

Appendix 1: Return to activity and work test battery includes a) knee examination, rating of pain and swelling, single leg balance, functional and core endurance tests, and b) muscle strength and fitness tests.

Patient Name: \_\_\_\_\_ Today's Date: \_\_\_\_\_ Age: \_\_\_\_\_

Date Surgery: \_\_\_\_\_ Physician: \_\_\_\_\_

This test battery measures several important factors about your knee condition. The goal is to determine your readiness to return to recreational sports as approved by your physician and identify areas of weakness that need further attention.

**Knee Examination** **Physician:** \_\_\_\_\_ **Needs Attention**

ROM: \_\_\_\_\_ Knee swelling? \_\_\_\_\_ Patellar mobility normal? \_\_\_\_\_ Patellar pain? \_\_\_\_\_

Medial tibiofemoral pain? \_\_\_\_\_ Lateral tibiofemoral pain? \_\_\_\_\_ Medial/lateral stability \_\_\_\_\_

Alignment \_\_\_\_\_ Symmetrical gait? \_\_\_\_\_ Joint crepitus with motion? \_\_\_\_\_ Iliotibial band pain? \_\_\_\_\_

Physician Notes: \_\_\_\_\_

**Cincinnati Knee Rating Scores** **Examiner:** \_\_\_\_\_ **Needs Attention**

Pain score (**Goal:**  $\geq 6$ ) \_\_\_\_\_ Swelling score (**Goal:**  $\geq 6$ ) \_\_\_\_\_

**Star Excursion Balance Test** **Examiner:** \_\_\_\_\_ **Needs Attention**

Measures single-leg balance in three different directions. Normalize according to leg length (reach distance/leg length x 100 = percentage of leg length). Take average of 3 trials.

**Goal:** < 10% deficit compared with contralateral side.

Leg length (from most distal end of anterior superior iliac spine to most distal end of lateral malleolus):

Right \_\_\_\_\_ cm Left \_\_\_\_\_ cm

Results Operated Side: Anterior \_\_\_\_\_ Posterolateral \_\_\_\_\_ Posteromedial \_\_\_\_\_

Results Contralateral Side: Anterior \_\_\_\_\_ Posterolateral \_\_\_\_\_ Posteromedial \_\_\_\_\_

Anterior % deficit \_\_\_\_\_ Posterolateral % deficit \_\_\_\_\_ Posteromedial % deficit \_\_\_\_\_

**Single-Leg Squat Test** **Examiner:** \_\_\_\_\_ **Needs Attention**

Patient stands on a box with hands on hips and performs 5 squats on each leg. Rating is based on position of hip and knee joints. Measures core, hip, and leg muscle strength.

**Goal:** no knee valgus, medial-lateral movement, or pelvic tilt.

Results (good, fair, poor): Operated leg \_\_\_\_\_ Contralateral leg \_\_\_\_\_

**Single-Leg Hop Test** **Examiner:** \_\_\_\_\_ **Needs Attention**

Patient stands on one leg, hops forward as far as possible, and lands on the same leg. The landing must be held for 3 seconds for the test to be valid. Complete 2 single-leg hops on each side, calculate mean of each side and then calculate limb symmetry: operated leg mean/contralateral leg mean x 100

**Goal:**  $\leq 15\%$  deficit compared with contralateral side.

Results: Operated leg mean \_\_\_\_\_ in Contralateral leg mean \_\_\_\_\_ in Limb symmetry \_\_\_\_\_%

**Core Endurance Test** **Examiner:** \_\_\_\_\_ **Needs Attention**

Number of partial curl-ups in 1 minute.

**Goal:** 90% rank for men < 50 y.o. = 75 and > 50 y.o. = 74 90% rank for women < 50 y.o. = 50 and > 50 y.o. = 48

Result: \_\_\_\_\_

**Quadriceps, Hamstrings, Hip Abductors Muscle Strength Tests****Examiner:****Needs Attention**Option #1: Manual muscle test, **Goal:** 5/5

Result: quadriceps \_\_\_\_\_ hamstrings \_\_\_\_\_ hip abductors \_\_\_\_\_

Option #2: Isometric max torque Biodex, **Goal:** < 30% deficit opposite side

Result: quadriceps \_\_\_\_\_ % deficit hamstrings \_\_\_\_\_ % deficit

Option #3: Isometric using handheld dynamometer, quadriceps 60° flexion, hamstrings 60-90° flexion, average of 3 reps;  
**Goal:** < 20% deficit opposite side

Result: quadriceps \_\_\_\_\_ % deficit hamstrings \_\_\_\_\_ % deficit hip abductors \_\_\_\_\_ % deficit

**6-Minute Walk Test****Examiner:****Needs Attention**

Distance a patient can walk in 6 minutes going as fast as comfortable on a treadmill.

**Goal:** > 0.30 mile (497 meters)

Result: \_\_\_\_\_ Heart rate before test: \_\_\_\_\_ Heart rate on completion of test: \_\_\_\_\_

**AHA Fitness Guideline Test****Examiner:****Needs Attention**

Determine if a patient can walk for 20 minutes at a brisk rate that elevates the heart rate

Result:

Completed test: Yes/No

Knee pain: Yes/No

Knee instability: Yes/No

Cannot do because of knee: Yes/No

Cannot do for reasons other than knee: Yes/No

Heart rate upon completion of test \_\_\_\_\_ # steps (pedometer) \_\_\_\_\_

**Stair Climbing Test****Examiner:****Needs Attention**

Time for a patient to go up 10 steps and back down, may use handrail for support if required.

**Goal:** < 13 seconds (men and women)

Result: \_\_\_\_\_ secs

**Recommendations (check all that apply)**

- OK return AHA fitness guidelines
- OK return physical fitness program (10 min flexibility, 20 min strength, 30 min aerobic)
- OK gradual return to recreational sports (will need repeat exam)
- OK return recreational sports
- OK return work activities
- Continue strength, flexibility, aerobic programs