This introduction describes and discusses the different types of assessment of candidates in these examinations and describes the different scenarios that might be presented.

Before going any further – a note of caution. It is often said that the OSCE is completely different from the short case and therefore the methods used for preparing for the clinical exam in surgery should be shredded and the process begun from scratch. This is not the case. In fact, there is no fundamental difference between the examination style required – it is only the assessment and marking schemes that are different. Examining an inguinal hernia, or a thyroid lump, or taking a history from a patient with abdominal pain, is the same in each. However, because the OSCE is an ‘objective’ examination, the marking schedules are much more clearly defined, and deviation (on the part of the examiner) from this is not allowed.

### SHORT CASES

#### Format

At the beginning of the examination, candidates wait in a specific central area to be collected by the examiners, who work in pairs. One asks the questions and the other listens and often makes notes. The examiners lead you round the patients, who are organized in clusters (or ‘bays’), and choose which patients you meet and in which order.

It is possible to include the description of a prop, or an X-ray or another data-interpretation style question, but these are usually supplemental to the major theme, which is the physical examination of a particular part of a patient. The vast majority of the time will be spent examining the patient and answering questions on the background problem or treatment options.

The examiners choose how many patients you see per bay, which can vary between just one patient to six or seven. The only time limitation is on the whole bay, which may be 10 or 15 minutes. Within that time it is up to the examiner how many patients the candidates see and how deep (and difficult) the supplemental questions become. In Final MB short cases there is usually only one bay, where all the cases are examined, which might be part of a ward or a day surgery unit.

The **pros** of short cases are that they:

- Allow good candidates to progress rapidly to harder cases or more complex supplemental questions
- Give flexibility for examiners to choose different patients who are waiting in the bay, which is less boring for both examiner and patients
- Allow rapid assessment of clinical skills across areas, e.g. in superficial lesions, cases vary from skin lesions to lumps and bumps to thyroid nodules, etc.
- Incorporate data interpretation questions, such as chest X-rays, as appropriate
- Test clinical skills across a broad spectrum.

The **cons** of short cases include that:

- They allow little control of choice of patients an individual examiner picks (except the presence of the co-examiner)
- They can emphasize ‘favourite’ clinical signs, which may not reflect clinical relevance
- It is difficult to control the marking scheme to ensure transparency and fairness
- They are almost entirely subjective
- It is difficult for the candidate to feel confident about doing well (or badly) as the questions tend to get increasingly difficult.

### OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)

#### Format

The OSCE examination takes the form of a fair, where candidates approach different examiners at different stations (or in different rooms altogether), who test them on specific aspects of the syllabus. The time spent at each station is fixed (often 7–10 minutes) and is the same for every candidate, irrespective of how well, or badly, the candidate is performing at the station. Often a bell rings between stations to let the examiners know to move on to the next candidate. Each OSCE would contain between
10 and 20 stations. The whole examination therefore lasts at least 2 hours and can be much longer.

In general therefore, an OSCE takes much longer to complete and the time spent on each case (or scenario) is often longer than in the short case format. The marking sheet the examiner has in front of him is pre-set and only allows them to score on specific criteria that are standard for every other examiner as well.

The **pros** of OSCEs are that:

- The marking scheme is explicit and therefore seen as being ‘fairer’
- They reduce inter-examiner variability, and usually mean assessment by a larger number of examiners in total because each scenario is examined by a different clinician
- They allow the possibility of assessment by other doctors (e.g. specialist registrars, medical educators) or other healthcare professionals
- There tends to be much greater emphasis on patient-centred examining, including communication skills and rapport, i.e. tests greater range of skills (not just clinical examination)
- They allow for much more extensive use of simulated patients – see below.

The **cons** of OSCEs include that they:

- Are repetitive for examiners and patients – seen as being ‘boring’ and may lead to error
- Provide little or no scope for examiners to push very strong candidates
- Make it easier to score an average mark, and more difficult to pull out a clear fail or an exceptional candidate
- It can be difficult to believe if the same actor is used for more than one scenario with the same candidate.

**Range of testing**

One conclusion about OSCEs is that they don’t just test clinical examination technique. In fact the areas they test are classified into five different headings:

1. Clinical examinations
2. History taking
3. Data analysis
4. Communication skills technique
5. Practical skills

So how do you know which of these is being tested in a given station?

**Clinical examinations**

*Who will be at the station (other than examiners)?*

- A patient with an identifiable pathology (inguinal hernia, thyroid lump, etc.)
- Occasionally a mannequin

*What will be available to you?*

- Anything required to adequately complete the examination, e.g. in a thyroid scenario, a glass of water is provided; in a vascular bay a hand-held Doppler probe is provided
How will the scenario begin?
• Normally ‘examine …’, or ‘have a look at …’, and you will be directed to the side of the patient’s examination couch, or to the area where they are sitting

What kind of questions will be used?
• These will often close in on the pathological problem, especially if the candidate is getting sidetracked with something which is not on the marking sheet for the scenario

What kind of supplemental questions should you expect?
• Supplemental questions might be asked (as included in the chapters of this book) to ascertain background knowledge and understanding of potential treatments.

History taking

Who will be at the station (other than examiners)?
• A simulated patient or a real patient

What will be available to you?
• Possibly paper on which to make notes as you take the history

How will the scenario begin?
• You may be asked to gain some information about the symptoms a patient is describing and to formulate a differential diagnosis
• Be aware of the time; you are not going to be able to complete a whole history but should focus on answering the exact question posed, without going into a whole stream of closed questioning

What kinds of questions will be used?
• During the scenario none, but if you are interrupted you should take from this that you may be getting side-tracked

What kind of supplemental questions should you expect?
• Again supplemental questions may relate to further parts of the assessment of the patient’s symptoms.

Data analysis

Who will be at the station (other than examiners)?
• Nobody

What will be available to you?
• Here a ‘prop’ will be used which might be arterial blood gases, blood laboratory results, joint aspiration results, histopathology results or possibly an X-ray, CT scan or barium series

Communication skills

Who will be at the station (other than examiners)?
• Simulated patient

What will be available to you?
• Probably a sheet detailing the communications exercise (which is usually given to you in advance to allow you to prepare)

What kind of questions will be used?
• None, the scenario is a test of your rapport and communication with the patient, not with the examiners

What kind of supplemental questions should you expect?
• None, for the same reason.

Practical skills

Who will be at the station (other than the examiners)?
• Nobody

What will be available to you?
• A prop or mannequin

How will the scenario begin?
• With an explicit instruction to comment on a prop or a set of data

What kind of questions will be used?
• Often very specific (and quite closed) questioning will be used to ensure you understand the clinical significance of any abnormality you pick up

What kind of supplemental questions should you expect?
• Usually these will relate to the clinical situation which has been diagnosed, and are unlikely to relate specifically to history or examination technique.
We set ourselves one objective in writing this book – to help you to pass any surgical examination – and the first stage is to understand under what basis you will be assessed and how you will score marks.

As mentioned above, this is largely subjective, but marks here are awarded for:

- Introducing yourself to the patient and establishing rapport
- Taking care to appropriately expose the patient (as described in each individual chapter)
- Examining the relevant parts of the body – including starting with the hands
- Accurately identifying the pathological problems (if there are any)
- Coming up with possible further examinations or tests that could be done
- Thinking of a list of differential diagnoses, or a definite diagnosis, and a list of investigations that would tip you towards a particular cause
- Following the train of thought of the examiner, picking up on suggestions and letting yourself be ‘taught’ technique at the bedside.

This is an objective test, and there is a specific marking sheet, which might look like this:

<table>
<thead>
<tr>
<th>Bay 1 Superficial lesions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 8 Thyroid examination</td>
</tr>
</tbody>
</table>

Done well = 2, Done adequately = 1, Not done = 0

Elements being assessed:
1. Introduction to patients
2. Adequate exposure
3. Observing neck from front
4. Observing swallow test and protrusion of tongue
5. Palpating neck from behind
6. Checking for cervical lymphadenopathy
7. Percussion and auscultation from the front
8. Mentioning the need to check clinical thyroid status
9. Thanking patient and washing hands

It is possible to come up with a marking scheme for each case in this book by picking out the detail of the examination and making a list of the things you would need to do in order to demonstrate competence. In the same way as in the short cases, there comes a point where you should finish your examination and tell the examiner how you would proceed. This is clearly listed under each case in the book. The examiner indicates if you should continue, and this would imply there are more marks yet to be awarded.

At the end of each case your marks are allotted, then totalled at the end of the entire examination to come up with a score which translates into a pass/fail.

Failing a clinical exam is most likely if you are not seen to show due concern for the patient, such as not introducing yourself, not exposing adequately, and not asking permission before examining. The examiners may be trying very hard to give a hint that you are heading in completely the wrong direction. Ignoring these hints, and not listening carefully enough to the question, may also lead to a failed case. Gross lack of knowledge or understanding is the third possibility.

A common mistake in OSCEs is to assume that you pass if you show concern for the patient and establish rapport, making them ‘like you’. It isn’t as simple as this, and at all levels you are also expected to ask questions or examine intelligently and come up with the right answers to most of the questions. You don’t fail the whole examination for failing one OSCE though, and one of the most important things to do is brush yourself down after each station and get on with trying to pass the next. We all naturally emphasize in our minds the things that haven’t gone so well, and this will tend to psychologically knock you down during OSCEs.

Work on ways of concentrating on what you
have done well at each station and move on to the next, keeping your mind as fresh and alert as possible.

In the OSCE, reducing as many variables as possible from the assessment reduces the chance that a candidate who should have passed will actually fail (i.e. the false-negative rate). Variables that are reduced (or eliminated) in this format include the following:

- **Intra-examiner variability** – where an examiner (by chance) chooses a ‘harder’ set of cases for a given candidate compared with the one he examines immediately before or afterwards
- **Inter-examiner variability** – where different examiners have wildly different expectations of the appropriate amount of knowledge required to pass
- **Testing one single modality** – where, instead of just being tested on clinical examination, a range of skills (as above) is examined.

A ‘pass’ mark for the OSCE may therefore be more fairly ascertained than in short cases.
1. Lumps and ulcers – history
2. Lumps and ulcers – examination
3. Lipoma
4. Sebaceous cyst
5. Ganglion
6. Neck examination – general
7. Cervical lymphadenopathy
8. Thyroid examination
9. Solitary thyroid nodule
10. Multinodular goitre
11. Diffuse thyroid enlargement
12. Thyroid history
13. Hypertrophic and keloid scars
14. Squamous cell carcinoma
15. Malignant melanoma
16. Basal cell carcinoma
17. Pressure sores
18. Grafts and flaps
19. Ptosis
20. Facial nerve palsy
21. Salivary gland swellings
22. Keratoacanthoma
23. Neurofibroma
24. Papilloma
25. Pyogenic granuloma
26. Seborrhoeic keratosis
27. Solar keratosis
28. Digital clubbing
29. Branchial cyst
30. Dermoid cyst
31. Thyroglossal cyst
32. Radiotherapy marks
33. Dermatofibroma
34. Hidradenitis suppurativa
<table>
<thead>
<tr>
<th></th>
<th>Condition</th>
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<tbody>
<tr>
<td>35</td>
<td>Kaposi’s sarcoma</td>
<td>55</td>
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<tr>
<td>36</td>
<td>Pharyngeal pouch</td>
<td>56</td>
</tr>
<tr>
<td>37</td>
<td>Cystic hygroma</td>
<td>57</td>
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<td>38</td>
<td>Chemodectoma</td>
<td>58</td>
</tr>
<tr>
<td>39</td>
<td>Furuncles</td>
<td>59</td>
</tr>
<tr>
<td>40</td>
<td>Pyoderma gangrenosum</td>
<td>60</td>
</tr>
<tr>
<td>41</td>
<td>Vascular malformations</td>
<td>61</td>
</tr>
</tbody>
</table>
CASE 1  LUMPS AND ULCERS – HISTORY  ***

INSTRUCTION
‘Ask this gentleman a few questions about his lump/ulcer.’

APPROACH
It is common in cases and OSCEs at finals, and the MRCS, to be asked to take a focused history from a patient presenting with relatively common problems, such as a lump or ulcer. Listen carefully to the instruction. After introducing yourself and establishing the patient’s name and age, go straight to questions about the lump or ulcer. You may continue on to further relevant surgical questions such as fitness for anaesthesia. The examiner will usually stop you once you have extracted the necessary information. You may not always be asked to continue to examine the patient.

TOP TIP
✓ If the examiner tells you the patient’s name, then do not embarrass yourself by asking his name again – this only shows that you have not been listening to the examiner!

VITAL POINTS
Ask the following questions about the lump/ulcer:

Onset
• When did you first notice it?
• What made you notice it?
• Were there any predisposing events (e.g. trauma, insect bite)?

Continued symptoms
• How does it bother you, i.e. what symptoms does it cause? (Ask particularly about pain)
• Has it changed since you first noticed it? (colour, shape and size changes are important in malignant melanoma)
• Have you noticed any other lumps?
• Has it ever disappeared or healed?

Treatments and cause
• What treatments have you had in the past for this?
• What do you think is the cause of the lump/ ulcer?

You will usually find that as you extract the relevant information, the examiner will move you onto the examination relatively quickly.

TOP TIP
✓ When asked to take a history, keep eye contact with the patient throughout your questioning. Don’t stare at the lump!

CASE 2  LUMPS AND ULCERS – EXAMINATION  ***

INSTRUCTION
‘Examine this lump.’

APPROACH
Most clinical examinations in surgery include the description of a lump. The examiners may even expect an on-the-spot diagnosis. The description given here of the examination technique is complete and exhaustive, but be prepared to give a diagnosis and to describe the specific features which have led you to this conclusion.

VITAL POINTS
Inspect
• Site – most accurately measured with respect to a fixed landmark, such as a bony prominence
• Size – measure the dimension in centimetres (if the lump is large enough, be seen to use a measuring tape/ruler, but do not use a tape on a small lump as it can appear awkward)

• Shape
• Skin changes
• Symmetry
• Scars
• Colour

Ask the patient if the lump is tender before proceeding with palpation.

Palpate

• Surface – smooth/irregular
• Edge – well/poorly defined
• Consistency – soft/firm/hard
• Temperature – using the dorsal surface of the examining fingers or hand
• Tenderness
• Transilluminability – using a pen torch on one side of the lump and looking through an opaque tube, such as an empty Smarties tube (this is difficult and cumbersome to perform in a well-lit room and we therefore recommend not taking an empty Smarties tube into the exam, especially if the lump is a hydrocele!)
• Pulsatility – place a finger on opposite sides of the lump
  • expansile pulsation = fingers pushed apart
  • transmitted pulsation = fingers pushed in the same direction (usually upwards)
• Compressibility/reducibility – press firmly on the lump and release
  • compressible = lump disappears on pressure but reappears on release, e.g. arteriovenous malformations
  • reducible = lump disappears on pressure but reappears only when another opposite force is applied, such as coughing in hernia examination
• Fluctuation (for small lumps) – rest two fingers of one hand on opposite sides of the lump and press the middle of the lump with the index finger of your other hand – if the fingers are moved apart, the lump is fluctuant. (Repeat the test at right angles to the first in order to confirm your findings.) This is also known as Paget’s sign (see Case 107)
• Fluid thrill – for large lumps – ask the patient to place the edge of his hand on the centre of the lump and then flick one side of it, feeling the other side for a percussion wave (most commonly performed in ascites, Case 57)

• Fixation – decide which plane the lump is in by determining which structures it is attached to, e.g.:
  • Skin – see if you can move the skin over the lump
  • Muscle – move the lump in two planes perpendicular to each other, ask the patient to then tense the relevant muscle and reassess the motion in the two planes.

Percuss

• Dull/resonant (the latter indicating an air-filled mass).

Auscultate

• Bruits or bowel sounds may be heard.

Finish your examination here

Completion

Say that you would like to:
• Examine the draining lymph nodes
• Assess the neurovascular status of the area/limb
• Look for similar lumps elsewhere
• Perform a general examination (as necessary).

TOP TIP

When assessing consistency, imagine:
• Soft, comparable with the consistency of the flesh of your nostrils (i.e. the ala)
• Firm, comparable with your nasal septum
• Hard, comparable with the bridge of your nose.

Mnemonic

We use the following mnemonic to remind us what to do with a lump. It is very useful as an aide-memoire for completeness, but note that it does not provide you with the correct order for examination:
Should The Children Ever Find Lumps Readily

S – Size/Site/Shape/Surface/Skin changes/Symmetry/Scars

T – Temperature/Tenderness/Transilluminability

C – Colour/Consistency/Compressibility

E – Edge/Expansility and pulsatility

F – Fluctuation/Fluid thrill/Fixation

L – Lymph nodes/Lumps elsewhere

R – Resonance/Relations to surrounding structures and their state, e.g. neurovascular status

A note on ulcers

Ulcers should be examined in a similar way to a lump, but important additional points to look for on examination can be remembered in the form of the mnemonic BEDD:

Base. Look for the presence of granulation tissue, slough (i.e. dead tissue) or evidence of malignant change

Edge. Five types of edges to be aware of are:
  • Sloping = a healing ulcer (usually venous or traumatic)
  • Punched-out = ischaemic or neuropathic (rarely syphilis)

Undermined = pressure necrosis or tuberculosis

Rolled = basal cell carcinoma

Everted = squamous cell carcinoma

Describe which structure is visualized at the base of the ulcer, e.g. is the ulcer down to fascia, muscle or bone?

Discharge. Is the discharge serous (clear), sanguineous (blood-stained), serosanguineous (mixed) or purulent (infected)?

Individual ulcers, e.g. arterial, venous, neuropathic, are considered in the appropriate sections.

CASE 3

LIPOMA ***

INSTRUCTION

No specific instruction.

APPROACH

Examine as for any lump (see Case 1).

VITAL POINTS

Lipomas can occur anywhere in the body where there are fat cells, although they most commonly occur in the subcutaneous layer of the skin, particularly in the neck and trunk.

Inspect

• Discoid or hemispherical swelling
• May appear lobulated
• Look carefully for scars (may be a recurrent lipoma).

Completion

Say that you would like to ask the patient:

• How the lipoma affects their lives, e.g. cosmetic symptoms, pain
• Whether they have noticed similar lumps elsewhere.
Superficial lesions

CASE 4

Hibernomas, which consist of brown fat cells similar to those seen in hibernating animals
Bannayan–Zonana syndrome – rare autosomal dominant hamartomatous disorder, characterized by multiple lipomas, macrocephaly and haemangiomas.

(b) How are liposarcomas classified?
• Liposarcomas can be classified pathologically into three main groups:
  1. Well-differentiated
  2. Myxoid and round cell (poorly-differentiated myxoid) liposarcoma
  3. Pleomorphic liposarcoma.

QUESTIONS

(a) What is a lipoma?
A lipoma is a benign tumour consisting of mature fat cells. Multiple, painful lipomas are known as adiposis dolorosa or Dercum’s disease, and are associated with peripheral neuropathy.

(b) Do lipomas undergo malignant change?
• It is thought that malignant change in a lipoma does not occur
• Liposarcomas arise de novo and usually occur in an older age-group in deeper tissues of the lower limbs.

(c) How would you treat a lipoma?
• Non-surgical: reassure and ‘watch and wait’
• Surgical: if the patient wants it removed, e.g. pain, cosmesis. Some surgeons remove lipomas using suction lipolysis via a small, remote incision. Usually this is performed under local anaesthetic. However, ‘nuchal’ lipomas have extremely fibrous septae and are difficult to excise, and any lipoma close to a joint may communicate with the joint and it may not be possible to excise it under local anaesthetic.

ADVANCED QUESTIONS

(a) Do you know of any variants of lipomas or syndromes associated with lipomas?
• Angiolipomas, which have a prominent vascular component


FURTHER READING

CASE 4 SEBACEOUS CYST

INSTRUCTION
No specific instruction.

APPROACH
Examine as for any lump (see Case 1).

VITAL POINTS
Inspect
• Smooth hemispherical swelling

• Usually solitary
• Found most commonly on the face, trunk, neck and scalp
• Punctum present at apex of cyst in 50%.

Palpate
• Smooth surface
• Firm to soft on palpation
• Punctum may exhibit plastic deformation on palpation
All sebaceous cysts are attached to the skin, therefore the cyst does not move independently from the skin.

Completion

Say that you would like to ask the patient:
- How the cyst affects their lives, e.g. cosmetic symptoms
- Whether they have noticed similar lumps elsewhere.

**QUESTIONS**

(a) **What are the complications of a sebaceous cyst?**
- Infection – frequent complication, there may be an associated discharge
- Ulceration
- Calcification (trichilemmal cysts, see below) – this may cause the cyst to feel hard on palpation
- Sebaceous horn formation (hardening of a slow discharge of sebum from a wide punctum)
- Malignant change.

(b) **How would you treat a sebaceous cyst?**
- Non-surgical: may be left alone if small and asymptomatic
- Surgical: to prevent recurrence, complete excision of cyst and its contents is required which requires removal of an elliptical portion of skin containing the punctum.

**ADVANCED QUESTIONS**

(a) **What are the different histological subtypes of sebaceous cysts?**

Two types of cysts are recognized according to their histological features:
- Epidermal cyst (EC) – thought to arise from the infundibular portions of hair follicles
- Trichilemmal cysts (TC) – thought to arise from hair follicle epithelium and so are most common on the scalp, and are frequently multiple; these cysts have an autosomal dominant mode of inheritance.

(b) **What is a Cock’s peculiar tumour?**

Proliferating trichilemmal cysts are usually solitary, occur on the scalp in 90% of cases, and can grow to a large size and ulcerate. Clinically and histologically, they may resemble a squamous cell carcinoma, in which case it is known as a Cock’s peculiar tumour. Very rarely, malignant transformation can occur.

(c) **What is Gardner’s syndrome?**

Multiple epidermal cysts may be part of Gardner’s syndrome, which is also associated with:
- Adenomatous polyposis of the large bowel
- Multiple osteomata of the skull
- Desmoid tumours.

Note that Gardner’s syndrome is now part of the spectrum of familial polyposis coli syndromes, which includes familial adenomatous polyposis.

**FURTHER READING**


**CASE 5**

**GANGLION ***

**INSTRUCTION**

‘Examine this gentleman’s hand.’

**APPROACH**

Expose to elbows and ask the patient to place his hands palm upwards on a pillow (if available).
Ganglia can occur anywhere in the body, although they are commonly found around the wrist, on the dorsum of the hand and on the dorsum of the ankle. In fact, the most common soft-tissue mass found in the hand is a ganglion.

(b) What is the differential diagnosis?
- Bursae
- Cystic protrusions from the synovial cavity of arthritic joints
- Benign giant cell tumours of the flexor sheath (indistinguishable from flexor sheath ganglia)
- Rarely, malignant swellings, e.g. synovial sarcoma.

(c) How would you treat a ganglion?
- Non-surgical: ‘watch and wait’, or aspiration followed by 3 weeks of immobilization (successful in 30–50% of patients). (The old method of striking the ganglion with the family Bible is now out of favour!)
- Surgical: complete excision to include the neck of the ganglion at its site of origin.

(d) What complications are associated with surgical treatment of a ganglion?
- Wound complications, e.g. scar, haematoma, infection
- Recurrence – can be as high as 50% but can be lower if care is taken to completely excise the neck
- Damage to adjacent neurovascular structures.

Further Reading
www.med.und.nodak.edu/users/jwhiting/ganglia.html – information for patients.
• If there is a glass of water, be prepared to
  examine the thyroid gland in full
• Expose the whole neck down to both
  clavicles – this may necessitate undoing the
  top buttons of a shirt or even taking off a
  polo neck jumper
• Ask the patient to remove any jewellery
  present.

**TOP TIP**

The examiners may try to catch you out by placing
the patient on a chair with its back against the wall. Your
first move is to ask the patient to stand up and move the
chair away from the wall, allowing you to access and
examine the patient’s neck from behind.

---

**VITAL POINTS**

**Inspect (from the front)**

• Site of the lump, e.g. midline, supraclavicular
  fossa
• Other features on inspection of the lump, e.g. size, skin changes, scars (see Case 1).

**Protrusion of the tongue**

• Ask the patient to open his mouth and stick
  his tongue out as far as possible
• If the lump moves on protrusion of the
tongue, it is likely to be a thyroglossal cyst
  (this is because the cyst is usually related to
  the base of the tongue by a patent or fibrous
  track, which runs through the central portion
  of the hyoid bone) – proceed with

  examination of a thyroglossal cyst
  (see Case 31)
• A thyroid lump does not move on protrusion
  of the tongue.

**Swallowing**

• Place the glass of water in the patient’s
  hands
• Ask him to take a sip of water, hold it in his
  mouth and swallow when you ask him to
• As he swallows, inspect the lump – if it
  moves on swallowing, it is likely to originate
  from the thyroid gland.

**Palpate (from the back)**

• The neck is best (and first) palpated from
  behind the patient
• Be as gentle as possible, as you are unable
  to watch the patient’s face for pain
• Use the fingertips of both hands to elicit the
  physical signs
• Begin by showing the examiner that you
  know the borders of the two main triangles
  of the neck and tell him which triangle the
  lump is in (Fig. 1)
  - The anterior triangle of the neck is
    bordered by the anterior border of
    sternocleidomastoid, the midline and the
    ramus of the mandible
  - The posterior triangle of the neck is
    bordered by the anterior border of
    trapezius, the clavicle and the posterior
    border of sternocleidomastoid
• Next, determine whether the lump is solid or
  cystic. You should now be ready to consider
  the differential diagnosis (Table 1 and Fig. 2).

---

**Figure 1** Posterior and anterior triangles of the neck.
Examination of cervical lymph nodes

The cervical lymph nodes (Fig. 4) are best examined using the ‘up-and-down’ technique:

- Use gentle rotating movements of the fingertips – this allows you to palpate even the smallest nodes
- If the patient tries to help you by raising their chin, ask him to drop his chin – this makes the examination easier by relaxing the anterior neck muscles
- Begin by moving from the chin backwards, palpating the submental, submandibular and parotid glands and pre-auricular nodes
- Move your fingers behind the ears and feel the mastoid (post-auricular) nodes
- Go down the anterior border of the sternocleidomastoids, feeling the anterior

Table 1  Differential diagnosis of neck lumps

<table>
<thead>
<tr>
<th>Position</th>
<th>Solid</th>
<th>Cystic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midline</td>
<td>Thyroid swelling (Case 8)</td>
<td>Thyroglossal cyst (Case 31)</td>
</tr>
<tr>
<td>Anterior triangle</td>
<td>Lymphadenopathy (Case 7)</td>
<td>Branchial cyst (Case 29)</td>
</tr>
<tr>
<td></td>
<td>Chemodectoma (Case 38)</td>
<td>Cold abscess (secondary to tuberculosis)</td>
</tr>
<tr>
<td>Posterior triangle</td>
<td>Lymphadenopathy</td>
<td>Pharyngeal pouch (Case 36)</td>
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<td></td>
<td></td>
<td>Cystic hygroma (Case 37)</td>
</tr>
<tr>
<td>Within sternocleidomastoid</td>
<td>Sternocleidomastoid tumour</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2  Locations of the most common swellings in the neck.

TOP TIP

- Multiple lumps palpable within the neck are invariably lymph nodes.

Continuing the examination

If at this stage you think that the lump is thyroid in origin you should proceed to examine the thyroid gland in full (Fig. 3 and see Case 8).

If you have attempted a differential diagnosis you should be prepared to offer additional ‘evidence’ for your suggestions – see individual cases.

If you have not found a lump at this stage you should examine the neck thoroughly using the up-and-down technique as in Table 2.
Superficial lesions

General approach

Inspect
Protrusion of tongue
Swallowing

Palpate from the back

Define triangle of neck

If you know the differential diagnosis state this and move on to discuss each individual diagnosis (see individual cases)

NECK DECISION CIRCLE

If lump is midline continue with thyroid examination

If you haven't found a lump proceed with up-and-down technique

Figure 3 ‘Neck decision circle’ approach to examination of the neck.

Table 2 The up-and-down technique

<table>
<thead>
<tr>
<th>Stage</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Palpate from the chin backwards to below the ears</td>
</tr>
<tr>
<td>2</td>
<td>Move your hands behind the ears and palpate DOWN the anterior border of sternocleidomastoid to the clavicle</td>
</tr>
<tr>
<td>3</td>
<td>Move laterally along the clavicle and then UP the posterior border of sternocleidomastoid</td>
</tr>
<tr>
<td>4</td>
<td>Finish by palpating the back of the scalp for occipital nodes</td>
</tr>
</tbody>
</table>

- Move up the posterior border of the sternocleidomastoids, feeling the posterior triangular nodes
- Finish by palpating the occipital nodes at the back of the neck.

Palpate (from the front)

- Confirm your findings if necessary by feeling the lump from the front, watching the patient’s face carefully for signs of discomfort.

Percussion and auscultation

See individual cases.

triangular nodes, including the jugulodigastric (tonsillar) node
- Move laterally along the clavicular region, feeling for both supraclavicular and infraclavicular nodes