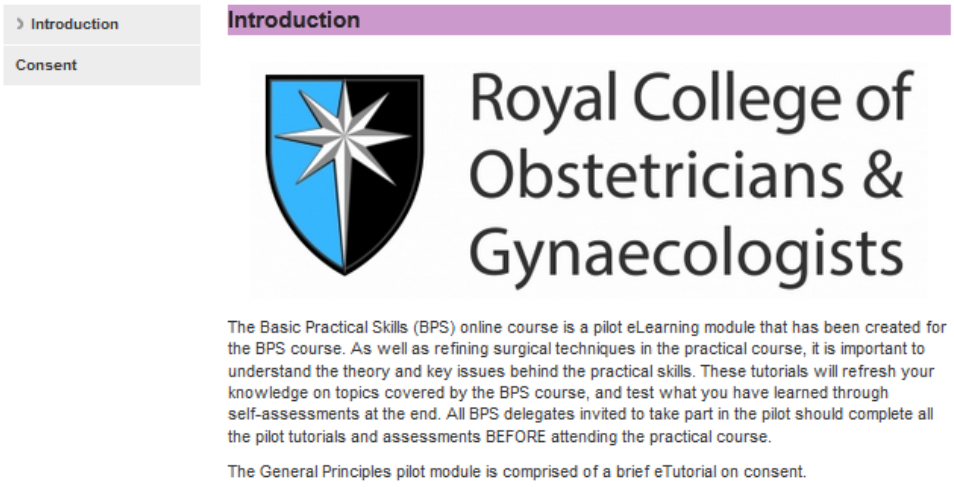
Blended learning combines online learning with Face to Face (F2F) teaching. At least part of the course is taught online, whilst still requiring delegates to attend training in a F2F environment. Blended learning is useful because it allows you to provide online support materials alongside more traditional F2F training.

For example, you might decide to use the online component:

- To make reference material available
- To deliver preparatory work for the F2F course
- To provide independent activities following the F2F course
- For pre- or post-assessment
- To provide follow-up reading after a F2F course.

It is up to the person designing the course to decide which elements are best suited to being taught F2F, and which elements are best suited to being taught online.

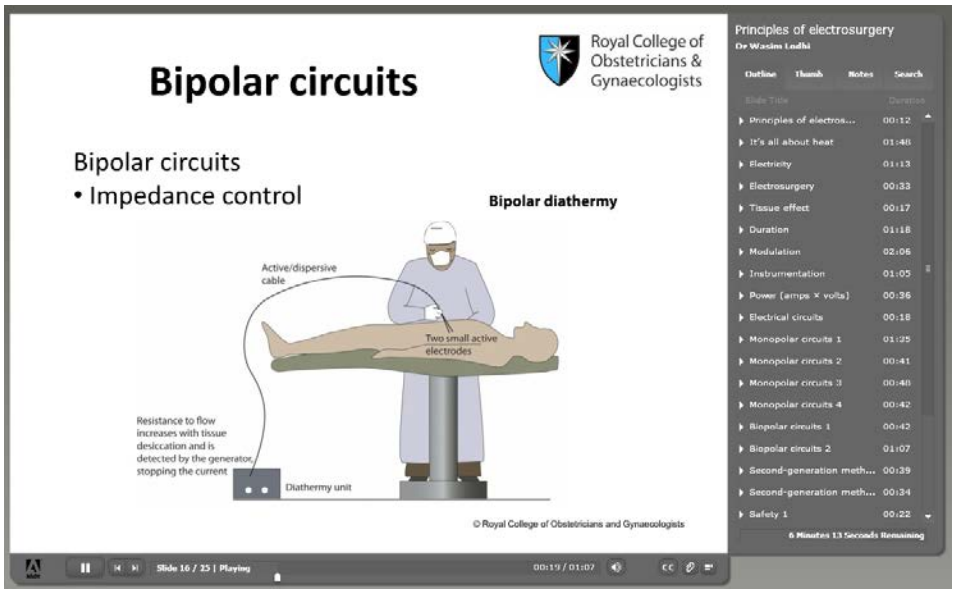
RCOG example – Basic Practical Skills (BPS) course



The eLearning team at the RCOG are currently working with BPS course convenors to develop a blended learning course for the BPS course. Traditionally a 3-day course taught F2F, the course will now be taught over 2 days with an online theoretical component that delegates must read prior to attending the course.

For more information see: https://stratog.rcog.org.uk/tutorial/general-principles

The screenshot below is taken from the Electrosurgery tutorial: https://stratog.rcog.org.uk/presentation/77



5. The educational theory behind the eLearning provided by the RCOG

eLearning resources on StratOG are designed to conform to educational theory. Ellington et al[4] described four domains that were important in enhancing the learning experience:

1. Wanting
2. Doing
3. Digesting
4. Feedback.

The first domain - wanting to learn - is central to learning; if the learner has no motivation to learn then limited learning will take place. A motivator for learning may be the need to pass an examination or to meet CPD or recertification requirements.

Learning is generally more effective when it is active and engages the learner, and when the learner is given time to reflect on new concepts. Opportunities for learners to apply knowledge gained, for example, to solve case studies that simulate real-life situations will also enhance learning. Feedback is essential to the learner as positive feedback and evidence of progress will encourage further learning. Negative feedback - for example, an explanation of why a learner's answer to an assessment was incorrect - can also motivate the learner to improve their performance.

For the purposes of implementing eLearning in medicine, there is a particular need for resources to promote critical thinking and, rather than constantly teach, to facilitate self-directed deeper learning, irrespective of different learning styles. Each learner has a different approach and response to learning and the RCOG's learning design takes learning styles into consideration by including core knowledge, case-based discussions for the application of knowledge, self-assessments, and reflective learning exercises to review, reflect and conclude concepts from newly acquired knowledge.

Honey & Mumford[5] defined groups of learners as:

1. Activists (Do)
2. Reflectors (Review)
3. Theorists (Conclude)
4. Pragmatists (Plan)

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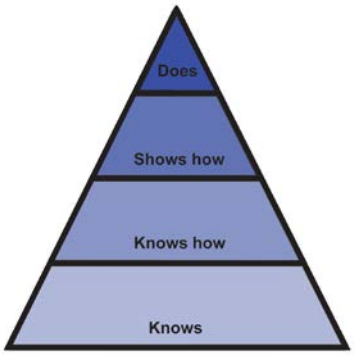
[4] Ellington H, Percival F & Race P (eds.). *Handbook of educational technology*. 3rd ed. London: Kogan Page, 1993.

[5] Honey P & Mumford A. 'The manual of learning styles', available direct from Dr Peter Honey, 10 Linden Avenue, Maidenhead, Berks. Quoted by: Rowntree D (2005) 'block 1 overview essay' *Knowing our learners in ODL', implementing open and distance learning*. Milton Keynes: The Open University, 1986. p.15.

There are several requirements underpinning the obstetrics and gynaecology curriculum, which essentially requires trainees to 'do, review, conclude and plan'. The curriculum is diverse and some trainees will manage the theoretical components more than the practical elements; however, during a training programme, they must meet the required standards in all areas. It is essential to have the knowledge and experience to make decisions; it is essential to have the practical skills and also to have the correct professional attitude and self-awareness. It is evident that eLearning and assessment cannot directly develop or assess all these skills, but the RCOG sees eLearning as more than a tool to deliver knowledge.

The RCOG has intentionally developed eLearning to support key areas of the curriculum so that learners regularly access learning content for the duration of a programme, not just to develop knowledge in a defined period leading up to an examination. Videos and case-based learning sessions would ideally be accessed regularly to allow learners to continually evaluate their own practice and to keep up to date with developments to guidelines. There is a clear link between the curriculum and training support options.

Online training resources can assist with the development of practical skills, with online demonstrations of practices assisting trainees by preparing them for their first experience in clinical training: the early stages of a learning process defined as 'knows' and 'knows how' in Miller's triangle.



- Knows
- Knows how
- Shows how (competent)
- Does (consistently performs competently)

Another useful classification of learning styles considered and used by the RCOG when designing eLearning is Fleming's 'VARK'[6], which emerged from neuro-linguistic programming models which explain that learning styles differ by a learner's preferred modality of sensory intake:

- Visual (V) (Graphics, animations, charts)
- Aural/auditory (A) (Audio clips, e-lectures)
- Read/write (R) (Reading and reflective writing)
- Kinesthetic (K) (Video clips, simulation, case studies).

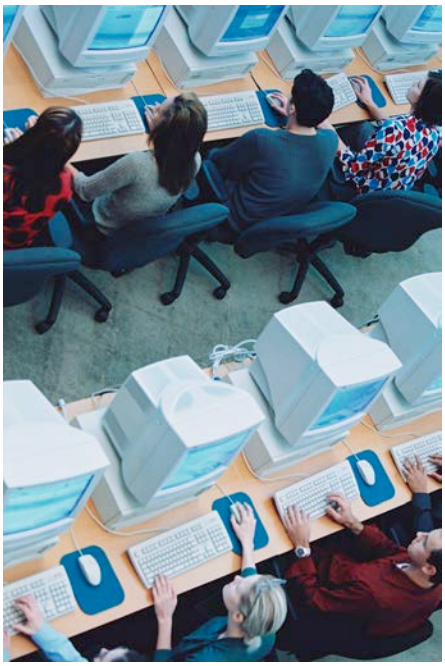
eLearning can provide a 'tactile' learning environment when designed and built using different media objects and tools as it is multi-faceted and has an ability to provide excellent provision for the majority of learning styles within any single eLearning session.

[6] Fleming. Teaching and learning styles: VARK strategies. New Zealand: Fleming, 1987.

6. How to create an effective eLearning resource

Acknowledgements
Many thanks to Professor Stephen Allen from Swansea University for allowing me to re-use content from his presentation on 'How to make an effective eLearning module' in this section.

1. Important considerations before you start



- Focus on your audience. Have a clear idea of who your learner is. What knowledge and skills do they have already? How should your module be designed to be most appropriate for their learning needs?
- Always keep in your mind's eye a mental image of your learner sitting at the computer studying your eLearning resource.
- We all learn from multiple sources - textbooks, websites, conversations with experienced colleagues and, most importantly, from patients themselves. You should encourage your learner to seek out other information to complement your module. **However, the module must be self-contained and contain all that the learner needs to meet its specific learning objectives.**

2. Clearly define the learning outcomes/objectives (LOs)

This is the most difficult bit! Although you may have a clear idea of what your eLearning resource aims to achieve, writing down clear LOs needs careful thought and is the **essential first step** in eLearning development.

Do not start to develop your online resource until you have identified a few (usually 3-4) clear learning objectives.

Once you are happy with your LOs – stick to them and do not allow the resource to wander into other areas.

What are good LOs?

- Good LOs should clearly state what the learner should be able to do by completing the module.
- They should be "active" - so that the learner will be able to assess for themselves whether or not they have achieved the LOs.

But how do you write a good LO? See the tips and suggestions below.

Learning objectives – a few tips

- It is often useful to include numbers in LOs; for example "describe the 3 major ways that…"
- Try rewording the LOs a few different ways to get the balance right between sufficient detail but not too long-winded
- Tempt the learner to continue with the module. Say enough to interest them, but keep the best bits for the content!
- Use "active" words such as "discuss" and "explain".

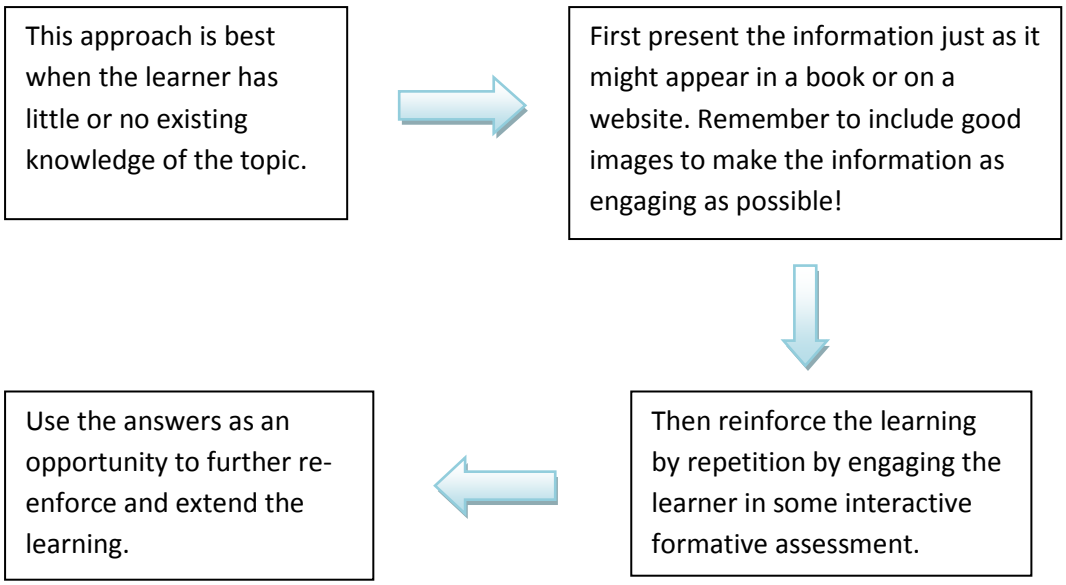
3. Find interesting ways to present information in the eLearning resource

There are many ways of presenting information in an interesting way. The key is to actively involve the learning – rather than just "spoon feed information".

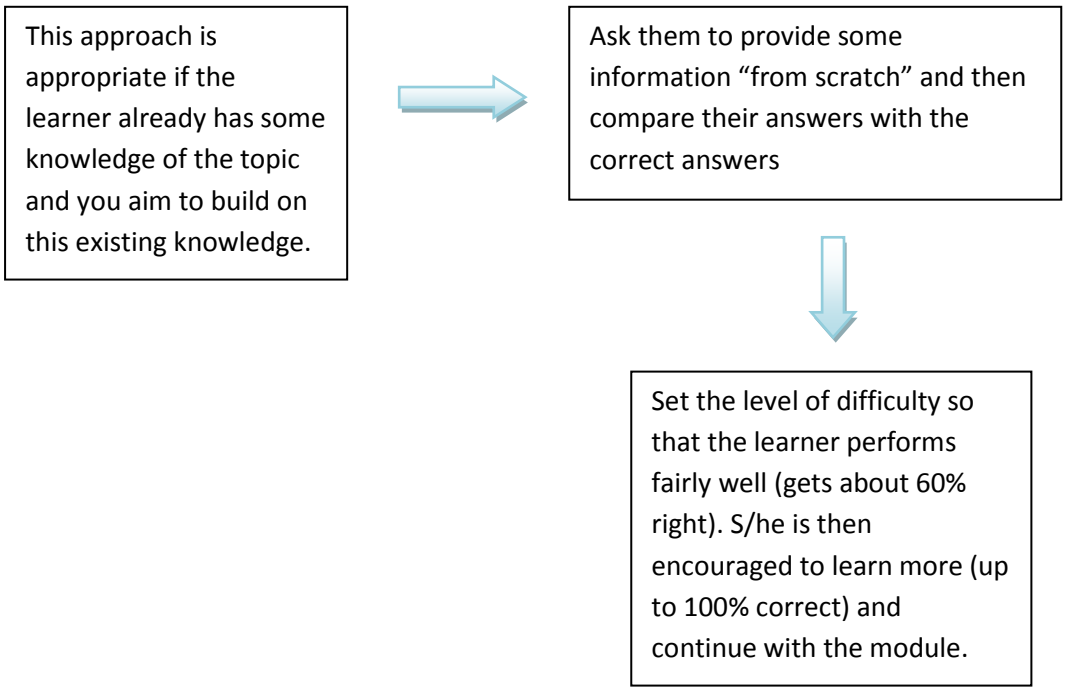
Remember that the information is probably already available in a book or on a website. Your module needs to go beyond just presenting information. It needs to be an active learning tool.

The following images give 3 suggestions as to how to present information in a way that engages the learner.

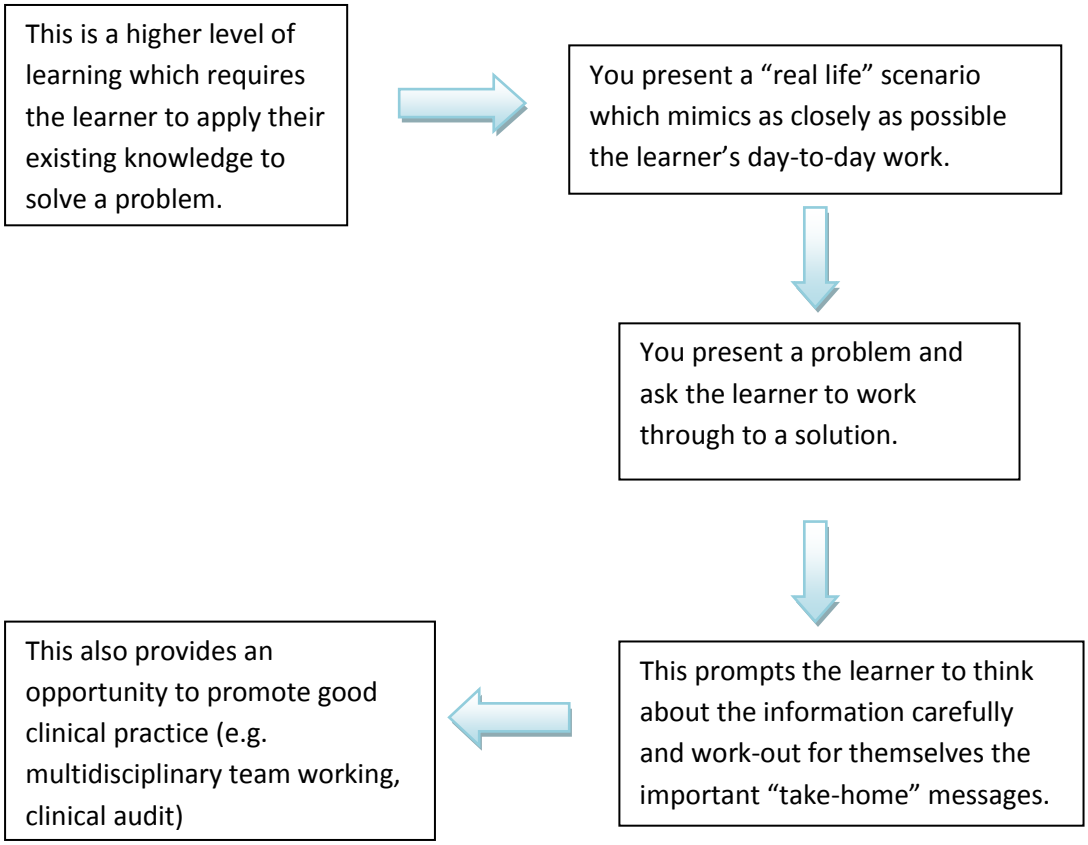
Method 1: The 'show and test' method



Method 2: The 'have a go' method



Method 3: The 'making it real' method



See **section 5** for further information on using real life scenarios and case studies.

Tips on how to make eLearning content engaging

- Think carefully about the likely learning style of your learners and also how best this particular information might be presented.
- Do not use too many different methods within a single resource. To avoid confusing the learner, allow them to become familiar with just 2-3 different methods.
- Remember that the aim of the resource is for the learner to achieve the learning outcomes – not to demonstrate your skills as a teacher!
- Although effective, "active" learning is quite tiring. Including some "spoon feeding" of information as well as one or two more demanding methods is often best.

4. Utilise assessments to assess learning

- In most cases, the assessment for the resource should be "formative". This is purely for the learner's benefit – so that he or she can track their own progress.
- The assessment should be limited to the LOs. The purpose is to allow the learner to confirm that they have achieved the LOs.
- The learner should perform well in your assessment. This confirms that your resource has been effective!

Tips for developing questions

- Practice questions should be created for all critical topics or tasks.
- The text of the question must be as clear and unambiguous as possible.
- Incorrect answers should be plausible. An obviously wrong option does not play any useful role and decreases the learner's interest.
- Incorrect options should aim not to distract learners, but to anticipate common errors so that useful information can be provided in the feedback.
- Provide textual responses for each option of about the same length. If one of the responses is much longer than the others, the learner will think that is the correct one.
- Provide explanatory feedback: after the learner responds to a question, provide feedback saying whether the answer is correct or incorrect with sufficient explanation.

Reproduced with permission from: FAO. E-Learning methodologies: A guide for designing and developing e-Learning courses. Rome: FSO; 2011.

Some examples of the assessment styles that can be utilised on the StratOG website can be found in Appendix 1.

5. Use real life scenarios and case studies to allow learners to put what they are learning in to context

It is important within eLearning resources that you give learners the opportunity to reflect on the material covered, and think about how they might apply this in real-life.

Case studies encourage reflective learning and allow learners to more actively participate in the learning process. They have become an integral part of the pedagogy in the teaching of many subjects. Cases can be used for a range of purposes such as to illustrate best practice, apply tools, invite discussion, facilitate decision making and develop skills in critical and creative thinking. Case studies can be likened to problem-based learning which encourages development of critical thinking and problem-solving skills within a context.

A case study is a representation of a real-life or life-like situation. It is a representation rather than a description because it does not have to be text-based and it can contain multiple resources. A case study is a model that includes a sufficient level of detail for the learning and teaching purpose. The model is a situation or scenario based on events in the real-world. Although narrative case studies are the most common form of case study, they do not have to be limited to text-based descriptions. A case may represent a single event or provide an account of a series of actions over a period of time.

Case studies are usually based on a real-world scenario, based on a real or a realistic situation. Some facts may have been changed to preserve anonymity or to simplify the case. A major benefit of using case studies is that it adds interest to the learning experience making learning enjoyable for both staff and learners.

Elements of a Case Study

A simple case study consists of a scenario (the context), a statement of the issues (the focus of the case), the task (the open problem) and any resources needed for the task. Additional supporting materials (artefacts) such as documents newspaper articles or videos may also be provided.

Learners need to be given clear instructions about what they are required to do with the case material. This might be an open-ended question such as ‘what would you do next in this situation?’ or it might require learners to develop a solution.

Benefits of case studies

- They give a real-world context, which illustrates how the material taught applies to the real world.
- They increase motivation of learners, as they can see how the material directly relates to the real world and their future careers.
- The complexity of the real-world is reflected, demonstrating how data is often not clearly defined.

- They give the opportunity for learners to explore multiple perspectives. Learners can identify alterative views from the actors in the scenario who may want different outcomes and see how a decision may impact people differently.
- Requirement for critical analysis, to analyse data to reach a conclusion
- Synthesis of course content, a case often requires a range of techniques to be selected and applied.

This section on case studies has been reproduced with permission from Cox S. *Learning and Teaching Guides: Case studies for active learning*. 2009.

Remember to give a model answer for case studies, so that learners can compare their answers to this. An example of a case study can be found in Appendix 2.

6. Design eLearning content in small, easy to digest chunks

Rather than bombarding learners with large amounts of information, design the structure of eLearning resources so that the information is presented in manageable bite sized chunks. That way, they can dip in and out of the resource as time and other commitments allow, making the chance of them completing the eLearning resource much more likely (as opposed to scaring them off!)

Those using an online resource usually do not read the content as thoroughly as when they are reading something on paper. It is important that you recognise that this is the case, and find ways to feed information to them in stages.

Tips on how to design eLearning content

- Start with the basic concepts and build upon them.
- Consider the length of pages within the resource – if there is a lot of text and information, could they be cut in to 2 pages? Completing and clicking through pages allows learner to feel that they have accomplished something and are progressing through the resource.
- Bullet points can be used to reinforce important points, as learners are naturally drawn towards bullet pointed lists.
- Consider breaking things down in to steps. Number these steps if the information happens in a sequence.
- Think about the information contained in your eLearning resource from the viewpoint of the audience/learner. What is it most important that they should know?
- Think about the language used. Don't use flowery text. Clear concise sentences are best. Find ways to rewrite sentences to make them more concise.

7. Utilise graphics to make the resource more aesthetically pleasing and help cement knowledge

Graphics including illustrations, pictures, diagrams and icons can be utilised to serve the following purposes:

- **decorative:** to add aesthetic appeal or humor
- **representational:** to depict an object in a realistic fashion
- **mnemonic:** to provide retrieval cues for factual information
- **organisational:** to show qualitative relationships among content
- **relational:** to show quantitative relationships among two or more variables (e.g. pie charts, line charts)
- **transformational:** to show changes in objects over time or space (normally realized through animations and video); and
- **interpretive:** to illustrate a theory, principle or cause-and-effect relationships[7].

Graphics can play a crucial role in promoting learning. They should not only be used to add visual interest to a screen. In eLearning, relevant graphics can facilitate learning by:

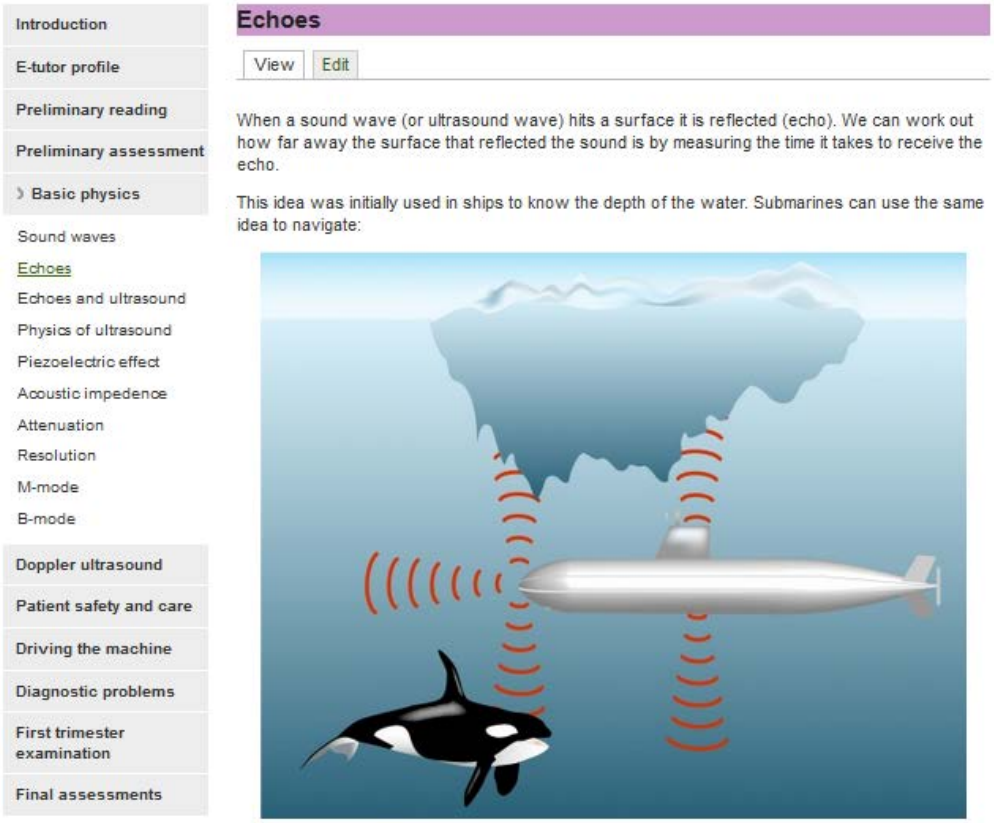
- drawing attention to a specific content element
- suggesting analogies between new content and familiar knowledge;
- supporting the understanding of concepts;
- simulating the work environment and real situations; and
- motivating learners by making materials more interesting[8].

[7] FAO. eLearning methodologies: A guide for designing and developing eLearning courses. Rome: FSO; 2011. p.75.

[8] FAO. eLearning methodologies: A guide for designing and developing eLearning courses. Rome: FSO; 2011. p.75.

Example image

Taken from StratOG core training tutorial [Principles of ultrasound](#).



Tips on using graphics

- Try to avoid graphics that have no real function in complementing the information in your text. Purely decorative graphics do not help learners understand the text and should be minimised.
- If you use printed words to comment upon the graphics, place them near the parts of the graphics to which they refer, so that learners' attention is not divided.
- Use digitized photographs when creating a realistic context and suggesting analogies to real life situations.
- A matrix, a conceptual map or a tree diagram can show relationships among content.
- Line charts can demonstrate trends and allow learners to make comparisons between two or more variables.
- Bar graphs are useful for comparing quantities and dimensions.
- Pie charts show relationships between the parts and the whole, and are particularly useful for showing proportions and ratios.
- Flow charts are recommended to describe complex procedures.
- Diagrams can provide organization and meaning and are therefore recommended when you are trying to help the learner store and retrieve verbal information.
- Ensure that diagrams, graphics and screenshots correspond to their descriptions.

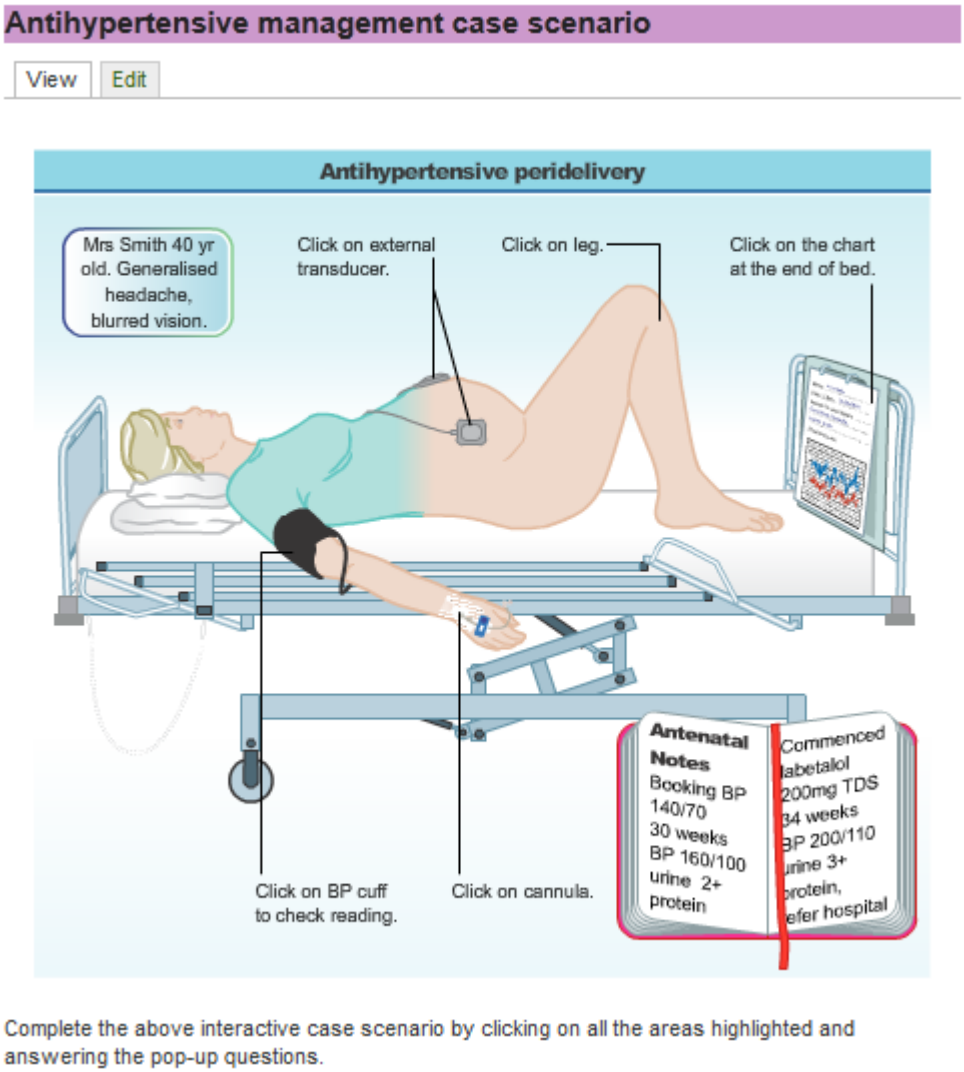
8. Consider using animations to add a more interactive feel to the eLearning resource

The StratOG website supports the use of simple flash based animations. Animations can add a more interactive element to eLearning resources and are also fun! In some circumstances they can get a message across that words or audio cannot by allowing you to portray scenarios that would be impossible to portray or explain.

As with images, animations should be used sparingly and only when they enhance the educational content of the resource.

Example animation

Taken from the StratOG core training tutorial on Pharmacology in gynaecology and obstetric surgery https://stratog.rcog.org.uk/tutorial/pharmacology-in-gynaecology-and-obstetric-surgery/antihypertensive-management-case-scenario-6011



Tips on using animations

- Allow learners to focus on only one object at a time.
- Use arrows to steer attention to selected details or motion direction.
- Segment long or complex animations and allow learners to access each chunk at their own pace rather than playing all the steps continuously (e.g. by adding Play and Pause buttons).
- Limit the use of animation effects on text because they do not have any instructional function and can irritate learners.

Reproduced with permission from: FAO. E-Learning methodologies: A guide for designing and developing e-Learning courses. Rome: FSO; 2011.

9. Use videos to reproduce behaviour, processes or procedures

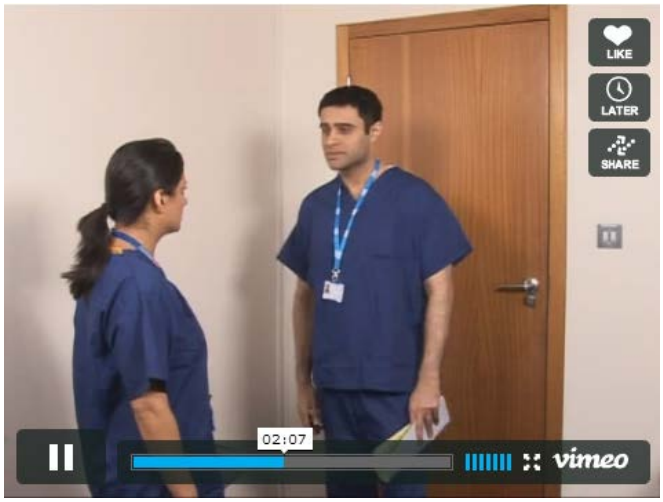
Videos are a great tool for reproducing behaviour, processes or procedures as they appear in real life. They can be used to present a case study and are especially effective to illustrate case studies focusing on interpersonal communication skills.

If you think that you would like to include videos in your eLearning resource, it is worth looking around to see if there are any existing videos that can be utilised. Filming a video from scratch is costly and time consuming and there is no point re-inventing the wheel if there is something suitable already out there.

It is possible to embed YouTube videos on the StratOG website, although it is important that permission is gained from the original copyright holder before this is done.

As the viewing of videos is dependent on the bandwidth of users, it is best to split lengthy videos up in to short chunks of 5 minutes or less. An audio transcript should also be provided to accompany videos to make them accessible to those who are hard of hearing or having problems listening to the video.

Example video



Trainee's bad day video on the Non-technical skills section of the StratOG website.

Tips for using video

- Video sequences should always be accompanied by comments in either written text or audio narration.
- In situations with limited bandwidth connections, a video sequence can be replaced by a sequence of pictures.
- Avoid using video only to show a teacher speaking.

Reproduced with permission from: FAO. E-Learning methodologies: A guide for designing and developing e-Learning courses. Rome: FSO; 2011.

7. eLearning dos and don’ts

Do

- **Do re-use material but <u>only</u> if you make sure it is appropriate to eLearning**

When it comes to the content of eLearning resources, you may already have some materials that could be re-used. This is fine, but you should recognise that some adaption will probably be needed to ensure that it is suitable from an eLearning perspective.

For example, you might have a PowerPoint slide that covers most of the content for one section of the tutorial. Think about how you will need to restructure that PowerPoint to make it appropriate in an eLearning context. Perhaps a voice over could be added, some preliminary reading suggested and some assessment questions used to make it more suited to eLearning.

- **Do consider copyright**

There is no problem with reproducing other people’s material as long as you reference its source. The main problem comes with reproducing images (figures, photographs, etc).

Although it is tempting to “cut and paste” highly polished images from books or the internet into your module, these are usually not quite right for the point you want to make or are too complicated. Although “a picture is worth a thousand words”, complex diagrams without adequate explanation are just confusing.

If there are existing images that are exactly right for your purpose, then you must get permission from the author or publisher to use it in your eLearning resource.

With line drawn figures it is possible for them to be redrawn – once figures have been redrawn there are no copyright issues. In some cases this will also improve the quality of them, and ensure they are in the StratOG house style.

- **Do think carefully about the use of clinical images**

Carefully-selected, high-quality images that demonstrate key clinical signs greatly improve the effectiveness of learning resources.

Digital photography has made obtaining clinical images much easier.

Wherever possible, avoid images that allow the person to be identified. For example, if you want to demonstrate pallor by showing the palm of the hand, then just show the palm rather than the whole person.

It is only acceptable to show clinical images if the patient or their parents or carers have given you permission to use the image for teaching purposes.

- **Do consider carefully the style of language you are using to address learners**

Try and use an active voice to address learners and consider injecting some humour and personality in to the text. Doing this can make an eLearning course a more enjoyable experience!

Tips on language style

- Avoid jargon.
- If you are addressing a multicultural audience, avoid culture specific slang, colloquialisms and examples.
- Be sensitive to the fact that many learners are not native English speakers.
- Write as you talk. Informal language and contractions (e.g. don't, we're) can be used.
- Minimize the use of compound sentences. When you see a colon or semi colon, examine the sentence to see if it could be made simpler and clearer by breaking it into shorter sentences.
- Use personal pronouns (e.g. "you") to refer to learners. This personalizes instruction and involves your reader.
- Use gender inclusive, non sexist language
- Use the active voice. In a passive construction, the agent of the action often disappears from the scene. Use the passive voice only when the active voice is unduly awkward.
- Spell out acronyms in full the first time they are used. Consider adding them to the glossary if appropriate.

Reproduced with permission from: FAO. E-Learning methodologies: A guide for designing and developing e-Learning courses. Rome: FSO; 2011.

- **Do set aside sufficient time to write the eLearning resource**

Creating an engaging and effective eLearning resource takes a significant amount of time. It is vital that enough time can be given to the planning, preparation and writing of the resource. The resource should be as complete as possible before it is made available to users. During the product approval stage the StratOG team will work with you to agree project development timelines and will edit and upload the final version of the content.

Don't

- **Don't give learners an excuse to leave the resource!**

Ensure that the majority of learning materials required to complete the resource are available within the eLearning resource. You can use hyperlinks, but use them sparingly. This saves learners from wandering off to another website, getting distracted and not returning.

- **Don't try to make the eLearning resource overly complicated**

For many learners, the reality is that they are taking the elearning course because they have to, and not necessarily because they want to. It is important to ensure that such learners are able to complete the resource quickly and get back to work.

Such people only want to read the essential information, take the required assessment, and get on with their lives. From that point of view, tell learners what they need to know and then let them go.

- **Don't lose focus**

If the content of the resource doesn't contribute to the objectives laid out at the start, then don't include it. It is important that the content stays focused and doesn't drift off in to other areas which might encourage learners to disengage with the content.

- **And most importantly, don't get fixated on technology!!**

With an eLearning resource, there is a tendency to get distracted by the technology that is being used to deliver the materials. Remember that the technology is JUST the vehicle through which the information is being taught. Pedagogy should remain the number one priority in the design and delivery of the course.

8. How eLearning packages/resources are developed at the RCOG

Initial ideas about new eLearning resources for the RCOG should be discussed with the eLearning Manager, who will talk you through the next steps needed to develop the resource.

The RCOG has an eLearning strategy which sets out very clearly the steps needed for eLearning courses to be approved and developed within the College (see Appendix 3). It is important that all new eLearning resources developed by the College fit in with the RCOG's strategic objectives and the Education Strategy.

Before development of an online resource can begin, the product idea has to be approved.

The first step in this process is to complete a product proposal form. The eLearning Manager will talk you through the paperwork that needs to be completed and work with you to produce a final version of the form.

Quality Assurance of eLearning products

Quality assurance is an important aspect of developing eLearning resources within the College.

To ensure that eLearning products on the StratOG website have been appropriately quality assured, the following steps are taken with all new eLearning resources:

- eLearning products are user tested and peer reviewed prior to launch
- User feedback is sought from those who have completed the eLearning resource
- The resource is evaluated after it is launched (see sample evaluation criteria in Appendix 4)
- The content is regularly reviewed and updated every 2-3 years or more often if necessary.

eLearning for Health platform

As well as StratOG, which is the RCOG's eLearning platform, the College also has access to the NHS Education England and eLearning for Health platform - eLFH. This platform supports the award winning eFM fetal heart monitoring training product the RCOG developed in collaboration with the RCM and eLFH. The advantage of the eLFH platform is that the product can be made available to all NHS staff across the UK free of charge and so could be ideal if the eLearning needs to reach beyond the O&G speciality. Outside the NHS, worldwide distribution is managed by eIntegrity CIC with surpluses reinvested in new eLearning resources. For more information visit the eLFH website or discuss with the eLearning Manager or Nigel Moore.

9. Appendices

Appendix 1: Available assessment styles on StratOG website

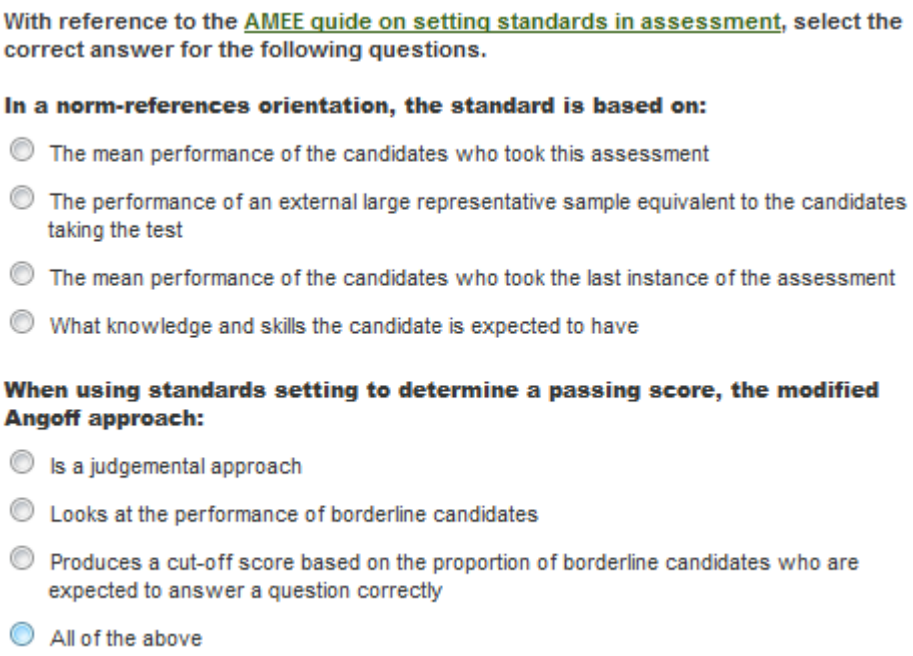
Multiple Choice Questions

Multiple choice questions (MCQs) offer several answers from which the correct one is to be chosen. They are most widely used for measuring knowledge, comprehension, and application of learning outcomes.

The main advantages of MCQs are that they are highly structured, cover a lot of material very efficiently and are less easy to guess than true/false questions.

Disadvantages of MCQs are that they can be more difficult and time consuming to write than true/false questions, it is difficult sometimes to come up with realistic 'wrong' answers and they still encourage guessing to a certain degree.

Example of MCQ's (https://stratog.rcog.org.uk/tutorial/assessment/preliminary-assessment-2-48)


With reference to the AMEE guide on setting standards in assessment, select the correct answer for the following questions.

In a norm-references orientation, the standard is based on:

- The mean performance of the candidates who took this assessment
- The performance of an external large representative sample equivalent to the candidates taking the test
- The mean performance of the candidates who took the last instance of the assessment
- What knowledge and skills the candidate is expected to have

When using standards setting to determine a passing score, the modified Angoff approach:

- Is a judgemental approach
- Looks at the performance of borderline candidates
- Produces a cut-off score based on the proportion of borderline candidates who are expected to answer a question correctly
- All of the above

True/False questions

These offer a series of statements, each of which needs to be judged as true or false.

The main advantage of true/false questions is that they are easy to write, scoring is easy and reliable and they can cover a lot of ground in the given time.

The main disadvantage of this style of question is that learners have a 50% chance of getting them right and they encourage memorisation rather than understanding.

Example true/false questions https://stratog.rcog.org.uk/tutorial/assessment-of-lower-urinary-tract-symptoms/assessment-8595

Assessment history:

	Score
Total attempts:	0
Average score:	0%

A urine dipstick test should be done for all women with LUTS

- True
- False

Women who have voiding symptoms should have their PVR checked

- True
- False

A PVR of less than 200 ml is normal

- True
- False

Single Best Answer questions

Single Best Answer questions are a type of MCQ. The difference with this style of question is that all of the answers provided could be true, and it is up to learners to decide which is the most plausible best answer.

The advantages of Single Best Answer questions is that they test application of knowledge not recall, promote greater engagement and false positives are less likely.

On the downside, they are much more difficult and time consuming to write.

Example of SBA question

A 40-year-old woman has a hysterectomy for heavy menstrual bleeding. The uterus contains several well demarcated nodules in the myometrium. On microscopy, the tumour cells are spindle shaped.

What is the most likely diagnosis?

A. Adenocarcinoma

B. Adenomyosis

C. Fibroma

D. Leiomyoma

E. Mature cystic teratoma

Extended Matching Questions

The extended matching question (EMQ) type of MCQ requires a candidate to select the best option from a list of a number of options for each stem. With this style of question, the chances of getting

the correct answer by guessing are reduced even further. EMQs have been shown to be more discriminatory and reliable than other forms of MCQ.

Their main advantage is that they can test the application of knowledge and problem-solving in a clinical context rather than simple factual recall.

Example of EMQ's https://stratog.rcog.org.uk/tutorial/diabetes-and-other-endocrinopathies/emq-fetal-development-1691

A woman with type 1 diabetes was induced at 38 weeks of gestation and the baby was born weighing 4.6 kg after a difficult labour complicated by a shoulder dystocia. For each item choose the most likely diagnosis from the list of options. Each option may be used once only.

Choose the answer which best matches each of the following questions.

A:	Hyperglycemia	H:	Dystocia
B:	Hyperlipidaemia	I:	Polycythaemia
C:	Hypocalcaemia	J:	Hypoglycaemia
D:	Hypothermia	K:	Porphyria
E:	Uraemia	L:	Hyperbilirubinemia
F:	Acidaemia	M:	Hyperinsulinaemia
G:	Macrosomia	N:	Azotaemia

Maternal cause of increasing fetal pancreatic production of insulin.

Choose one

Inhibits the normal stimulatory effect of cortisol on lecithin synthesis and is the reason that respiratory distress syndrome (RDS) is more common in babies of diabetic mothers.

Choose one

A result of persistence of raised insulin in the neonatal period, after the maternal supply of glucose is no longer available.

Choose one

Usually asymptomatic and frequently resolves without treatment

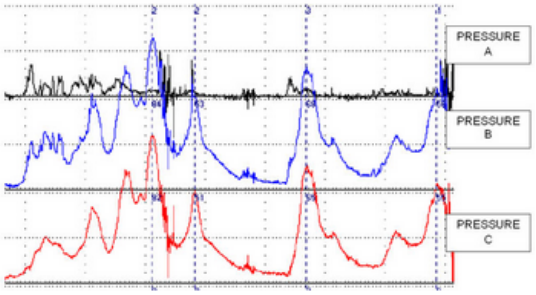
Choose one

Appendix 2: Example case study

The example on the following page shows a case study taken from the StratOG core training tutorial on Urogynaecology and Pelvic Floor Problems.

Assessment

View | Edit



Enlarge

Answer the following questions in your reflective notes (below) before continuing to the next page:

1. Study the cystometrogram above, performed on a 32-year-old woman complaining of frequency and urgency. Which of the traces A (black), B (blue) or C (red) represents abdominal, detrusor and vesical pressure?

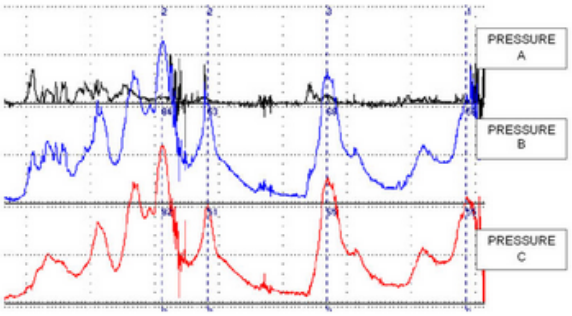
2. Comment on the abnormality shown.

3. What activities may be used to provoke this response?

Assessment - answer

View | Edit

From the previous page:



Enlarge

1. Study the cystometrogram above, performed on a 32-year-old woman complaining of frequency and urgency. Which of the traces A (black), B (blue) or C (red) represents abdominal, detrusor and vesical pressure?

ANSWER: A = abdominal pressure, B = vesical pressure, C = detrusor pressure.

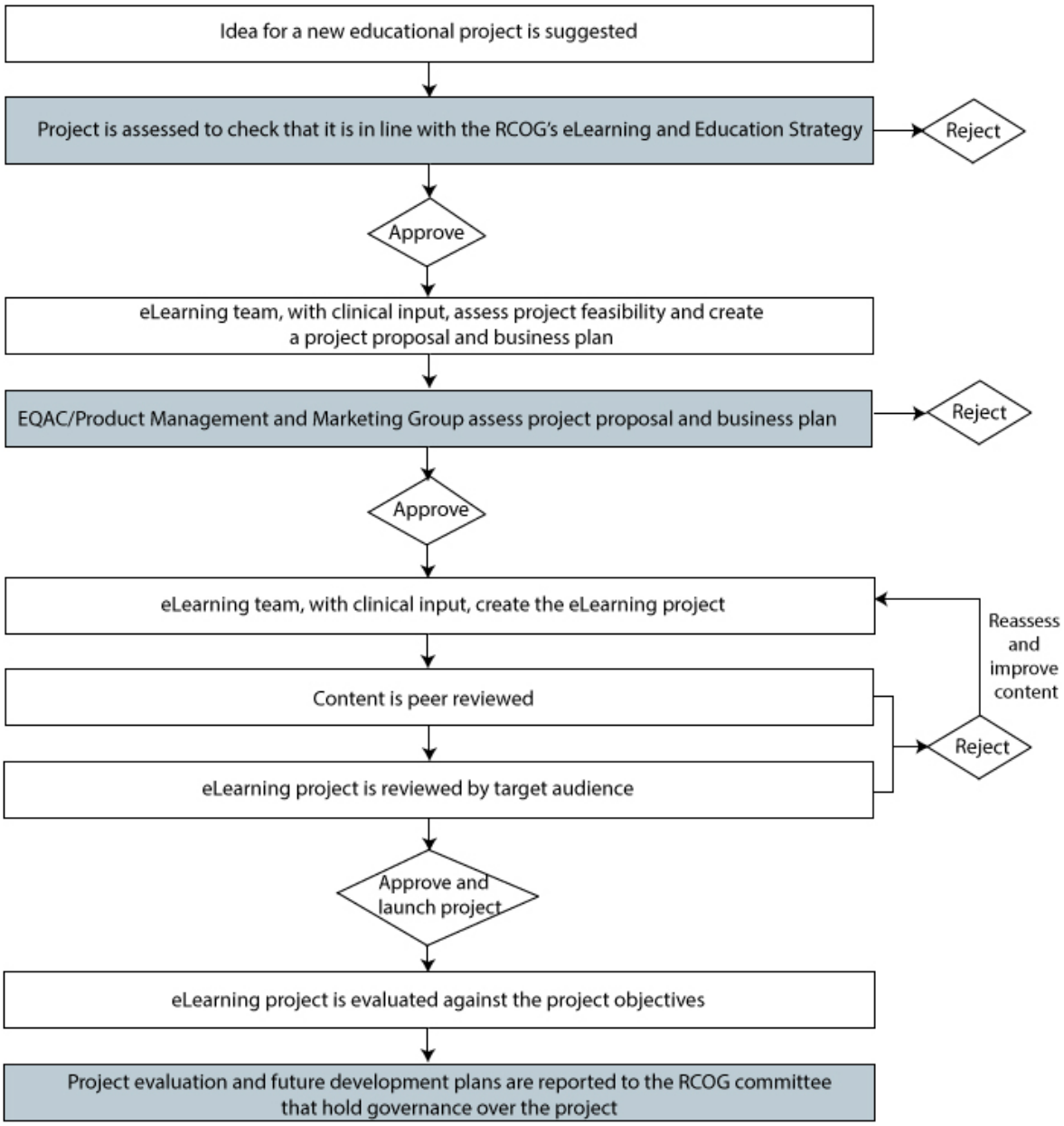
2. Comment on the abnormality shown.

ANSWER: Detrusor overactivity F.

3. What activities may be used to provoke this response?

ANSWER: Hand-washing, listening to running taps.

Appendix 3: Development process for new eLearning resources



Appendix 4: Sample eLearning project evaluation criteria

Headings	**Suggested content**
eLearning programme details	Include: title, target audience, objectives
Clinical/academic lead and other contributors	Names and expertise pertinent to contribution, e.g. membership of specialist societies/educational institutions Demonstration of being up to date in their clinical field with experience of delivering educational packages
Number of the learners who used the resource	
Achievement of course objectives	• Evidence that learning objectives were provided and clear • Evidence that objectives match RCOG curriculum (if material is aimed at trainees) • Extent to which specific aims and intended learning outcomes were achieved • How the eLearning programme fits with and contributes to the delivery of the RCOG Education strategy or CPD/revalidation requirements • Extent to which improved patient safety is addressed through delivery of the eLearning programme • Other indicators of success, e.g. exam pass rates, completion of ATSM
Feedback and observations	Identify good practice and concerns associated with the operation of the eLearning programme, identified by: • Participants, e.g. from questionnaires or other surveys • Faculty, e.g. from formal feedback questionnaire/ discussion • External observer(s) comments
Evaluation of past changes	Comment on the impact of changes implemented from previous delivery of the eLearning programme, e.g. in response to issues identified
Proposed future changes	Consider what new needs or opportunities for change have been identified and how they will be implemented
Other comments	Any other issues considered significant, including aspects of good practice (e.g. approaches, developments or innovations) that have proved successful and may be of interest to other RCOG project teams, e.g. • Approaches to teaching and learning • Approaches to assessment • Effective use of IT, e.g. e-format/blended delivery
Certification	Signature and printed name of person completing the form, with date of signing