

ICRS Cartilage Injury Evaluation Package

Consists of two parts:

A: PATIENT PART:

ICRS Injury questionnaire
The IKDC Subjective Knee Evaluation Form-2000

B: SURGEONS PART

ICRS Knee Surgery History Registration
IKDC Knee Examination form-2000
ICRS- Articular cartilage injury mapping system
ICRS-Articular cartilage injury classification
ICRS-Osteochondritis dissecans classification
ICRS-Cartilage Repair Assessment system

The ICRS Clinical Cartilage Injury Evaluation system-2000 was developed during ICRS 2000 Standards Workshop at Schloss Münchenwiler, Switzerland, January 27-30, 2000 and further discussed during the 3rd ICRS Meeting in Göteborg, Sweden, Friday April 28, 2000.

The participants in the Clinical Münchenwiler Evaluation Group were as follows:

Chairman Mats Brittberg, Sweden
Paolo Aglietti, Italy
Ralph Gambardella, USA
Laszlo Hangody, Hungary
Hans Jörg Hauselmann, Switzerland
Roland P Jakob, Switzerland
David Levine, USA
Stefan Lohmander, Sweden
Bert R Mandelbaum, USA
Lars Peterson, Sweden
Hans-Ulrich Staubli, Switzerland

There was a discussion regarding the use of IKDC-1999 vs KOOS (**K**nee Injury and **O**steoarthritis **O**utcome **S**core). The decision in Göteborg was to continue with IKDC (IKDC representatives:

A. Anderson, R. Jakob, H.-U. Stäubli) but there will also be comparative studies with the KOOS (<http://www.koos.nu/>)

The clinical evaluation system can also be combined with the ICRS Imaging Protocol as well as the ICRS Biomechanical Protocol

Comments on the ICRS Cartilage Evaluation forms to: mats.brittberg@telia.com

ICRS – CARTILAGE INJURY STANDARD EVALUATION FORM-2000

PATIENTS PART

Patient Name: _____

Birthdate : Day _____ Month _____ Year _____

Street: _____ Zip: _____ Town: _____ Country: _____

Phone: _____ E-mail: _____

Gender: _____

Height: _____ cm Weight: _____ Kg

Examiner: _____ Date of examination: _____

Localisation:

Involved knee: Right ___ Left ___

Opposite knee: Normal ___ Nearly Normal ___ Abnormal ___ Severely abnormal ___

Onset of symptoms

(date): _____ Gradual: _____ Acute: _____

Etiology/Cause of injury:

Activity at injury:

Activity of daily living: _____ Sports _____

Traffic _____ Type of vehicle _____ Work _____

Activity-level:

I: high competitive sportsman/woman
II: well-trained and frequently sporting:
III: sporting sometimes
IV: Non-sporting

before Injury

yes ___ No ___
yes ___ No ___
yes ___ No ___
yes ___ No ___

Just now prior to surgery

yes ___ No ___
yes ___ No ___
yes ___ No ___
yes ___ No ___

Functional status

I: I can do everything that I want to do with my joint

II: I can do nearly everything that I want to do with my joint

III: I am restricted and a lot of things that I want to do with my joint are not possible

IV: I am very restricted and I can do almost nothing with my joint without severe pain and disability

Preinjury: I ___ II ___ III ___ IV ___

Just prior to surgery I ___ II ___ III ___ IV ___

Present activity level I ___ II ___ III ___ IV ___

IKDC CURRENT HEALTH ASSESSMENT FORM *

Patients Part:

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"/>

*This form includes questions from the SF-36™ Health Survey. Reproduced with the permission of the Medical Outcomes Trust, Copyright © 1992.

2000 IKDC SUBJECTIVE KNEE EVALUATION FORM

Patients Part:

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?

- Very strenuous activities like jumping or pivoting as in basketball or soccer
- Strenuous activities like heavy physical work, skiing or tennis
- Moderate activities like moderate physical work, running or jogging
- Light activities like walking, housework or yard work
- 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 0 1 2 3 4 5 6 7 8 9 10 Constant

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

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

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

- Not at all
- Mildly
- Moderately
- Very
- Extremely

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

- Very strenuous activities like jumping or pivoting as in basketball or soccer
- Strenuous activities like heavy physical work, skiing or tennis
- Moderate activities like moderate physical work, running or jogging
- Light activities like walking, housework, or yard work
- 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?

- Yes No

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

- Very strenuous activities like jumping or pivoting as in basketball or soccer
- Strenuous activities like heavy physical work, skiing or tennis
- Moderate activities like moderate physical work, running or jogging
- Light activities like walking, housework or yard work
- 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 1 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 1 to the response "Unable to Perform Any of the Above Activities Due to Knee" and a score of 5 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 1 and "Never" is assigned a score of 11.

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 10 "Function Prior to Knee Injury" is not included in the overall score. The steps to score the IKDC Subjective Knee Evaluation Form are as follows:

1. Assign a score to the individual's response for each item, such that lowest score represents the lowest level of function or highest level of symptoms.
2. Calculate the raw score by summing the responses to all items with the exception of the response to item 10 "Function Prior to Your Knee Injury"
3. Transform the raw score to a 0 to 100 scale as follows:

$$\text{IKDC Score} = \left[\frac{\text{Raw Score} - \text{Lowest Possible Score}}{\text{Range of Scores}} \right] \times 100$$

Where the lowest possible score is 18 and the range of possible scores is 87. Thus, if the sum of scores for the 18 items is 60, the IKDC Score would be calculated as follows:

$$\text{IKDC Score} = \left[\frac{60 - 18}{87} \right] \times 100$$

$$\text{IKDC Score} = 48.3$$

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 Score can still be calculated if there are missing data, as long as there are responses to at least 90% of the items (i.e. responses have been provided for at least 16 items). To calculate the raw IKDC score when there are missing data, substitute the average score of the items that have been answered for the missing item score(s). Once the raw IKDC score has been calculated, it is transformed to the IKDC Subjective Knee Score as described above.

ICRS KNEE HISTORY REGISTRATION-PREVIOUS SURGERY

Surgeons part

Type of surgery: Check all that apply

Meniscal surgery:

Medial meniscal surgery :

Partial resection___ Subtotal resection___

Meniscal suture___

Meniscal Transplant___

Open___Arthroscop___

Lateral Meniscal Surgery

Partial resection___ Subtotal resection___

Meniscal Suture___

Meniscal Transplant___

Open___Arthroscop___

Ligament Surgery:

ACL repair___ Intraarticular ___ Extraarticular___

PCL-repair___ Intraarticular___ Extraarticular___

Medial-___ Lateral-Collateral-ligament reconstruction___

Type of graft:

Patella-tendon___ Ipsilateral___ Contralateral___

Single hamstrings-graft___

2 bundle hamstrings-graft___

4 bundle hamstrings-graft___

Quadriceps-graft___

Allograft___

Other___

Extensor Mechanism surgery:

Patella tendon repair___ Quadriceps-tendon repair___

Patellofemoral surgery:

Soft tissue realignment:

Medial imbrication___ Lateral release___

Bone realignment:

Tibial tubercle transfer:

Proximal___ Distal___ Medial___ Lateral___ Anterior___

Trochlear plasty___

Patellectomy___

Cartilage resurfacing and reconstructive surgery:

Debridement (shaving of fibrillated cartile and cartilage flaps) _____

Abrasion arthroplast _____

Microfracture _____

Subchondral drilling _____

Carbon fibre resurfacing _____

Osteochondral allograft _____

Multiple osteochondral autologous grafts _____

Periosteal resurfacing _____

Perichondral resurfacing _____

Autologous chondrocyte implantation + periosteum _____

Autologous chondrocyte implantation with membrane _____

Other type of technique: _____

Surgeons part

Osteotomy: Tibia____Femur____ Varus____Valgus_____

Imaging techniques:

Plain x-rays:_____ Varus-angle_____Valgus-angle_____

CT____ CT-arthrography____ MRI____ Scintigraphy_____

Findings:

Articular cartilage appearance:_____

Bone:_____

Ligaments:_____

Menisci:_____

2000 IKDC KNEE Examination Form

Surgeons part

Patient Name: _____

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

Gender: ? F ? M Age: _____

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

Generalized Laxity: ?tight ?normal ?lax

Alignment: ?obvious varus ?normal ?obvious valgus

Patella Position: ?obvious baja ?normal ?obvious alta

Patella Subluxation/Dislocation: ?centered ?subluxable ?subluxed ?dislocated

Range of Motion (Ext/Flex): Index Side: passive ____/____/____ active ____/____/____
Opposite Side: passive ____/____/____ active ____/____/____

	SEVEN GROUPS				FOUR GRADES				*Group Grade			
	A	B	C	D	A	B	C	D	A	B	C	D
	Normal	Nearly Normal	Abnormal	Severely Abnormal								
1. Effusion	? None	? Mild	? Moderate	? Severe	? ? ? ?							
2. Passive Motion Deficit												
ΔLack of extension	? <3°	? 3 to 5°	? 6 to 10°	? >10°								
ΔLack of flexion	? 0 to 5°	? 6 to 15°	? 16 to 25°	? >25°	? ? ? ?							
3. Ligament Examination (manual, instrumented, x-ray)												
ΔLachman (25° flex) (134N)	? -1 to 2mm	? 3 to 5mm(1 ⁺) ? <-1 to -3	? 6 to 10mm(2 ⁺) ? <-3 stiff	? >10mm(3 ⁺)								
ΔLachman (25° flex) manual max	? -1 to 2mm	? 3 to 5mm	? 6 to 10mm	? >10mm								
Anterior endpoint:	? firm		? soft									
ΔTotal AP Translation (25° flex)	? 0 to 2mm	? 3 to 5mm	? 6 to 10mm	? >10mm								
ΔTotal AP Translation (70° flex)	? 0 to 2mm	? 3 to 5mm	? 6 to 10mm	? >10mm								
ΔPosterior Drawer Test (70° flex)	? 0 to 2mm	? 3 to 5mm	? 6 to 10mm	? >10mm								
ΔMed Joint Opening (20° flex/valgus rot)	? 0 to 2mm	? 3 to 5mm	? 6 to 10mm	? >10mm								
ΔLat Joint Opening (20° flex/varus rot)	? 0 to 2mm	? 3 to 5mm	? 6 to 10mm	? >10mm								
ΔExternal Rotation Test (30° flex prone)	? <5°	? 6 to 10°	? 11 to 19°	? >20°								
ΔExternal Rotation Test (90° flex prone)	? <5°	? 6 to 10°	? 11 to 19°	? >20°								
ΔPivot Shift	? equal	? +glide	? ++(clunk)	? +++(gross)								
ΔReverse Pivot Shift	? equal	? glide	? gross	? marked								
					? ? ? ?							
4. Compartment Findings												
ΔCrepitus Ant. Compartment	? none	? moderate	? mild pain	? >mild pain								
ΔCrepitus Med. Compartment	? none	? moderate	? mild pain	? >mild pain								
ΔCrepitus Lat. Compartment	? none	? moderate	? mild pain	? >mild pain								
5. Harvest Site Pathology	? none	? mild	? moderate	? severe								
6. X-ray Findings												
Med. Joint Space	? none	? mild	? moderate	? severe								
Lat. Joint Space	? none	? mild	? moderate	? severe								
Patellofemoral	? none	? mild	? moderate	? severe								
Ant. Joint Space (sagittal)	? none	? mild	? moderate	? severe								
Post. Joint Space (sagittal)	? none	? mild	? moderate	? severe								
7. Functional Test												
One Leg Hop (% of opposite side)	? ≥90%	? 89 to 76%	? 75 to 50%	? <50%								
**Final Evaluation					? ? ? ?							

* Group grade: The lowest grade within a group determines the group grade

** Final evaluation: the worst group grade determines the final evaluation for acute and subacute patients. For chronic patients compare preoperative and postoperative evaluations. In a final evaluation only the first 3 groups are evaluated but all groups must be documented. Δ Difference in involved knee compared to normal or what is assumed to be normal.

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 balloting 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 tibia step off. 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.

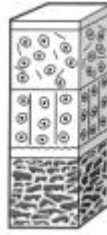
6. *X-ray Findings*

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*

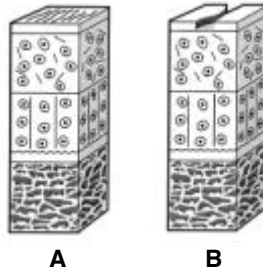
The patient is asked to perform a one leg hop for distance on the index and normal side. Three trials for each leg are recorded and averaged. A ratio of the index to normal knee is calculated.

ICRS Grade 0 - Normal



ICRS Grade 1 – Nearly Normal

Superficial lesions. Soft indentation (A) and/or superficial fissures and cracks (B)



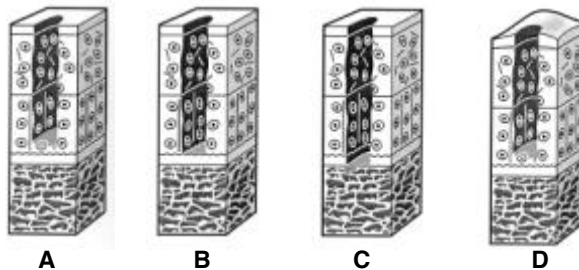
ICRS Grade 2 – Abnormal

Lesions extending down to <50% of cartilage depth

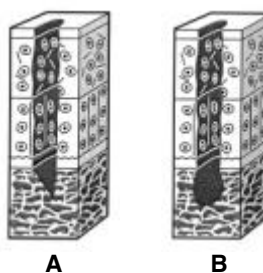


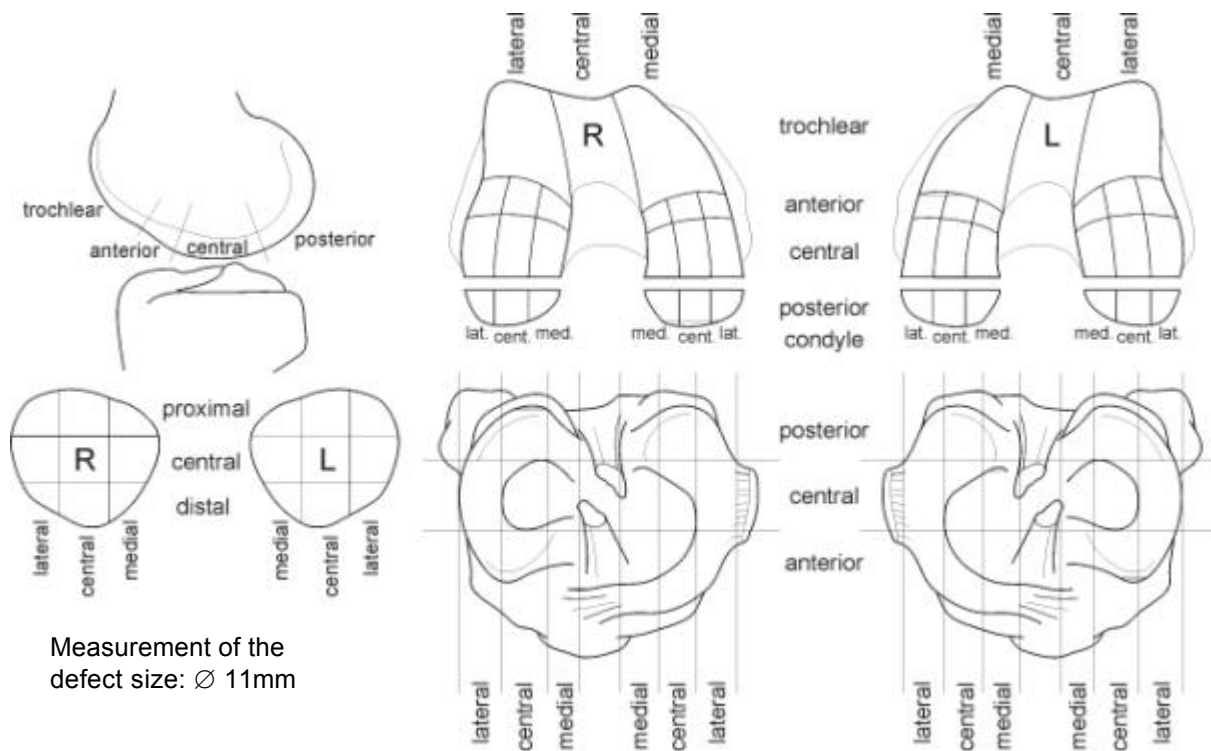
ICRS Grade 3 – Severely Abnormal

Cartilage defects extending down >50% of cartilage depth (A) as well as down to calcified layer (B) and down to but not through the subchondral bone (C). Blisters are included in this Grade (D)



ICRS Grade 4 – Severely Abnormal





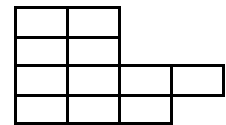
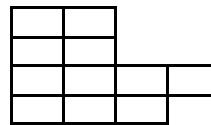
Measurement of the defect size: \varnothing 11mm

Femur

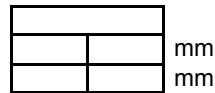
Side Right Left
 Condyle medial lateral
 Sagittal plane trochlear anterior
 Frontal plane lateral central

First lesion

Second lesion



Cartilage lesion (Grade) (*)
 Defect size pre-debridement
 Defect size post-debridement

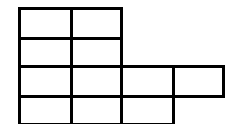
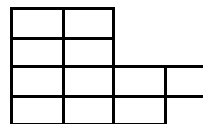


Tibia

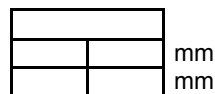
Side Right Left
 Plateau medial lateral
 Sagittal plane anterior central
 Frontal plane lateral central

First lesion

Second lesion



Cartilage lesion (Grade) (*)
 Defect size pre-debridement
 Defect size post-debridement

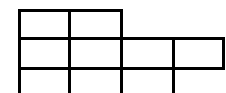
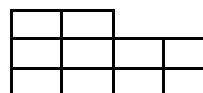


Patella

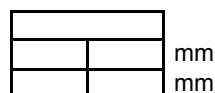
Side Right Left
 Sagittal plane distal central
 Frontal plane lateral central

First lesion

Second lesion



Cartilage lesion (Grade) (*)
 Defect size pre-debridement
 Defect size post-debridement



Diagnosis: Traumatic cartilage lesion OD OA AVN Others

Biopsy/Osteochondral Plugs: Location: Number of Plugs: Diameter of Plugs:

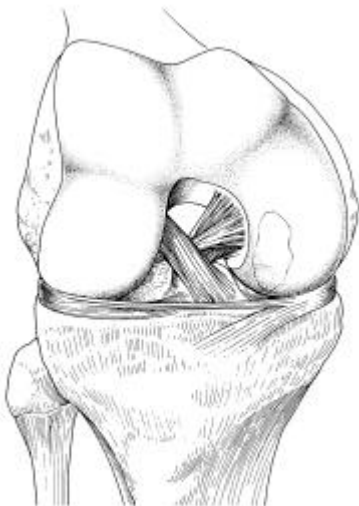
Treatment: Shaving Drilling Others:

Mosaic-Plasty Microfracture
 Autologous Chondrocyte Implantation (ACI)

Notes:

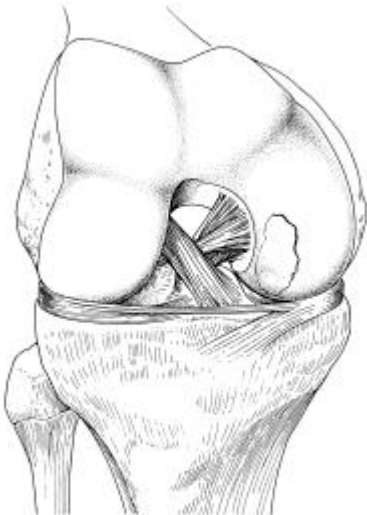
ICRS Classification of OCD-Lesions (Osteochondritis-Dissecans)

ICRS OCD I



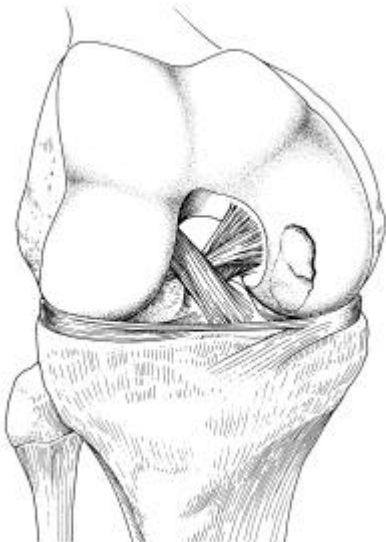
Stable, continuity: Softened area covered by intact cartilage.

ICRS OCD II



Partial discontinuity, stable on probing

ICRS OCD III



Complete discontinuity, "dead in situ", not dislocated.

ICRS OCD IV



Dislocated fragment, loose within the bed or empty defect. > 10mm in depth is B-subgroup

CARTILAGE REPAIR ASSESSMENT

Criteria	Points	
Degree of Defect Repair I Protocol A ⁽¹⁾	* In level with surrounding cartilage	4
	* 75% repair of defect depth	3
	* 50% repair of defect depth	2
	* 25% repair of defect depth	1
	* 0% repair of defect depth	0
I Protocol B ⁽²⁾	* 100% survival of initially grafted surface	4
	* 75% survival of initially grafted surface	3
	* 50% survival of initially grafted surface	2
	* 25% survival of initially grafted surface	1
	* 0% (plugs are lost or broken)	0
II Integration to Border zone	* Complete integration with surrounding cartilage	4
	* Demarcating border < 1mm	3
	* 3/4 of graft integrated, 1/4 with a notable border >1mm width	2
	* 1/2 of graft integrated with surrounding cartilage, 1/2 with a notable border > 1mm	1
	* From no contact to 1/4 of graft integrated with surrounding cartilage	0
III Macroscopic Appearance	* Intact smooth surface	4
	* Fibrillated surface	3
	* Small, scattered fissures or cracs	2
	* Several, small or few but large fissures	1
	* Total degeneration of grafted area	0
Overall Repair Assessment	Grade I normal Grade II nearly normal Grade III abnormal Grade IV severely abnormal	12 P 11-8 P 7-4 P 3-1 P

Cartilage Biopsy

Location _____

(1) Protocol A:	(2) Protocol B:
autologous chondrocyte implantation (ACI); periosteal or perichondrial transplantation; subchondral drilling; microfracturing; carbon fibre implants; others:	Mosaicplasty; OAT; osteochondral allografts; others: