Keitel Functional Test for Patients with Rheumatoid Arthritis

<table>
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| 1  | Tip of the thumb touches the basic joint of the 5th finger | 3=Test is performed fully and with no delay  
2=Test is performed fully but with effort and/or delay  
1=Tip of the thumb touches basic joint of 3rd or 4th finger  
0=None of the items can be performed |  |  |
| 2  | Bending of the 2nd finger (It is of no importance, if all 4 fingers are tested together or individually) | 2= Finger can bend normally  
1= Finger cannot bend normally, tip of the finger reaches palm  
0= Finger does not reach palm |  |  |
| 3  | Bending of the 3rd finger | 2= Finger can bend normally  
1= Finger cannot bend normally, tip of the finger reaches palm  
0= Finger does not reach palm |  |  |
| 4  | Bending of the 4th finger | 2= Finger can bend normally  
1= Finger cannot bend normally, tip of the finger reaches palm  
0= Finger does not reach palm |  |  |
| 5  | Bending of the 5th finger | 2 = Finger can bend normally  
1 = Finger cannot bend normally, tip of the finger reaches palm  
0 = Finger does not reach palm |  |  |
| 6  | Forearms are placed horizontally. Press palms together with fingers pointing upwards. | 3 = Test is performed fully and with no delay  
2 = Test is performed fully but with effort/or delay  
1 = Dorsal flexion of the wrist to 45°, you may test one hand at a time  
0 = Impossible (flexion less than 45°) |  |  |
| 7  | Forearms as above. Press back of the hands together with fingers pointing downwards. | 3 = Test is performed fully and with no delay.  
2 = Test is performed fully but with effort and/or delay  
1 = Dorsal flexion of the wrist to 45°, you may test one hand at a time  
0 = Impossible (flexion less than 45°) |  |  |
| 8  | Place backs of both hands simultaneously on a table, with elbows bended 90°. The ulnar margin of the hands is lifted. | 2 = Test is performed fully  
1 = Backs of the hands are lying on the table, lifting is not possible  
0 = Backs of the hands are not lying fully on the table |  |  |
| 9  | Place radial margin of both hands simultaneously on a table. Thumbs pointing downwards in front of the table edge. Turn ulnar margin of the hands towards each other. Avoid bending of the trunk. | 2 = Test is performed fully  
1 = Backs of the hands are standing perpendicular, but cannot turn towards each other  
0 = Backs of the hands are not standing perpendicular |  |  |
| 10 | Place both hands simultaneously on ipsilateral shoulder | 2 = Test is performed fully, delay permitted  
1 = Fingertips reach the shoulder or within a distance of 5 cm  
0 = Greater distance |  |  |
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| 11 | Place both hands (not only the fingertips) simultaneously behind the neck below ear level | 3 = Test is performed fully and with no delay  
2 = Test is performed fully, but with effort and/or delay  
1 = Only the fingertips touch the neck. Neck is regarded as the area from earlobe to earlobe.  
0 = Fingertips cannot touch the neck |              |              |
| 12 | Rising from supine position (examination couch, turning to the side is not permitted) | 6 = With hands extended, performed quickly  
5 = With hands extended, performed with effort  
4 = With hand support  
2 = Only possible with support from a person  
0 = Impossible (Gradings 3 and 1 are not used) |              |              |
| 13 | Active spreading of the legs in supine position                           | 2 = More than 50 cm condylar distance  
1 = More than 20 cm condylar distance  
0 = Less than 20 cm condylar distance |              |              |
| 14 | Rising from a chair with no armrest                                     | 6 = With hands extended, performed quickly  
5 = With hands extended, performed with effort  
4 = With hand support  
2 = Only possible with support from a person  
0 = Impossible (Gradings 3 and 1 are not used) |              |              |
|    | **For test no. 15–21, support with one hand is permitted!**              |                                                                                 |              |              |
| 15 | Stand on the tiptoes for 15 sec. The patient must stand up straight.     | 2 = 15 sec is possible  
1 = Less than 15 sec is possible  
0 = Impossible |              |              |
| 16 | Stand on the heels for 15 sec. The patient must stand up straight and the forefoot must be lifted (how high is of no importance). | 2 = Test is performed normally  
1 = Only the beginning of the knee bending is performed  
0 = Impossible |              |              |
| 17 | Deep knee bending from standing position. Buttocks almost touch the heels (lifting of the heels is permitted.) | 2 = Test is performed normally  
1 = Only the beginning of the knee bending is performed  
0 = Impossible |              |              |
| 18 | Standing on one leg for 15 sec                                           | 2 = 15 sec is possible  
1 = Less than 15 sec is possible  
0 = Impossible |              |              |
| 19 | External rotation of the hip from standing position. Place the heel of the test leg on the medial side of the foot of the standing leg. Avoid rotation of the pelvis. The angle between the feet must be higher than 90°. | 2 = Test is performed fully  
1 = Angle between the feet is 90°  
0 = Angle between the feet is less than 90° |              |              |
| 20 | With bended knee place the sole of the foot on a chair. Patient must stand close to the chair. | 2 = Test is performed fully, delay permitted  
1 = The leg can be lifted from the floor  
0 = It is impossible to lift the leg from the floor |              |              |
| 21 | With straight leg place the heel on a chair (a known extension defect of the knee is of no importance). Patient must stand approximately 1 meter from the chair. | 2 = Test is performed fully, delay permitted  
1 = The leg can be lifted from the floor  
0 = It is impossible to lift the leg |              |              |
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| 22 | Walk 30 meters in a hospital corridor. Standard time 20 sec. (It is permitted to cheer the patient and/or repeat the test.) | 6 = Standard time, no difficulty  
5 = Standard time, visible difficulty, walking aid permitted  
4 = 25 sec  
3 = 30 sec  
2 = 40 sec  
1 = Few steps, with or without personal support  
0 = Impossible | | |
| 23 | Walk upstairs, 10 steps. Standard time 7 sec.                             | 3 = Standard time, no use of banister  
2 = Up to 14 sec. Use of banister permitted.  
1 = More than 14 sec. Only few steps are possible with effort.  
0 = Impossible | | |
| 24 | Walk downstairs, 10 steps. Standard time 7 sec.                          | 3 = Standard time, no use of banister  
2 = Up to 14 sec. Use of banister permitted.  
1 = More than 14 sec. Only few steps are possible with effort.  
0 = Impossible | | |
|    | Total score                                                               |                                                                                  |              |             |