



**King Saud University  
College of Medicine**

# **Examination of the Joints Student Manual**



**Department of Medical Education  
Clinical Skills and Simulation Center  
Riyadh, April 2014**



King Saud University College of Medicine  
Examination of the Joints Student Manual



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Clinical Skills and Simulation Center  
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## Elbow Examination

**OBJECTIVE:** To conduct a proper Elbow Examination.

**MATERIALS:** Well illuminated examination room, examination table.

*D: Appropriately done PD: Partially done ND: Not done/Incorrectly done*

STEP/TASK	D	PD	ND
<b>Preparation</b>			
1. Introduce yourself to the patient.			
2. Confirm patient's ID.			
3. Explain the procedure and reassure the patient.			
4. Get patient's consent.			
5. Wash hands.			
6. Position the patient in a sitting position and expose both elbows are appropriately.			
<b>All examination steps should be applied to both elbows seperately.</b>			
<b>Inspection</b>			
7. Inspect the front to check the carrying angle.			
8. Inspect from the side to check for a fixed flexion deformity.			
9. Inspect from behind and on the inside to check for scars, swellings, rashes, rheumatoid nodules and psoriatic plaques.			
			
<b>Palpation</b>			
10. Check and assess the elbow joint temperature using the back of your hands and compare with the surrounding areas of the arm.			
11. Palpate the olecranon process as well as the lateral and medial epicondyles for tenderness.			
12. Check and assess the elbow joint movements and possible pain and crepitation during flexion, extension, pronation, and supination.			
<p><b>Tennis elbow</b> localises pain over the Lateral Epicondyle, particularly on active extension of the wrist with the elbow bent.</p> <p><b>Golfer's elbow</b> pain localises over the Medial Epicondyle and is made worse by flexing the wrist.</p>			
<b>After the examination</b>			
13. Ensure that the patient is comfortable.			
14. Make explanations to the patient, answer his/her questions and discuss management plan.			
15. Wash hands.			
16. Document the procedure.			





## Hand and Wrist Examination









**OBJECTIVE:** To conduct a proper Hand and Wrist Examination.

**MATERIALS:** Well illuminated examination room, examination table.


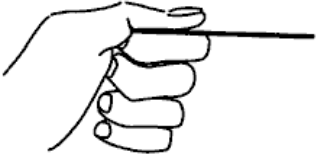

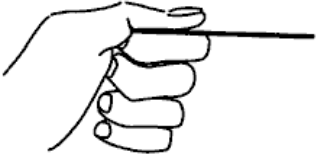

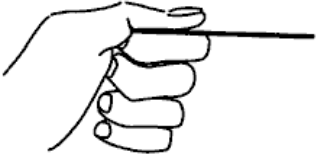







*D: Appropriately done PD: Partially done ND: Not done/Incorrectly done*

STEP/TASK		D	PD	ND
<b>Preparation</b>				
1.	Introduce yourself to the patient.			
2.	Confirm patient's ID.			
3.	Explain the procedure and reassure the patient.			
4.	Get patient's consent.			
5.	Wash hands.			
6.	Position the patient in a sitting position and expose both hands and wrists appropriately.			
<b>All examination steps should be applied to both hands and wrists seperately.</b>				
<b>Inspection</b>				
7.	Look for swellings, deformities, muscle wasting, scars ( <i>particularly carpal tunnel release scars</i> ) skin changes, rashes, nail pitting, onycholysis, nailfold vasculitis, palmar erythema. ( <i>If there are joint swellings note which joints are involved and whether the changes are symmetrical or not</i> ). Remember to check both sides of the hands			
<b>Palpation (proximal to distal)</b>				
8.	Check and assess the temperature ( <i>using the back of your hands</i> ) over the joint areas and compare these with the temperature of the forearm.			
9.	Take the radial pulse and palpate the wrist joints with your thumbs on the extensor surface and your index fingers on the flexor surface, work your way distally to the carpal bones.			
10.	Feel the muscle bulk in the thenar ( <i>see picture</i> ) and hypothenar eminences. In the palms, feel for any tendon thickening and assess the sensation over the relevant areas supplied by the radial, ulnar and median nerves.			
→ Continues on the next page				

## Hand and Wrist Examination

STEP/TASK	D	PD	ND
<b>Palpation</b>			
<p><b>11.</b> Palpate the row of metacarpophalangeal (MCP) joints (<i>see picture</i>) whilst watching the patient's face for any discomfort. You should then move onto any MCP joints which are noticeably swollen. Palpate these gently, bimanually with your thumbs on the dorsum and index fingers on the palm.</p>			
<p><b>12.</b> Palpate the interphalangeal joints and again palpate any which are swollen. This palpation is done with one of the thumbs on the top and the other on one of the sides. The index fingers go on the vacant sides of the joint.</p> <p><i>(At this point the extensor surface of the elbows should be checked for any psoriatic plaques and rheumatoid nodules. Psoriatic plaques could suggest the presence of psoriatic arthritis) See <a href="#">Elbow Examination</a></i></p>			
<p><b>13.</b> Check and assess the movements of the wrists.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="185 951 548 1220">  <p style="text-align: center;">Wrist flexion</p> </div> <div data-bbox="570 951 933 1220">  <p style="text-align: center;">Wrist extension</p> </div> </div>			
<p><b>14.</b> Check and assess the movements of the fingers.</p> <div style="display: grid; grid-template-columns: 1fr 1fr; gap: 10px;"> <div data-bbox="185 1289 548 1558">  <p style="text-align: center;">Finger flexion</p> </div> <div data-bbox="570 1289 933 1558">  <p style="text-align: center;">Finger extension</p> </div> <div data-bbox="185 1598 548 1866">  <p style="text-align: center;">Finger abduction</p> </div> <div data-bbox="570 1598 933 1866">  <p style="text-align: center;">Thumb opposition</p> </div> </div>			
<p>➔ <i>Continues on the next page</i></p>			

## Hand and Wrist Examination

STEP/TASK	D	PD	ND		
<b>Special Tests</b>					
<p><b>15. Phalen's maneuver</b> (see picture) is a diagnostic test for carpal tunnel syndrome.</p> <p>(Forced flexion of the wrist, either against the other hand or by the examiner for 60 seconds will recreate the symptoms of carpal tunnel syndrome. )</p>					
<p><b>16. Froment's sign</b> is a test to check Ulnar nerve function. Ask the patient to hold a piece of paper between their thumb and index finger; this will check the function of the adductor pollicis. In a patient with Ulnar nerve palsy the interphalangeal joint of the thumb will flex to compensate.</p>	<table border="1" style="width: 100%; text-align: center;"> <tr> <td data-bbox="669 604 987 848"> <p><b>Normal</b></p>  </td> <td data-bbox="987 604 1305 848"> <p><b>Froment's positive</b></p>  </td> </tr> </table>	<p><b>Normal</b></p> 	<p><b>Froment's positive</b></p> 		
<p><b>Normal</b></p> 	<p><b>Froment's positive</b></p> 				
<p><b>17.</b> Functional assessment of the patient should be carried out. This involves firstly forming a <b>Power Grip</b> around your middle and index fingers; then a <b>Pincer Grip</b> against your index finger; and lastly asking your patient to <b>Pick-Up</b> a small object such as a coin.</p>	<table border="1" style="width: 100%; text-align: center;"> <tr> <td data-bbox="1318 961 557 1299">  <p>Power grip around middle and index fingers</p> </td> <td data-bbox="557 961 927 1299">  <p>Pincer grip against index finger</p> </td> <td data-bbox="927 961 1305 1299">  <p>Pick up a small object</p> </td> </tr> </table>	<p>Power grip around middle and index fingers</p>	 <p>Pincer grip against index finger</p>	 <p>Pick up a small object</p>	
<p>Power grip around middle and index fingers</p>	 <p>Pincer grip against index finger</p>	 <p>Pick up a small object</p>			
<b>After the examination</b>					
<b>18.</b> Ensure that the patient is comfortable.					
<b>19.</b> Make explanations to the patient, answer his/her questions and discuss management plan.					
<b>20.</b> Wash hands.					
<b>21.</b> Document the procedure.					










## Knee Examination

**OBJECTIVE:** To conduct a proper Knee Examination.

**MATERIALS:** Well illuminated examination room, examination table.




*D: Appropriately done PD: Partially done ND: Not done/Incorrectly done*

STEP/TASK	D	PD	ND
<b>Preparation</b>			
1. Introduce yourself to the patient.			
2. Confirm patient's ID.			
3. Explain the procedure and reassure the patient.			
4. Get patient's consent.			
5. Wash hands.			
6. Appropriately expose the patient's both knees.			
<b>All examination steps should be applied to both elbows seperately.</b>			
<b>Inspection</b>			
7. Ask the patient to walk. Observe any limp or obvious deformities such as scars or muscle wasting. Check if the patient has a varus ( <i>bow-legged</i> ) or valgus ( <i>knock-knees</i> ) deformity. Also observe from behind to see if there are any obvious popliteal swellings such as a Baker's cyst.			
8. Ask the patient to lie on the bed to allow a further general inspection. Look for symmetry, redness, muscle wasting, scars, rashes, or fixed flexion deformities.			
<b>Palpation</b>			
9. Check and assess the knee joint temperature using the back of your hands and compare with the surrounding areas of the leg.			
<b>→ Continues on the next page</b>			

<b>Knee Examination</b>			
<b>STEP/TASK</b>	<b>D</b>	<b>PD</b>	<b>ND</b>
<b>Palpation</b>			
<p><b>10.</b> Palpate the border of the patella for any tenderness, behind the knee for any swellings, along all of the joint lines for tenderness and at the point of insertion of the patellar tendon.</p>  <p>Palpate the border of the patella      Palpate the joint lines      Palpate the point of insertion</p>			
<p><b>11.</b> Tap the patella to see if there is any effusion deep to the patella.</p> 			
<p><b>12.</b> Check and assess the movements of the knees. and possible pain and crepitation during flexion, and extension.</p>  <p>Knee flexion      Knee extension</p>			
<b>Special Tests to Assess the Cruciate Ligaments</b>			
<p><b>13. Anterior Drawer Test:</b> Flex the knee to 90 degrees and sit on the patient's foot. Pull forward on the tibia just distal to the knee. There should be no movement. If there is however, it suggests Anterior Cruciate Ligament (ACL) damage.</p> 			

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<b>Knee Examination</b>			
<b>STEP/TASK</b>	<b>D</b>	<b>PD</b>	<b>ND</b>
<b>Special Tests to Assess the Cruciate Ligaments</b>			
<p><b>14. Posterior Drawer Test:</b> Flex the knee to 90 degrees and observe from the side for any posterior lag of the joint, this suggests Posterior Cruciate ligament damage.</p> 			
<b>Special Tests to Assess the Collateral Ligaments</b>			
<p><b>15. Lateral and Medial Stress:</b> Hold the leg with the knee flexed to 15 degrees and apply Lateral and Medial Stress on the knee. Any excessive movement suggests collateral ligament damage.</p>  <p style="text-align: center;">Lateral Stress                      Medial Stress</p>			
<b>Special Test to Assess the Meniscus Damage</b>			
<p><b>16. McMurray's Test:</b> Hold the knee up and fully flexed, with one hand over the knee joint itself and the other on the sole of that foot. Stress the knee joint by medially and laterally moving the foot. Any pain or a click is a positive test, confirming meniscal damage.</p> 			
<b>After the examination</b>			
<b>17.</b> Ensure that the patient is comfortable.			
<b>18.</b> Make explanations to the patient, answer his/her questions and discuss management plan.			
<b>19.</b> Wash hands.			
<b>20.</b> Document the procedure.			