

2000

IKDC

KNEE FORMS

INTRODUCTION

The entire IKDC form, which includes a demographic form, current health assessment form, subjective knee evaluation form, knee history form, surgical documentation form, and knee examination form, may be used as separate forms. The knee history form and surgical documentation form are provided for convenience. All researchers are required to complete the subjective knee evaluation and knee examination form. Instructions for scoring the subjective knee evaluation form and the knee examination form are provided on the back of the forms.

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1. Demographic Form
2. Current Health Assessment Form
3. Subjective Knee Evaluation Form
4. Knee History Form
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1. Do you smoke cigarettes?

- Yes
- No, I quit in the last six months.
- No, I quit more than six months ago.
- No, I have never smoked.

2. Your height _____ centimeters inches

3. Your weight _____ kilograms pounds

4. Your race (indicate all that apply)

- White Black or African-American Hispanic
- Asian or Pacific Islander Native American Indian Other

5. How much school have you completed?

- Less than high school Graduated from high school Some college
- Graduated from college Postgraduate school or degree

6. Activity level

- Are you a high competitive sports person?
- Are you well-trained and frequently sporting?
- Sporting sometimes
- Non-sporting

IKDC CURRENT HEALTH ASSESSMENT FORM *

Your Full Name _____

Your Date of Birth _____/_____/_____
Day Month Year

Today's Date _____/_____/_____
Day Month Year

1. In general, would you say your health is: Excellent Very Good Good Fair Poor
2. Compared to one year ago, how would you rate your health in general now?
- Much better now than 1 year ago Somewhat better now than 1 year ago About the same as 1 year ago
- Somewhat worse now than 1 year ago Much worse now than 1 year ago

3. The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

	Yes, Limited A Lot	Yes, Limited A Little	No, Not Limited At All
a. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Lifting or carrying groceries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Climbing several flights of stairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Climbing one flight of stairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Bending, kneeling or stooping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Walking more than a mile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Walking several blocks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Walking one block	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Bathing or dressing yourself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	YES	NO
a. Cut down on the amount of time you spent on work or other activities	<input type="checkbox"/>	<input type="checkbox"/>
b. Accomplished less than you would like	<input type="checkbox"/>	<input type="checkbox"/>
c. Were limited in the kind of work or other activities	<input type="checkbox"/>	<input type="checkbox"/>
d. Had difficulty performing the work or other activities (for example, it took extra effort)	<input type="checkbox"/>	<input type="checkbox"/>

5. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

	YES	NO
a. Cut down on the amount of time you spent on work or other activities	<input type="checkbox"/>	<input type="checkbox"/>
b. Accomplished less than you would like	<input type="checkbox"/>	<input type="checkbox"/>
c. Didn't do work or other activities as carefully as usual	<input type="checkbox"/>	<input type="checkbox"/>

6. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

- Not At All Slightly Moderately Quite a Bit Extremely

7. How much bodily pain have you had during the past 4 weeks?

- None Very Mild Mild Moderate Severe Very Severe

8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

- Not at All A Little Bit Moderately Quite a Bit Extremely

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks...

	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
a. Did you feel full of pep?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have you been very nervous?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have you felt calm and peaceful?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Did you have a lot of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Have you felt down-hearted and blue?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Did you feel worn out?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Have you been a happy person	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Did you feel tired?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

- All of the time Most of the time Some of the time A little of the time None of the time

11. How TRUE or FALSE is each of the following statements for you?

	Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
a. I seem to get sick a little easier than other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I am as healthy as anybody I know	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I expect my health to get worse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. My health is excellent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2000 IKDC SUBJECTIVE KNEE EVALUATION FORM

Your Full Name _____

Today's Date: ____/____/____
Day Month Year

Date of Injury: ____/____/____
Day Month Year

SYMPTOMS*:

*Grade symptoms at the highest activity level at which you think you could function without significant symptoms, even if you are not actually performing activities at this level.

1. What is the highest level of activity that you can perform without significant knee pain?

- 4 Very strenuous activities like jumping or pivoting as in basketball or soccer
- 3 Strenuous activities like heavy physical work, skiing or tennis
- 2 Moderate activities like moderate physical work, running or jogging
- 1 Light activities like walking, housework or yard work
- 0 Unable to perform any of the above activities due to knee pain

2. During the past 4 weeks, or since your injury, how often have you had pain?

Never 10 9 8 7 6 5 4 3 2 1 0 Constant

3. If you have pain, how severe is it?

No pain 10 9 8 7 6 5 4 3 2 1 0 Worst pain
 imaginable

4. During the past 4 weeks, or since your injury, how stiff or swollen was your knee?

- 4 Not at all
- 3 Mildly
- 2 Moderately
- 1 Very
- 0 Extremely

5. What is the highest level of activity you can perform without significant swelling in your knee?

- 4 Very strenuous activities like jumping or pivoting as in basketball or soccer
- 3 Strenuous activities like heavy physical work, skiing or tennis
- 2 Moderate activities like moderate physical work, running or jogging
- 1 Light activities like walking, housework, or yard work
- 0 Unable to perform any of the above activities due to knee swelling

6. During the past 4 weeks, or since your injury, did your knee lock or catch?

0 Yes 1 No

7. What is the highest level of activity you can perform without significant giving way in your knee?

- 4 Very strenuous activities like jumping or pivoting as in basketball or soccer
- 3 Strenuous activities like heavy physical work, skiing or tennis
- 2 Moderate activities like moderate physical work, running or jogging
- 1 Light activities like walking, housework or yard work
- 0 Unable to perform any of the above activities due to giving way of the knee

Scoring Instructions for the 2000 IKDC Subjective Knee Evaluation Form

Several methods of scoring the IKDC Subjective Knee Evaluation Form were investigated. The results indicated that summing the scores for each item performed as well as more sophisticated scoring methods.

The responses to each item are scored using an ordinal method such that a score of 0 is given to responses that represent the lowest level of function or highest level of symptoms. For example, item 1, which is related to the highest level of activity without significant pain is scored by assigning a score of 0 to the response "Unable to perform any of the above activities due to knee pain" and a score of 4 to the response "Very strenuous activities like jumping or pivoting as in basketball or soccer". For item 2, which is related to the frequency of pain over the past 4 weeks, the response "Constant" is assigned a score of 0 and "Never" is assigned a score of 10. Note: previous versions of the form had a minimum item score of 1 (for example, ranging from 1 to 11). In the most recent version, all items now have a minimum score of 0 (for example, 0 to 10). To score these prior versions, you would need to transform each item to the scaling for the current version.

The IKDC Subjective Knee Evaluation Form is scored by summing the scores for the individual items and then transforming the score to a scale that ranges from 0 to 100. Note: The response to item 10a "Function Prior to Knee Injury" is not included in the overall score. To score the current form of the IKDC, simply add the score for each item (the small number by each item checked) and divide by the maximum possible score which is 87:

$$\text{IKDC Score} = \left[\frac{\text{Sum of Items}}{\text{Maximum Possible Score}} \right] \times 100$$

Thus, for the current version, if the sum of scores for the 18 items is 45 and the patient responded to all the items, the IKDC Score would be calculated as follows:

$$\text{IKDC Score} = \left[\frac{45}{87} \right] \times 100$$

$$\text{IKDC Score} = 51.7$$

The transformed score is interpreted as a measure of function such that higher scores represent higher levels of function and lower levels of symptoms. A score of 100 is interpreted to mean no limitation with activities of daily living or sports activities and the absence of symptoms.

The IKDC Subjective Knee Form score can be calculated when there are responses to at least 90% of the items (i.e. when responses have been provided for at least 16 items). In the original scoring instructions for the IKDC Subjective Knee Form, missing values are replaced by the average score of the items that have been answered. However, this method could slightly over- or under-estimate the score depending on the maximum value of the missing item(s) (2, 5 or 11 points). Therefore, in the revised scoring procedure for the current version of a form with up to two missing values, the IKDC Subjective Knee Form Score is calculated as (sum of the completed items) / (maximum possible sum of the completed items) * 100. This method of scoring the IKDC Subjective Knee Form is more accurate than the original scoring method.

A scoring spreadsheet is also available at: www.sportsmed.org/research/index.asp This spreadsheet uses the current form scores and the revised scoring method for calculating scores with missing values.

Extensor Mechanism Surgery

- Patella tendon repair Quadriceps tendon repair

Patellofemoral Surgery

- Extensor Mechanism Realignment

Soft Tissue Realignment

- Medial imbrication Lateral release

Bone Realignment

Movement of the tibial tubercle

- Proximal Distal Medial Lateral Anterior

- Trochleoplasty

- Patellectomy

Osteoarthritis Surgery

- Osteotomy

- Articular Surface Surgery Shaving Abrasion Drilling Microfracture
 Cell therapy Osteochondral autograft transfer/mosaic-plasty Other

Total number of previous surgeries _____

Imaging Studies:

- Structural MRI CT Arthrogram

- Metabolic (Bone Scan)

Findings:

Ligament _____

Meniscus _____

Articular Cartilage _____

Bone _____

2000 IKDC SURGICAL DOCUMENTATION FORM

Patient's Name: _____ Date of Index Procedure: ____/____/____
Day Month Year

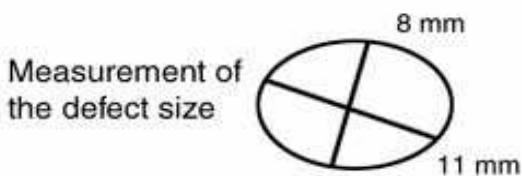
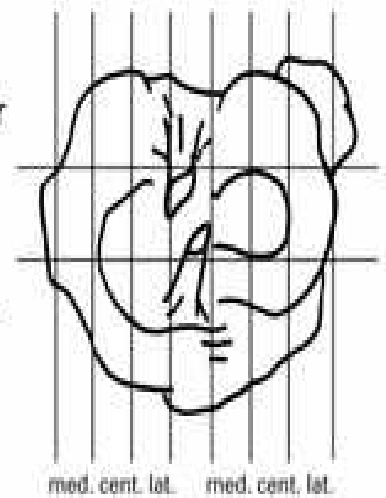
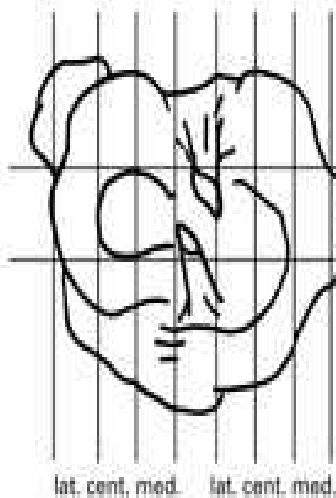
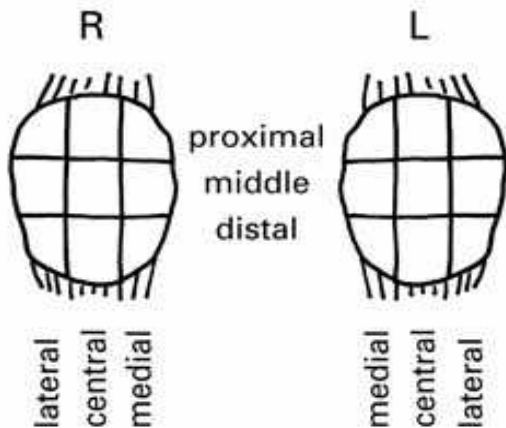
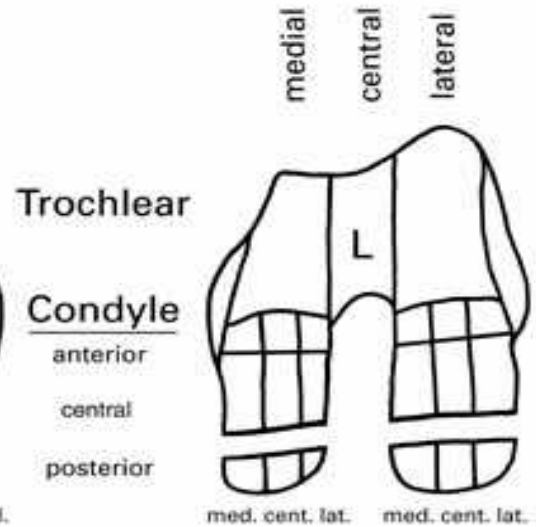
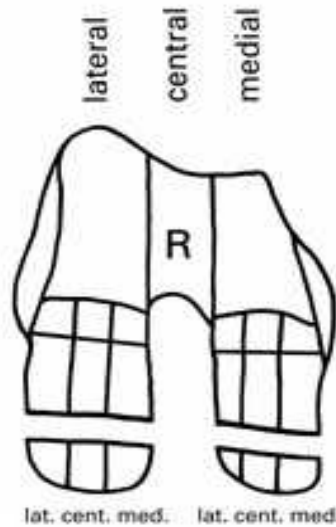
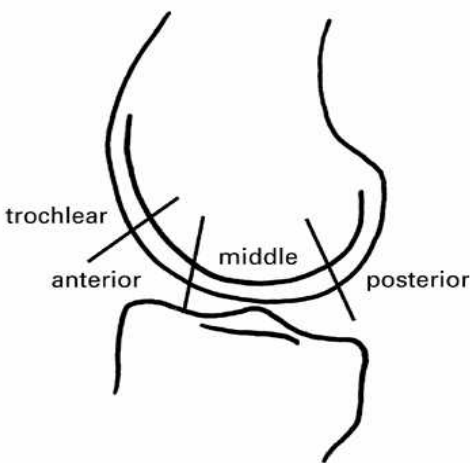
Postoperative Diagnosis:

1. _____
2. _____
3. _____

Status After Procedure:

ARTICULAR CARTILAGE STATUS:

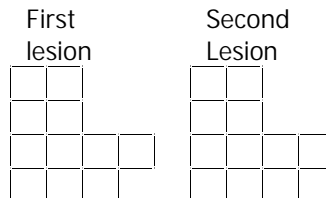
Document the size and location of articular cartilage defects on these figures according to the ICRS mapping system^C.



Record size, location and grade of articular cartilage lesions.

Femur

Side	Right	Left			
Condyle	Medial	Lateral			
Sagittal plane	Trochlear	Anterior	Middle	Posterior	
Frontal plane	Lateral	Central	Medial		



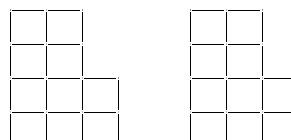
Cartilage lesion (Grade) (*)

Defect size pre-debridement mm

Defect size post-debridement mm

Tibia

Side	Right	Left		
Plateau	Medial	Lateral		
Sagittal Plane	Anterior	Middle	Posterior	
Frontal Plane	Lateral	Central	Medial	



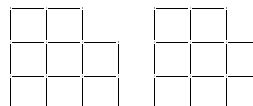
Cartilage lesion (Grade) (*)

Defect size pre-debridement mm

Defect size post-debridement mm

Patella

Side	Right	Left	
Sagittal plane	Distal	Middle	Proximal
Frontal plane	Lateral	Central	Medial



Cartilage lesion (Grade) (*)

Defect size pre-debridement mm

Defect size post-debridement mm

Diagnosis: Traumatic cartilage lesion OD OA AVN Others

Biopsy/Osteochondral Plugs: Location: Number of Plugs:

Diameter of Plugs: mm

Treatment: Shaving Abrasion

Drilling Microfracture

Osteochondral autograft transfer/mosaic-plasty

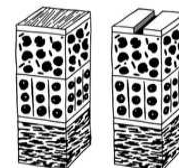
Cell therapy Other

Notes:

ICRS Grade 0 - Normal



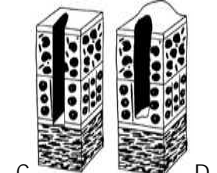
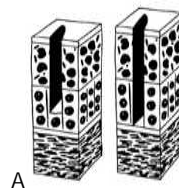
ICRS Grade 1 – Nearly Normal
Superficial lesions, Soft indentation (A) and/or superficial fissures and cracks (B)



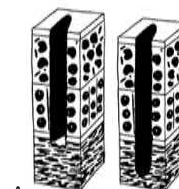
ICRS Grade 2 – Abnormal
Lesions extending down to <50% of cartilage depth



ICRS Grade 3 - Severely Abnormal
Cartilage defects extending down >50% of cartilage depth (A) as well as down to calcified layer (B) and down to blisters are included in this Grade (D)



ICRS Grade 4 – Severely Abnormal
Osteochondral injuries, lesions extending just through the subchondral boneplate (A) or deeper defects down into trabecular bone (B). Defects that have been drilled are regarded as osteochondral defects and classified as ICRS-C.



A B

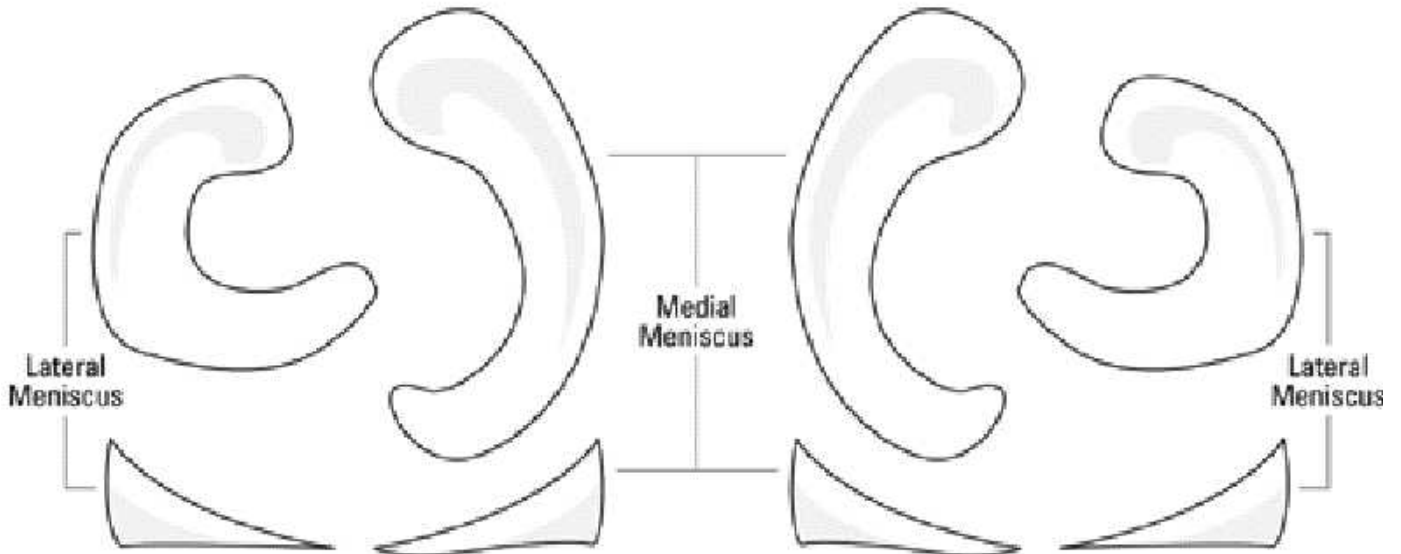
MENISCUS STATUS:

- Procedure:
- | | |
|---|--|
| <input type="checkbox"/> medial meniscectomy | <input type="checkbox"/> lateral meniscectomy |
| <input type="checkbox"/> medial meniscal repair | <input type="checkbox"/> lateral meniscus repair |
| <input type="checkbox"/> medial meniscal transplant | <input type="checkbox"/> lateral meniscal transplant |
| <input type="checkbox"/> medial abrade & trephine | <input type="checkbox"/> lateral abrade & trephine |

Right Knee

Left Knee

Document tears of the menisci or meniscectomy on these figures



Medial:

- | | | | |
|---------------------------------|--------------------------------------|--|---|
| <input type="checkbox"/> Normal | <input type="checkbox"/> 1/3 Removed | <input type="checkbox"/> 2/3 Removed | <input type="checkbox"/> 3/3 Removed |
| Circumferential Hoop Fibers: | | <input type="checkbox"/> Intact | <input type="checkbox"/> Disrupted |
| Remaining Meniscal Tissue: | | <input type="checkbox"/> Normal | <input type="checkbox"/> Degenerative changes |
| | | <input type="checkbox"/> Stable tear | <input type="checkbox"/> Unstable tear |
| | | <input type="checkbox"/> Tear left in situ | |

Lateral:

- | | | | |
|---------------------------------|--------------------------------------|--|---|
| <input type="checkbox"/> Normal | <input type="checkbox"/> 1/3 Removed | <input type="checkbox"/> 2/3 Removed | <input type="checkbox"/> 3/3 Removed |
| Circumferential Hoop Fibers: | | <input type="checkbox"/> Intact | <input type="checkbox"/> Disrupted |
| Remaining Meniscal Tissue: | | <input type="checkbox"/> Normal | <input type="checkbox"/> Degenerative changes |
| | | <input type="checkbox"/> Stable tear | <input type="checkbox"/> Unstable tear |
| | | <input type="checkbox"/> Tear left in situ | |

LIGAMENT STATUS:

Procedure:

- | | | |
|--|--|--|
| <input type="checkbox"/> ACL repair | <input type="checkbox"/> Intraarticular ACL reconstruction | <input type="checkbox"/> Extraarticular ACL reconstruction |
| <input type="checkbox"/> PCL repair | <input type="checkbox"/> Intraarticular PCL reconstruction | <input type="checkbox"/> Posterolateral corner repair/reconstruction |
| <input type="checkbox"/> Medial collateral ligament repair/reconstruction | | |
| <input type="checkbox"/> Lateral collateral ligament repair/reconstruction | | |

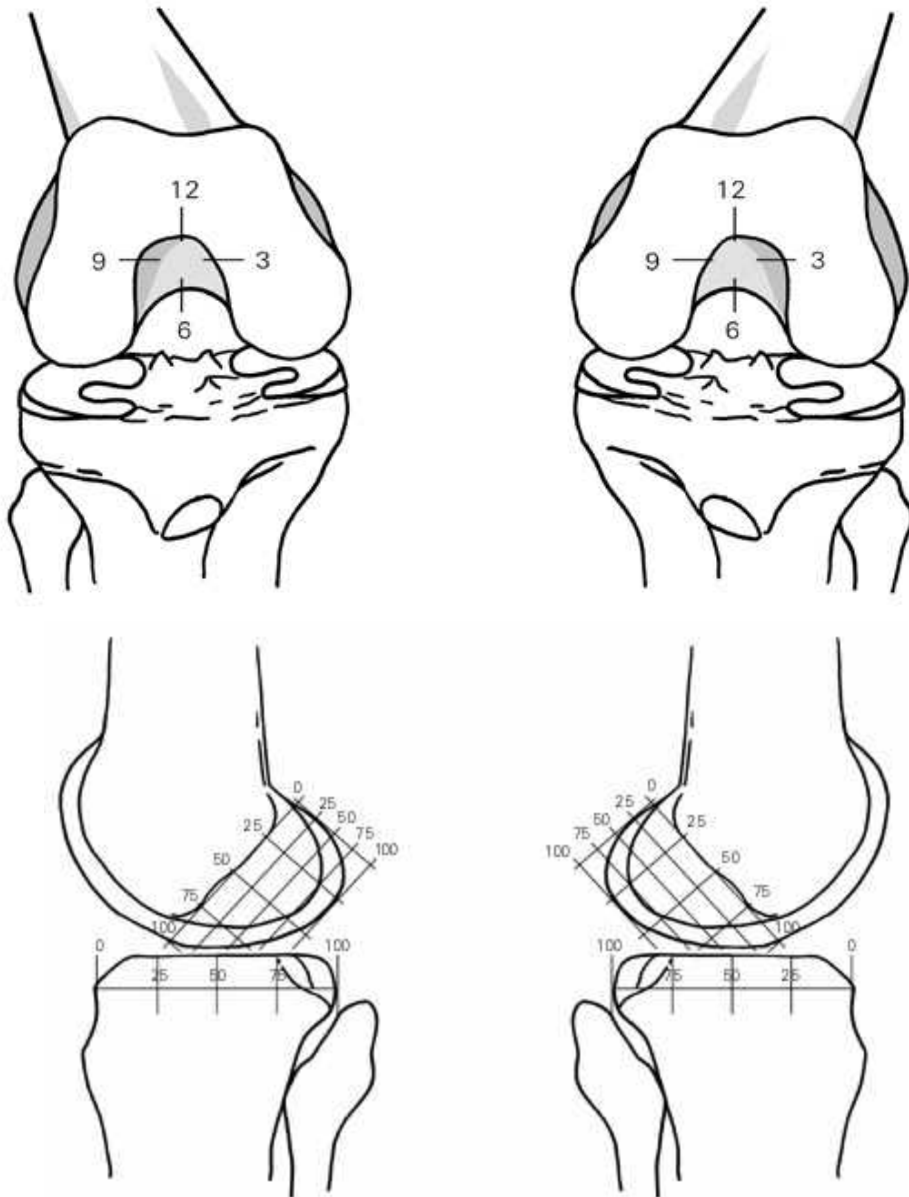
Graft:

- | | | |
|--|--|--|
| <input type="checkbox"/> Autologous patella tendon | <input type="checkbox"/> Hamstring tendons | <input type="checkbox"/> Quadriceps tendon |
| <input type="checkbox"/> Other _____ | | |

Previous Graft Harvest:

- | | | |
|--|--|--|
| <input type="checkbox"/> Autologous patella tendon | <input type="checkbox"/> Hamstring tendons | <input type="checkbox"/> Quadriceps tendon |
|--|--|--|

Document drill hole placement for ligament reconstruction on these figures.



INSTRUCTIONS FOR THE 2000 IKDC KNEE EXAMINATION FORM

The Knee Examination Form contains items that fall into one of seven measurement domains. However, only the first three of these domains are graded. The seven domains assessed by the Knee Examination Form are:

1. Effusion

An effusion is assessed by ballotting the knee. A fluid wave (less than 25 cc) is graded mild, easily ballotteable fluid – moderate (25-60 cc), and a tense knee secondary to effusion (greater than 60 cc) is rated severe.

2. Passive Motion Deficit

Passive range of motion is measured with a goniometer and recorded on the form for the index side and opposite or normal side. Record values for zero point/hyperextension/flexion (e.g. 10 degrees of hyperextension, 150 degrees of flexion = 10/0/150; 10 degrees of flexion to 150 degrees of flexion = 0/10/150). Extension is compared to that of the normal knee.

3. Ligament Examination

The Lachman test, total AP translation at 70 degrees, and medial and lateral joint opening may be assessed with manual, instrumented or stress x-ray examination. Only one should be graded, preferably a “measured displacement”. A force of 134 N (30 lbs) and the maximum manual are recorded in instrumented examination of both knees. Only the measured displacement at the standard force of 134 N is used for grading. The numerical values for the side to side difference are rounded off, and the appropriate box is marked.

The end point is assessed in the Lachman test. The end point affects the grading when the index knee has 3-5 mm more anterior laxity than the normal knee. In this case, a soft end point results in an abnormal grade rather than a nearly normal grade.

The 70-degree posterior sag is estimated by comparing the profile of the injured knee to the normal knee and palpating the medial femoral tibial stepoff. It may be confirmed by noting that contraction of the quadriceps pulls the tibia anteriorly.

The external rotation tests are performed with the patient prone and the knee flexed 30° and 70°. Equal external rotational torque is applied to both feet and the degree of external rotation is recorded.

The pivot shift and reverse pivot shift are performed with the patient supine, with the hip in 10-20 degrees of abduction and the tibia in neutral rotation using either the Losee, Noyes, or Jakob techniques. The greatest subluxation, compared to the normal knee, should be recorded.

4. Compartment Findings

Patellofemoral crepitation is elicited by extension against slight resistance. Medial and lateral compartment crepitation is elicited by extending the knee from a flexed position with a varus stress and then a valgus stress (i.e., McMurray test). Grading is based on intensity and pain.

5. Harvest Site Pathology

Note tenderness, irritation or numbness at the autograft harvest site.

6. X-ray Findings

A bilateral, double leg PA weightbearing roentgenogram at 35-45 degrees of flexion (tunnel view) is used to evaluate narrowing of the medial and lateral joint spaces. The Merchant view at 45 degrees is used to document patellofemoral narrowing. A mild grade indicates minimal changes (i.e., small osteophytes, slight sclerosis or flattening of the femoral condyle) and narrowing of the joint space which is just detectable. A moderate grade may have those changes and joint space narrowing (e.g., a joint space of 2-4 mm side or up to 50% joint space narrowing). Severe changes include a joint space of less than 2 mm or greater than 50% joint space narrowing.

7. Functional Test

The patient is asked to perform a one leg hop for distance on the index and normal side. Three trials for each leg are recorded and averaged. A ratio of the index to normal knee is calculated.