

Examination of a lump(mass)

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Most patients with a lump feel it frequently and should be able to tell you about the history of its clinical features. Therefore you should seek answers to the following questions.

1. When was the lump first noticed? It is important to be precise with dates and terminology. Do not write 'the lump first appeared 6 months ago', when you mean 'the lump was first noticed 6 months ago'. Many lumps may exist for months, even years, before the patient notices them.

2. What made the patient notice the lump? There are three common answers to this question:

1-'I felt or saw it when washing'.

2-'I had a pain and found the lump when I felt the painful area'.

3-'Someone else noticed it and told me about it'.

The presence or absence of pain is important, particularly if it is the presenting feature. In very general terms, pain is usually associated with inflammation, not neoplastic change.

patients expect cancer to be painful – and do themselves irreparable harm by ignoring a lump just because it does not hurt them.

3. What are the symptoms of the lump?The lump may be painful and if it is, you must take a careful history of the pain, as described earlier in this chapter. The characteristic feature of pain associated with acute infection is its throbbing nature.A lump may be disfiguring or interfere with movement, respiration or swallowing. Describe the history of each symptom carefully.

4. Has the lump changed since it was first noticed?This is where you use the patient's own knowledge of their physical signs. The feature that they notice is the size of the lump. They should be able to tell you if it has got bigger, smaller, or has fluctuated in size and when they noticed a change in size. They may also have appreciated other changes in the nature of the lump that they can tell you about. They may also have noticed tenderness, which may have altered in any of the ways that a pain may change.

5. Does the lump ever disappear?
A lump may disappear on lying down, or during exercise, and yet be irreducible at the time of your examination. The patient should always be asked if the lump ever goes away, because this physical characteristic is peculiar to only a few types of lump.

6. Has the patient ever had any other lumps?You must ask this question because it might not have occurred to the patient that there could be any connection between their present lump and a previous lump, or even a coexisting one.

7. What does the patient think caused the lump?Lumps occasionally follow injuries or systemic illnesses known only to the patient.

Site/position

The location of a lump must be described in exact anatomical terms, using distances measured from bony points. Do not guess distances; use a tape measure.

Colour and texture of overlying skin

The skin over a lump may be discoloured and become smooth and shiny or thick and rough.

Shape

Remember that lumps have three dimensions. You cannot have a circular lump because a circle is a plane figure. Many lumps are not regular spheres, or hemispheres, but have an asymmetrical outline. In these circumstances, it is permissible to use descriptive terms such as pear shaped or kidney shaped. Size Once the shape is established, it is possible to measure its various dimensions. Again, remember that all solid objects have at least three dimensions: width, length and height or depth. Asymmetrical lumps will need more measurements to describe them accurately; sometimes a diagram will clarify your written description.

Surface

The first feature of the lump that you will notice when you feel it will be its surface. It may be smooth or irregular. An irregular surface may be covered with smooth bumps, rather like cobblestones, which can be called bosselated; or be irregular or rough. There may be a mixture of surfaces if the lump is large.

Temperature

Is the lump hot or of normal temperature?

Assess the skin temperature with the dorsal surfaces of your fingers, because they are usually dry (free of sweat) and cool

Tenderness

Is the lump tender? Which parts are tender? Always try to feel the non-tender part before feeling the tender area, and watch the patient's face for signs of discomfort as you palpate.

Edge The edge of a lump may be clearly defined or indistinct. It may have a definite pattern.

Composition

Any lump must be composed of one or more of the following:

- calcified tissues such as bone, which make it hard;
- tightly packed cells, which make it solid;
- extravascular fluid, such as urine, serum, cerebrospinal fluid (CSF), synovial fluid or extravascular blood, which make the lump cystic;
- gas;
- intravascular blood.

The physical signs which help you decide the composition of a lump are: consistence, fluctuation, fluid thrill, translucence, resonance, pulsatility, compressibility and bruits.

Consistence

The consistence of a lump may vary from very soft to very hard. As it is difficult to describe hardness, it is common practice to compare the consistence of a lump to well-known objects.

A simple scale for consistence is as follows:

- **Stony hard:** not indentable – usually bone or calcification.
- **Firm:** hard but not as hard as bone.
- **Rubbery:** but slightly squashable, similar to a rubber ball.
- **Spongy:** soft and very squashable, but still with some resilience.
- **Soft:** squashable and no resilience.

The consistence of a lump depends not only upon its structure but also on the tension within it. Some fluid-filled lumps are hard, some solid lumps are soft; therefore, the final decision about composition of a lump (i.e. whether it is fluid or solid) rarely depends solely upon an assessment of the consistence. Other features such as those peculiar to fluid may be more important.

Fluctuation

Pressure on one side of a fluid-filled cavity transmitted equally and at right-angles to all parts of its wall. When you press on one aspect of a solid lump, it may or may not bulge out in another direction, but it will not bulge outwards in every other direction.

Fluctuation can only be elicited by feeling at least two other areas of the lump whilst pressing on a third. The lump fluctuates and contains fluid if two areas on opposite aspects of the lump bulge out when a third area is pressed in. This examination is best carried out in two places, the second at right angles to the first makes all the other surfaces protrude. This is because an increase of pressure within a cavity is transmitted equally and at right-angles to all parts of its wall. When you press on one aspect of a solid lump, it may or may not bulge out in another direction, but it will not bulge outwards in every other direction. Fluctuation can only be elicited by feeling at least two other areas of the lump whilst pressing on a third. The lump fluctuates and contains fluid if two areas on opposite aspects of the lump bulge out when a third area is pressed in. This examination is best carried out in two places, the second at right angles to the first

Fluid thrill A percussion wave is easily conducted across a large fluid collection (cyst) but not across a solid mass. The presence of a fluid thrill is detected by tapping one side of the lump and feeling the transmitted vibration when it reaches the other side. A percussion wave can be transmitted along its wall if a swelling is large. This is prevented by placing the edge of the patient's or an assistant's hand on the lump mid-way between the percussing and palpating hands. Percussion waves cannot be felt across small lumps because the wave moves so quickly that the time gap cannot be appreciated or distinguished from the mechanical shaking of the tissue caused by the percussion. The presence of a fluid thrill is a diagnostic and extremely valuable physical sign.

Translucence (transillumination)

Light will pass easily through clear fluid but not through solid tissues. A lump that transilluminates must contain water, serum, lymph or plasma, or highly refractile fat. Blood and other opaque fluids do not transmit light. Transillumination requires a bright pinpoint light source and a darkened room. The light should be placed on one side of the lump, not directly on top of it. Transillumination is present when the light can be seen in an area distant from the site in contact with the light source. Attempts at transillumination with a poor-quality flashlight in a bright room are bound to fail and mislead.

Pulsatility

Lumps may pulsate because they are near to an artery and are moved by its pulsations.

Always

let your hand rest still for a few seconds on every lump to discover if it is pulsating. When a lump pulsates you

must find out whether the pulsations are being transmitted to the lump from elsewhere or are caused by

the expansion of the lump. Place a finger (or fingers if large) of each hand on opposite sides of the lump and feel if they are pushed outwards and upwards.

When they are, the lump has an expansile pulsation.

When they are pushed in the same direction (usually upwards), the lump has a transmitted pulsation.

The two common causes of expansile pulsation are aneurysms and very vascular tumours

Compressibility Some fluid-filled lumps can be compressed until they disappear. When the compressing hand is removed the lump re-forms. This finding is a common feature of vascular malformations and fluid collections which can be pushed back into a cavity or cistern. Compressibility should not be confused with reducibility (see below). A lump which is reducible – such as a hernia – can be pushed away into another place but will often not reappear spontaneously without the stimulus of coughing or gravity.

Bruits Always listen to a lump. Vascular lumps that contain an arteriovenous fistula may have a systolic bruit. Herniae containing bowel may have audible bowel sounds.