JoVE: Science Education

General Approach to Observation and Inspection in the Physical Examination

--Manuscript Draft--

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Clinical Skills Education Title: General Approach to Observation and Inspection in the Physical Examination

Overview:

Observation is fundamental to physical examination and begins at the first point of contact with a patient. While observation and inspection are often used interchangeably, observation is a general term that refers to the careful use of one's senses to gain information. Inspection is an act limited to what one can observe visually, and when referring to physical examination, typically refers to findings on the surface of the body, rather than to behaviors. Skilled clinicians utilize all of their senses to assist with gaining an understanding of their patients, relying on vision (inspection) (**Figure 1**), touch (percussion, palpation) (**Figure 2**), and hearing (percussion, auscultation) (**Figure 3**) primarily. Smell can also provide important diagnostic information during the patient encounter (e.g. personal hygiene, substance use, metabolic diseases). Fortunately the sense of taste is largely a historical relic in medicine, though it is interesting to note that diabetes mellitus was diagnosed for many centuries by the sweet taste of the urine. Through experience, clinicians develop an important sixth sense – the gut instinct – that can only be gained through deliberate practice of clinical skills on thousands of patients over many years. The clinician's gut instinct, which is based largely on bedside observations, has been shown to be a strong predictor of serious illness. This video and the others in the clinical skills video collection are steps on the way to learning this level of mastery.

Procedure:

Observation occurs as a constant process during the clinical encounter. Many of the items listed in the procedure are typically done simultaneously and when opportunities present themselves. The procedure highlights the components of observation, but is not intended to suggest a preferred sequence.

1. General survey.

1.1. Note the general state of health in the patient. Is the patient's appearance consistent with the stated age? Does the patient appear fit and healthy or weak and frail?

1.2. Note their level of consciousness (e.g. awake, alert, somnolent).

1.3. Observe for signs of pain. Note facial expressions, guarded movements, diaphoresis, etc.

1.4. Observe for signs of respiratory distress. Can the patient speak in complete sentences without difficulty? Is the patient "tripoding" (leaning forward with the arms supported)? Are visible accessory muscles of respiration being used?

Comment [JST1]: I could see multiple images being used briefly throughout this procedure to highlight findings that one might observe with inspection. It would be visually more interesting than a simple video of me demonstrating how I'd do all of this on a patient who has no findings. I defer to your production team on what they think would be best.

1.5. Observe for signs of emotional distress. Is the patient fidgeting excessively, exhibiting generalized psychomotor slowing, or crying? Is eye contact appropriate? (See Step 4 for a complete description of mental status assessment.)

1.6. Make note of clothing, jewelry, tattoos, grooming, hygiene, and any other features that may provide insight into the patient's medical, social, and emotional situation.

1.7. Note any signs of pathology that may be evident on general observation, such as skin lesions, abnormal fat distribution, hearing deficits, muscle atrophy, odors, etc.

2. Organ-specific observation.
During the remainder of the physical examination, active observation is done with an examination of each organ system. For some organ systems, inspection requires the use of equipment (e.g. otoscope, ophthalmoscope). Refer to the videos for each organ system for specific details.

3. Skin exam.
Detailed inspection is the main component of the skin exam. A complete skin exam includes inspection of all anterior, posterior, and lateral body surfaces and mucous membranes. Inspection of certain areas requires manipulation for examination to be performed. These areas include the hair, scalp, mastoid processes, posterior auricles, external auditory canals, nares, axilla, nails, palpebral conjunctiva, oral mucosa, inferior aspects of the breasts, skin underlying a pannus, surfaces of genitals, vaginal mucosa, and gluteal cleft.

3.1. Note the color of the skin or mucosa at each site examined. Common findings include areas of hypo- or hyper-pigmentation, pallor (palpebral conjunctiva, palms, soles, nailbeds), cyanosis (nailbeds, lips, perioral), and jaundice (sclera, skin, mucous membranes).

3.2. At each site examined, also note the degree of hydration (i.e. dryness, oiliness), turgor, and texture of the skin.

4. Mental status exam.

4.1. Observe the patient's appearance and behavior including posture, dress, facial expressions, motor activity, mannerisms, physical characteristics, and reactions to the questions asked during the exam.

4.2. Note the fluency, rate, and volume of speech.

4.3. Assess the patient's affect, including the range, appropriateness, intensity, and lability. The examiner's objective assessment of affect should be compared to the patient's subjective report of mood, which is obtained via direct inquiry.

Comment [JST2]: This is going to be tricky to depict visually. If you already cover this in the neuro exam portion, then I can lump this into section 2 (organ specific). Otherwise, if this needs to be depicted visually, I imagine a video of me talking to the patient with the voiceover going through this stuff, perhaps with a text overlie that outlines the components of the mental status exam.

Comment [AS3]: I suggest to leave this section out.

4.4. Evaluate the patient's thought process, which is composed of elements, such as level of organization, presence of tangentially, loose associations, and "flight of ideas."

4.5. Evaluate the patient's thought content and perceptions, though these are typically not completed by observation alone, and specific questioning may be required. Thought content encompasses obsessions, anxieties, phobias, somatic pre-occupation, delusions, and ideas of persecution, influence, and reference. Perceptions include hallucinations, de-realization, and de-personalization.

4.6. Note the patient's cognitive function. Clues to abnormalities of attention, orientation, memory, judgment, and insight can emerge if the examiner is attuned to look for them, though the use of specific questions and validated instruments may be necessary to quantify deficits.

4.7. Use specific questions to assess for suicidality and homicidality.

5. Ancillary observations.

Comment [AS4]: This is information is good and important but hard to depict. I would try to have it included in the video. AS

5.1. Certain examination locations offer opportunities to learn about a patient's social supports, interests, and lifestyle. When visiting a patient in a space they are occupying for more than a few hours (e.g. hospital room, nursing home, home), note the presence (or absence) of decorations, get-well cards, family photos, books, etc. to gain an understanding of the patient's life outside of the patient role.

5.2. When family members or friends are present with patients, observe the interpersonal dynamics. This opportunity for observation offers important information about the patient. Does the family member speak for the patient? Does the patient look to the family member before responding to questions?

5.3. Pay attention to the way you are feeling in the presence of the patient, as this may prove diagnostically useful, especially in terms of psychiatric illness. While providers must be aware of the pitfalls of countertransference, if the feeling that the patient is triggering in you is not typical or easily explained, there may an underlying explanation in the patient's mental health. For example, an uncharacteristic feeling of sadness in the clinician during the encounter may lead the clinician to consider a diagnosis of major depressive disorder.

Summary:

Observation is an important component of the patient encounter that begins at the first point of contact with the patient. Observation relates to information gained by using one's senses during the examination and encompasses physical findings as well as behavioral, situational, and ancillary observations. A specific set of observations makes up the general survey, which should be a part of every patient encounter. Additional observations occur during each organ-specific part of the physical examination, with inspection accounting for the bulk of the skin examination. In addition to direct observations of the patient, astute clinicians attend to

information in the patient's surroundings and social relationships, as well as the feelings that patients may evoke in themselves, as part of good patient care.

Figures and legends:

Figure 1: Visual inspection of rash.

Figure 2: Palpation during the exam utilizes the sense of touch.

Figure 3: Auscultation during the exam utilizes the sense of hearing.

Photo or Graphic File
Click here to download Photo or Graphic File: Jaideep Talwalkar_Observation and Inspection_Figure 3.jpg

Photo or Graphic File
Click here to download Photo or Graphic File: Jaideep Talwalkar_Observation and Inspection_Figure 1.jpg

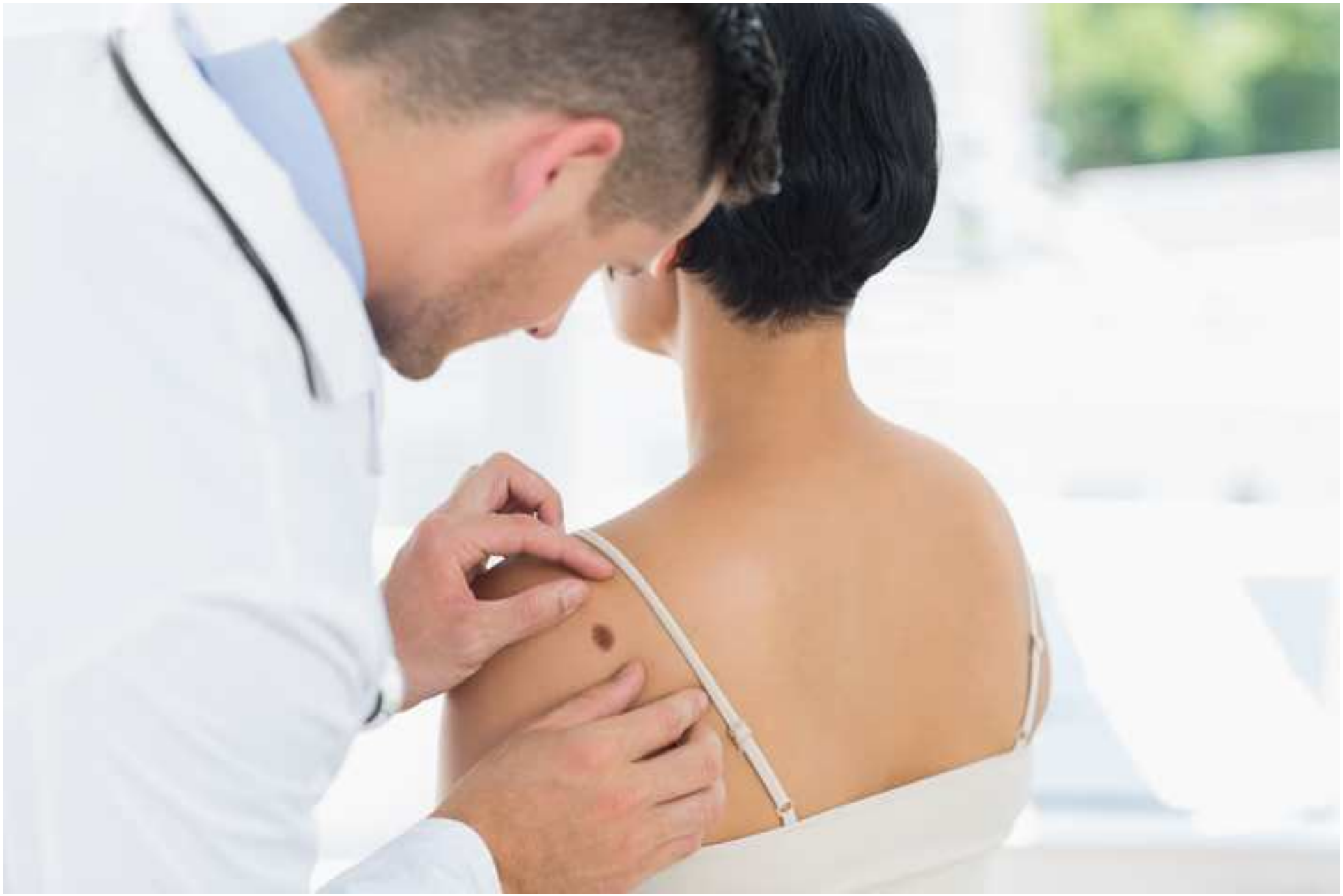

Photo or Graphic File
Click here to download Photo or Graphic File: Jaideep Talwalkar_Observation and Inspection_Figure 2.jpg

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Comment [AS1]: Both percussion and palpation utilize the sense of touch, so I have changed "or" to "and"

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Comment [AS2]: I highlighted this paragraph now. This is an important point to make I think. For your consideration. AS 0331

Comment [JST3]: I could see multiple images being used briefly throughout this procedure to highlight findings that one might observe with inspection. It would be visually more interesting than a simple video of me demonstrating how I'd do all of this on a patient who has no findings. I defer to your production team on what they think would be best.

Comment [JS4]: Technically, the video footage will capture the procedural steps listed for a focused approach.

Comment [DM5]: General note- we've left the highlighting in this one since it's already been submitted, but moving forward highlighting will be removed from all manuscripts save the ones that have Procedure sections exceeding 3 pages.

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1.5. Observe for signs of emotional distress. Is the patient fidgeting excessively, exhibiting generalized psychomotor slowing, or crying? Is eye contact appropriate? ~~(See Step 4 for a complete description of mental status assessment.)~~

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Comment [AS6]: Organ-specific observations will take an hour to do properly. We thought it best to add one narrative sentence, as the author suggested (I've highlighted it for your consideration). Each is fully addressed separately for each organ system in the other videos, so there are no procedural steps here. AS 0331

Comment [JS7]: What are the procedural steps that need to be listed here?

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Comment [AS8]: The skin exam is written as a step-by-step instruction here, because it is pretty much based on inspection only. I highlighted the introductory paragraph for your consideration, as I think it is important (at the very least, the first two sentences). AS 0331

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Comment [JST9]: This is going to be tricky to depict visually. If you already cover this in the neuro exam portion, then I can lump this into section 2 (organ specific). Otherwise, if this needs to be depicted visually, I imagine a video of me talking to the patient with the voiceover going through this stuff, perhaps with a text overlie that outlines the components of the mental status exam.

Comment [AS10]: I suggest to mention, in one short narrative sentence, that observation technique is a cornerstone of mental status exam without demonstrating how to perform it (perhaps, just briefly, showing a physician talking to a patient?) AS 0331

Comment [AS11]: I suggest to leave this section out.

Comment [JS12]: I agree – we have a separate collection on Mental Status exams.

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Comment [AS13]: This is information is good and important but hard to depict. I would try to have it included in the video. AS

Comment [JS14]: I agree that we can film 5.2 and 5.3. Can 5.1 be integrated into the Summary instead?

Comment [AS15]: I think that 5.1 is not general enough to be in the summary. Perhaps there can be a short narrative sentence to mention that, or just leave it as a part of the accompanying manuscript? I removed the highlighting, just in case. AS 0331

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Summary:

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Figure 3: Auscultation during the exam utilizes the sense of hearing.

Comment [AS16]: Figure 2 and Figure 3 can definitely be captured during the filming – even from different videos of this collection. Showing the inspection of the rash would be nice, but it would require to find a patient with skin lesions, and this might present a challenge. The images we sent along as suggested figures do not have to be reproduced (they have been downloaded from Shutterstock). In my personal opinion, all these figures are only needed for accompanying manuscript, but not for the video itself, except Figure 1. AS 0331

Comment [JS17]: Could we capture these shots during filming instead of using still images?

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